JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.2

Secondary Containment Isolation Valves (SCIVs)

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.6.4.2 - SECONDARY CONTAINMENT ISOLATION VALVES (SCIVs)

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 ITS SR 3.6.4.2.3 Surveillance Frequency brackets have been removed and the proper value of 24 months included as consistent with CTS RETS Table 3.10-2.

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

PA1 ITS 3.6.4.2 brackets have been removed and the proper plant specific nomenclature, of Secondary, has been provided with respect to the containment identification.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

None

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 46, Revision 1, have been incorporated into the revised Improved Technical Specifications.

TA2 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 45, Revision 2, have been incorporated into the revised Improved Technical Specifications.

TA3 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 269, Revision 2, have been incorporated into the revised Improved Technical Specifications.

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 ITS SR 3.6.4.2.2 Surveillance Frequency brackets have been removed and the proper value of in accordance with the Inservice Test Program included as indicated in M8.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.2

Secondary Containment Isolation Valves (SCIVs)

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

BASES

and 2 DB2

BACKGROUND

The function of the SCIVs, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs) (Ref. 1). Secondary containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that fission products that leak from primary containment following a DBA, or that are released during certain operations when primary containment is not required to be OPERABLE or take place outside primary containment, are maintained within the secondary containment boundary. DB1 (5)

PA1 The OPERABILITY requirements for SCIVs help ensure that an adequate {secondary} containment boundary is maintained during and after an accident by minimizing potential paths to the environment. These isolation devices consist of either passive devices or active (automatic) devices. Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), and blind flanges are considered passive devices.

PA1 Automatic SCIVs close on a {secondary} containment isolation signal to establish a boundary for untreated radioactive material within {secondary} containment following a DBA or other accidents.

Other penetrations are isolated by the use of valves in the closed position or blind flanges.

PA2 refueling

APPLICABLE SAFETY ANALYSES

PA1 The SCIVs must be OPERABLE to ensure the {secondary} containment barrier to fission product releases is established. The principal accidents for which the {secondary} containment boundary is required are a loss of coolant accident (Ref. 1) and a ~~fuel handling~~ accident inside {secondary} containment (Ref. 2). The {secondary} PA1 containment performs no active function in response to either of these limiting events, but the boundary

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

established by SCIVs is required to ensure that leakage from the primary containment is processed by the Standby Gas Treatment (SGT) System before being released to the environment.

Maintaining SCIVs OPERABLE with isolation times within limits ensures that fission products will remain trapped inside {secondary} containment so that they can be treated by the SGT System prior to discharge to the environment. PA1

SCIVs satisfy Criterion 3 of ~~the NRC Policy Statement.~~ 10 CFR 50.36 (c)(2)(ii) (Ref. 5) X2

LCO

SCIVs form a part of the {secondary} containment boundary. PA1 The SCIV safety function is related to control of offsite radiation releases resulting from DBAs.

The power operated ~~isolation valves~~ automatic TA1 are considered OPERABLE when their isolation times are within limits and the valves actuate on an automatic isolation signal. The valves covered by this LCO ~~along with their associated stroke times~~ X3 are listed in Reference ~~3~~ 4. X3

X3 The associated stroke time of each automatic valve is included in the Inservice Testing Program.

The normally closed isolation valves or blind flanges are considered OPERABLE when manual valves are closed or open in accordance with appropriate administrative controls, automatic SCIVs are de-activated and secured in their closed position, and blind flanges are in place. These passive isolation valves or devices are listed in Reference ~~3~~ 4. X3

RAI 3.6.4.2-6

APPLICABILITY

In MODES 1, 2, and 3, a DBA could lead to a fission product release to the primary containment that leaks to the {secondary} containment. Therefore, the OPERABILITY of SCIVs is required. PA1

In MODES 4 and 5, the probability and consequences of these events are reduced due to pressure and temperature limitations in these MODES. Therefore, maintaining SCIVs OPERABLE is not required in MODE 4 or 5, except for other situations under which significant radioactive releases can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs), during CORE

(continued)

Revision E

BASES

APPLICABILITY (continued)

ALTERATIONS, or during movement of irradiated fuel assemblies in the {secondary} containment. Moving irradiated fuel assemblies in the {secondary} containment may also occur in MODES 1, 2, and 3.

PA1 PA1 RAI 3.6.4.2-4

ACTIONS

The ACTIONS are modified by three Notes. The first Note allows penetration flow paths to be unisolated intermittently under administrative controls. These controls consist of stationing a dedicated operator, who is in continuous communication with the control room, at the controls of the isolation device. In this way, the penetration can be rapidly isolated when a need for {secondary} containment isolation is indicated.

PA1 PA4

The second Note provides clarification that for the purpose of this LCO separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable SCIV. Complying with the Required Actions may allow for continued operation, and subsequent inoperable SCIVs are governed by subsequent Condition entry and application of associated Required Actions.

The third Note ensures appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable SCIV.

A.1 and A.2

In the event that there are one or more penetration flow paths with one SCIV inoperable, the affected penetration flow path(s) must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic SCIV, a closed manual valve, and a blind flange. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available device to {secondary} containment. The Required Action must be completed within the 8 hour Completion Time. The specified time period is reasonable considering the time required to

PA1

(continued)

Revision E

BASES

ACTIONS

A.1 and A.2 (continued)

isolate the penetration, and the probability of a DBA, which requires the SCIVs to close, occurring during this short time is very low.

For affected penetrations that have been isolated in accordance with Required Action A.1, the affected penetration must be verified to be isolated on a periodic basis. This is necessary to ensure that [secondary] containment penetrations required to be isolated following an accident, but no longer capable of being automatically isolated, will be in the isolation position should an event occur. The Completion Time of once per 31 days is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low. This Required Action does not require any testing or device manipulation. Rather, it involves verification that the affected penetration remains isolated.

PA1

RAI 3.6.4.2-5

TA3

two Notes, Note 1

Required Action A.2 is modified by a Note that applies to devices located in high radiation areas and allows them to be verified closed by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment, once they have been verified to be in the proper position, is low.

INSERT 3.6.4.2 ACTION A1 and A2

TA3

B.1

With two SCIVs in one or more penetration flow paths inoperable, the affected penetration flow path must be isolated within 4 hours. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 4 hour Completion Time is reasonable considering the time required to isolate the penetration and the probability of a DBA, which requires the SCIVs to close, occurring during this short time, is very low.

The Condition has been modified by a Note stating that Condition B is only applicable to penetration flow paths

(continued)

TA3

INSERT 3.6.4.2 ACTION A.1 and A.2

TSTF-269, R2

Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned.

BASES

ACTIONS

B.1 (continued)

with two isolation valves. This clarifies that only Condition A is entered if one SCIV is inoperable in each of two penetrations.

only PA5 - multiple

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.

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

If any Required Action and associated Completion Time are not met, the plant must be placed in a condition in which the LCO does not apply. If applicable, CORE ALTERATIONS and the movement of irradiated fuel assemblies in the {secondary} containment must be immediately suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be immediately initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

PA1

PA5

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2 or 3,

Required Action D.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving fuel while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

(continued)

TA2 — not locked, sealed, or otherwise secured and is

PA1

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.4.2.1

This SR verifies that each secondary containment manual isolation valve and blind flange that is required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the secondary containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification that those SCIVs in secondary containment that are capable of being mispositioned are in the correct position.

PA1

TA2

INSERT SR 3.6.4.2.1-1

TSTF-45, R2

Since these SCIVs are readily accessible to personnel during normal operation and verification of their position is relatively easy, the 31 day Frequency was chosen to provide added assurance that the SCIVs are in the correct positions.

Two Notes have been added to this SR. The first Note applies to valves and blind flanges located in high radiation areas and allows them to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these SCIVs, once they have been verified to be in the proper position, is low.

PA5

INSERT SR 3.6.4.2.1-2

RAI 3.6.4.2-5

A second Note has been included to clarify that SCIVs that are open under administrative controls are not required to meet the SR during the time the SCIVs are open.

SR 3.6.4.2.2

TA1

Verifying that the isolation time of each power operated, and each automatic SCIV is within limits is required to demonstrate OPERABILITY. The isolation time test ensures that the SCIV will isolate in a time period less than or equal to that assumed in the safety analyses. The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program or 92 days.

PA5

is

X1

(continued)

REVISION E

TA2

<u>INSERT SR 3.6.4.2.1-1</u>

This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

PA5

<u>INSERT SR 3.6.4.2.1-2</u>

These controls consist of stationing a dedicated operator at the controls of the valve who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when the need for secondary containment isolation is indicated.

TSTF-45

BASES

SURVEILLANCE REQUIREMENTS (continued) (PA1)

SR 3.6.4.2.3

Verifying that each automatic SCIV closes on a secondary containment isolation signal is required to prevent leakage of radioactive material from {secondary} containment following a DBA or other accidents. This SR ensures that each automatic SCIV will actuate to the isolation position on a {secondary} containment isolation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.2.6 overlaps this SR to provide complete testing of the safety function. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," (PA5) (PA1) 24 (CLB1) 24 (CLB1)

REFERENCES

1. FSAR, Section [15.1.39]. 14.6.1.3 (DB1)
2. FSAR, Section [15.1.41]. 14.6.1.4 (DB2)
3. ~~FSAR, Section [ ].~~ 10 CFR 50.36 (c)(2)(ii). (X2)
4. Technical Requirements Manual (X3)

(U) (PA2)

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.2

Secondary Containment Isolation Valves (SCIVs)

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.4.2 - SECONDARY CONTAINMENT ISOLATION VALVES (SCIVs)

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 ITS SR 3.6.4.2.3 Surveillance Frequency brackets have been removed and the proper value of 24 months included as consistent with CTS RETS Table 3.10-2.

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

PA1 ITS 3.6.4.2 brackets have been removed and the proper plant specific nomenclature, of Secondary, has been provided with respect to the containment identification.

PA2 The Bases been modified to reflect plant specific nomenclature. RAI 3.6.4.2-5

PA3 Not used.

PA4 Typographical/grammatical error corrected.

PA5 Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 ITS 3.6.4.2 has been revised to reflect the specific JAFNPP reference requirements of, UFSAR, Section 14.6.1.3, Loss-Of-Coolant Accident.

DB2 ITS 3.6.4.2 has been revised to reflect the specific JAFNPP reference requirements of, UFSAR, Section 14.6.1.4, Refueling Accident.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 46, Revision 1, have been incorporated into the revised Improved Technical Specifications. editorial

TA2 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 45, Revision 2, have been incorporated into the revised Improved Technical Specifications. TSTF-45, R2

TA3 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 269, Revision 2, have been incorporated into the revised Improved Technical Specifications. TSTF-269, R2

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

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 ITS SR 3.6.4.2.2 Surveillance Frequency brackets have been removed and the proper value of in accordance with the Inservice Testing Program included as indicated in M8.

X2 NUREG-1433, Revision 1, Bases reference 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.

X3 ITS 3.6.4.2 has been revised to include reference to the Technical Requirements Manual (TRM) and the Inservice Testing (IST) Program. The TRM will include the secondary containment isolation valve listing while the Inservice Testing Program will include the valve stroke times.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.2

Secondary Containment Isolation Valves (SCIVs)

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.6 CONTAINMENT SYSTEMS

3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

LCO 3.6.4.2 Each SCIV shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

------------------------------------NOTES------------------------------------

1. Penetration flow paths may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for systems made inoperable by SCIVs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more penetration flow paths with one SCIV inoperable.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND	8 hours (continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. (continued)	A.2	--------NOTE-------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ------------------- Verify the affected penetration flow path is isolated.	Once per 31 days
B. ---------NOTE-------- Only applicable to penetration flow paths with two isolation valves. -------------------- One or more penetration flow paths with two SCIVs inoperable.	B.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	4 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1	Be in MODE 3.	12 hours
	<u>AND</u>		
	C.2	Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	D.1	--------NOTE-------- LCO 3.0.3 is not applicable. -------------------- Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>		
	D.2	Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>		
	D.3	Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.2.1	-----NOTES----- 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for SCIVs that are open under administrative controls. ---------- Verify each secondary containment isolation manual valve and blind flange that is not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.	31 days
SR 3.6.4.2.2	Verify the isolation time of each power operated automatic SCIV is within limits.	In accordance with the Inservice Testing Program
SR 3.6.4.2.3	Verify each automatic SCIV actuates to the isolation position on an actual or simulated actuation signal.	24 months

TSTF-45, R2

B 3.6 CONTAINMENT SYSTEMS

B 3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

BASES

BACKGROUND

The function of the SCIVs, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs) (Refs. 1 and 2). Secondary containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that fission products that leak from primary containment following a DBA, or that are released during certain operations when primary containment is not required to be OPERABLE or take place outside primary containment, are maintained within the secondary containment boundary.

The OPERABILITY requirements for SCIVs help ensure that an adequate secondary containment boundary is maintained during and after an accident by minimizing potential paths to the environment. These isolation devices consist of either passive devices or active (automatic) devices. Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), and blind flanges are considered passive devices.

Automatic SCIVs close on a secondary containment isolation signal to establish a boundary for untreated radioactive material within secondary containment following a DBA or other accidents.

Other penetrations are isolated by the use of valves in the closed position or blind flanges.

APPLICABLE SAFETY ANALYSES

The SCIVs must be OPERABLE to ensure the secondary containment barrier to fission product releases is established. The principal accidents for which the secondary containment boundary is required are a loss of coolant accident (Ref. 1) and a refueling accident inside secondary containment (Ref. 2). The secondary containment

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

performs no active function in response to either of these limiting events, but the boundary established by SCIVs is required to ensure that leakage from the primary containment is processed by the Standby Gas Treatment (SGT) System before being released to the environment.

Maintaining SCIVs OPERABLE with isolation times within limits ensures that fission products will remain trapped inside secondary containment so that they can be treated by the SGT System prior to discharge to the environment.

SCIVs satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3).

LCO

SCIVs form a part of the secondary containment boundary. The SCIV safety function is related to control of offsite radiation releases resulting from DBAs.

The power operated automatic isolation valves are considered OPERABLE when their isolation times are within limits and the valves actuate on an automatic isolation signal. The valves covered by this LCO are listed in Reference 4. The associated stroke time of each automatic valve is included in the Inservice Testing Program.

The normally closed isolation valves or blind flanges are considered OPERABLE when manual valves are closed or open in accordance with appropriate administrative controls, automatic SCIVs are de-activated and secured in their closed position, and blind flanges are in place. These passive isolation valves or devices are listed in Reference 4.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could lead to a fission product release to the primary containment that leaks to the secondary containment. Therefore, the OPERABILITY of SCIVs is required.

In MODES 4 and 5, the probability and consequences of these events are reduced due to pressure and temperature limitations in these MODES. Therefore, maintaining SCIVs

(continued)

BASES

APPLICABILITY (continued)

OPERABLE is not required in MODE 4 or 5, except for situations under which significant radioactive releases can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs), during CORE ALTERATIONS, or during movement of irradiated fuel assemblies in the secondary containment. Moving irradiated fuel assemblies in the secondary containment may also occur in MODES 1, 2, and 3.

RAI 3.6.4.2-4

ACTIONS

The ACTIONS are modified by three Notes. The first Note allows penetration flow paths to be unisolated intermittently under administrative controls. These controls consist of stationing a dedicated operator, who is in continuous communication with the control room, at the controls of the isolation device. In this way, the penetration can be rapidly isolated when a need for secondary containment isolation is indicated.

The second Note provides clarification that, for the purpose of this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable SCIV. Complying with the Required Actions may allow for continued operation, and subsequent inoperable SCIVs are governed by subsequent Condition entry and application of associated Required Actions.

The third Note ensures appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable SCIV.

A.1 and A.2

In the event that there are one or more penetration flow paths with one SCIV inoperable, the affected penetration flow path(s) must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure.

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

Isolation barriers that meet this criterion are a closed and de-activated automatic SCIV, a closed manual valve, and a blind flange. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available device to secondary containment. The Required Action must be completed within the 8 hour Completion Time. The specified time period is reasonable considering the time required to isolate the penetration, and the probability of a DBA, which requires the SCIVs to close, occurring during this short time is very low.

For affected penetrations that have been isolated in accordance with Required Action A.1, the affected penetration must be verified to be isolated on a periodic basis. This is necessary to ensure that secondary containment penetrations required to be isolated following an accident, but no longer capable of being automatically isolated, will be in the isolation position should an event occur. The Completion Time of once per 31 days is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low. This Required Action does not require any testing or device manipulation. Rather, it involves verification that the affected penetration remains isolated.

RAI 3.6.4.2-5

Required Action A.2 is modified by two Notes. Note 1 applies to devices located in high radiation areas and allows them to be verified closed by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment, once they have been verified to be in the proper position, is low.

TSTF-269, R2

(continued)

BASES

ACTIONS

B.1

With two SCIVs in one or more penetration flow paths inoperable, the affected penetration flow path must be isolated within 4 hours. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 4 hour Completion Time is reasonable considering the time required to isolate the penetration and the probability of a DBA, which requires the SCIVs to close, occurring during this short time, is very low. The Condition has been modified by a Note stating that Condition B is only applicable to penetration flow paths with two isolation valves. This clarifies that only Condition A is entered if only one SCIV is inoperable in multiple penetrations.

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.

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

If any Required Action and associated Completion Time are not met, the plant must be placed in a condition in which the LCO does not apply. If applicable, CORE ALTERATIONS and the movement of irradiated fuel assemblies in the secondary containment must be immediately suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be immediately initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

(continued)

BASES (continued)

ACTIONS

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

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, Required Action D.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving fuel while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE REQUIREMENTS

SR 3.6.4.2.1

This SR verifies that each secondary containment manual isolation valve and blind flange that is not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the secondary containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification that those SCIVs in secondary containment that are capable of being mispositioned are in the correct position. TSTF-45, R2

Since these SCIVs are readily accessible to personnel during normal operation and verification of their position is relatively easy, the 31 day Frequency was chosen to provide added assurance that the SCIVs are in the correct positions. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing. TSTF-45, R2

Two Notes have been added to this SR. The first Note applies to valves and blind flanges located in high radiation areas and allows them to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these SCIVs, once they have been verified to be in the proper position, is low. RAI 3.6.4.2-5

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.4.2.1 (continued)

A second Note has been included to clarify that SCIVs that are open under administrative controls are not required to meet the SR during the time the SCIVs are open. These controls consist of stationing a dedicated operator at the controls of the valve who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for secondary containment isolation is indicated.

SR 3.6.4.2.2

Verifying that the isolation time of each power operated automatic SCIV is within limits is required to demonstrate OPERABILITY. The isolation time test ensures that the SCIV will isolate in a time period less than or equal to that assumed in the safety analyses. The Frequency of this SR is in accordance with the Inservice Testing Program.

SR 3.6.4.2.3

Verifying that each automatic SCIV closes on a secondary containment isolation signal is required to prevent leakage of radioactive material from secondary containment following a DBA or other accidents. This SR ensures that each automatic SCIV will actuate to the isolation position on a secondary containment isolation signal. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," overlaps this SR to provide complete testing of the safety function. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

(continued)

BASES (continued)

REFERENCES

1. UFSAR, Section 14.6.1.3.
2. UFSAR, Section 14.6.1.4.
3. 10 CFR 50.36(c)(2)(ii).
4. Technical Requirements Manual.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.3

Standby Gas Treatment (SGT) System

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: 3.6.4.3

Standby Gas Treatment (SGT) System

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.6.4.3

A1

3.7 (cont'd)

[3.6.4.3] (SGT)

~~B.~~ Standby Gas Treatment System

[LCO 3.6.4.3] ~~1.~~ ~~Except as specified in 3.7.B.2 below~~ both circuits of the Standby Gas Treatment System shall be operable ~~at all times when secondary containment integrity is required.~~

[Applicability] A3

add: operations with a potential for draining the reactor vessel (M1)

4.7 (cont'd)

[3.6.4.3] B. Standby Gas Treatment System

1. Standby Gas Treatment System surveillance shall be performed as indicated below:

[SR 3.6.4.3.2] a. Once per 24 months, it shall be demonstrated that:

(1) Pressure drop across the combined high-efficiency and charcoal filters is less than 5.7 in. of water at 6,000 scfm, and

(2) Each 39kW heater shall dissipate greater than 29kW of electric power as calculated by the following expression:

$$P = \sqrt{3}EI$$

where:
P = Dissipated Electrical Power;
E = Measured line-to-line voltage in volts (RMS);
I = Average measured phase current in amperes (RMS).

A2 — moved to ITS Section 5.5

Specification 3.6.4.3

A1

4.7 (cont'd)

A2

moved to ITS Section 5.5

b. At least once during each scheduled secondary containment leak rate test, whenever a filter is changed, whenever work is performed that could affect the filter system efficiency, and at intervals not to exceed six months between refueling outages, it shall be demonstrated that:

(1) The removal efficiency of the particulate filters is not less than 99 percent based on a DOP test per ANSI N101.1-1972 para. 4.1.

(2) The removal efficiency of each of the charcoal filters is not less than 99 percent based on a Freon test.

c. At least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release, that could adversely affect the ability of the charcoal to perform its intended function, in any ventilation zone communicating with the system, verify:

(1) Within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows methyl iodide penetration to be less than or equal to 5 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C (86 degrees F), and a relative humidity of at least 70 percent.

(2) Within 31 days of completing 720 hours of charcoal adsorber operation, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows

CTS Amend 269

A1

CTS Amend 269

A2

3.7 (cont'd)

4.7 (cont'd)

Moved to ITS Section 5.5

the methyl iodide penetration to be less than or equal to 5 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C [86 degrees F], and a relative humidity of at least 70 percent.

L4

[SR 3.6.4.3.3] d. Once per 24 months, automatic initiation on an actual or simulated initiation signal of each branch of the Standby Gas Treatment System shall be demonstrated.

A4

[SR 3.6.4.3.4] e. Once per 24 months, manual operability of the bypass valve for filter cooling shall be demonstrated.

RAI 3.6.4.3-2
RAI 3.6.4.3-3

~~f. Standby Gas Treatment System Instrumentation Calibration:~~

~~differential pressure switches~~	~~Once per 24 Months~~

LB1

[ACTION A]

A5

2. From and after the date that one circuit of the Standby Gas Treatment System is made or found to be inoperable for any reason, ~~the following would apply~~:

[Applicability] a. If in ~~Start-up/Hot Standby, Run or Hot Shutdown mode,~~ MODES 1, 2, or 3 reactor operation or irradiated fuel handling [Required Action A.1] is permissible only during the succeeding 7 days unless such circuit is sooner made operable, [Condition D] provided that during such 7 days all active components of the other Standby Gas Treatment Circuit shall be operable.

2. When one circuit of the Standby Gas Treatment System becomes inoperable, the operable circuit shall be verified to be operable immediately and daily thereafter.

RAI 3.6.4.3-6

RAI 3.6.4.3-5

CTS Amend 269

Specification 3.6.4.3

CTS Amend 269

A1

3.7 (cont'd)

[Applicability] [Required Action A.1] [Condition E]

If ~~in Refuel or Cold Shutdown mode~~ reactor operation or irradiated fuel handling is permissible only during the succeeding 31 days unless such circuit is sooner made operable, provided that during such 31 days all active components of the other Standby Gas Treatment Circuit shall be operable.

(CORE ALTERATION and OPDRVs — M1) (7 — M2)

[ACTION B] (M3) [ACTION D] (M4) — MODE 3 in 12 hours, MODE 4 in 36 hours

[ACTION C] [ACTION E]

3\. If Specifications 3.7.B.1 and 3.7.B.2 are not met, the reactor shall be placed in the cold condition and irradiated fuel handling operations and operations that could reduce the shutdown margin shall be prohibited.

4\. Whenever primary containment integrity is required as specified in Section 3.7.A.2. Valve 27MOV-121 shall be used for inerting or deinerting.

4.7 (cont'd)

3\. Intentionally Blank

(LCO 3.0.3 — M4)

(M5) add Required Action C Note

(L1) add Required Action C.1

(M1) add Required Action C.2.3

[ACTION C]

[ACTION E]

(M1) add Required Action E.3

(M5) add Required Action E.1 Note

4\. Valve 27MOV-120 shall be verified closed when containment integrity is established, and then once per month.

See ITS 3.6.1.3

(M6) add proposed SR 3.6.4.3.1

see ITS: 3.6.4.1 3.6.4.2

C. Secondary Containment

[Applicability]

1. Secondary containment integrity shall be maintained during all modes of plant operation, except when all of the following conditions are met:

a. The reactor is subcritical and Specification 3.3.A is met. (A3)

b. The reactor water temperature is below 212°F, and the Reactor Coolant System is vented. (A3) (L3)

c. No activity is being performed which can reduce the shutdown margin below that specified in Specification 3.3.A. (A3)

add: operations with a potential for draining the reactor vessel (M1)

d. The fuel cask or irradiated fuel is not being moved in the reactor building. (LA1)

2. If Specification 3.7.C.1 cannot be met, procedures shall be initiated to establish conditions listed in Specification 3.7.C.1 within 24 hr.

See ITS: 3.6.4.1 3.6.4.2

see ITS: 3.6.4.1

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

a. A preoperational secondary containment capability test shall be conducted after isolating the reactor building and placing either Standby Gas Treatment System filter train in operation. Such tests shall demonstrate the capability to maintain a 1/4 in. of water vacuum as indicated by plant instrumentation under calm wind conditions with a filter train flow rate of not more than 6,000 cfm.

b. Additional tests shall be performed during the first operating cycle under an adequate number of different environmental wind conditions to enable valid extrapolation of the test results.

See ITS: 3.6.1.3

1.0 (cont'd)

See ITS: 3.6.1.2

opened to perform necessary operational activities.

2. At least one door in each airlock is closed and sealed.

See ITS: 3.6.1.3

3. All automatic containment isolation valves are operable or de-activated in the isolated position.

4. All blind flanges and manways are closed.

N. Rated Power - Rated power refers to operation at a reactor power of 2,536 MWt. This is also termed 100 percent power and is the maximum power level authorized by the operating license. Rated steam flow, rated coolant flow, rated nuclear system pressure, refer to the values of these parameters when the reactor is at rated power (Reference 1).

O. Reactor Power Operation - Reactor power operation is any operation with the Mode Switch in the Startup/Hot Standby or Run position with the reactor critical and above 1 percent rated thermal power.

P. Reactor Vessel Pressure - Unless otherwise indicated, reactor vessel pressures listed in the Technical Specifications are those measured by the reactor vessel steam space sensor.

Q. Refueling Outage - Refueling outage is the period of time between the shutdown of the unit prior to refueling and the startup of the Plant subsequent to that refueling.

R. Safety Limits - The safety limits are limits within which the reasonable maintenance of the fuel cladding integrity and the reactor coolant system integrity are assured. Violation of such a limit is cause for unit shutdown and review by the Nuclear Regulatory Commission before resumption of unit operation. Operation beyond such a limit may not in itself result in serious consequences but it indicates an operational

See ITS: Chapter 1.0

See ITS: 3.6.1.1

deficiency subject to regulatory review.

See ITS: 1.0

S. Secondary Containment Integrity - Secondary containment integrity means that the reactor building is intact and the following conditions are met:

See ITS: 3.6.4.1

1. At least one door in each access opening is closed.

[LCO 3.6.4.3] 2. The Standby Gas Treatment System is operable.

3. All automatic ventilation system isolation valves are operable or secured in the isolated position.

See ITS: 3.6.4.2

T. Surveillance Frequency Notations / Intervals

The surveillance frequency notations / intervals used in these specifications are defined as follows:

Notations	Intervals	Frequency
D	Daily	At least once per 24 hours
W	Weekly	At least once per 7 days
M	Monthly	At least once per 31 days
Q	Quarterly or every 3 months	At least once per 92 days
SA	Semiannually or every 6 months	At least once per 184 days
A	Annually or Yearly	At least once per 366 days
18M	18 Months	At least once per 18 months (550 days)
R	Operating Cycle	At least once per 24 months (731 days)
S/U		Prior to each reactor startup
NA		Not applicable

See ITS: Chapter 1.0 Section 5.5

Specification 3.6.4.3

A1

TABLE 4.2-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

[SR 3.6.4.3.3]

see ITS: 3.3.6.1, 3.3.6.2

Logic System Functional Test (Notes 7 & 9)	Frequency
1) Main Steam Line Isolation Valves Main Steam Line Drain Valves Reactor Water Sample Valves	R
2) RHR - Isolation Valve Control Shutdown Cooling Valves	R
3) Reactor Water Cleanup Isolation	R
4) Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves	R
5) Standby Gas Treatment System Reactor Building Isolation	R
6) HPCI Subsystem Auto Isolation	R
7) RCIC Subsystem Auto Isolation	R

see ITS: 3.3.6.1 (items 1–4)

see ITS: 3.3.6.2 (item 5)

see ITS: 3.3.6.1 (items 6–7)

NOTE: See notes following Table 4.2-5.

Page 7 of 10

Specification 3.6.4.3 (A1)

NOTES FOR TABLES 4.2-1 THROUGH 4.2-5

see ITS: 3.4.5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.3.2.1

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

See ITS: 3.3.2.1, 3.3.5.1, 3.3.5.2, 3.3.6.1

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

See ITS: 3.3.2.1

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

[SR 3.6.4.3.3] | 7. Simulated automatic (or actual) actuation shall be performed once per 24 months. (L4)

See ITS: 3.3.2.1, 3.3.5.1, 3.3.5.2, 3.3.6.1, 3.3.7.2

See ITS: 3.3.6.1

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

See ITS: 3.3.5.1, 3.3.6.1, 3.3.6.2

10. ~~(Deleted)~~.

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source. |

See ITS: 3.3.6.1, 3.3.7.2

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. ~~(Deleted)~~

See ITS: 3.3.6.1, 3.3.5.2, 3.3.5.1

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months. |

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS: 3.3.6.1

Specification 3.6.4.3 (A1)

See CTS RETS: 2.1, 3.1
ITS: 3.3.7.1
3.3.7.2
3.3.6.2

JAFNPP

TABLE 3.10-2

MINIMUM TEST AND CALIBRATION FREQUENCY FOR RADIATION MONITORING SYSTEMS[a]

[SR 3.6.4.3.3]

Instrument Channels	Instrument Check[b]	Instrument Channel Functional Test[d]	Instrument Channel Calibration	Logic System Function Test[f]
Main Stack Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	- -
Refuel Area Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	- -
Reactor Building Area Exhaust Monitors, Recorders, and Isolation	Daily	Quarterly	Quarterly	Once per 24 Months
Turbine Building Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	- -
Radwaste Building Exhaust Monitors and Recorders	Daily	Quarterly	Quarterly	- -
SJAE Radiation Monitors/Offgas Line Isolation	Daily	Quarterly	Quarterly	Once per 24 Months
Main Control Room Ventilation Monitor	Daily	Quarterly	Quarterly	- -
Mechanical Vacuum Pump Isolation[g]	- -	- -	- -	Once per 24 Months
Liquid Radwaste Discharge Monitor/Isolation[c][d][e][f]	Daily When Discharging	Quarterly	Quarterly	Once per 24 Months
Liquid Radwaste Discharge Flow Rate Measuring Devices[d]	Daily	Quarterly	Once per 18 Months	- -
Liquid Radwaste Discharge Radioactivity Recorder[d]	Daily	Quarterly	Once per 18 Months	- -
Normal Service Water Effluent	Daily	Quarterly	Quarterly	- -
SBGTS Actuation	- -	- -	- -	Once per 24 Months

See CTS RETS 3.1

See ITS: 3.3.6.2

See CTS RETS 3.1

See ITS 3.7.5

See ITS 3.3.7.1

See ITS: 3.3.7.2

[SR 3.6.4.3.3]

See CTS: RETS 2.1

See ITS: 3.3.6.2

Specification 3.6.4.3

(A1)

NOTES FOR TABLE 3.10-2

(a) Functional tests, calibrations and instrument checks need not be performed when these instruments are not required to be operable or are tripped.

(b) Instrument checks shall be performed at least once per day during these periods when the instruments are required to be operable.

See ITS: 3.3.7.1 3.3.6.2 3.7.5 CTS RETS: 3.1 2.1

(c) A source check shall be performed prior to each release.

(d) Liquid radwaste effluent line instrumentation surveillance requirements need not be performed when the instruments are not required as the result of the discharge path not being utilized.

(e) An instrument channel calibration shall be performed with known radioactive sources standardized on plant equipment which has been calibrated with NBS traceable standards.

see CTS RETS 2.1

[SR 3.6.4.3.3] (f) Simulated/automatic actuation shall be performed once per 24 months. Where possible, all logic system functional tests will be performed using the test jacks.

or actual (L4) (A6) RAI 3.6.4.3-7

(g) Refer to Appendix A for instrument channel functional test and instrument channel calibration requirements (Table 4.2-1). These requirements are performed as part of main steam high radiation monitor surveillances.

See ITS 3.3.7.2

(h) The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

(i) This instrumentation is excepted from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel. These instrument channels will be calibrated using simulated electrical signals once every three months.

See ITS: 3.3.7.1 3.3.6.2 3.7.5 CTS RETS: 3.1 2.1

See ITS: 3.3.6.1 3.3.6.2 3.3.7.2 3.7.5 CTS RETS: 2.1, 3.1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.3

Standby Gas Treatment (SGT) System

DISCUSSION OF CHANGES (DOCs) TO THE CTS

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 which 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.B.1.a,b, and c, requirements, for ventilation filter testing, are proposed to be moved to ITS 5.5.8 "Ventilation Filter Testing Program (VFTP)". ITS SR 3.6.4.3.2 requires that the SGT filter testing be performed in accordance with the Ventilation Filter Testing Program to determine the Operability of the SGT System. This change in presentation is being made consistent with the format of NUREG-1433, Revision 1. Any technical changes to the filter testing requirements will be addressed in the Discussion of Changes for ITS 5.5. Therefore, since this change is a presentation preference that maintains the current requirements, this change is considered administrative.

A3 The Applicability of CTS 3.7.B.1 is at all times when secondary containment integrity is required. The CTS Applicability for secondary containment integrity is contained in CTS 3.7.C.1. The CTS 3.7.C.1 Applicability is proposed to be reworded as indicated in the ITS 3.6.4.3 Applicability to be consistent with the new definition of MODES and to have a positive statement as to when it is applicable, rather than when it is not applicable. CTS 3.7.C.1.a and 3.7.C.1.b form the MODES 1, 2, and 3 requirements, CTS 3.7.C.1.c forms the CORE ALTERATIONS requirement, and CTS 3.7.C.1.d forms the Applicability of movement of irradiated fuel assemblies in the secondary containment requirement. In addition, the CTS 3.7.C.1.a and 3.7.C.1.c requirements that CTS 3.3.A, Shutdown Margin be met have been deleted since they are duplicative of the requirements of ITS 3.1.1, SHUTDOWN MARGIN (SDM). ITS 3.1.1 is applicable in MODES 1, 2, 3, 4, and 5. If SDM is not met in MODE 4 or 5, ITS 3.1.1 ACTIONS require establishing the secondary containment boundary. Therefore, this change is purely a presentation preference adopted by NUREG-1433, Revision 1.

RAI 3.6.4.3-2, RAI 3.6.4.3-3

A4 CTS 4.7.B.1.e requires manual operability of the bypass valve for Standby Gas Treatment (SGT) subsystem filter cooling to be demonstrated (for each subsystem). ITS SR 3.6.4.3.4 requires cycling of each the SGT subsystem filter cooling cross-tie valve (cooler bypass valve). This

ADMINISTRATIVE CHANGES

A4 (continued)

change is considered to be administrative since it is consistent with JAFNPP current practice and interpretation of the requirements of CTS 4.7.B.1.e.

A5 CTS 4.7.B.2 requires the redundant SGT subsystem to be verified to be operable immediately and daily thereafter when one SGT subsystem becomes inoperable. This explicit requirement is not retained in ITS 3.6.4.3. 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 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. In addition, CTS 3.7.B.3 is revised by addition of ITS 3.6.4.3, ACTION C.1 (see L1) which allows the Operable SGT subsystem to be placed in operation if the inoperable subsystem is not restored to an Operable status within the Completion Time associated with ITS 3.6.4.3, Required Action A.1. Placing the Operable redundant SGT subsystem in service satisfies the requirements of CTS 4.7.B.2.

RAI 3.6.4.3-5, RAI 3.6.4.3-6

A6 The details in CTS RETS Table 3.10-2 Note (f) identifying how the Logic System Functional Test is to be performed (i.e., where possible using test jacks) has been deleted. The proposed definition for Logic System Functional Test provides the necessary guidance, therefore this explicit requirement is not necessary to ensure Operability. Therefore the change is presentation preference adopted by the BWR Standard Technical Specifications, NUREG-1433, Revision 1.

RAI 3.6.4.3-7

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 3.7.B.1 is applicable "at all times when secondary containment integrity is required." The CTS Applicability for secondary containment integrity is contained in CTS 3.7.C.1. The format of this current Applicability has been revised as described in A3. This change adds a new Applicability to CTS 3.7.C.1. The ITS 3.6.4.3 Applicability includes the requirement that secondary containment must be OPERABLE

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 (continued)

"during operations with the potential for draining the reactor vessel (OPDRVs)." In addition, commensurate changes have been added to the actions in CTS 3.7.B.3 as indicated in ITS 3.6.4.3 Required Actions C.2.3 and E.3 to reflect this addition to the Applicability. Therefore, since the Applicability has been added to this change is considered more restrictive but necessary to ensure the SGT System is maintained Operable when required to support the Operability of Secondary Containment. This change is consistent with NUREG-1433, Revision 1.

M2 CTS 3.7.B.2.b allows continued operations during Refuel or Cold Shutdown Modes for 31 days when a SGT subsystem is inoperable. ITS 3.6.4.3 ACTION A allows 7 days to restore the SGT subsystem to OPERABLE status. The 7 day requirement is consistent with NUREG-1433, Revision 1 and is based on consideration of such factors as the availability of the OPERABLE redundant SGT subsystem and the low probability of a DBA occurring during this time period. This change imposes a reduced period of inoperability, and therefore, is considered to be more restrictive necessary to ensure timely action is taken to restore the SGT subsystem to Operable status.

M3 CTS 3.7.B.3 requires the reactor to be placed in the cold condition when the Required Actions of CTS 3.7.B.2.a are not met. This CTS default action does not prescribe any Completion Times. ITS 3.6.4.3 ACTION B requires the reactor be placed in MODE 3 in 12 hours and MODE 4 in 36 hours if the Required Action and Completion Times are not met in MODE 1, 2, or 3. Based on operating experience, these Completion Time limits allow for an orderly transition to MODE 3 and subsequently to MODE 4 without challenging plant systems. The requirement to be in MODE 3 in 12 hours and MODE 4 in 36 hours, instead of placing the reactor in the cold condition, imposes additional specific operational and time requirements. Therefore, this change is considered to be more restrictive but necessary to ensure timely action is taken to place the plant in a MODE outside of the Applicability.

M4 CTS 3.7.B.3 requires the reactor to be placed in a cold condition when two SGT subsystems are inoperable. ITS 3.6.4.3 ACTION D requires entry into proposed LCO 3.0.3 (initiate action within 1 hour to place the plant in MODE 2 within 7 hours, MODE 3 within 12 hours and MODE 4 within 37 hours) if two SGT subsystems are inoperable in MODE 1, 2, or 3. Based on operating experience, these Completion Time limits allow for an orderly transition to MODE 4 without challenging plant systems. The

TECHNICAL CHANGES - MORE RESTRICTIVE

M4 (continued)

requirement to enter LCO 3.0.3, instead of placing the reactor in the cold condition, imposes additional specific operational and time requirements. Therefore, this change is considered to be more restrictive but necessary to ensure timely action is taken to place the plant in a Mode outside of the Applicability.

M5 When the requirements of CTS 3.7.B.1 (both SGT subsystems required to be Operable) or 3.7 B.2 (plant operation is allowed to continue for a limited time period with one inoperable SGT subsystem provided the redundant SGT subsystem is verified Operable) can not be met, CTS 3.7.B.3 requires an immediate plant shutdown and the suspension of fuel handling operations. If CTS 3.7.B.3 cannot be met, entry into CTS 3.0.C is permitted and the plant must be in COLD SHUTDOWN within 24 hours. Therefore, if the plant is operating in MODE 1, 2, or 3 and also handling fuel in the secondary containment, the CTS will require the plant to shutdown but not necessarily require the suspension of fuel handling since the default action (CTS 3.0.C) does not address suspension of fuel handling operations. Similarly, if CTS 3.7.B.3 can not be met during fuel handling operations while the plant is shutdown, default to CTS 3.0.C would not require any action to be taken since the plant would have previously been shutdown and suspension of fuel handling is not required by CTS 3.0.C.

RAI 3.6.4.3-4

In ITS 3.6.4.3, if one SGT subsystem is inoperable and not restored to an Operable status within the allowed time (ITS 3.6.4.3, ACTION A.1 and associated Completion Time), while operating in MODE 1, 2, or 3 during fuel handling operations, ITS 3.6.4.3, ACTION B requires a plant shutdown and ITS 3.6.4.3, CONDITION C is concurrently applicable and ACTION C Note does not allow default to ITS 3.0.3 (since default to ITS 3.0.3 would allow ACTION C.1 (or ACTIONS C.2.1 and C.2.2 and C.2.3) to be bypassed). Therefore, the proposed addition of ITS 3.6.4.3, ACTION C Note, is an additional restriction that requires that the activities addressed in ACTION C.1 (or ACTIONS C.2.1 and C.2.2 and C.2.3) be taken rather than be bypassed by defaulting to ITS 3.0.3. In a similar manner, if the Required Actions and Completion Time of ACTION A can not be met during fuel handling operations while shutdown (MODE 4 or 5), the addition of proposed ITS 3.6.4.3, ACTION C Note does not allow default to ITS 3.0.3 and thus is a restriction that is not contained in CTS. In addition ITS 3.6.4.3, Required Action E.1 requires the immediate suspension of movement of irradiated fuel assemblies in the secondary

TECHNICAL CHANGES - MORE RESTRICTIVE

M5 (continued)

containment, if both SGT subsystems are inoperable. The proposed addition of the Note to CTS 3.7.B.3 (ITS 3.6.4.3 Required Action E.1 Note), which states that LCO 3.0.3 is not applicable, is also a more restrictive change that requires the suspension of irradiated fuel handling operations since default to ITS 3.0.3 is not allowed.

Addition of the Note to ITS 3.6.4.3, ACTIONS C and E.1, provides clarification and is necessary because although defaulting to LCO 3.0.3 would require the reactor to be shutdown it would not require the suspension of the activities with the potential for releasing radioactive material to the secondary containment. Not allowing LCO 3.6.4.3, ACTION C, and Required Action E.1 to be bypassed by entry in LCO 3.0.3 ensures the suspension of these activities will be addressed, thus placing the plant in a condition that minimizes risk. Therefore, this change is more restrictive but necessary to minimize the probability of release when the secondary containment is not Operable. This change does not result in any reduction in safety.

RAI 3.6.4.3-4

M6 A new Surveillance Requirement is proposed to be added to CTS 4.7.B. ITS SR 3.6.4.3.1 will require operation of each SGT subsystem for ≥ 10 continuous hours, with heaters operating, each 31 days. This Surveillance ensures subsystem operability and eliminates moisture on the adsorbers and HEPA filters. The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system. The proposed Surveillance and Frequency are consistent with Regulatory Guide 1.52, Revision 2 (Section 4.d). This change imposes additional operational requirements and, therefore, is considered to be more restrictive but is necessary to ensure each subsystem remains Operable. This change is not considered to result in any reduction to safety.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 CTS 3.7.C.1.d requirement, that secondary containment be maintained if the fuel cask is being moved in the reactor building, is proposed to be relocated to the UFSAR. This is acceptable since the UFSAR contains restrictions on the movement of heavy loads based on the heavy loads analysis. The bounding design basis fuel handling accident assumes an irradiated fuel assembly is dropped onto an array of irradiated fuel assemblies seated within the RPV. The movement of other loads over irradiated fuel assemblies is administratively controlled based on available analysis for the individual load. The load analysis methodology and crane operation which dictate the controls are described in the UFSAR. As such, these details are not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LB1 The CTS 4.7.B.1.f requirement, to calibrate the Standby Gas Treatment (SGT) System differential pressure switches every 24 months, is proposed to be relocated to the Technical Requirements Manual (TRM). These instruments sense differential pressure across each filter in the filter train and provide an alarm to the control room. These instruments are not required to ensure the OPERABILITY of the Standby Gas Treatment System. The proposed ITS 3.6.4.3 LCO, Actions and Surveillances and the definition of OPERABILITY are sufficient to ensure the OPERABILITY of the SGT System. Therefore, this detail is not required to be included in the ITS to provide adequate protection of the public health and safety. At ITS implementation, the relocated requirements will be incorporated by reference into the UFSAR. Any changes to this relocated requirement in the Technical Requirements Manual will be controlled by the provisions of 10 CFR 50.59.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CTS 3.7.B.3 prohibits irradiated fuel handling operations and operations that could reduce the shutdown margin (CORE ALTERATIONS) if the Required Action and associated Completion Times of CTS 3.7.B.2 is not met. ITS 3.6.4.3 Required Action C.1 will allow the option of, placing the OPERABLE SGT subsystem in operation as an alternative to suspending movement of irradiated fuel assemblies in the secondary containment (Required Action C.2.1), suspending CORE ALTERATIONS (Required Action C.2.2, and suspending OPDRVs (Required Action C.2.3). Placing the OPERABLE SGT subsystem in operation as an alternative to suspending movement of irradiated fuel, CORE ALTERATIONS and suspending OPDRVs is less restrictive than the existing requirement. However, the proposed alternative ensures that the remaining subsystem is OPERABLE, that no failures that could prevent automatic actuation have occurred, and that any other failure would be readily detected. This change is consistent with NUREG-1433, Revision 1.

RAI 3.6.4.3-5 RAI 3.6.4.3-6

L2 Not used.

L3 CTS 3.7.C.1.b requires the Reactor Coolant System to be vented in order for secondary containment to not be required. ITS 3.6.4.1 does not include this requirement. Secondary containment Operability is required to ensure that fission products entrapped within the secondary containment structure will be treated by the Standby Gas Treatment (SGT) System prior to discharge to the environment. When the reactor is in MODE 4 or 5, the probability and consequences of the DBA requiring secondary containment Operability to be maintained are reduced due to the pressure and temperature limitations in these conditions. Therefore, maintaining secondary containment Operability is not required in MODE 4 or 5, except for other situations for which significant releases of radioactive material can be postulated, such as during operations with a potential for draining the reactor vessel, during CORE ALTERATIONS, or during movement of irradiated fuel assemblies in the secondary containment.

The reactor in MODE 4 or 5 with the Reactor Coolant System not vented does not constitute a situation for which significant releases of radioactive material can be postulated. The Reactor Coolant system will normally be vented when the reactor is in MODE 4 or 5. With the Reactor Coolant System not vented when the reactor is in MODE 4 (for example, during an inservice leak and hydrostatic test in MODE 4) or MODE 5, no mechanism exists to impart additional fission products into the reactor coolant. Under these conditions, activities for which the Reactor Coolant system would not be vented would be strictly controlled and

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 (continued)

monitored. As a result, leaks or pipe breaks would typically be detected before significant inventory loss occurred. These activities would typically be performed after refueling when few noncondensible gases remain in the reactor coolant. The temperature limitation of 212°F will ensure that water not steam would be emitted from the postulated leak or pipe break. In addition under these conditions, stored energy is sufficiently low that even with a loss of inventory following a recirculation line break, core coverage would be maintained by the low pressure Emergency Core Cooling systems required per ITS 3.5.2 and the fuel would not exceed its peak clad temperature limit. As a result, the potential for failed fuel and a subsequent increase in reactor coolant activity is minimized and significant releases of radioactive material would not be expected to occur. Therefore, it is considered acceptable to eliminate the requirement to maintain secondary containment Operability with the Reactor Coolant System not vented in MODE 4 or 5.

L4 CTS Tables 4.2-1 Note 7 requires the performance of a simulated automatic actuation of the Standby Gas Treatment System (Item 5 of Table 4.2-1). In addition CTS 4.7.B.1.d requires an automatic initiation test of the Standby Gas Treatment System. These test requirements are identical. ITS SR 3.6.4.3.3 includes the phrase "actual or," in reference to the Standby Gas Treatment automatic initiation signal. This allows satisfactory automatic system initiations to be used to fulfill the Surveillance Requirements. Operability is adequately demonstrated in either case since the SGT subsystem itself can not discriminate between "actual" or "simulated" signals. RAI 3.6.4.3-7

L5 Not used.

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.3

Standby Gas Treatment (SGT) System

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

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 does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The proposed change will allow placing the Operable SGT subsystem in operation as an alternative to suspending movement of irradiated fuel assemblies in the secondary containment, suspending CORE ALTERATIONS and suspending OPDRVs whenever SGT subsystem Operability requirements cannot be met. The proposed change does not increase the probability of an accident because the inoperability of one SGT subsystem and continuous operation of the redundant SGT subsystem when the reactor is in MODES 4 and 5 is not considered the initiator of any analyzed accident. The proposed change does not increase the consequences of an accident because, in lieu of suspending the potential for releasing radioactive material to the secondary containment, placing the Operable SGT subsystem in operation mitigates the consequences of an accident by ensuring that the remaining subsystem is Operable and that no failures that could prevent automatic actuation have occurred, and that any other failure would be readily detected. Proper operation of only one SGT subsystem is sufficient to mitigate the consequences of any analyzed accident. 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 does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. 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)

L1 CHANGE

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

The proposed change will allow placing the Operable SGT subsystem in operation as an alternative to suspending movement of irradiated fuel assemblies in the secondary containment, suspending CORE ALTERATIONS and suspending OPDRVs whenever SGT subsystem Operability requirements cannot be met. The proposed change does not result in a significant reduction in a margin of safety because it allows operations which have the potential for releasing radioactive material to the secondary containment to continue only if the system designed to mitigate the consequences of this release is functioning. Proper operation of only one SGT subsystem is sufficient to mitigate the consequences of any analyzed accident. Therefore, this change does not change any of the assumptions in the accident analysis and does not involve a significant reduction in a margin of safety.

RAI 3.6.4.3-5 and RAI 3.6.4.3-6

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

Not used.

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 changes do not result in any hardware or operating procedure changes. The requirements for secondary containment Standby Gas Treatment System Operability are not assumed in the initiation of any analyzed event. The proposed changes establish and maintain adequate assurance that secondary containment and SGT System Operability will be maintained as assumed in analyses for the mitigation of accident consequences. Not requiring secondary containment and SGT System Operability when the Reactor Coolant System is not vented in MODE 4 or 5 does not involve an increase in previously evaluated accident consequences since no mechanism exists to impart additional fission products into the reactor coolant. Under these conditions, activities for which the Reactor Coolant System would not be vented would be strictly controlled and monitored. As a result, leaks or pipe breaks would typically be detected before significant inventory loss occurred. These activities would typically be performed after refueling when few noncondensible gases remain in the reactor coolant. The temperature limitation of 212°F will ensure that water not steam would be emitted from the postulated leak or pipe break. In addition under these conditions, stored energy is sufficiently low that even with a loss of inventory following a recirculation line break, core coverage would be maintained by the low pressure Emergency Core Cooling Systems required per ITS 3.5.2 and the fuel would not exceed its peak clad temperature limit. As a result, the potential for failed fuel and a subsequent increase in reactor coolant activity is minimized and significant releases of radioactive material to the environment would not be expected to occur. Therefore, these changes 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 changes do not involve a physical alteration of the plant (no new or different type of equipment will be installed) or changes in

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

2. (continued)

parameters governing normal operation and will not alter the method used by any system to perform its design function. The proposed changes do not allow plant operation in any mode that is not already evaluated and will still ensure secondary containment and SGT System Operability is maintained when required. Thus, these changes do 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 changes to the secondary containment and SGT System Operability requirements have no impact on any safety analysis assumptions. Secondary containment and SGT System Operability will be maintained as assumed in the safety analyses. Not requiring secondary containment and SGT System Operability when the Reactor Coolant System is not vented in MODE 4 or 5 does not involve a significant reduction in a margin of safety since no mechanism exists to impart additional fission products into the reactor coolant. Under these conditions, activities for which the Reactor Coolant System would not be vented would be strictly controlled and monitored. As a result, leaks or pipe breaks would typically be detected before significant inventory loss occurred. These activities would typically be performed after refueling, at low decay levels, and with reactor coolant temperature less than or equal to 212°F. In addition under these conditions, stored energy in the reactor core is very low. The reactor pressure vessel would rapidly depressurize in the event of a large primary system leak and the low pressure Emergency Core Cooling Systems required per ITS 3.5.2 under these conditions would be adequate to keep the core flooded. This would ensure that the fuel would not be uncovered and would not exceed the 2200°F peak clad temperature limit. As a result, the potential for failed fuel and a subsequent increase in reactor coolant activity is minimized and significant releases of radioactive material to the environment would not be expected to occur. Therefore, these changes do not involve a significant reduction in a margin of safety.

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 phrase "actual or," in reference to the automatic initiation signal, has been added to the system functional test surveillance test description. This does not impose a requirement to create an "actual" signal, nor does it eliminate any restriction on producing an "actual" signal. This change will allow the plant to take credit for spurious or real actuations as long as the surveillance requirements are satisfied. The proposed change does not affect the procedures governing plant operations and therefore the probability of creating these signals; it simply would allow such a signal to be credited when evaluating the acceptance criteria for the system functional test requirements. Therefore, the change does not involve a significant increase in the probability of an accident previously evaluated. Since the method of initiation will not affect the acceptance criteria of the system functional test, the 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 possibility of a new or different kind of accident from any accident previously evaluated is not created because the proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. The change merely allows the plant to take credit for spurious or real actuations as long as the actuation satisfies the surveillance requirement.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

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

   Use of an actual signal instead of the existing requirement, which limits use to a simulated signal, will not affect the performance or acceptance criteria of the surveillance test. Operability is adequately demonstrated in either case since the system itself cannot discriminate between "actual" or "simulated" signals. Therefore, the change does not involve a significant reduction in a margin of safety.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

RAI 3.6.4.3-7

L5 CHANGE

Not used.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.3

Standby Gas Treatment (SGT) System

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.6 CONTAINMENT SYSTEMS

3.6.4.3 Standby Gas Treatment (SGT) System

[1.0.S.2] [3.7.B.1] LCO 3.6.4.3 {Two} SGT subsystems shall be OPERABLE. (CLB1)

[3.7.B.1] [3.7.C.1] [M1] [3.7.B.2.a] [3.7.B.2.b] APPLICABILITY: MODES 1, 2, and 3,
During movement of (PA1) irradiated fuel assemblies in the {secondary} containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
[3.7.B.2] [3.7.B.2.a] [3.7.B.2.b] [M2] A. One SGT subsystem inoperable.	A.1 Restore SGT subsystem to OPERABLE status.	7 days
[3.7.B.3] [M3] B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1 Be in MODE 3. **AND** B.2 Be in MODE 4.	12 hours 36 hours
[3.7.B.3] [L1] [M5] C. Required Action and associated Completion Time of Condition A not met during movement of (PA1) irradiated fuel assemblies in the {secondary} containment, during CORE ALTERATIONS, or during OPDRVs.	------------NOTE------------ LCO 3.0.3 is not applicable. ---------------------------- C.1 Place OPERABLE SGT subsystem in operation. **OR**	 Immediately (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2.1 Suspend movement of irradiated fuel assemblies in {secondary} containment.	Immediately
	AND	
	C.2.2 Suspend CORE ALTERATIONS.	Immediately
	AND	
	C.2.3 Initiate action to suspend OPDRVs.	Immediately
D. Two SGT subsystems inoperable in MODE 1, 2, or 3.	D.1 Enter LCO 3.0.3	Immediately
E. Two SGT subsystems inoperable during movement of irradiated fuel assemblies in the {secondary} containment, during CORE ALTERATIONS, or during OPDRVs.	E.1 ---------NOTE--------- LCO 3.0.3 is not applicable. ---------------------- Suspend movement of irradiated fuel assemblies in {secondary} containment.	Immediately
	AND	(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. (continued) [3.7.B.3] [M1]	E.2	Suspend CORE ALTERATIONS.	Immediately
	AND		
	E.3	Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
[M6] SR 3.6.4.3.1	Operate each SGT subsystem for ≥ [10] continuous hours [with heaters operating]. DB1	31 days
[4.7.B.1.a,b,c] [A2] SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
[4.7.B.1.d] [T.4.2-1 (4)] [Note 7] [RETS T.3.10-2 (13)] SR 3.6.4.3.3	Verify each SGT subsystem actuates on an actual or simulated initiation signal.	[18] 24 months CLB2
[4.7.B.1.e] [SR 3.6.4.3.4	Manually cycle ~~Verify~~ each SGT subsystem filter cooling cross-tie valve ~~cooler bypass damper can be opened and the fan started~~.	[18] 24 months] CLB3

RAI 3.6.4.3-2
RAI 3.6.4.3-3

REVISION E

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.3

Standby Gas Treatment (SGT) System

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.6.4.3 - STANDBY GAS TREATMENT (SGT) SYSTEM

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 ITS LCO 3.6.4.3 has been revised to reflect the current licensing requirements of JAFNPP, that CTS 3.7.B.1 requires both SGT subsystems to be OPERABLE.

CLB2 ITS SR 3.6.4.3.3 bracketed Frequency has been revised to reflect the current licensing requirements of JAFNPP, CTS 4.7.B.1.d, of 24 months.

CLB3 ITS SR 3.6.4.3.4 brackets have been removed and specific information revised to reflect the current intepretation of CTS 4.7.B.1.e.

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

PA1 ITS 3.6.4.3 brackets have been removed and the proper plant specific nomenclature, of Secondary, has been provided with respect to the containment identification.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 ITS SR 3.6.4.3.1 (M6) brackets have been removed and the requirement to operate the SGT System for 10 continuous hours, with the heaters operating, each 31 days, has been included consistent with the JAFNPP plant specific design of the SGT filter train. This operation will help ensure the Operability of the filter trains.

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: 3.6.4.3

Standby Gas Treatment (SGT) System

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.4.3 Standby Gas Treatment (SGT) System

BASES

BACKGROUND

The SGT System is required by 10 CFR 50, Appendix A, GDC 41, "Containment Atmosphere Cleanup" (Ref. 1). The function of the SGT System is to ensure that radioactive materials that leak from the primary containment into the [secondary] containment following a Design Basis Accident (DBA) are filtered and adsorbed prior to exhausting to the environment.

The SGT System consists of two fully redundant subsystems, each with its own set of ductwork, dampers, charcoal filter train, and controls.

Each charcoal filter train consists of (components listed in order of the direction of the air flow):

a. A demister or moisture separator;

b. An electric heater;

c. A prefilter;

d. A high efficiency particulate air (HEPA) filter;

e. A charcoal adsorber;

f. A second HEPA filter; and

g. A centrifugal fan.

The sizing of the SGT System equipment and components is based on the results of an infiltration analysis, as well as an exfiltration analysis of the [secondary] containment. The internal pressure of the SGT System boundary region is maintained at a negative pressure of [0.25] inches water gauge when the system is in operation, which represents the internal pressure required to ensure zero exfiltration of air from the building when exposed to a [10] mph wind blowing at an angle of [45]° to the building.

The demister is provided to remove entrained water in the air, while the electric heater reduces the relative humidity

(continued)

INSERT BKG-1 {D B2}

The SGT subsystems share a common inlet line. The inlet line is connected through separate valved connections to the reactor building above the refuel floor, reactor building below refuel floor, primary containment drywell and suppression chamber, HPCI turbine gland seal exhauster, main steam leak collection system and the Auxiliary Gas Treatment System. Both 100% capacity SGT subsystem fans exhaust to the elevated release point (the main stack), through a common exhaust duct. The SGT subsystem fans are designed to automatically start upon a secondary containment isolation signal.

The fan suctions are cross connected by a single line and two normally opened manual cross tie valves to accommodate decay heat removal. Air for decay heat removal enters the idle SGT subsystem from the SGT room via a motor operated valve and restricting orifice. The air is drawn through the filter, removing the decay heat from the idle subsystem filters, passes through the cross tie line to the opposite operating SGT subsystem fan, and is exhausted to the main stack.

BASES

BACKGROUND (continued)

of the airstream to less than {70}% (Ref. 2). The prefilter removes large particulate matter, while the HEPA filter removes fine particulate matter and protects the charcoal from fouling. The charcoal adsorber removes gaseous elemental iodine and organic iodides, and the final HEPA filter collects any carbon fines exhausted from the charcoal adsorber.

The SGT System automatically starts and operates in response to actuation signals indicative of conditions or an accident that could require operation of the system. Following initiation, both charcoal filter train fans start. Upon verification that both subsystems are operating, the redundant subsystem is normally shut down.

APPLICABLE SAFETY ANALYSES

The design basis for the SGT System is to mitigate the consequences of a loss of coolant accident and fuel handling accidents (Ref. 2). For all events analyzed, the SGT System is shown to be automatically initiated to reduce, via filtration and adsorption, the radioactive material released to the environment.

The SGT System satisfies Criterion 3 of the NRC Policy Statement.

LCO

Following a DBA, a minimum of one SGT subsystem is required to maintain the {secondary} containment at a negative pressure with respect to the environment and to process gaseous releases. Meeting the LCO requirements for two OPERABLE subsystems ensures operation of at least one SGT subsystem in the event of a single active failure.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could lead to a fission product release to primary containment that leaks to secondary containment. Therefore, SGT System OPERABILITY is required during these MODES.

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 the SGT

(continued)

DB3

INSERT LCO-1

An OPERABLE SGT subsystem consists of a demister, heater, prefilter, HEPA filter, charcoal adsorber, a final HEPA filter, centrifugal fan, and associated ductwork, dampers, valves and controls.

BASES

APPLICABILITY (continued)

System in OPERABLE status is not required in MODE 4 or 5, except for other situations under which significant releases of radioactive material can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs), during CORE ALTERATIONS, or during movement of irradiated fuel assemblies in the [secondary] containment.

PA 1

ACTIONS

A.1

With one SGT subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status in 7 days. In this Condition, the remaining OPERABLE SGT subsystem is adequate to perform the required radioactivity release control function. However, the overall system reliability is reduced because a single failure in the OPERABLE subsystem could result in the radioactivity release control function not being adequately performed. The 7 day Completion Time is based on consideration of such factors as the availability of the OPERABLE redundant SGT System and the low probability of a DBA occurring during this period.

sub — PA 2

RAI-3.6.4.3-8

B.1 and B.2

If the SGT subsystem cannot be restored to OPERABLE status within the required Completion Time in MODE 1, 2, or 3, 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.

C.1, C.2.1, C.2.2, and C.2.3

During movement of irradiated fuel assemblies, in the [secondary] containment, during CORE ALTERATIONS, or during OPDRVs, when Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE SGT subsystem should immediately be placed in operation. This action ensures that the remaining subsystem is OPERABLE, that no failures that could prevent automatic actuation have

PA1

(continued)

Revision E

PA 1

BASES

ACTIONS

C.1, C.2.1, C.2.2, and C.2.3 (continued)

occurred, and that any other failure would be readily detected.

An alternative to Required Action C.1 is to immediately suspend activities that represent a potential for releasing radioactive material to the {secondary} containment, thus placing the plant in a condition that minimizes risk. If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies must immediately be suspended. Suspension of these activities must not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended. PA1

PA4: LCO 3.0.3 is not applicable in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3,

The Required Actions of Condition C have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

D.1

PA3 will PA2

If both SGTS subsystems are inoperable in MODE 1, 2, or 3, the SGT System may not be capable of supporting the required radioactivity release control function. Therefore, actions are required to enter LCO 3.0.3 immediately. PA3

is

E.1, E.2, and E.3

When two SGT subsystems are inoperable, if applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in {secondary} containment must immediately be suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel

PA1

(continued)

BASES

PA2

LCO 3.0.3 is not applicable in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3,

ACTIONS

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

draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

Required Action D.1 (E) has been (PA3) modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE REQUIREMENTS

SR 3.6.4.3.1

DB1

Operating each SGT subsystem for ≥ [10] continuous hours ensures that [both] subsystems are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. Operation [with the heaters on (automatic heater cycling to maintain temperature)] for ≥ [10] continuous hours every 31 days eliminates moisture on the adsorbers and HEPA filters. The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system. DB1

SR 3.6.4.3.2

This SR verifies that the required SGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The SGT System filter tests are in accordance with Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

TA1

TSTF-362, R0

(continued)

Revision E

SGT System
B 3.6.4.3

DB7

In addition, the operability of each SGT decay heat cooling valve is verified to ensure the valve closes on subsystem initiation (an interlock with suction valve) and opens when shutdown. This will ensure the mitigation functions as well as the decay heat cooling mode of each SGT subsystem is available.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.4.3.3

This SR verifies that each SGT subsystem starts on receipt of an actual or simulated initiation signal. While this Surveillance can be performed with the reactor at power, operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.2.6 overlaps this SR to provide complete testing of the safety function. Therefore, the Frequency was found to be acceptable from a reliability standpoint.

CLB2 24 PA2 LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation,"

SR 3.6.4.3.4

This SR verifies that the filter cooler bypass damper can be opened and the fan started. This ensures that the ventilation mode of SGT System operation is available. While this Surveillance can be performed with the reactor at power, operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency, which is based on the refueling cycle. Therefore, the Frequency was found to be acceptable from a reliability standpoint.

cooling cross-tie valves are OPERABLE. decay heat cooling CLB3 INSERT SR 3.6.4.3.4 CLB3 CLB1

REFERENCES

1. 10 CFR 50, Appendix A, GDC 41. UFSAR Section 16.6
2. FSAR, Section [6.2.3]. 5.3.3.4 DB5 PA4 u
3. Regulatory Guide 1.52, Rev. [2]. TA1

UFSAR, Section 14.6 DB6

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

TSTF-362, RO RAI 3.6.4.3-2 RAI 3.6.4.3-3

INSERT SR 3.6.4.3.4 (CLB3)

The 24 month Frequency has been shown to be adequate, based on operating experience, and in view of the strict administrative controls required for entry into the area of these valves.

RAI 3.6.4.3-2
RAI 3.6.4.3-3

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.4.3

Standby Gas Treatment (SGT) System

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

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 JAFNPP was designed and under construction prior to the promulgation of Appendix A to 10 CFR 50 - General Design Criteria for Nuclear Power Plants. The JAFNPP Construction Permit was issued on May 20, 1970. The proposed General Design Criteria (GDC) were published in the Federal Register on July 11, 1967 (32 FR 10213) and became effective on February 20, 1971 (32 FR 3256). UFSAR, Section 16.6 - Conformance to AEC Design Criteria, describes the JAFNPP current licensing basis with regard to the GDC. ISTS statements concerning the GDC are modified in the ITS to reference UFSAR, Section 16.6.

CLB2 ITS SR 3.6.4.3.3 bracketed Frequency has been revised to reflect the current licensing requirements of JAFNPP, CTS 4.7.B.1.d, of 24 months.

CLB3 ITS SR 3.6.4.3.4 brackets have been removed and specific information revised to reflect the current licensing interpretation of CTS 4.7.B.1.e.

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

PA1 ITS 3.6.4.2 brackets have been removed and the proper plant specific nomenclature, of Secondary, has been provided with respect to the containment identification.

PA2 Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

PA3 Typographical/grammatical error corrected.

PA4 The proper plant specific terminology has been utilized. JAFNPP does not use the term "train" with respect to the SGT System.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 ITS SR 3.6.4.3.1 (M6) brackets have been removed and the requirement to operate the SGT System for 10 continuous hours, with the heaters operating, each 31 days, has been included consistent with the JAFNPP plant specific design of the SGT filter train. This operation will help ensure the Operability of the filter trains.

DB2 ITS 3.6.4.3 Bases Background have been revised to reflect specific JAFNPP design features of the SGT System.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB3 ITS 3.6.4.3 Bases LCO has been revised to reflect specific JAFNPP SGT subsystem components required for OPERABILITY.

DB4 ITS 3.6.4.3 has been revised to reflect the specific JAFNPP reference requirements of, Regulatory Guide 1.52, Revision 2.

DB5 ITS 3.6.4.3 has been revised to reflect the specific JAFNPP reference requirements of, UFSAR, Section 5.3.3.4, Standby Gas Treatment System.

DB6 ITS 3.6.4.3 has been revised to reflect the specific JAFNPP reference requirements of, UFSAR, Section 14.6, Analysis of Design Basis Accident.

DB7 ITS SR 3.6.4.3.3 has been revised to ensure the mitigation as well as the ventilation mode of operation is verified during the simulated initiation signal test.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 362, Revision 0, have been incorporated into the revised Improved Technical Specifications. TSTF-362, 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 reference 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: 3.6.4.3

Standby Gas Treatment (SGT) System

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.6 CONTAINMENT SYSTEMS

3.6.4.3 Standby Gas Treatment (SGT) System

LCO 3.6.4.3 Two SGT subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SGT subsystem inoperable.	A.1 Restore SGT subsystem to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1 Be in MODE 3. **AND** B.2 Be in MODE 4.	12 hours 36 hours
C. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	-----------NOTE----------- LCO 3.0.3 is not applicable. -------------------------- C.1 Place OPERABLE SGT subsystem in operation. **OR**	Immediately (continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. (continued)	C.2.1	Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	<u>AND</u>		
	C.2.2	Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>		
	C.2.3	Initiate action to suspend OPDRVs.	Immediately
D. Two SGT subsystems inoperable in MODE 1, 2, or 3.	D.1	Enter LCO 3.0.3	Immediately
E. Two SGT subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	E.1	--------NOTE-------- LCO 3.0.3 is not applicable. ------------------- Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	<u>AND</u>		
	E.2	Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>		
	E.3	Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for ≥ 10 continuous hours with heaters operating.	31 days
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each SGT subsystem actuates on an actual or simulated initiation signal.	24 months
SR 3.6.4.3.4	Manually cycle each SGT subsystem filter cooling cross-tie valve.	24 months

RAI 3.6.4.3-2, RAI 3.6.4.3-3

B 3.6 CONTAINMENT SYSTEMS

B 3.6.4.3 Standby Gas Treatment (SGT) System

BASES

BACKGROUND

The SGT System is required by UFSAR, Section 16.6 (Ref. 1). The function of the SGT System is to ensure that radioactive materials that leak from the primary containment into the secondary containment following a Design Basis Accident (DBA) are filtered and adsorbed prior to exhausting to the environment.

The SGT System consists of two fully redundant subsystems, each with its own set of ductwork, dampers, charcoal filter assembly, centrifugal fan and controls. The SGT subsystems share a common inlet line. The inlet line is connected through separate valved connections to the reactor building above the refuel floor, reactor building below refuel floor, primary containment drywell and suppression chamber, HPCI turbine gland seal exhauster, main steam leak collection system and Auxiliary Gas Treatment System. Both 100% capacity SGT subsystem fans exhaust to the elevated release point (the main stack), through a common exhaust duct. The SGT subsystem fans are designed to automatically start upon a secondary containment isolation signal.

The fan suctions are cross connected by a single line and two normally opened manual cross tie valves to accommodate decay heat removal. Air for decay heat removal enters the idle SGT subsystem from the SGT room via a motor operated valve and restricting orifice. The air is drawn through the filter, removing the decay heat from the idle subsystem filters, passes through the cross tie line to the opposite operating SGT subsystem fan, and is exhausted to the main stack.

Each SGT filter assembly consists of (components listed in order of the direction of the air flow):

a. A demister;

b. An electric heater;

c. A prefilter;

(continued)

BASES

BACKGROUND (continued)

d. A high efficiency particulate air (HEPA) filter;

e. A charcoal adsorber; and

f. A second HEPA filter.

The SGT System equipment and components are sized to reduce and maintain the secondary containment at a negative pressure of 0.25 inches water gauge when the system is in operation under neutral wind conditions and the SGT fans exhausting at a rate of 6,000 cfm (200% of reactor building free volume per day).

The demister is provided to remove entrained water in the air, while the electric heater reduces the relative humidity of the airstream to less than 70% (Ref. 2). The prefilter removes large particulate matter, while the HEPA filter removes fine particulate matter and protects the charcoal from fouling. The charcoal adsorber removes gaseous elemental iodine and organic iodides, and the final HEPA filter collects any carbon fines exhausted from the charcoal adsorber.

The SGT System automatically starts and operates in response to actuation signals indicative of conditions or an accident that could require operation of the system. Following initiation, both SGT subsystem fans start. Upon verification that both subsystems are operating, one subsystem is normally shut down.

APPLICABLE SAFETY ANALYSES

The design basis for the SGT System is to mitigate the consequences of a loss of coolant accident and refueling accidents (Ref. 3). For all events analyzed, the SGT System is shown to be automatically initiated to reduce, via filtration and adsorption, the radioactive material released to the environment.

The SGT System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 4).

(continued)

BASES (continued)

LCO

Following a DBA, a minimum of one SGT subsystem is required to maintain the secondary containment at a negative pressure with respect to the environment and to process gaseous releases. Meeting the LCO requirements for two OPERABLE subsystems ensures operation of at least one SGT subsystem in the event of a single active failure. An OPERABLE SGT subsystem consists of a demister, heater, prefilter, HEPA filter, charcoal adsorber, a final HEPA filter, centrifugal fan, and associated ductwork, dampers, valves and controls.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could lead to a fission product release to primary containment that leaks to secondary containment. Therefore, SGT System OPERABILITY is required during these MODES.

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 the SGT System in OPERABLE status is not required in MODE 4 or 5, except for other situations under which significant releases of radioactive material can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs), during CORE ALTERATIONS, or during movement of irradiated fuel assemblies in the secondary containment.

RAI 3.6.4.3-8

ACTIONS

A.1

With one SGT subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status in 7 days. In this Condition, the remaining OPERABLE SGT subsystem is adequate to perform the required radioactivity release control function. However, the overall system reliability is reduced because a single failure in the OPERABLE subsystem could result in the radioactivity release control function not being adequately performed. The 7 day Completion Time is based on consideration of such factors as the availability of the OPERABLE redundant SGT subsystem and the low probability of a DBA occurring during this period.

(continued)

BASES

ACTIONS (continued)

B.1 and B.2

If the SGT subsystem cannot be restored to OPERABLE status within the required Completion Time in MODE 1, 2, or 3, 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.

C.1, C.2.1, C.2.2, and C.2.3

During movement of irradiated fuel assemblies, in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, when Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE SGT subsystem should immediately be placed in operation. This action ensures that the remaining subsystem is OPERABLE, that no failures that could prevent automatic actuation have occurred, and that any other failure would be readily detected.

An alternative to Required Action C.1 is to immediately suspend activities that represent a potential for releasing radioactive material to the secondary containment, thus placing the plant in a condition that minimizes risk. If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies must immediately be suspended. Suspension of these activities must not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

LCO 3.0.3 is not applicable in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the Required Actions of Condition C have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either

(continued)

BASES

ACTIONS

C.1, C.2.1, C.2.2, and C.2.3 (continued)

case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

D.1

If both SGT subsystems are inoperable in MODE 1, 2, or 3, the SGT System may not be capable of supporting the required radioactivity release control function. Therefore, action is required to enter LCO 3.0.3 immediately.

E.1, E.2, and E.3

When two SGT subsystems are inoperable, if applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in secondary containment must immediately be suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

LCO 3.0.3 is not applicable in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, Required Action E.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE REQUIREMENTS

SR 3.6.4.3.1

Operating each SGT subsystem fan for ≥ 10 continuous hours ensures that both subsystems are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.4.3.1 (continued)

vibration can be detected for corrective action. Operation with the heaters on for ≥ 10 continuous hours every 31 days eliminates moisture on the adsorbers and HEPA filters. The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system.

SR 3.6.4.3.2

TSTF-362, R0

This SR verifies that the required SGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.6.4.3.3

This SR verifies that each SGT subsystem starts on receipt of an actual or simulated initiation signal. In addition, the OPERABILITY of each SGT decay heat cooling valve is verified to ensure the valve closes on subsystem initiation (interlock with suction valve) and opens when shutdown. This will ensure the mitigation function as well as the decay heat cooling mode of each SGT subsystem is available. While this Surveillance can be performed with the reactor at power, operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," overlaps this SR to provide complete testing of the safety function. Therefore, the Frequency was found to be acceptable from a reliability standpoint.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.4.3.4

This SR verifies that the filter cooling cross-tie valves are OPERABLE. This ensures that the decay heat cooling mode of SGT System operation is available. The 24 month Frequency has been shown to be adequate, based on operating experience, and in view of the strict administrative controls required for entry into the area of these valves.

This SR is modified by a Note that states the Surveillance is not required to be met while one SGT subsystem is isolated. This exception is allowed since one SGT subsystem can be isolated (e.g., for filter replacement or other maintenance) and be inoperable without jeopardizing the OPERABILITY of the other SGT subsystem.

RAI 3.6.4.3-2, RAI 3.6.4.3-3

REFERENCES

1. UFSAR, Section 16.6.
2. UFSAR, Section 5.3.3.4.
3. UFSAR, Section 14.6.
4. 10 CFR 50.36(c)(2)(ii).

TSTF-362, R0

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.1.6

Low-Low Set (LLS) Valves

THIS SPECIFICATION IS DELETED.

THERE ARE NO REQUIREMENTS FOR THIS SPECIFICATION AT JAFNPP; THEREFORE THIS MARKUP PACKAGE CONTAINS ONLY THE FOLLOWING SECTIONS:

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.1.6

Low-Low Set (LLS) Valves

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

DB1

3.6 CONTAINMENT SYSTEMS

3.6.1.6 Low-Low Set (LLS) Valves

LCO 3.6.1.6 The LLS function of [four] safety/relief valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One LLS valve inoperable.	A.1 Restore LLS valve to OPERABLE status.	14 days
B. Required Action and associated Completion Time of Condition A not met. OR Two or more LLS valves inoperable.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.6.1	------------------NOTE------------------ Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -- Verify each LLS valve opens when manually actuated.	[18] months [on a STAGGERED TEST BASIS for each valve solenoid]
SR 3.6.1.6.2	------------------NOTE------------------ Valve actuation may be excluded. -- Verify the LLS System actuates on an actual or simulated automatic initiation signal.	18 months

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.1.6

Low-Low Set (LLS) Valves

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
NUREG: 3.6.1.6 - LOW-LOW SET (LLS) VALVES

<u>RETENTION OF EXISTING REQUIREMENT</u> (CLB)

None

<u>PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT</u> (PA)

None

<u>PLANT-SPECIFIC DIFFERENCE IN THE DESIGN</u> (DB)

DB1 NUREG-1433, Revision 1, Specification 3.6.1.6 Low-Low Set (LLS) Valves, is being deleted because no comparable system exists at JAFNPP.

<u>DIFFERENCE BASED ON AN APPROVED TRAVELER</u> (TA)

None

<u>DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER</u> (TP)

None

<u>DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE</u> (X)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.1.6

Low-Low Set (LLS) Valves

MARKUP OF NUREG-1433, REVISION 1, BASES

DB1

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.6 Low-Low Set (LLS) Valves

BASES

BACKGROUND

The safety/relief valves (S/RVs) can actuate in either the safety mode, the Automatic Depressurization System mode, or the LLS mode. In the LLS mode (or power actuated mode of operation), a pneumatic diaphragm and stem assembly overcomes the spring force and opens the pilot valve. As in the safety mode, opening the pilot valve allows a differential pressure to develop across the main valve piston and opens the main valve. The main valve can stay open with valve inlet steam pressure as low as [50] psig. Below this pressure, steam pressure may not be sufficient to hold the main valve open against the spring force of the pilot valves. The pneumatic operator is arranged so that its malfunction will not prevent the valve disk from lifting if steam inlet pressure exceeds the safety mode pressure setpoints.

[Four] of the S/RVs are equipped to provide the LLS function. The LLS logic causes the LLS valves to be opened at a lower pressure than the relief or safety mode pressure setpoints and stay open longer, so that reopening more than one S/RV is prevented on subsequent actuations. Therefore, the LLS function prevents excessive short duration S/RV cycles with valve actuation at the relief setpoint.

Each S/RV discharges steam through a discharge line and quencher to a location near the bottom of the suppression pool, which causes a load on the suppression pool wall. Actuation at lower reactor pressure results in a lower load.

APPLICABLE SAFETY ANALYSES

The LLS relief mode functions to ensure that the containment design basis of one S/RV operating on "subsequent actuations" is met. In other words, multiple simultaneous openings of S/RVs (following the initial opening), and the corresponding higher loads, are avoided. The safety analysis demonstrates that the LLS functions to avoid the induced thrust loads on the S/RV discharge line resulting from "subsequent actuations" of the S/RV during Design Basis Accidents (DBAs). Furthermore, the LLS function justifies the primary containment analysis assumption that

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

simultaneous S/RV openings occur only on the initial actuation for DBAs. Even though [four] LLS S/RVs are specified, all [four] LLS S/RVs do not operate in any DBA analysis.

LLS valves satisfy Criterion 3 of the NRC Policy Statement.

LCO

[Four] LLS valves are required to be OPERABLE to satisfy the assumptions of the safety analyses (Ref. 1). The requirements of this LCO are applicable to the mechanical and electrical/pneumatic capability of the LLS valves to function for controlling the opening and closing of the S/RVs.

APPLICABILITY

In MODES 1, 2, and 3, an event could cause pressurization of the reactor and opening of S/RVs. 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 the LLS valves OPERABLE is not required in MODE 4 or 5.

ACTIONS

A.1

With one LLS valve inoperable, the remaining OPERABLE LLS valves are adequate to perform the designed function. However, the overall reliability is reduced. The 14 day Completion Time takes into account the redundant capability afforded by the remaining LLS valves and the low probability of an event in which the remaining LLS valve capability would be inadequate.

B.1 and B.2

If two or more LLS valves are inoperable or if the inoperable LLS valve cannot be restored to OPERABLE status 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

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

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 3.6.1.6.1

A manual actuation of each LLS valve is performed to verify that the valve and solenoids are functioning properly and no blockage exists in the valve discharge line. This can be demonstrated by the response of the turbine control or bypass valve, by a change in the measured steam flow, or by any other method that is suitable to verify steam flow. Adequate reactor steam dome pressure must be available to perform this test to avoid damaging the valve. Adequate pressure at which this test is to be performed is ≥ [920] psig (the pressure recommended by the valve manufacturer). Also, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the LLS valves divert steam flow upon opening. Adequate steam flow is represented by [at least 1.25 turbine bypass valves open, or total steam flow ≥ 10^6 lb/hr]. The [18] month Frequency was based on the S/RV tests required by the ASME Boiler and Pressure Vessel Code, Section XI (Ref. 2). The Frequency of 18 months on a STAGGERED TEST BASIS ensures that each solenoid for each S/RV is alternately tested. Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

Since steam pressure is required to perform the Surveillance, however, and steam may not be available during a unit outage, the Surveillance may be performed during the startup following a unit outage. Unit startup is allowed prior to performing the test because valve OPERABILITY and the setpoints for overpressure protection are verified by Reference 2 prior to valve installation. After adequate reactor steam dome pressure and flow are reached, 12 hours is allowed to prepare for and perform the test.

(continued)

DB1

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.6.2

The LLS designated S/RVs are required to actuate automatically upon receipt of specific initiation signals. A system functional test is performed to verify that the mechanical portions (i.e., solenoids) of the LLS function operate as designed when initiated either by an actual or simulated automatic initiation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.3.7 overlaps this SR to provide complete testing of the safety function.

The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that excludes valve actuation. This prevents a reactor pressure vessel pressure blowdown.

REFERENCES

1. FSAR, Section [5.5.17].
2. ASME, Boiler and Pressure Vessel Code, Section XI.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.1.6

Low-Low Set (LLS) Valves

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
NUREG BASES: 3.6.1.6 - LOW-LOW SET (LLS) VALVES

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 NUREG-1433, Revision 1, Specification 3.6.1.6 Low-Low Set (LLS) Valves, is being deleted because no comparable system exists at JAFNPP.

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

NUREG: N3.6.2.4

Residual Heat Removal (RHR) Suppression Pool Spray

THIS SPECIFICATION IS DELETED.

THERE ARE NO REQUIREMENTS FOR THIS SPECIFICATION AT JAFNPP; THEREFORE THIS MARKUP PACKAGE CONTAINS ONLY THE FOLLOWING SECTIONS:

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.2.4

Residual Heat Removal (RHR) Suppression Pool Spray

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

3.6 CONTAINMENT SYSTEMS

3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

LCO 3.6.2.4 Two RHR suppression pool spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One RHR suppression pool spray subsystem inoperable.	A.1	Restore RHR suppression pool spray subsystem to OPERABLE status.	7 days
B. Two RHR suppression pool spray subsystems inoperable.	B.1	Restore one RHR suppression pool spray 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

DB1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.4.1	Verify each RHR suppression pool spray 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 3.6.2.4.2	Verify each RHR pump develops a flow rate ≥ [400] gpm through the heat exchanger while operating in the suppression pool spray mode.	In accordance with the Inservice Testing Program or 92 days]

DB1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.2.4

Residual Heat Removal (RHR) Suppression Pool Spray

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
NUREG: 3.6.2.4 - RESIDUAL HEAT REMOVAL (RHR) SUPPRESSION POOL SPRAY

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 ISTS 3.6.2.4, "Residual Heat Removal (RHR) Suppression Pool Spray" is not included in the ITS. At JAFNPP both the drywell and suppression chamber sprays are required to mitigate the consequences of accidents. The current requirements in CTS 3.5.B.1, "Containment Cooling Mode (of the RHR System) are more consistent with Specification 3.6.1.7 of the BWR Standard Technical Specifications, NUREG-1434, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)), therefore this Specification and Bases have been used to develop the ITS requirements of containment spray for the JAFNPP ITS submittal and is included as ITS 3.6.1.9. Therefore ISTS 3.6.2.4, is not included in the JAFNPP ITS submittal.

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

NUREG: N3.6.2.4

Residual Heat Removal (RHR) Suppression Pool Spray

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

BASES

BACKGROUND

Following a Design Basis Accident (DBA), the RHR Suppression Pool Spray System removes heat from the suppression chamber airspace. The suppression pool is designed to absorb the sudden input of heat from the primary system from a DBA or a rapid depressurization of the reactor pressure vessel (RPV) through safety/relief valves. The heat addition to the suppression pool results in increased steam in the suppression chamber, which increases primary containment pressure. Steam blowdown from a DBA can also bypass the suppression pool and end up in the suppression chamber airspace. Some means must be provided to remove heat from the suppression chamber so that the pressure and temperature inside primary containment remain within analyzed design limits. This function is provided by two redundant RHR suppression pool spray subsystems. The purpose of this LCO is to ensure that both subsystems are OPERABLE in applicable MODES.

Each of the two RHR suppression pool spray subsystems contains two pumps and one heat exchanger, which are manually initiated and independently controlled. The two subsystems perform the suppression pool spray function by circulating water from the suppression pool through the RHR heat exchangers and returning it to the suppression pool spray spargers. The spargers only accommodate a small portion of the total RHR pump flow; the remainder of the flow returns to the suppression pool through the suppression pool cooling return line. Thus, both suppression pool cooling and suppression pool spray functions are performed when the Suppression Pool Spray System is initiated. 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. Either RHR suppression pool spray subsystem is sufficient to condense the steam from small bypass leaks from the drywell to the suppression chamber airspace during the postulated DBA.

(continued)

DB1

RAI 3.6.2.4-1

Revision E

BASES (continued)

APPLICABLE SAFETY ANALYSES	Reference 1 contains the results of analyses used to predict primary containment pressure and temperature following large and small break loss of coolant accidents. The intent of the analyses is to demonstrate that the pressure reduction capacity of the RHR Suppression Pool Spray System is adequate to maintain the primary containment conditions within design limits. The time history for primary containment pressure is calculated to demonstrate that the maximum pressure remains below the design limit. The RHR Suppression Pool Spray System satisfies Criterion 3 of the NRC Policy Statement.
LCO	In the event of a DBA, a minimum of one RHR suppression pool spray subsystem is required to mitigate potential bypass leakage paths and maintain the primary containment peak pressure below the design limits (Ref. 1). To ensure that these requirements are met, two RHR suppression pool spray subsystems must be OPERABLE with power from two safety related independent power supplies. Therefore, in the event of an accident, at least one subsystem is OPERABLE assuming the worst case single active failure. An RHR suppression pool spray subsystem is OPERABLE when one of the pumps, the heat exchanger, and associated piping, valves, instrumentation, and controls are OPERABLE.
APPLICABILITY	In MODES 1, 2, and 3, a DBA could cause 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, maintaining RHR suppression pool spray subsystems OPERABLE is not required in MODE 4 or 5.
ACTIONS	<u>A.1</u> With one RHR suppression pool spray subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE RHR suppression pool spray subsystem is adequate to perform the primary containment bypass leakage mitigation function.

(continued)

DB11

BASES

ACTIONS

A.1 (continued)

However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced primary containment bypass mitigation capability. The 7 day Completion Time was chosen in light of the redundant RHR suppression pool spray capabilities afforded by the OPERABLE subsystem and the low probability of a DBA occurring during this period.

B.1

With both RHR suppression pool spray subsystems inoperable, at least one subsystem must be restored to OPERABLE status within 8 hours. In this Condition, there is a substantial loss of the primary containment bypass leakage 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 because alternative methods to remove heat from primary containment are available.

C.1 and C.2

If the inoperable RHR suppression pool spray subsystem cannot be restored to OPERABLE status within the associated 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 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 3.6.2.4.1

Verifying the correct alignment for manual, power operated, and automatic valves in the RHR suppression pool spray mode flow path provides assurance that the proper flow paths will exist 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

(continued)

D-61

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.2.4.1 (continued)

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 has been shown to be acceptable based on operating experience.

SR 3.6.2.4.2

Verifying each RHR pump develops a flow rate ≥ [400] gpm while operating in the suppression pool spray mode with flow through the heat exchanger ensures that pump performance has not degraded during the cycle. Flow is a normal test of centrifugal pump performance required by Section XI of the ASME Code (Ref. 2). This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice inspections 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, but the Frequency must not exceed 92 days].

REFERENCES

1. FSAR, Section [6.2].
2. ASME, Boiler and Pressure Vessel Code, Section XI.

DB1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.2.4

Residual Heat Removal (RHR) Suppression Pool Spray

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
NUREG BASES: 3.6.2.4 - RESIDUAL HEAT REMOVAL (RHR) SUPPRESSION POOL SPRAY

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 ISTS 3.6.2.4, "Residual Heat Removal (RHR) Suppression Pool Spray" is not included in the ITS. At JAFNPP both the drywell and suppression chamber sprays are required to mitigate the consequences of accidents. The current requirements in CTS 3.5.B.1, "Containment Cooling Mode (of the RHR System) are more consistent with Specification 3.6.1.7 of the BWR Standard Technical Specifications, NUREG-1434, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)), therefore this Specification and Bases have been used to develop the ITS requirements of containment spray for the JAFNPP ITS submittal and is included as ITS 3.6.1.9. Therefore ISTS 3.6.2.4, is not included in the JAFNPP ITS submittal.

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

NUREG: N3.6.3.1

Primary Containment Hydrogen Recombiners (if permanently installed)

THIS SPECIFICATION IS DELETED.

THERE ARE NO REQUIREMENTS FOR THIS SPECIFICATION AT JAFNPP; THEREFORE THIS MARKUP PACKAGE CONTAINS ONLY THE FOLLOWING SECTIONS:

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.3.1

Primary Containment Hydrogen Recombiners (if permanently installed)

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

DB1

3.6 CONTAINMENT SYSTEMS

3.6.3.1 Primary Containment Hydrogen Recombiners (if permanently installed)

LCO 3.6.3.1 Two primary containment hydrogen recombiners shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One primary containment hydrogen recombiner inoperable.	A.1	--------NOTE-------- LCO 3.0.4 is not applicable. --------------------- Restore primary containment hydrogen recombiner to OPERABLE status.	30 days
B. Two primary containment hydrogen recombiners inoperable.	B.1	Verify by administrative means that the hydrogen control function is maintained.	1 hour AND Once per 12 hours thereafter
	AND		
	B.2	Restore one primary containment hydrogen recombiner to OPERABLE status.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.1.1	Perform a system functional test for each primary containment hydrogen recombiner.	[18] months
SR 3.6.3.1.2	Visually examine each primary containment hydrogen recombiner enclosure and verify there is no evidence of abnormal conditions.	[18] months
SR 3.6.3.1.3	Perform a resistance to ground test for each heater phase.	[18] months

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.3.1

Primary Containment Hydrogen Recombiners
(if permanently installed)

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

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 NUREG-1433, Revision 1, Specification 3.6.3.1: Primary Containment Hydrogen Recombiners, is being deleted because no comparable system exists at JAFNPP.

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

NUREG: N3.6.3.1

Primary Containment Hydrogen Recombiners (if permanently installed)

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.3.1 Primary Containment Hydrogen Recombiners

BASES

BACKGROUND

The primary containment hydrogen recombiner eliminates the potential breach of primary containment due to a hydrogen oxygen reaction and is part of combustible gas control required by 10 CFR 50.44, "Standards for Combustible Gas Control Systems in Light-Water-Cooled Reactors" (Ref. 1), and GDC 41, "Containment Atmosphere Cleanup" (Ref. 2). The primary containment hydrogen recombiner is required to reduce the hydrogen concentration in the primary containment following a loss of coolant accident (LOCA). The primary containment hydrogen recombiner accomplishes this by recombining hydrogen and oxygen to form water vapor. The vapor remains in the primary containment, thus eliminating any discharge to the environment. The primary containment hydrogen recombiner is manually initiated since flammability limits would not be reached until several days after a Design Basis Accident (DBA).

The primary containment hydrogen recombiner functions to maintain the hydrogen gas concentration within the containment at or below the flammability limit of 4.0 volume percent (v/o) following a postulated LOCA. It is fully redundant and consists of two 100% capacity subsystems. Each primary containment hydrogen recombiner consists of an enclosed blower assembly, heater section, reaction chamber, direct contact water spray gas cooler, water separator, and associated piping, valves, and instruments. The primary containment hydrogen recombiner will be manually initiated from the main control room when the hydrogen gas concentration in the primary containment reaches [3.3] v/o. When the primary containment is inerted (oxygen concentration < 4.0 v/o), the primary containment hydrogen recombiner will only function until the oxygen is used up (2.0 v/o hydrogen combines with 1.0 v/o oxygen). Two recombiners are provided to meet the requirement for redundancy and independence. Each recombiner is powered from a separate Engineered Safety Feature bus and is provided with separate power panel and control panel.

The process gas circulating through the heater, the reaction chamber, and the cooler is automatically regulated to [150] scfm by the use of an orifice plate installed in the

(continued)

DB1

BASES

BACKGROUND (continued)

cooler. The process gas is heated to [1200]°F. The hydrogen and oxygen gases are recombined into water vapor, which is then condensed in the water spray gas cooler by the associated residual heat removal subsystem and discharged with some of the effluent process gas to the suppression chamber. The majority of the cooled, effluent process gas is mixed with the incoming process gas to dilute the incoming gas prior to the mixture entering the heater section.

APPLICABLE SAFETY ANALYSES

The primary containment hydrogen recombiner provides the capability of controlling the bulk hydrogen concentration in primary containment to less than the lower flammable concentration of 4.0 v/o following a DBA. This control would prevent a primary containment wide hydrogen burn, thus ensuring that pressure and temperature conditions assumed in the analysis are not exceeded. The limiting DBA relative to hydrogen generation is a LOCA.

Hydrogen may accumulate in primary containment following a LOCA as a result of:

a. A metal steam reaction between the zirconium fuel rod cladding and the reactor coolant; or

b. Radiolytic decomposition of water in the Reactor Coolant System.

To evaluate the potential for hydrogen accumulation in primary containment following a LOCA, the hydrogen generation is calculated as a function of time following the initiation of the accident. Assumptions recommended by Reference 3 are used to maximize the amount of hydrogen calculated.

The calculation confirms that when the mitigating systems are actuated in accordance with emergency procedures, the peak hydrogen concentration in the primary containment is < 4.0 v/o (Ref. 4).

The primary containment hydrogen recombiners satisfy Criterion 3 of the NRC Policy Statement.

(continued)

DB1

BASES (continued)

LCO

Two primary containment hydrogen recombiners must be OPERABLE. This ensures operation of at least one primary containment hydrogen recombiner subsystem in the event of a worst case single active failure.

Operation with at least one primary containment hydrogen recombiner subsystem ensures that the post-LOCA hydrogen concentration can be prevented from exceeding the flammability limit.

APPLICABILITY

In MODES 1 and 2, the two primary containment hydrogen recombiners are required to control the hydrogen concentration within primary containment below its flammability limit of 4.0 v/o following a LOCA, assuming a worst case single failure.

In MODE 3, both the hydrogen production rate and the total hydrogen produced after a LOCA would be less than that calculated for the DBA LOCA. Also, because of the limited time in this MODE, the probability of an accident requiring the primary containment hydrogen recombiner is low. Therefore, the primary containment hydrogen recombiner is not required in MODE 3.

In MODES 4 and 5, the probability and consequences of a LOCA are low due to the pressure and temperature limitations in these MODES. Therefore, the primary containment hydrogen recombiner is not required in these MODES.

ACTIONS

A.1

With one primary containment hydrogen recombiner inoperable, the inoperable recombiner must be restored to OPERABLE status within 30 days. In this Condition, the remaining OPERABLE recombiner is adequate to perform the hydrogen control function. However, the overall reliability is reduced because a single failure in the OPERABLE recombiner could result in reduced hydrogen control capability. The 30 day Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, the amount of time available after the event for operator action

(continued)

BASES

ACTIONS

A.1 (continued)

to prevent exceeding this limit, and the low probability of failure of the OPERABLE primary containment hydrogen recombiner.

Required Action A.1 has been modified by a Note indicating that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one recombiner is inoperable. This allowance is provided because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, the low probability of the failure of the OPERABLE subsystem, and the amount of time available after a postulated LOCA for operator action to prevent exceeding the flammability limit.

B.1 and B.2

[Reviewer's Note: This Condition is only allowed for units with an alternate hydrogen control system acceptable to the technical staff.]

With two primary containment hydrogen recombiners inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by the [Primary Containment Inerting System or one subsystem of the Containment Atmosphere Dilution System]. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist. [Reviewer's Note: The following is to be used if a non-Technical Specification alternate hydrogen control function is used to justify this Condition. In addition, the alternate hydrogen control system capability must be verified once per 12 hours thereafter to ensure its continued availability.] [Both] the [initial] verification [and all subsequent verifications] may be performed as an administrative check by examining logs or other information to determine the availability of the alternate hydrogen control system. It does not mean to perform the Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control system. If the ability to perform the hydrogen control function is maintained,

(continued)

DB1

BASES

ACTIONS

B.1 and B.2 (continued)

continued operation is permitted with two hydrogen recombiners inoperable for up to 7 days. Seven days is a reasonable time to allow two hydrogen recombiners to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit.

C.1

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. The allowed Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1.1

Performance of a system functional test for each primary containment hydrogen recombiner ensures that the recombiners are OPERABLE and can attain and sustain the temperature necessary for hydrogen recombination. In particular, this SR verifies that the minimum heater sheath temperature increases to ≥ [1200]°F in ≤ [1.5] hours and that it is maintained > [1150]°F and < [1300]°F for ≥ [4] hours thereafter to check the ability of the recombiner to function properly (and to make sure that significant heater elements are not burned out). Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.6.3.1.2

This SR ensures there are no physical problems that could affect recombiner operation. Since the recombiners are

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1.2 (continued)

mechanically passive, except for the blower assemblies, they are subject to only minimal mechanical failure. The only credible failures involve loss of power or blower function, blockage of the internal flow path, missile impact, etc.

A visual inspection is sufficient to determine abnormal conditions that could cause such failures. Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.6.3.1.3

This SR requires performance of a resistance to ground test of each heater phase to make sure that there are no detectable grounds in any heater phase. This is accomplished by verifying that the resistance to ground for any heater phase is ≥ [10,000] ohms.

Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. 10 CFR 50.44.
2. 10 CFR 50, Appendix A, GDC 41.
3. Regulatory Guide 1.7, Revision [1].
4. FSAR, Section [6.2.5].

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.3.1

Primary Containment Hydrogen Recombiners (if permanently installed)

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
NUREG BASES: 3.6.3.1 - PRIMARY CONTAINMENT HYDROGEN RECOMBINERS

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The Bases for NUREG-1433, Revision 1, Specification 3.6.3.1: Primary Containment Hydrogen Recombiners, is being deleted because no comparable system exists at JAFNPP.

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

NUREG: N3.6.3.2

[Drywell Cooling System Fans]

THIS SPECIFICATION IS DELETED.

THERE ARE NO REQUIREMENTS FOR THIS SPECIFICATION AT JAFNPP; THEREFORE THIS MARKUP PACKAGE CONTAINS ONLY THE FOLLOWING SECTIONS:

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

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.3.2

[Drywell Cooling System Fans]

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.6 CONTAINMENT SYSTEMS

3.6.3.2 [Drywell Cooling System Fans]

LCO 3.6.3.2 Two [drywell cooling system fans] shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One [required] [drywell cooling system fan] inoperable.	A.1	---------NOTE--------- LCO 3.0.4 is not applicable. ---------------------- Restore [required] [drywell cooling system fan] to OPERABLE status.	30 days
B. Two [required] [drywell cooling system fans] inoperable.	B.1	Verify by administrative means that the hydrogen control function is maintained.	1 hour AND Once per 12 hours thereafter
	AND		
	B.2	Restore one [required] [drywell cooling system fan] to OPERABLE status.	7 days
C. Required Action and Associated Completion Time not met.	C.1	Be in MODE 3.	12 hours

DB1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.2.1	Operate each [required] [drywell cooling system fan] for ≥ [15] minutes.	92 days
[SR 3.6.3.2.2	Verify each [required] [drywell cooling system fan] flow rate is ≥ [500] scfm.	[18] months]

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.3.2

[Drywell Cooling System Fans]

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
NUREG: 3.6.3.2 - DRYWELL COOLING SYSTEM FANS

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 NUREG-1433, Revision 1, Specification 3.6.3.2: Drywell Cooling System Fans, is being deleted. While a drywell cooling system is provided at JAFNPP, the system is not designed to operate under loss of coolant accident conditions. Cooling fan motor overload devices are set consistent with the fan motor ratings and the pitch of the fan blades is set for normal drywell atmosphere conditions. The drywell pressure increase (and the corresponding increase in drywell atmosphere density) associated with loss of coolant accident conditions would result in trip of the fan motors on overload. Thus, no means of post accident drywell atmosphere mixing exists at JAFNPP.

RAI 3.6.3.2.1

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

NUREG: N3.6.3.2

[Drywell Cooling System Fans]

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.3.2 [Drywell Cooling System Fans]

BASES

BACKGROUND

The [Drywell Cooling System fans] ensure a uniformly mixed post accident primary containment atmosphere, thereby minimizing the potential for local hydrogen burns due to a pocket of hydrogen above the flammable concentration.

The [Drywell Cooling System fans] are an Engineered Safety Feature and are designed to withstand a loss of coolant accident (LOCA) in post accident environments without loss of function. The system has two independent subsystems consisting of fans, fan coil units, motors, controls, and ducting. Each subsystem is sized to circulate [500] scfm. The [Drywell Cooling System fans] employ both forced circulation and natural circulation to ensure the proper mixing of hydrogen in primary containment. The recirculation fans provide the forced circulation to mix hydrogen while the fan coils provide the natural circulation by increasing the density through the cooling of the hot gases at the top of the drywell causing the cooled gases to gravitate to the bottom of the drywell. The two subsystems are initiated manually since flammability limits would not be reached until several days after a LOCA. Each subsystem is powered from a separate emergency power supply. Since each subsystem can provide 100% of the mixing requirements, the system will provide its design function with a worst case single active failure.

The [Drywell Cooling System fans] use the Drywell Cooling System recirculating fans to mix the drywell atmosphere. The fan coil units and recirculation fans are automatically disengaged during a LOCA but may be restored to service manually by the operator. In the event of a loss of offsite power, all fan coil units, recirculating fans, and primary containment water chillers are transferred to the emergency diesels. The fan coil units and recirculating fans are started automatically from diesel power upon loss of offsite power.

(continued)

DB1

BASES (continued)

APPLICABLE SAFETY ANALYSES

The [Drywell Cooling System fans] provide the capability for reducing the local hydrogen concentration to approximately the bulk average concentration following a Design Basis Accident (DBA). The limiting DBA relative to hydrogen generation is a LOCA.

Hydrogen may accumulate in primary containment following a LOCA as a result of:

a. A metal steam reaction between the zirconium fuel rod cladding and the reactor coolant; or

b. Radiolytic decomposition of water in the Reactor Coolant System.

To evaluate the potential for hydrogen accumulation in primary containment following a LOCA, the hydrogen generation as a function of time following the initiation of the accident is calculated. Conservative assumptions recommended by Reference 1 are used to maximize the amount of hydrogen calculated.

The Reference 2 calculations show that hydrogen assumed to be released to the drywell within 2 minutes following a DBA LOCA raises drywell hydrogen concentration to over 2.5 volume percent (v/o). Natural circulation phenomena result in a gradient concentration difference of less then 0.5 v/o in the drywell and less than 0.1 v/o in the suppression chamber. Even though this gradient is acceptably small and no credit for mechanical mixing was assumed in the analysis, two [Drywell Cooling System fans] are [required] to be OPERABLE (typically four to six fans are required to keep the drywell cool during operation in MODE 1 or 2) by this LCO.

The [Drywell Cooling System fans] satisfy Criterion 3 of the NRC Policy Statement.

LCO

Two [Drywell Cooling System fans] must be OPERABLE to ensure operation of at least one fan in the event of a worst case single active failure. Each of these fans must be powered from an independent safety related bus.

(continued)

BASES

LCO (continued)	Operation with at least one fan provides the capability of controlling the bulk hydrogen concentration in primary containment without exceeding the flammability limit.
APPLICABILITY	In MODES 1 and 2, the two [Drywell Cooling System fans] ensure the capability to prevent localized hydrogen concentrations above the flammability limit of 4.0 v/o in drywell, assuming a worst case single active failure. In MODE 3, both the hydrogen production rate and the total hydrogen produced after a LOCA would be less than that calculated for the DBA LOCA. Also, because of the limited time in this MODE, the probability of an accident requiring the [Drywell Cooling System fans] is low. Therefore, the [Drywell Cooling System fans] are not required in MODE 3. In MODES 4 and 5, the probability and consequences of a LOCA are reduced due to the pressure and temperature limitations in these MODES. Therefore, the [Drywell Cooling System fans] are not required in these MODES.
ACTIONS	<u>A.1</u> With one [required] [Drywell Cooling System fan] inoperable, the inoperable fan must be restored to OPERABLE status within 30 days. In this Condition, the remaining OPERABLE fan is adequate to perform the hydrogen mixing function. However, the overall reliability is reduced because a single failure in the OPERABLE fan could result in reduced hydrogen mixing capability. The 30 day Completion Time is based on the availability of the second fan, the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, the amount of time available after the event for operator action to prevent exceeding this limit, and the availability of the Primary Containment Hydrogen Recombiner System and the Containment Atmosphere Dilution System. Required Action A.1 has been modified by a Note indicating that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one [Drywell Cooling System fan] is inoperable. This allowance is provided

(continued)

BASES

ACTIONS

A.1 (continued)

because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, the low probability of the failure of the OPERABLE fan, and the amount of time available after a postulated LOCA for operator action to prevent exceeding the flammability limit.

B.1 and B.2

[Reviewer's Note: This Condition is only allowed for units with an alternate hydrogen control system acceptable to the technical staff.]

With two [Drywell Cooling System fans] inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by the [Primary Containment Inerting System or one subsystem of the Containment Atmosphere Dilution System]. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist. [Reviewer's Note: The following is to be used if a non-Technical Specification alternate hydrogen control function is used to justify this Condition: In addition, the alternate hydrogen control system capability must be verified once per 12 hours thereafter to ensure its continued availability.] [Both] the [initial] verification [and all subsequent verifications] may be performed as an administrative check by examining logs or other information to determine the availability of the alternate hydrogen control system. It does not mean to perform the Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control system. If the ability to perform the hydrogen control function is maintained, continued operation is permitted with two [Drywell Cooling System fans] inoperable for up to 7 days. Seven days is a reasonable time to allow two [Drywell Cooling System fans] to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit.

(continued)

DB1

DB1

BASES

ACTIONS (continued)

C.1

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. The allowed Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.3.2.1

Operating each [required] [Drywell Cooling System fan] for ≥ 15 minutes ensures that each subsystem is OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. The 92 day Frequency is consistent with the Inservice Testing Program Frequencies, operating experience, the known reliability of the fan motors and controls, and the two redundant fans available.

SR 3.6.3.2.2

Verifying that each [required] [Drywell Cooling System fan] flow rate is ≥ [500] scfm ensures that each fan is capable of maintaining localized hydrogen concentrations below the flammability limit. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. Regulatory Guide 1.7, Revision [1].

2. FSAR, Section [6.2.5].

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

NUREG: N3.6.3.2

[Drywell Cooling System Fans]

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

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
NUREG BASES: 3.6.3.2 - DRYWELL COOLING SYSTEM FANS

RETENTION OF EXISTING REQUIREMENT (CLB)

None

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

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The Bases for NUREG-1433, Revision 1, Specification 3.6.3.2: Drywell Cooling System Fans, is being deleted. While a drywell cooling system is provided at JAFNPP, the system is not designed to operate under loss of coolant accident conditions. Cooling fan motor overload devices are set consistent with the fan motor ratings and the pitch of the fan blades is set for normal drywell atmosphere conditions. The drywell pressure increase (and the corresponding increase in drywell atmosphere density) associated with loss of coolant accident conditions would result in trip of the fan motors on overload. Thus, no means of post accident drywell atmosphere mixing exists at JAFNPP.

RAI S3.6.3.2-1

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

CTS: 3.7.A.3

Containment Purge through the Standby Gas Treatment System

THIS SPECIFICATION IS Relocated.

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTICTIVE CHANGES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

CTS: 3.7.A.3

Containment Purge through the Standby Gas Treatment System

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

3.7 (cont'd)

3. The containment shall be purged through the Standby Gas Treatment System whenever the primary containment integrity is required. If this requirement cannot be met, then purging shall be discontinued without delay.

R1

4.7 (cont'd)

3. Continuous Leak Rate Monitoring

When the primary containment is inerted, it shall be continuously monitored for gross leakage by review of the inerting system makeup requirements.

See ITS: 3.6.1.1

RAI CTS 3.7.A.3-1

Current Technical Specification 3.7.A.3

3.7 (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

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.

R1

RAI CTS 3.7.A.3-1

4.7 (Cont'd)

8. Not applicable.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

CTS: 3.7.A.3

Containment Purge through the Standby Gas Treatment System

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
CTS: 3.7.A.3 - CONTAINMENT PURGE THROUGH THE STANDBY GAS TREATMENT SYSTEM

ADMINISTRATIVE CHANGES

None

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

None

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

None

TECHNICAL CHANGES - RELOCATIONS

R1 The CTS 3.7.A.3 LCO to discontinue purging if not purging through the Standby Gas Treatment (SGT) System whenever primary containment integrity is required, and the associated CTS 3.7.A.8 Required Action to place the reactor in the cold condition within 24 hours if CTS 3.7.A.3 is not met, are proposed to be relocated to the Offsite Dose Calculation Manual (OCDM).

The only primary containment purge path that exists, by design, is via the SGT System. Purging of the primary containment through the SGT System is not used for, or capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA. Purging has no relationship to any process variable that is an initial condition of a DBA or transient. Purging through the SGT System during normal operation is not part of a primary success path in the mitigation of a DBA or transient. Venting and purging has been found to be a non-significant risk contributor to core damage frequency and offsite releases. Therefore, purging the primary containment through the SGT System is not risk significant and can be relocated outside of Technical Specifications. Requiring a plant shutdown (CTS 3.7.A.8) in the event that CTS 3.7.A.3 can not be met is not associated with detection of a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA and requiring a plant shutdown if the requirement to purge the primary containment through the SGT System can not be met has

DISCUSSION OF CHANGES
CTS: 3.7.A.3 - CONTAINMENT PURGE THROUGH THE STANDBY GAS TREATMENT SYSTEM

TECHNICAL CHANGES - RELOCATIONS

R1 (continued)

no relationship to any process variable that is an initial condition of a DBA or transient. Requiring a plant shutdown (CTS 3.7.A.8) in the event that CTS 3.7.A.3 requirement to purge primary containment via the SGT System is not met is not part of a primary success path for the mitigation of a DBA or transient. In addition, since venting and purging operations are not risk significant, the requirement to shutdown the plant if the purge via SGT requirement can not be met is also not risk significant. Therefore, relocating the requirement to place the reactor in cold shutdown within 24 hours (CTS 3.7.A.8) if CTS 3.7.A.3 is not met is not risk significant.

Administrative controls are included in the Technical Specifications to ensure continued compliance with the applicable regulatory requirements. ITS 5.5.4, "Radioactive Effluent Controls Program" and ITS 5.5.1, "ODCM," contain requirements to ensure that all liquid, gaseous, and particulate effluents meet the limits contained in applicable regulations and future changes to the ODCM will be reviewed to ensure that such changes will "maintain the levels of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and do not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations."

CTS 3.7.A.3 and 3.7.A.8 do not identify a parameter which is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, mitigate a design basis event and is not a structure system or component which operating experience or PRA has shown to be significant to public health and safety.

Therefore, CTS 3.7.A.3 and 3.7.A.8 do not satisfy the NRC Policy Statement Technical Specification screening criteria as documented in the Application of Selection Criteria to the JAFNPP Technical Specifications and will be relocated to the ODCM. Changes to the ODCM will be controlled by the provisions of the ODCM change control process described in Chapter 5 of the ITS. This change is consistent with Generic Letter 89-01 for removal of Radiological Effluent Technical Specification (RETS) and relocation to the ODCM.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

CTS: 3.7.A.3

Containment Purge through the Standby Gas Treatment System

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC)
FOR LESS RESTICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
CTS: 3.7.A.3 - CONTAINMENT PURGE THROUGH THE STANDBY GAS TREATMENT SYSTEM

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

There were no plant specific less restrictive changes identified for this Specification.

MODIFIED RAI RESPONSES FOR ITS SECTION 3.6

3.6.1.1-1 DOC A2
DOC LA 1
CTS 1.0.M
ITS B.3.6.1 Bases - BACKGROUND .

CTS 1.0.M defines PRIMARY CONTAINMENT INTEGRITY. A markup of CTS 1.0.M shows that only the requirements that the drywell and suppression chamber are intact and that the manways are closed are relocated to ITS B3.3.6.1 Bases and the relocation is justified by DOC LA1. The rest of CTS 1.0.M is covered by DOC A2. DOC A2 states that portions of CTS 1.0.M are covered or relocated to other LCOs in ITS 3.6 and that PRIMARY CONTAINMENT INTEGRITY is changed to containment shall be OPERABLE. DOC A2 also states that this definition is deleted. While the former statements are correct and acceptable, the latter statement is incorrect. The definition is not deleted but is relocated to ITS B3.6.1 Bases - BACKGROUND which makes this portion of the change a Less Restrictive (LA) change.

Comment: Revise the CTS markup and the discussions and justifications associated with DOC LA1 to include the rest of CTS 1.0.M. Modify DOC A2 accordingly.

Licensee Response:

1. It appears that the reviewer may have misread or misinterpreted the CTS markup as indicated below:

   a. DOC A2 indicates that the CTS reference to the phrase "Primary Containment Integrity" has been deleted. DOC A2 does not state that the definition is deleted.

   b. On CTS markup page 1 of 8, the only reference to DOC A2 is the change of the word "Integrity" to "OPERABLE" (two places).

   c. The change marked A2 on CTS markup page 1 of 8 concerning the revision of the phrase "Primary containment integrity shall be..." is consistent with the phrase "Primary containment shall be OPERABLE" in the markup of CTS 3.7.A.2 on CTS markup page 3 of 8.

   d. The changes marked A2 on CTS markup pages 1 of 8 and 3 of 8 (as discussed in b and c above) result in deletion of the phrase "Primary Containment Integrity" as discussed in DOC A2.

   e. The remainder of CTS Definition 1.0.M has been incorporated into ITS 3.6.1.1, 3.6.1.2, and 3.6.1.3 as discussed in DOC A2 except for the relocation of certain details to the Bases as discussed in DOC LA1 (see CTS markup page 2 of 8 at CTS 1.0.M.4.)

2. Considering the above, it appears to NYPA that the CTS markup and associated DOCs concerning this RAI are correct as submitted.

Revision E changes to Section 3.6 RAI Responses

[Revised Response provided with Revision E package]

1. The Licensee will has revise the markup of CTS Definition 1.0.M to clearly show the relocation of the appropriate portions of the Definition to ITS 3.6.1.1 Bases as discussed in DOC LA1.

3.6.1.1-2 DOC LA 2
CTS 4.7.A.1
ITS SR 3.6.1.1.1 and Associated Bases

CTS 4.7.A.1 specifies that 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. The corresponding ITS SR is SR 3.6.1.1.1. The CTS markup and DOC LA2 indicate that the details and frequency are proposed to be relocated to the Primary Containment Leakage Testing Program. Since the program implements 10 CFR 50 Appendix J, Option B, the frequencies for performing the various surveillances and tests can be changed based on previous satisfactory test performance. Nothing in DOC LA2 nor the SE associated with Amendment 234, dated October 4, 1996, which implements 10 CFR 50 Appendix J Option B at the James A. Fitzpatrick Nuclear Power Plant (JAFNPP) would allow the frequency of CTS 4.7.A.1 to change from once per 24 months, to almost anything which would be allowed by the Primary Containment Leakage Testing Program. See Comment Number 3.6.1.1-4 for additional concerns with regards to 10 CFR 50 Appendix J Option B changes to the ITS. The staff recognizes that 10 CFR 50 Appendix J, Section V.A requires that a visual inspection of the accessible interior and exterior surfaces of the containment structures and components be performed prior to any Type A test (i.e., every 40 months), for some reason the visual examination of the drywell and torus at JAFNPP is required to be done every 24 months and this surveillance was not modified by Amendment 234. The staff considers the relocation of this requirement with the associated allowance for a performance based surveillance frequency to be a beyond scope of review item for this conversion and the surveillance should be retained.

Comment: Revise the CTS/ITS markups to show the retention of this surveillance and provide any appropriate discussion and justification for this change. See Comment Number 3.6.1.1-4.

Licensee Response:

1. NYPA will revise DOC LA2 by indicating that the CTS 4.7.A.1 inspection requirement will be relocated to the UFSAR.

2. Note that CTS 4.7.A.1 has been a part of the Fitzpatrick CTS since initial licensing of the plant in 1974. It also appears to have been a common feature of the "custom" TS of other BWR/4 plants of the same vintage (Peach Bottom, Browns Ferry, Cooper, Arnold) and it appears that it could (or should) have been addressed as part of Appendix J, Option B, but was not. Nothing in the CTS Bases, UFSAR, or the original November 20, 1972 NRC SER (and Supplements 1 and 2) seems to shed any light on the topic or indicate that the inspection is in any way different than the inspection required by the Containment Leakage Rate Testing Program (ITS SR 3.6.1.1.1).

3. Note that other ITS conversions of "custom" TS of the same vintage as Fitzpatrick CTS relocated the same requirement to "plant procedures" (Peach Bottom) and more recently to the UFSAR (Cooper).

[Revised Response provided with Revision E package]

1. The Licensee has determined that inspection requirement of CTS 4.7.A.1 is duplicated by inspections required by the Primary Containment Leakage Rate Testing Program, Inservice Inspection Program, and as required by the "Maintenance Rule" (except for the Frequency of the inspections). These other inspection requirements, and a long history (more than 20 years) with no significant deterioration detected, provide the basis for deletion of the requirement as discussed and evaluated in DOC L3 and NSHC L3.

3.6.1.1-4 JFD CLB1
JFD Bases CLB1
JFD Bases CLB 3
JFD Bases PA 2
CTS 4.7.A.2
STS SR 3.6.1.1.1 and Associated Bases
ITS SR 3.6.1.1.1 and Associated Bases

CTS 4.7.A.2.a requires leak rate testing in accordance with the Primary Containment Leakage Rate Testing Program which is based on the requirements of 10 CFR 50 Appendix J, Option B. STS SR 3.6.1.1.1 requires the visual examination and leakage rate testing be performed in accordance with 10 CFR 50 Appendix J as modified by approved exemptions. ITS SR 3.6.1.1.1 modifies STS SR 3.6.1.1.1 to conform to CTS 4.7.A.2 as modified in the CTS markup. The STS is based on Appendix J, Option A while the CTS and ITS are based on both Appendix J, Options A and B. Changes to the STS with regards to Option A versus Option B are covered by a letter from Mr. Christopher I. Grimes to Mr. David J. Modeen, NEI, dated 11/2/95 and TSTF-52 as modified by staff comments 10/96 and 12/98. The changes to ITS 3.6.1**[3.6.1.1]**, 3.6.2**[3.6.1.2]**, 3.6.3**[3.6.1.3]**, 3.6.9**[??]** and their Associated Bases are not in conformance with the letter and TSTF-52 as modified by staff comments. See Comment Numbers 3.6.1.1-2, 3.6.1.1-6, 3.6.1.2-2, 3.6.1.3-1, 3.6.1.3-4 and 3.6.1.3-7.

Comment: Licensee should revise its submittal to conform to the 11/2/95 letter and TSTF-52 modified by the staff. See Comment Numbers 3.6.1.1-2, 3.6.1.1-6, 3.6.1.2-2, 3.6.1.3-1, 3.6.1.3-4 and 3.6.1.3-7.

Licensee Response:

1. The ITS 3.6.1.1 Conversion package is based on the current licensing basis with respect to 10 CFR 50, Appendix J, Option B. CTS Amendment 234 reflected 10 CFR 50, Appendix J, Option B. TSTF-52 was only used as a guide to make the ITS 3.6.1.1 Conversion package consistent with the changes shown in TSTF-52 for style and content where appropriate.

2. The NYPA submittal concerning proposed CTS changes that reflect 10 CFR 50, Appendix J, Option B (which became CTS Amendment 234) was consistent with the three "adjustments" addressed in the referenced 11/2/95 NRC letter to NEI except for the suggested STS Bases Reference to NEI 94-01 and ANSI/ANS-56.8-1994. Consistent with item 5) in the discussion/summary of TSTF-52, Revision 1 changes, the NEI and ANSI references were not included in the ITS 3.6.1.1 Bases References.

[Revised Response provided with Revision E package]

1. The Licensee will revise the submittal to conform with TSTF-52, Revision 3.

3.6.1.1-6 CTS 4.7.A.2.c
ITS SR 3.6.1.1.1 and Associated Bases
ITS SR 3.6.1.3.11 and Associated Bases

CTS 4.7.A.2.c specifies that once per 24 months the leakage rate of Low Pressure Coolant Injection (LPCI) System valves 10AOV-68A and B and of Core Spray (CS) System Valves 14AOV - 13A and B shall be within the specified limits when either pneumatically or hydrostatically tested. The corresponding ITS SR is ITS SR 3.6.1.3.11. The CTS and ITS surveillances for these valves is based on 10 CFR 50 Appendix J Option A for Type C testing. Amendment 234 did not convert this test and its associated frequency to 10 CFR 50 Appendix J Option B. Thus, ITS SR 3.6.1.1.1 needs to be modified either by a Note or a statement in the SR that the frequency for ITS SR 3.6.1.3.11 is in accordance with 10 CFR 50 Appendix J Option A, rather that 10 CFR 50 Appendix J Option B (Primary Containment Leakage Rate Testing Program). As proposed in the ITS, there could be some confusion as to which frequency to use. See Comment Numbers 3.6.1.3-4 and 3.6.1.3-7.

Comment: Revise the CTS/ITS markups to address this concern and provide the appropriate discussions and justifications. See Comment Numbers 3.6.1.3-4 and 3.6.1.3-7.

Licensee Response:

1. The hydrostatic or pneumatic testing of the LPCI and Core Spray subsystem air operated testable check valves is **not** part of the testing required by 10 CFR 50, Appendix J, Option A, Option B, or a combination of Options A and B. See CTS Amendment 40 which removed these valves from those subject to Appendix J test or acceptance criteria.

2. The NYPA submittal which became CTS Amendment 234 did not address any change to CTS SR 4.7.A.2.c because 10 CFR 50, Appendix J is not applicable to the SR.

3. Based in 1 above, NYPA does not consider ITS 3.6.1.1 and the associated ACTIONS and SRs to be applicable to the LPCI and Core Spray air operated testable check valves.

4. Considering 1 above, ITS SR 3.6.1.3.11 Frequency is correct as stated. That is, the Frequency of LPCI and Core Spray subsystem air operated testable check valve testing is **not** governed by the Primary Containment Leakage Rate Testing Program or 10 CFR 50, Appendix J, Option A or Option B.

[Revised Response provided with Revision E package]

1. The Licensee has determined that CTS SR 4.7.A.2.c should have been addressed along with other changes associated with adoption of 10 CFR 50, Appendix J, Option B (CTS Amendment 234). Accordingly, the submittal will be revised to change the Frequency of the leakage testing

of the air operated testable check valves to "In accordance with the Primary Containment Leakage Testing Program." See Revised Response to RAI 3.6.1.3-7 for additional detail regarding this topic.

2. Changes will also be made to ITS SR 3.6.1.1.1 and the associated ITS Bases to reflect the current licensing basis allowance (CTS Amendment 40) that air operated testable check valve leakage test failure does not result in a failure to meet the Primary Containment Leakage Rate Testing Program limits.

Revision E changes to Section 3.6 RAI Responses

3.6.1.2-1 DOC A4
JFD DB1
JFD Base DB1
CTS 3.7.A.2
ITS 3.6.1.2 ACTIONS Note 2 and Associated Bases

CTS 3.7.A.2 is modified by the addition of ITS 3.6.1.2 ACTIONS Note 2, which allows separate condition entry for each air lock. The change is justified in the CTS by DOC A4. DOC A4 discusses the application of the Note as it applies to the ITS not the CTS. The staff cannot determine, based on the CTS wording and DOC A4, that the addition of this Note is an Administrative change to the CTS. The staff concludes based on the wording of CTS 3.7.A.2 and 3.7.A.8 that separate condition entry is not allowed in the CTS and thus the addition of this Note is a Less Restrictive (L) change.

Comment: Revise the CTS markup and provide a discussion and justification for this Less Restrictive change.

Licensee Response:

1. NYPA does not agree that addition of the Note regarding separate Condition entry for each air lock should be classified as a Less Restrictive (L) change.

2. Allowing separate Condition entry for each air lock, as discussed in DOC A4 provides explicit instructions for proper application of ACTIONS and is consistent with current plant practice. In addition, separate Condition entry for each air lock penetration of Primary Containment is consistent with the separate Condition entry allowed for the process line penetrations of Primary Containment addressed in ITS 3.6.1.3, Primary Containment Isolation Valves.

3. The addition of an identical Note to ITS 3.6.1.3 is considered to be an Administrative change (see ITS 3.6.1.3, DOC A2) that provides explicit instructions and is consistent with the intent of CTS (and ITS) and current practice.

4. Classification of the change as Administrative is also consistent with the ITS conversion for other plants with more than one primary containment air lock (Reference Nine Mile Point Unit 2 ITS conversion).

[Revised Response provided with Revision E package]

1. The Licensee will has revise the submittal to address this topic as a "Less Restrictive" change as suggested by the NRC staff reviewer.

3.6.1.3-4 DOC L3
DOC L10
JFD X8
JFD Bases X12
CTS 3.7.A.2
CTS 3.7.D
STS 3.6.1.1 ACTIONS
STS 3.6.1.3 ACTIONS A, B and Associated Bases
ITS 3.6.1.1 ACTIONS
ITS 3.6.1.3 ACTIONS A, B, E and Associated Bases

CTS 3.7.A.2 has been modified by the addition of ITS 3.6.1.3 ACTION E which provides the Required Actions for the LPCI and CS Systems' check valve leakage not within limit. In addition, STS 3.6.1.3 Conditions A and B have been modified in the ITS to account for this new ACTION. With regards to these changes associated with the pneumatically/hydrostatically tested valve leakage, the pneumatic/hydrostatic test leakage is considered as part of the 10 CFR 50 Appendix J Type B and C leakage (See Comment Numbers 3.6.1.1-4, 3.6.1.1-6 and 3.6.1.3-7) and thus is covered by STS 3.6.1.1 ACTIONS and 3.6.1.3 ACTIONS A, B and C for PCIVs. In the ITS the ACTIONS would be ITS 3.6.1.1 ACTIONS and ITS 3.6.1.3 ACTIONS A and B. Even though the CTS completion time change from no restoration time (immediate shutdown per CTS 3.7.A.8) to an ITS Completion Time of 4 hours (ITS 3.6.1.3 ACTION A) or 1 hour (ITS 3.6.1.1 ACTION or ITS 3.6.1.3 ACTION B) is a Less Restrictive change which would be acceptable, the addition of ITS 3.6.1.3 ACTION E is a variation of the generic change proposed in TSTF-207 Rev 2, which is under review by the staff and it is uncertain at this time as to whether it will be rejected in part or accepted. See Comment Number 3.6.1.3-8 for additional concerns with regards to TSTF-207.

Comment: Delete this generic change. See Comment Numbers 3.6.1.1-4, 3.6.1.1-6, 3.6.1.3-7, and 3.6.1.3-8.

Licensee Response:

1. See Response to item 3.6.1.1-6.

2. Note that there are several typographic errors with regard to ITS 3.6.1.3, ACTION E. References to ACTION E Completion Times of "4" hours in DOC L10, NSHC L10 and NUREG Bases markup insert of ACTION E are all in error and should indicate "72" hours. The NUREG insert for ACTION E and the clean-typed ITS are correct in that they properly indicate a Completion Time of "72" hours.

[Revised Response provided with Revision E package]

1. The Licensee will revise the submittal to reflect TSTF-207, Revision 5.

2. Refer to Revised Response to RAI 3.6.1.3-7 regarding the Low Pressure Coolant Injection System and Core Spray System air operated testable

Revision E changes to Section 3.6 RAI Responses

check valve testing.

3.6.1.3-7 JFD CLB 11
JFD Bases CLB 11
CTS 4.7.A.2.c
STS SR 3.6.1.3.14 and Associated Bases
ITS SR 3.6.1.3.11 and Associated Bases

CTS 4.7.A.2.c specifies that once per 24 months the leakage rate of LPCI System valves 10AOV-68A and B and of CS System valves 14AOV-13A and B shall be within the specified limits when either pneumatically or hydrostatically tested. The corresponding ITS SR is ITS SR 3.6.1.3.11. The CTS and ITS surveillances for these valves is based on 10 CFR 50 Appendix J Option A for Type C testing. Amendment 234 did not convert this test and its associated frequency to 10 CFR 50 Appendix J Option B. Thus, ITS SR 3.6.1.3.11 needs to be modified to conform to the frequency specified in STS SR 3.6.1.3.14. See Comment Numbers 3.6.1.1-4, 3.6.1.1-6, 3.6.1.3-1 and 3.6.1.3-4.

Comment: Revise the ITS markup and provide any necessary discussion and justification for this change. See Comment Numbers 3.6.1.1-4, 3.6.1.1-6, 3.6.1.3-1, and 3.6.1.3-4.

Licensee Response:

1. See response to Item 3.6.1.1-6.

[Revised Response provided with Revision E package]

1. The Licensee has determined that the periodic testing of the Low Pressure Coolant Injection (LPCI) System and Core Spray System air operated testable check valves should be in accordance with the Primary Containment Leakage Rate Testing Program and has revised the submittal accordingly.

3.6.1.3-11 JFD Bases PA 1
STS B3.6.1.3 Bases - C.1, C.2, SR 3.6.1.3.3 and SR 3.6.1.3-4
ITS B3.6.1.3 Bases - C.1 and C.2, SR 3.6.1.3.2 and SR 3.6.1.3-3

In a number of places, ITS B3.6.1.3 Bases changes the STS words "valves," "valves and blind flanges", "these valves," and "PCIVs" to the generic term "isolation devices". The change is incorrect. The term "isolation device" is not defined in the Bases and based on its intended use encompasses more than just valves, it would include blind flanges, plugs, caps, and other suitable closure devices (See Comment Number 3.6.1.1.5). In all cases where the change was made the discussion concerned the applicability of the Note and/or the verification of valve misposition. Blind flanges, plugs, caps and other suitable closure devices cannot be mispositioned. They are fixed isolation devices. In addition, a similar change was proposed in TSTF 196 which was rejected by the staff. Thus the STS words are the correct words. See Comment Number 3.6.4.2-5.

Comment: Delete this change. See Comment Numbers 3.6.1.1-5 and 3.6.4.2-5.

Licensee Response:

1. NYPA does not agree that the changes should be deleted. The changes are not based on TSTF-196.

2. The changes make the Bases discussions consistent with the terminology contained in the ACTION C.2 Note.

3. NYPA does not consider any formal "definition" of the term "isolation devices" to be necessary. The term is defined by the context of its use in the ACTION C.2 Note and associated Bases (as revised).

[Revised Response provided with Revision E package]
1. The Licensee will delete the changes to ITS 3.6.1.3 as requested by the NRC reviewer.

3.6.1.3-13 JFD Bases PA 3
JFD Bases X 10
STS SR3.6.1.3.13 and Associated Bases
ITS SR 3.6.1.3.10 and Associated Bases

STS B3.6.1.3 Bases-SR 3.6.1.3.13 describes a Note 1 that is added to STS SR 3.6.1.3.13. STS SR 3.6.1.3.13 does not contain such a Note, however, BWR 16 justification C.5, approved by the staff, added this Note to STS SR 3.6.1.3.13. It was inadvertently omitted in Revision 1 to the NUREGs. TSB 13 has been generated to correct this problem. ITS B3.6.1.3 Bases SR 3.6.1.3.13 deletes this Note description based on JFD Base X10. JFD Bases X10 is incorrect. JFD Bases PA 3 would be a more appropriate justification for deleting the Note description.

Comment: Provide additional discussion and justification for the deletion of this Note description.

Licensee Response:

1. EXCEL Services Corporation, which maintains the records concerning TSTFs, indicates that "TSB 13" has been "rejected by the NRC." That is, TSB 13 is not approved.

2. Traveler BWROG 16, which became TSTF-16, is related to STS 3.8.9, Distribution Systems - Operating and is not in any way related to ITS SR 3.6.1.3.11 (STS ST 3.6.1.3.13).

3. A review of the "List of Travelers by Affected Specification" for NUREG-1433 on the EXCEL Services web site (reflecting the 1/27/00 update) indicates that the only TSTFs associated with STS SR 3.6.1.3.13 (ITS SR 3.6.1.3.11) are TSTF-30, Revision 3, and TSTF-52, Revision 2. Neither of the TSTFs addresses STS SR 3.6.1.3.13 (ITS SR 3.6.1.3.11) or the associated Bases.

4. Since there does not appear to be an approved TSTF related to correction of NUREG SR 3.6.1.3.13 Bases discussion of a Note that does not exist in the associated SR, deletion of the Bases text regarding the Note as discussed in NUREG Bases markup JFD X10 appears to be correct.

[Revised Response provided with Revision E package]
1. The Licensee will revise the submittal to delete Bases JFD X10, and revise Bases JFD PA3 and the Bases markup to properly reflect deletion of JFD X10.

3.6.1.6-1 DOC M3
JFD X1
JFD Bases DB 5
JFD Bases X2
CTS 4.7.A.4
STS SR 3.6.1.6.3 **[STS SR 3.6.1.7.3]**
ITS SR 3.6.1.6.4 and Associated Bases

CTS 4.7.A.4 is modified by the addition of ITS SR 3.6.1.6.4. This addition is justified by DOC M3. DOC M3 states that the addition is ITS SR 3.6.1.6.3. In addition, ITS SR 3.6.1.6.4 has a frequency of 24 months. JFD X1 and JFD Bases X2 states that the frequency change from the STS frequency of 18 months to the ITS frequency of 24 months is justified in DOC M3. DOC M3 does not provide a justification for the 24 months.

Comment: Correct the discrepancy between the CTS/ITS markup and DOC M3 and provide a discussion and justification for the 24 month surveillance frequency.

NYPA Response:

1. NYPA will correct the editorial error in DOC M3 (change SR 3.6.1.6.3 to SR 3.6.1.6.4).

2. NYPA will revise the NUREG markup, NUREG Bases markup, and associated JFDs to restore the Frequency of NUREG SR 3.6.1.7.3 (ITS SR 3.6.1.6.4) to 18 months.

[Revised Response provided with Revision E package - Item 2 revised only]
2. The Licensee will revise JFD X1 and Bases JFD X2 to provide proper justification.

3.6.1.6-2 DOC L1
JFD DB1
CTS 3.7.A.4
ITS 3.6.1.6 ACTIONS and Associated Bases

CTS 3.7.A.4.a requires two OPERABLE suppression chamber-reactor building vacuum breakers. ITS LCO 3.6.1.7 **[3.6.1.6]** requires each vacuum breaker be OPERABLE. Since there are a total of 4 reactor building-to-suppression chamber vacuum breakers this change increases the number required OPERABLE vacuum breakers from 2 to 4. CTS 3.7.A.4.b specifies the ACTIONS to be taken when one of the required two reactor building-to-suppression chamber vacuum breakers is inoperable. Thus the CTS allows plant operation with 2 vacuum breakers inoperable and no ACTIONS need to be taken until 3 vacuum breakers become inoperable. The addition of ITS 3.6.1.7 **[3.6.1.6]** ACTIONS A through D require remedial actions be taken as soon as one out of the four vacuum breakers becomes inoperable. In addition, the justification (DOC L1) states that the CTS fails to make the distinction between loss of function and loss of redundancy and is therefore "unnecessarily conservative." The staff believes that the CTS is less conservative because of this lack of distinction. Thus, all the changes associated with DOC L1, including the addition of the ACTION Note are More Restrictive changes rather than Less Restrictive changes.

Comment: Revise the CTS markup and provide discussion and justification for these More Restrictive changes.

Licensee Response:

1. NYPA does not agree with the logic or thought process involved in the conclusion that is stated in the 5th sentence ("Thus the CTS allows plant operation with 2 vacuum breakers inoperable and no ACTION need be taken until 3 vacuum breakers become inoperable."). While CTS 3.7.A.4.a states, in part, that "...two...vacuum breakers shall be operable..." this statement is taken to mean that the "vacuum relief function of two vacuum relief lines" shall be operable. It then follows (as stated in CTS 3.7.A.4.b) that if "...one of the vacuum breakers [one vacuum relief line] is...inoperable...reactor operation is permissible...[for]...7 days..." It also follows that if more than one vacuum breaker is inoperable (that is, the vacuum relief function of more than one vacuum relief line is inoperable), a plant shutdown is required under CTS 3.7.A.8 because there is a loss of the vacuum relief function. (CTS 3.7.A.4 is also taken to be addressing only the vacuum relief function with the isolation function of the vacuum relief lines being addressed by CTS 3.7.D.)

2. Note that the changes proposed by NYPA are essentially identical to those that were proposed in the Peach Bottom and Cooper ITS conversions which also had "custom" CTS requirements essentially identical to those contained in the FitzPatrick CTS.

Revision E changes to Section 3.6 RAI Responses

[Revised Response provided with Revision E package]

1. The Licensee will revise the submittal by addressing the ITS Conditions that require Action for inoperability of either the vacuum relief or containment isolation function of any vacuum breaker as a "more restrictive' change.

3.6.1.7-4 JFD PA2
JFD Bases PA3
CTS 3.7.A.5.f
CTS 4.7.A.5.g
STS SR 3.6.1.8.3 and Associated Bases
ITS SR 3.6.1.7.3 and Associated Bases

CTS 3.7.A.5.f and 4.7.A.5.g specify that the self actuated vacuum breakers shall "open" when subjected to a force equivalent to 0.5 psid acting on the valve disc. The corresponding STS SR is STS SR 3.6.1.8.3. ITS SR 3.6.1.7.3 modifies the STS to require the verification of the "full open" setpoint rather than the CTS/STS requirement of "opening setpoint". This change is characterized in the ITS as an editorial clarification (JFD PA and JFD Bases PA). This is incorrect. There is a technical difference between CTS/STS requirement of being capable of opening or starting to open at a set pressure versus the ITS requirement of being fully open at a set pressure. The staff considers this change to be a More Restrictive change.

Comment: Revise the CTS markup and provide a discussion and justification for this More Restrictive change.

Licensee Response:

1. NYPA does not agree that the changes to NUREG SR 3.6.1.8.3 (ITS SR 3.6.1.7.3) and the associated Bases are "More Restrictive." The discussion in 2, 3 and 4 below provides explanation.

2. NUREG SR 3.6.1.7.3 and NUREG SR 3.6.1.8.3 Bases describe the purpose of the Sirs as being "...to ensure...vacuum breaker **full open** differential pressure...is valid." (emphasis added)

3. NUREG SR 3.6.1.7.3 and NUREG SR 3.6.1.8.3 were revised as described in ITS SR 3.6.1.6.4, JFD DB and ITS SR 3.6.1.7.3, JFD PA to make the wording in the Sirs consistent with the Bases wording regarding **full open** differential pressure.

4. In addition, NUREG SR 3.6.1.8.3 (ITS SR 3.6.1.7.3) Bases was revised as discussed in NUREG Bases JFD PA for consistency with (or clarification of) the change to the SR as discussed in 2 and 3 above.

5. Note that a change similar to the NUREG SR 3.6.1.8.3 (ITS SR 3.6.1.7.3) Bases change described in JFD PA should have also been made to NUREG SR 3.6.1.7.3 (ITS 3.6.1.6.4) Bases for consistency.

6. The changes are consistent those contained in the Cooper ITS conversion submittal (both Sirs and Bases), consistent with the Peach Bottom approved ITS for suppression chamber-to-drywell vacuum breakers (SR and Bases) and are also consistent with the approved Dane Arnold ITS Bases for both Sirs.

Revision E changes to Section 3.6 RAI Responses

[Revised Response provided with Revision E package]

1. The Licensee will revise NUREG SR 3.6.1.8.3 (ITS 3.6.1.7.3) markup and the associated Bases markup by deletion of the "full open" changes. The changes restore the SR text, and associated Bases text, to that contained in the NUREG which is adequate without change.

3.6.1.9-2 DOC M2
DOC LA1
DOC L4
JFD PA1
JFD Bases PA1
JFD Bases PA2
CTS 3.5.B.1
CTS 4.5.B.1.a
ITS LCO 3.6.1.9 SR 3.6.1.9.2 and Associated Bases

CTS 3.5.B.1 states that both RHR containment spray subsystems shall be OPERABLE and that each subsystem contains two (2) RHR pumps and 2 RHR service water pumps. CTS 4.5.B.1.a requires for each pump an operability and flow rate test. The CTS markup of CTS 3.5.B.1 shows that the details concerning the number of pumps required for an OPERABLE subsystem has been relocated to the Bases by DOC LA1. This is incorrect. The ITS markup for ITS SR 3.6.1.9.2, ITS B3.6.1.9 Bases - BACKGROUND, ITS B3.6.1.9 Bases-LCO and ITS B3.6.1.9 Bases SR 3.6.1.9.2 states that only one RHR pump per subsystem is required to be OPERABLE and only tests that one "required" RHR pump. This is not in accordance with the current licensing basis as stated in CTS 3.5.B.1 and 4.5.B.1.a. In addition, no justification is provided in the CTS markup to indicate this change. The staff considers this total change to be a beyond scope of review item for this conversion **(BSCR)**. This concern is also applicable to ITS 3.6.2.3. See Comment Number 3.6.2.3-1.

Comment: Revise the ITS markup to bring it into conformance with the CTS and provide any appropriate discussions and justifications for these changes. See Comment Number 3.6.2.3-1.

Licensee Response:

1. DOC LA1 addresses the relocation of the details concerning the number of RHR pumps required in an OPERABLE RHR Containment Spray subsystem (loop). DOC LA1 does not address the less restrictive change of requiring only one RHR pump to be OPERABLE in an OPERABLE subsystem.

2. DOC L4 and the associated NSHC provide the justification of the less restrictive change of requiring only one RHR pump to be OPERABLE in an OPERABLE RHR Containment Spray subsystem consistent with the design discussed in UFSAR Section 14.6.1.3.3.

3. With regard to ITS SR 3.6.1.9.2 only requiring test of the single "required" RHR pump in each subsystem, it should be noted that ITS 3.5.1, ECCS - Operating, has the same Applicability as ITS 3.6.1.9, with respect to RHR pumps and requires both RHR pumps in both LPCI subsystems to be OPERABLE. ITS 3.5.1 thus becomes the controlling specification with respect to RHR pump operability and the requirement for only one OPERABLE RHR pump in each RHR Containment Spray subsystem is moot.

4. Addition of "required" to ITS SR 3.6.1.9.2 and the associated Bases as discussed in NUREG markup JFD PA1 and NUREG Bases markup JFD PA1 is consistent with usage of the term as described in paragraph 4.1.3.b of the Writer's Guide for ITS.

5. With regard to item 3.6.2.3-1, the same changes described in the LA and L DOCs discussed in 1 and 2 above were made to CTS as shown in the ITS 3.6.2.3 Conversion package for the same reasons with the same justifications. In addition, the word "required" was also added to ITS SR 3.6.2.3.2 as described in NUREG markup JFD PA2 for the same reasons as discussed in 4 above. Please note that "required" should have also been added to the Bases for ITS SR 3.6.2.3.2 but was not. NYPA will correct this error.

6. ITS 3.6.1.9 and 3.6.2.3 changes discussed above result in specifications that are consistent with the ITS conversions for Peach Bottom and Cooper. The Duane Arnold ITS would also be consistent with the changes discussed above except that Duane Arnold requires two OPERABLE RHR pumps in the RHR Suppression Pool Cooling specification due to a plant unique analysis for a stuck open safety relief valve event.

[Revised Response provided with Revision E package]

1. The Licensee will revise ITS 3.6.1.9 Bases Background and Bases LCO discussions (and associated Bases JFD DB6) to make it clear that while the RHR Containment Spray System design provides two RHR pumps in each subsystem, only one of the two RHR pumps in a subsystem is required to be Operable.

2. This topic was also addressed in Entergy letter JPN-00-044 (dated 12/1/2000) to the NRC as part of the resolution of beyond scope items. The changes to the Bases Background and Bases LCO discussion are consistent with the 12/1/2000 letter.

3.6.2.3-1 DOC M1
DOC LA1
DOC L2
JFD PA2
CTS 3.5.B.1
CTS 4.5.B.1.a
ITS LCO 3.6.2.3, SR 3.6.2.3.2 and Associated Bases

See Comment Number 3.6.1.9-2. In addition, the change proposed for ITS SR 3.6.2.3.2 can be considered as generic.

Comment: See Comment Number 3.6.1.9-2. Delete the generic change.

Licensee Response:

1. See response to item 3.6.1.9-2.

[Revised Response provided with Revision E package]

1. The Licensee will revise ITS SR 3.6.2.3.2 Bases markup by adding the word "required" so that it is clear that the SR is applicable to the single "required" RHR pump. The change makes the SR Bases consistent with the Bases Background and Bases LCO discussions.

2. The change also makes the ITS SR 3.6.2.3.2 Bases discussion consistent with ITS 3.6.1.9 Bases discussions (refer to RAI 3.6.1.9-2 Revised Response).

3.6.4.1-1 DOC A5
CTS 3.7.C.1
CTS 3.7.C.2
ITS 3.6.4.1 Required Action C.1 Note and Associated Bases

CTS 3.7.C.2 requires that when secondary containment integrity cannot be met within 24 hours then all conditions specified in CTS 3.7.C.1 must be met. The CTS is modified by the addition of ITS 3.6.4.1 Required Action C.1 Note which states that if secondary containment is inoperable during movement of irradiated fuel assemblies ITS LCO 3.0.3 is not applicable. This change is characterized as an Administrative change (DOC A5). This is incorrect. The CTS requires all 4 conditions of CTS 3.7.C.1 to be met if secondary containment is inoperable. Therefore, if secondary containment is inoperable during movement of irradiated fuel and the plant is in MODES 1, 2, and 3, then the CTS requires a shutdown (CTS 3.7.C.1.a and CTS 3.7.C.1.b must be met) as well as the suspension of irradiated fuel assembly movement (CTS 3.7.C.1.d) within 24 hours. If secondary containment is inoperable during movement of irradiated fuel and the plant is in cold shutdown, then CTS 3.7.C.1.a and CTS 3.7.C.1.b are already met and only CTS 3.7.C.1.d needs to be met within 24 hours. As stated in ITS B3.6.4.1 Bases C.1, C.2 and C.3 "The inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown." Thus the Note is added to ITS 3.6.4.1 Required Action C.1, which would make the CTS change a Less Restrictive (L) change since a shutdown would be required by the CTS. See Comment Numbers 3.6.4.2-2, and 3.6.4.3-4.

Comment: Revise the CTS markup and provide a discussion and justification for this Less Restrictive (L) change. See Comment Numbers 3.6.4.2-2, and 3.6.4.3-4.

Licensee Response:

1. Based on review of Items 3.6.4.2-2 and 3.6.4.3-4 as well as the Cooper and Peach Bottom ITS submittals, NYPA has determined that the characterization of the change in ITS 3.6.4.3, DOC M5, as a "more restrictive" change is the correct characterization. (See Cooper ITS submittal at 3.6.4.3 DOC M.3 and Peach Bottom ITS submittal at 3.6.4.1 DOC M8, 3.6.4.2 DOC M2, and 3.6.4.3 DOC M4.)

2. NYPA will revise the submittal to indicate that the changes discussed in ITS 3.6.4.1, DOC A5, and ITS 3.6.4.2 DOC A5 (Items 3.6.4.1-1 and 3.6.4.2-2 respectively) are "more restrictive" changes similar to that discussed in ITS 3.6.4.3 DOC M5 (Item 3.6.4.3-4).

[Revised Response provided with Revision E package]

1. The Licensee believes that the changes are less restrictive; therefore, the submittal will be revised accordingly. The changes address the NRC reviewer comments regarding the additional 4 hour period of time that ITS 3.6.4.1 allows to restore an inoperable Secondary Containment to an

Operable status (prior to requiring a plant shutdown) when operating the plant in MODE 1, 2, or 3 and during the movement of irradiated fuel in Secondary Containment.

3.6.4.2-2 DOC A5
CTS 3.7.C.1
CTS 3.7.C.2
ITS 3.6.4.2 Required Action D.1 Note and Associated Bases

See Comment Number 3.6.4.1-1 and 3.6.4.3-4.

Comment: See Comment Numbers 3.6.4.1-1 and 3.6.4.3-4.

Licensee Response:

1. See response to Item 3.6.4.1-1. (NYPA will revise the submittal to change the characterization of ITS 3.6.4.2, DOC A5 to a "more restrictive" change.)

[Revised Response provided with Revision E package]

1. The Licensee believes the changes are less restrictive; therefore appropriate changes have been made. The changes address the "less restrictive" aspects of ITS 3.6.4.2, ACTIONS A.1 and B.1 (which allow an 8 hour or 4 hour time period respectively, to isolate an inoperable penetration prior to requiring a plant shutdown), since the addition of ITS 3.6.4.2, ACTION D.1 Note does not allow "default" entry into ITS 3.0.3 Conditions and Required Actions.

3.6.4.3-4 DOC M5
CTS 3.7.B.1
CTS 3.7.B.2
CTS 3.7.B.3
ITS 3.6.4.3 Required Action C Note, Required Action E.1 Note and Associated Bases

See Comment Number 3.6.4.1-1. In addition the CTS requirements referenced above seem to be very close to the CTS requirements discussed in Comment Numbers 3.6.4.1-1 and 3.6.4.2-2, yet the change, which is the same in all three cases, is characterized different. It is Administrative in Comment Numbers 3.6.4.1-1 and 3.6.4.2-2 and More Restrictive here.

Comment: See Comment Numbers 3.6.4.1-1 and 3.6.4.2-2. In addition, clarify the discrepancy.

Licensee Response:

1. See response to Item 3.6.4.1-1.

[Revised Response provided with Revision E package]
1. The Licensee will revise ITS 3.6.4.3, DOC M5, to more clearly explain how the addition of the Note to ACTIONS C and E.1 which states that "LCO 3.0.3 is not applicable." is a more restrictive change.