50-259 TVA BROWNS FERRY 1

SUPPLEMENTAL INFO IN SUPPORT OF
PROPOSED CHANGE TO TECH SPECS
RE SECT 3.6, REV. 2.

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Enclosure

ITS Section 3.6
Revision 2
Containment Systems

Enclosure Contents

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ITS SECTION 3.6.1.1

PRIMARY CONTAINMENT

3.6.1.1-1

CTS 3.7.A.2.a requires containment integrity be maintained. ITS 3.6.1.1 changes containment integrity be maintained to "PRIMARY CONTAINMENT shall be OPERABLE". A2 states that the definition of PRIMARY CONTAINMENT INTEGRITY has been deleted from the ITS. This is incorrect. The definition has actually been relocated to the Bases BACKGROUND section for LCO 3.6.1.1, which is a less restrictive change.

TVA Response (Revision 1)

The existing BFN CTS definition of PRIMARY CONTAINMENT INTEGRITY is not in NUREG-1433 (STS) and is not being carried forth explicitly in the proposed BFN ITS. However, requirements similar to those embodied in the CTS definition have been have been relocated to the BASES BACKGROUND Section for LCO 3.6.1.1, "Primary Containment". Therefore, to address the NRC comment, this change (A2) has been recategorized as LA4.

3.6.1.1-2

CTS 3.7.A.2.a requires containment integrity be maintained except while performing "open vessel" physics tests at power levels not to exceed 5 MW(t). ITS 3.6.1.1 does not retain this requirement. There is no discussion or justification for removing this detail.

TVA Response

The objective of the existing CTS provisions for suspending the requirements of primary containment integrity for the conduct of open vessel physics tests at low powers was to allow flexibility for doing core physics testing during the original reactor start-up test programs. BFN has no interest in retaining this option and, due to the historical nature of the CTS provision, considers the change as an administrative change. A new DOC (A7) has been added to better clarify the basis for this change.

3.6.1.1-3

CTS 3.7.A.2.b provides acceptance criteria for integrated leak rate testing. A4 states that the definition of L_a is provided in ITS 1.1. This is incorrect. See Item Number 3.6.1.1-6.

TVA Response

The definition of L_a is provided in ITS 5.5.12, "Primary Containment Leakage Rate Testing Program." ITS 5.5.12 contains the acceptance criteria for primary containment leakage and is consistent with NUREG-1433 for Appendix J Option B model TS and the provisions currently contained in CTS 6.8.4.3. DOC A4 been corrected with regard to this point.

3.6.1.1-4

CTS 3.7.A.2.c requirements for N_2 makeup to the primary containment have been moved to plant procedures. CTS 4.7.A.2 Surveillance Requirements are moved to plant procedures and Bases. There is inadequate discussion and justification for moving the details to plant procedures and the change control process on the procedures.

TVA Response

CTS 3.7.A.2.c provides required actions to be taken if (when the containment is inerted) gross nitrogen consumption is equivalent to L_a per CTS 4.7.A.2. SR 4.7.A.2 is a conservative gross measurement technique since nitrogen is also consumed by leakage from the drywell control air system, the drywell/suppression chamber differential pressurization system, and nitrogen supply piping external to the containment. Other expedient indications of gross leakage can also be obtained from other sources such as containment oxygen concentration, ΔP compressor run times, and differential pressure decay rates.

Considering that CTS 3.7.A.2.c/4.7.A.2 provides an auxiliary operational technique for monitoring containment integrity, it is not necessary that these provisions be in ITS. Rather, TVA has decided it is more appropriate that these provisions be relocated into the Technical Requirements Manual (TRM). Changes to the TRM are reviewed in accordance with 10 CFR 50.59.

DOC LA1 has been modified appropriately. This change is consistent with STS.

3.6.1.1-5

CTS 4.7.A.2.j requires the continuous leak rate monitor be OPERABLE. This requirement is not retained in ITS 3.6.1.1. This requirement is moved to "licensee controlled documents." The specific licensee controlled documents are not identified.

TVA Response (Revision 1)

The requirements of CTS 4.7.A.2.j will be relocated to the TRM. Changes to the TRM are reviewed in accordance with 10 CFR 50.59. DOC LC1 has been recategorized as LA2 and additional justification provided.

3.6.1.1-6

CTS 4.7.A.2.g requires leak rate testing in accordance with the Primary Containment Leakage Rate Testing Program. 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. The STS is based on Appendix J Option A while the CTS/ITS are based on Appendix J Option 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. The ITS changes are not in conformance with the letter of TSTF 52 as modified by staff comments. See Item Number 3.6.1.1-3.

TVA Response (Revision 1)

The proposed ITS 3.6.1 BASES have been revised to remove statements which indicated that Main Steam Isolation Valve leakage is excluded from combined Appendix J Type B and C leakage. Justification (JD) P18 has been revised appropriately. Also, the BACKGROUND BASES have been revised to incorporate language from TSTF-52 (JD P71) as agreed with NRC staff.

3.6.1.1-7

The STS Bases for SR 3.6.1.1.1 states that failure to meet MSIV leakage (STS SR 3.6.1.3.13) does not necessarily result in a failure of STS SR 3.6.1.1.1. ITS B 3.6.1.1 Bases for SR 3.6.1.1.1 changes this to "The main steam isolation valve leakage (SR 3.6.1.3.10) is not included in the combined Type B and C leakage based on an exemption from Appendix J and Appendix J Option B (Ref 7)." The change is designated P54. P54 provides no justification for this change. In addition Reference 7 is still under review by the staff and completion is not expected prior to issuance of the ITS amendment. This change is a beyond scope of review item.

TVA Response

The proposed ITS 3.6.1.1 BASES have been revised to remove statements which indicated that Main Steam Isolation Valve leakage is excluded from combined Appendix J Type B and C leakage. ITS BASES 3.6.1.1 Reference 7 has been deleted, and JD P54 is no longer required and has also been deleted.

The BFN proposed ITS should now be consistent with Appendix J Option B model TS.

PRIMARY CONTAINMENT AIR LOCK

3.6.1.2-1

CTS 3.7.A.2.a specifies the conditions for which containment (containment air lock) integrity must be maintained. Justification A1 is a generalized reformatting, renumbering and editorializing justification, which does not apply in this case. ITS 3.6.1.1 justifications A2 and M2 apply to the CTS change, as well as ITS 3.6.1.2 justification M4. See Item Numbers 3.6.1.1-1 and 3.6.1.1-2.

TVA Response (Revision 1)

The CTS 3.7.A.2.a mark-ups have been revised to show the DOC M4 (LCO 3.6.1.2) applicability rather than A1. Refer to the response to NRC question 3.6.1.1-1 for additional discussion regarding the relocation (DOC A2 converted to LA4) of the CTS definition of PRIMARY CONTAINMENT INTEGRITY to the 3.6.1.1 BACKGROUND BASES. DOC 3.6.1.2 M2 is analogous to ITS 3.6.1.1 DOC M2.

3.6.1.2-2

CTS 4.7.A.2.g specifies the acceptable criteria for air lock leakage testing. The markup show this item being relocated to ITS 5.5.1.12. No justification is provided for the administrative change.

TVA Response

The relocation of the airlock leakage acceptance criteria is consistent with Appendix J Option B model TS.

3.6.1.2-3

See Item Number 3.6.1.1-6

TVA Response (Revision 1)

Refer to the response to Item Number 3.6.1.1-6. JD P18 has also been revised to clarify the treatment of airlock leakage criteria. Also, the LCO BASES and BFN ITS SR 3.6.1.2.1 BASES have been revised to incorporate language from TSTF-52 (JD P71) as agreed with NRC staff.

ITS SECTION 3.6.1.3

PRIMARY CONTAINMENT ISOLATION VALVES (PCIVs)

3.6.1.3-1

CTS 3.7.D.1 states that when Primary Containment integrity is required, all PCIVs and reactor coolant system instrumentation EFCVs shall be OPERABLE. ITS LCO 3.6.1.3 requires all PCIVs and EFCVs except for the reactor building-to-suppression chamber Vacuum breakers to be OPERABLE. This change is designated as A1. This change is justified as administrative based on the fact the vacuum breakers are governed by another LCO, in this case ITS LCO 3.6.1.5. However, since the CTS also has a TS on the vacuum breakers (CTS 3.7.A.3), this argument is not valid. This change is not an administrative change.

TVA Response

CTS 3.7.A.3.a requires that two pressure suppression chamber (torus) vacuum breakers be operable whenever primary containment integrity is required. CTS 3.7.A.3.b provides that, if one of the suppression chamber vacuum breakers is inoperable, then reactor operation can continue for 7 days provided that the repair procedure does not violate primary containment integrity.

Each of the reactor building-to-suppression chamber vacuum breakers consists of an air operated inboard butterfly and a self acting outboard check valve as described in the BACKGROUND BASES for ITS 3.6.1.5. The check valve will open if the torus pressure is more than .5 psid below that of the reactor building. The air operated valve opens on a electronic signal if the pressure differential is .5 psid or greater. The air operated valve receives no isolation signal and is designed to fail open on loss of air to maintain vacuum relief capability. During normal operation, both valves are closed. Hence, these valves have a dual safety function; containment isolation under normal conditions and vacuum relief in the accident mode. While it is recognized that the valves provide a containment isolation function, the need for the concurrent vacuum relief function does not allow treatment as "standard" containment isolation valves in TS. In STS, this duality of function is explicitly addressed in 3.6.1.7 which prescribes Required Actions in terms of closed status of the valves and the ability of the valves to open. Under the existing CTS, this distinction is not explicitly delineated.

The intent of administrative change (DOC A1) for ITS 3.6.1.3 is to indicate that the exception for the reactor building vacuum breakers as isolation valves in ITS LCO 3.6.1.3 is administrative since the vacuum breakers will have a separate specification in ITS as ITS 3.6.1.5. As noted above, this same distinction is made in CTS 3.7.A.3.a and CTS 3.7.A.3.b although less clearly. We consider that the specific differences between CTS and ITS are adequately justified in the mark-ups, DOCs, and JDs for the subprovisions of ITS 3.6.1.3 and 3.6.1.5. Also, as noted in the response to NRC comment 3.6.1.5-1, TVA has subsequently decided to modify ITS 3.6.1.5 to be consistent with the LCO and Required Actions of STS 3.6.1.7.

3.6.1.3-2

CTS 3.7.D.1 states that when Primary Containment integrity is required, all PCIVs and EFCVs shall be OPERABLE. ITS LCO 3.6.1.3 requires all PCIVs and EFCVs except for the reactor building-to-suppression chamber vacuum breakers to be OPERABLE. Justification A1 states that ITS LCO 3.6.1.3 in addition to exempting the vacuum breakers also exempts the scram discharge volume vent and drain valves. CTS 3.7.D.1, the markup of CTS 3.7.D.1, and ITS LCO 3.6.1.3 do not show an exemption for the scram discharge volume vent and drain valves. This change, if incorporated, would not be an administrative change but a less restrictive change, and has the potential for being a generic change but a less restrictive change, and has the potential for being a generic change, which would be beyond the scope of review for this conversion.

TVA Response (Revision 1)

The reference to the scram discharge volume vent and drain valves is inappropriate and has been removed from DOC A1. These valves are not containment isolation valves and there are no requirements in CTS for these valves. Therefore, an exemption is not needed.

3.6.1.3-3

CTS 4.7.A.2.i specifies the MSIV leakage limits and remedial actions to take upon discovery of leakage rates exceeding specified limits. CTS 3.7.D.1 and CTS 3.7.D.2 provide additional operability requirements, remedial actions and associated times in which to complete the repairs and retests associated with CTS 4.7.A.2.i. The repair time per CTS 3.7.D.2 is 4 hours. ITS 3.6.1.3 Condition D changes STS 3.6.1.3 Condition D from "Secondary containment bypass leakage rate not within limit to

"One of more penetration flow paths with MSIV leakage not within limits." Based on STS B.3.6.1.3 Bases RA D.1 discussion, STS 3.6.1.3 Condition D includes both secondary containment and MSIV leakage. Therefore, the proposed change to Condition D is acceptable. However, the change of the completion Time associated with RA D.1 and CTS 3.7.C.1 from 4 hours to an ITS time of 8 hours is not adequately justified. The justification used is consistency with the Completion Time of STS/ITS 3.6.1.3 RA A.1. The Completion Time associated with ITS 3.6.1.3 RA D.1 takes into account the safety significance of containment leakage versus valve inoperability. Thus the STS Completion Time for leakage is less than the Completion Time for an inoperable MSIV.

TVA Response

The Completion Time for ITS 3.6.1.3 Condition D has been revised to 4 hours which is consistent with STS.

3.6.1.3-4

CTS 4.7.D.1.a requires the Primary Containment Isolation Valves (PCIVs) be tested in accordance with CTS 1.0 MM for closure times. ITS SR 3.6.1.3.6 requires verifying MSIV isolation time ≥ 3 seconds and ≤ 5 seconds. There is no discussion or justification for these time limits.

TVA Response

The basis for the MSIV closure times is as follows:

5 second maximum time

Prevent damage to the fuel barrier by limiting the loss of Reactor cooling water in case of a major leak from the steam line piping outside the Primary Containment, and

Limit release of radioactive materials by closing the primary containment barrier in case of a major leak from the nuclear system inside the primary containment.

3 second minimum time

The minimum time ensures that closure of all steam lines will not induce a more severe transient (pressure/power increase) on the nuclear system than the closure of the Main Steam Stop Valves while the turbine bypass valves remain closed.

These same times are also shown in FSAR Table 5.2-2

3.6.1.3-5

CTS 3.7.F.1, CTS 3.7.F.2 and CTS 4.7.F requirements for the containment purge system are relocated to the Technical Requirements Manual (TRM). There is no discussion of how the TRM addresses these requirements and how changes to the TRM are controlled. See Item Number 3.6.1.3-6.

TVA Response

The requirements of CTS 3.7.F.1, CTS 3.7.F.2, and CTS 4.7.F will be relocated in their entirety to the TRM. Changes to the TRM are governed by the 10 CFR 50.59 process.

3.6.1.3-6

CTS 3.7.F.1, CTS 3.7.F.2 and CTS 4.7.F requirements for the containment purge system are relocated to the TRM. The justification for this relocation is inadequate. There is no discussion either in R1 or in "Browns Ferry Nuclear Plant Application Screening Criteria" which discusses why this system does not meet the criteria specified in 10 CFR 50.36(c)(2)(ii).

TVA Response

The primary containment purge system at BFN is not a safety related system (with the exception of the primary containment isolation valves which are covered by ITS 3.6.1.3) and is not relied upon to mitigate any transient or design basis event. It does not contain installed instrumentation used to detect a significant abnormal degradation in the reactor coolant pressure boundary and is not modeled in the BFN Probabilistic Safety Assessment. The system (with the exception of the primary containment isolation valves which are covered by ITS 3.6.1.3) does not meet any of the four criteria specified in 10 CFR 50.36(c)(2)(ii) and, therefore, it is appropriate that the requirements of CTS 3.7.F.1, CTS 3.7.F.2, and CTS 4.7.F be relocated to the TRM. DOC R1 has been revised to include the above discussion.

3.6.1.3-7

STS SR 3.6.1.3.2 verifies each 18 inch primary containment purge valve is closed. STS SR 3.6.1.3.2 has a Note 1 which states that the SR is "only required to be met in MODES 1, 2 and 3." The Basis for STS SR states that the basis for the Note is that if a LOCA inside containment occurs in these MODES, the purge valves may not be capable of closing before the pressure pulse affects systems downstream of the purge valves or the release of radioactive material will exceed limits prior to the valve closing. ITS SR 3.6.1.3.1 deletes this Note on the basis that no PCIV leakage tests are required in MODES other than 1, 2 and 3. The Note and SR do not have anything to do with leakage.

TVA Response

The Note has been deleted since it is not needed; purge valves are not required to be Operable in Modes other than 1, 2, and 3. The Applicability of this LCO is only in Modes 1, 2, 3; Modes 4 and 5 are only applicable for Shutdown Cooling Isolation valves when the instrumentation is required per ITS LCO 3.3.6.1.

Additionally, as discussed in FSAR section 5.3.3.6.3, the BFN containment purge valves have been analyzed and shown to be adequate for closure against DBA forces consistent with NRC Branch Technical Position CSB 6-4. This also protects against overpressurization of the appurtenant ductwork. JD P16 has been amended to include the above discussion.

3.6.1.3-8

See Item Number 3.6.1.1-6 and 3.6.1.3-7

TVA Response (Revision 1)

The Bases have been revised to incorporate language from TSTF-52 (JD P71) as agreed with NRC staff. Refer to the responses Item Number 3.6.1.1-6 and 3.6.1.3-7 for details.

3.6.1.3-9

STS SR 3.6.1.3.14 and Associated Bases have been deleted from ITS. The justifications used are that the current licensing basis does not include this requirement and this type of leakage is part of the overall containment leakage. These statements are contradictory, and the second justification would be considered generic which would be beyond the scope of review for this conversion. If the hydrostatic tests are part of the overall

containment leakage test required by Appendix J, then it is part of the current licensing basis. Thus STS SR 3.6.1.3.14 must be included in the ITS, unless an exemption has been granted by the staff.

TVA Response (Revision 1)

BFN does not have any specific requirement in CTS that corresponds to STS SR 3.6.1.3.14. BFN has water tested primary containment isolation valves in seismic class I (SCI) lines and in systems that are water sealed post accident. The treatment of water tested valves is specified in the Containment Leak Rate Program. BFN does not have any acceptance criteria based on a leak rate multiplied by the total number of PCIVs that are water tested. BFN does have acceptance criteria specified in the Containment Leak Rate Program for water sealed components. This criteria is based on maintaining a water seal for 30 days at 1.1 Pa. This criteria allows those particular components to be water tested in lieu of air testing as allowed by 10 CFR 50, Appendix J. SCI valves that are water tested are required to be tested and results reported to the Commission, but these lines are considered to be extensions of primary containment and any leakage through these valves remains inside containment. Additionally, some of these SCI valves are also Pressure Isolation Valves (PIVs) and have allowable leak rates based on a percentage of downstream relief valve capacity as described in the ASME Section XI Program. These extensions of containment (RHR and Core Spray) are tested during the Type A test Containment Integrated Leak Rate Test (CILRT) by monitoring level drop (displacement) of the reactor vessel during the test.

Therefore, STS SR 3.6.1.3.14 is a new specification not currently contained in CTS. However, to address the NRC concern, BFN has decided to add an SR similar to STS 3.6.1.14 as BFN ITS SR 3.6.1.3.11. The description and requirements have been adapted to reflect current BFN test requirements as implemented by the Containment Leak Rate Program. This new SR is a more restrictive change since CTS do not contain this requirement as an SR. DOC M5 has been added. JD P21 has also been appropriately revised.

3.6.1.3-10

ITS 3.6.1.3 Action F removes the phrase "Operation with a potential for draining the vessel (OPDRVs)" from Condition F and places it in RA F.1 in place of "OPDRVs" The justification states that OPDRVs can only occur in MODES 4 and 5, thus it is not necessary to specify it in Condition F. The staff has determined that this is a generic change which is beyond the scope of review for this conversion.

TVA Response

We consider this change administrative. Moving the statement regarding operations with a potential for draining the reactor vessel (OPDRVs) from the Condition statement to the Required Action is more direct and simply eliminates redundant text. This makes the ITS more useable for BFN, but does not change the objectives or requirements of the STS provisions.

3.6.1.3-11

The Bases for SR 3.6.1.3.10 refers to a Note 1 which ITS SR 3.6.1.3.10 does not show a note. Therefore, the Bases discussion on the Note was deleted from the ITS. This is an error. The Note should be added to ITS SR 3.6.1.3.10 and the discussion retained in the Bases. This Note deals with leakage limit applicability and is associated with ITS 3.6.1.3 ACTIONS Note 4. Also, BWR 16 C.5 corrected this error. See Item Number 3.6.1.1-6 with regards to changes to this note.

TVA Response (Revision 1)

The referenced Note 1 would add a provision "Only Required to be met in Modes 1, 2, or 3". The Note does not appear to serve a useful purpose and is redundant to the current Applicability statement of LCO 3.6.1.3. A review of previously approved BWR-4 ITS indicates the subject note has not typically been incorporated. Therefore, BFN does not see a need to add this note. No further action is required.

3.6.1.3-12

ITS B 3.6.1.3 Bases for the LCO section shows the statement "These passive isolation valves and devices are those listed in Reference 2." The deletion is marked P59. The justifications state that P59 is "not used".

TVA Response (Revision 1)

BFN does not have a corresponding FSAR reference which lists all passive isolation valves and devices, therefore, the STS Bases text was not adopted. However, in response to the NRC concern, the LCO Bases have modified to indicate that the passive isolation valves and devices are shown on plant drawings. JD P59 has been modified accordingly.

ITS SECTION 3.6.1.4

DRYWELL AIR TEMPERATURE

S.3.6.1.4-1

STS 3.6.1.4, Drywell Pressure, is deleted for the ITS. The ITS is renumbered such that ITS 3.6.1.4 is Drywell Air Temperature. The discussion and justification for deleting the Drywell Pressure STS requirement does not address the current licensing basis, system design, or operational constraints. The justification is based on a recent GE evaluation on drywell pressure. The justification used virtually the same words as Brunswick and Duane Arnold for deleting this requirement from their respective amendments. The only difference between the BFN justification is the reference to a GE Report-NEDC-32466P Supplement 1. This report has not been reviewed and approved by the staff. Therefore the justification based on this report would constitute a generic change to the STS and would be beyond the scope of review for a conversion.

TVA Response (Revision 1)

The document referred to in the NRC comment is a Brunswick specific report and is not discussed or referenced in the BFN ITS submittal. BFN CTS do not have an equivalent SR. JD P57 has been modified to be specific on this point.

3.6.1.4-1

The change in numbering from STS 3.6.1.5 (Drywell Air Temperature) to ITS 3.6.1.4 will depend on resolution of Item Number S.3.6.1.4-1.

TVA Response

As discussed in the TVA response to item S.3.6.1.4-1, no change is required to the numbering of the ITS sections.

3.6.1.4-2

ITS B 3.6.1.4 Bases for REFERENCES deletes reference 3. The justification states that "BWR16, C.22 was not fully incorporated into Revision 1 or NUREG 1433." Reference 3 should have been deleted from the REFERENCE section since it was deleted from the

text of SR 3.6.4.3.2." This justification is wrong. BWR 16, C.22 has nothing to do with this section of the STS; BWR 16, C.26 however does. Also, SR 3.6.4.3.2 does not have anything to do with this reference or section.

TVA Response

After further review, we agree that BWR16 C22 referenced in JD P52 should be BWR16 C26 and the reference to SR 3.6.4.3.2 should be STS 3.6.1.5, Applicable Safety Analyses Bases. JD P52 has been revised accordingly.

ITS SECTION 3.6.1.5

REACTOR BUILDING-to-SUPPRESSION CHAMBER VACUUM BREAKERS

3.6.1.5-1

In light of the discussion of issues with regards to the changes made in CTS 3.7.A.3, ITS 3.6.1.5 LCO, ITS 3.6.1.5 ACTIONS and associated ITS Bases particularly for Item Number 3.6.1.5-3, and 3.6.1.5.-4, licensee should consider either totally revising the ITS LCO and ACTIONS to conform totally to the ITS.

TVA Response

In response to the NRC comment, we have decided to utilize the STS Completion Times in accordance with NUREG-1433. DOC L1 has been modified and a new DOC M3 added to address the shorter 72-hour completion time that is applicable for single vacuum breakers being inoperable. JD P15 has been deleted.

3.6.1.5-2

CTS 3.7.A.3 is being modified to conform to ITS 3.6.1.5 (STS 3.6.1.7). ITS 3.6.1.5 adds a Note to the ACTIONS which states that "Separate Condition entry is allowed for each line." The justification states the change is consistent with NUREG 1433, and is classified as an administrative change. The CTS does not have this restriction and nothing in the justification clearly shows that the change is purely administrative. The change seems to be less restrictive.

TVA Response (Revision 1)

The subject Note in concert with ITS 3.6.1.5 Required Actions A, B, C, D, and E are less restrictive than CTS. ITS is more liberal in that the ITS Actions are based on the specific inoperability mode of the vacuum breakers and are thus more flexible than CTS. DOC L1 provides a specific discussion regarding the additional flexibility afforded by STS and the proposed BFN ITS in this regard. To address the NRC concern, the DOC reference to the note has been changed from A2 to L1, and DOC L1 has been edited to reference the note.

3.6.1.5-3

CTS 4.7.A.3.b requires a "visual examination" and determination that the force required to open the vacuum breakers does not exceed limits. This requirement is not retained in ITS 3.6.1.5 and is moved to plant procedures. There is inadequate justification of the plant procedure change control process.

TVA Response

The requirement for visual examination of the Reactor Building-to-Suppression Chamber vacuum breakers (check valves) is considered an operational detail for conducting the vacuum breaker SR 3.6.1.5.3. Specifically, to test the outboard vacuum breaker (check valve), local testing is necessary using weights to apply an opening force. Applying the force involves a attaching a weight cradle to the check valve swing arm and verifying valve movement after the predetermined amount of weight is added to the cradle. During the test, a visual inspection of the vacuum breakers is also performed to verify for proper movement, cleanliness, and valve condition. It is not necessary to carry forth this level of operational detail for conducting the SR into the ITS. Rather, details for the mechanics of conducting the test and visual inspection will be included in the test instruction for SR 3.6.1.5.3. Changes to surveillance tests are controlled by site administrative procedures which includes a review for 10 CFR 50.59 applicability. DOC LA1 has been modified slightly to clarify the above position.

3.6.1.5-4

CTS 3.7.A.3.a requires only 2 out of the 4 reactor building Building-to-Suppression chamber vacuum breakers to be OPERABLE. CTS 3.7.A.3.b specifies the remedial actions to be taken if one of the 2 required vacuum breakers is inoperable. Thus 3 vacuum breakers can be inoperable before one has to enter CTS 3.7.A.3.b. ITS 3.6.1.5 requires all four Reactor Building-to-Suppression chamber vacuum breakers to be OPERABLE and proposes appropriate actions for the various combinations of inoperable vacuum breakers. This change is not less restrictive, but more restrictive. See Item Numbers 3.6.1.5-1 and 3.6.1.5-5.

TVA Response (Revision 1)

DOC L1 has been revised to provide additional basis for the less restrictive categorization.

3.6.1.5-5

CTS 3.7.A.3.b specifies that with one of the required 2 Reactor Building-to-Suppression Chamber vacuum breakers inoperable, reactor operation may continue for up to 7 days provided that repair procedures do not violate primary containment integrity. ITS ACTIONS A and C specify the Conditions and Required Actions to take if one or two of the required 4 vacuum breakers are inoperable. ITS Condition D reflects CTS 3.7.A.3.b. The Completion Time associated with Conditions A and C reflect the AOT for CTS 3.7.A.3.b which is 7 days, rather than the STS Completion Time of 72 hours. CTS 3.7.A.3 actually allows the AOT for Conditions A and C to be indefinite. Condition D has a Completion Time of 1 hour versus the CTS AOT of 7 days. The ITS and STS times are more restrictive than the CTS. The justification for P15 states that Completion Times for ITS ACTIONS A and C are based on retaining the current licensing basis, which is wrong based on the above discussion. See Item Numbers 3.6.1.5-1 and 3.6.1.5-4.

TVA Response

As discussed in response to the NRC comment 3.6.1.5-1, we have decided to incorporate the STS Completion Times in accordance with NUREG-1433. Associated Justifications have been revised. We believe this revision should address the NRC comment.

3.6.1.5-6

CTS 4.7.A.3.a requires Reactor Building-to-Suppression Chamber vacuum break instrumentation to be functionally tested per Table 4.7.A. CTS Table 4.7.A requires Reactor Building-to-Suppression Chamber vacuum breaker instrumentation to have a functional test once/month. ITS SR 3.6.1.5.2 requires a functional test of each vacuum breaker every 92 days. The Bases states that this test involves cycling the vacuum breaker from fully open to fully closed on a 92 day Frequency. The cycling of the vacuum breaker on a 92 day Frequency seems to meet the first part of CTS 4.7.A.3.a of exercising in accordance with CTS 1.0 MM. However, cycling and/or exercising the vacuum breaker does not necessarily mean that it is done using the system instrumentation; it could be done manually. The ITS Bases does not clarify this. L2 does not provide sufficient discussion on this aspect to determine if this functional test of the instrumentation is being performed on a once/month frequency (CTS 4.7.A.3.a) or a 92 day frequency (ITS SR 3.6.1.5.2). If the instrumentation functional test is being performed on a once/month frequency then a justification (LA) for relocating this requirement was not provided. If the instrumentation functional test is being performed on a 92 day

Frequency, then a justification (L) for changing the surveillance test interval was not provided. See Item Number 3.6.1.5.7.

TVA Response (Revision 1)

After further review, we have decided to relocate the subject CTS 4.7.A.3.a instrumentation requirements to the TRM and corresponding implementing procedures for the TRM. Changes to the TRM are controlled in accordance with 10 CFR 50.59. Changes to TRM implementing procedures are controlled by site administrative processes which include a review for 10 CFR 50.59 applicability. DOC L2 has been deleted and the a new DOC LA2 added to justify the change. Also, in response to comments from a meeting with NRC staff, LA2 has been revised to provide additional justification.

3.6.1.5-7

CTS 4.7.A.3.a requires Reactor Building-to-Suppression Chamber vacuum breaker instrumentation to be functionally tested per Table 4.7.A. CTS Table 4.7.A requires Reactor Building-to-Suppression Chamber vacuum breaker instrumentation to be calibrated every 18 months. ITS SR 3.6.1.5.3 requires verifying the opening setpoint of the vacuum breakers. L2 states that vacuum breaker instrumentation is required to be OPERABLE to satisfy the setpoint verification of ITS SR 3.6.1.5.3. Verifying operability through actuation of the system does not constitute or meet the CTS requirement of calibrating the system. There is no discussion or justification for removing the instrumentation surveillance requirements for this less restrictive (LA) change.

TVA Response (Revision 1)

As indicated in the response to Item 3.6.1.5-6, a decision has been make to relocate the subject CTS item to the TRM and the procedures which implement the TRM. STS does not include requirements for the calibration and functional testing of the instrumentation associated with vacuum breaker instrumentation. The proposed ITS will require a periodic verification of the opening setpoint (ITS SR 3.6.1.5.3). Therefore, it is acceptable that these maintenance requirements be relocated to the TRM. Changes to the TRM are controlled through the 10 CFR 50.59 process. Changes to TRM implementing procedures are controlled by site administrative processes which include a review for 10 CFR 50.59 applicability.

3.6.1.5-8

The LCO Bases for STS 3.6.1.7 requires the vacuum breakers to be closed except during testing or when performing their intended function. ITS B 3.6.1.5 Bases LCO deletes the exception for "During Testing." ITS SR 3.6.1.5.1 verifies that the vacuum breakers are closed. ITS SR 3.6.1.5.1 has two Notes associated with it. Note 1 provides an exception for testing and Note 2 provides an exception when the valves are performing their intended function. The deletion of the phrase "during testing or" from the LCO Bases section negates Note 1. See Item Number 3.6.1.6-6.

TVA Response

The wording has been reinstated in the in the ITS 3.6.1.5 LCO Bases as recommended by the NRC comment. This change is consistent with NUREG-1433.

3.6.1.5-9

STS B 3.6.1.7 Bases APPLICABILITY justifies the operability of the Reactor Building-to-Suppression Pool vacuum breakers in MODES 1, 2 and 3. Two conditions related to excessive negative pressure necessitate this MODE Applicability, an inadvertent actuation of the Suppression Pool Spray System and depressurization of the drywell. ITS B 3.6.1.5 Bases APPLICABILITY states that depressurization of the drywell could occur due to inadvertent actuation of the Drywell Spray System. All mention of inadvertent actuation of the Suppression Pool Spray System inadvertent actuation has been deleted. The justification does not adequately address this deletion, which could be a potential generic change.

TVA Response

The ITS 3.6.1.5 Applicability Bases have been modified to be more similar to the NUREG-1433 Bases with regard to the effects of the containment spray systems as adapted for BFN-specific accident analyses results.

ITS SECTION 3.6.1.6

SUPPRESSION CHAMBER-to-DRYWELL VACUUM BREAKERS

3.6.1.6-1

STS B 3.6.1.8 Bases for RA B.1 and SR 3.6.1.8.1 describes an alternate method of verifying that the vacuum breakers are closed. This method is to verify that a differential pressure of 0.5 PSID between the suppression chamber and drywell is maintained for 1 hour without make up. ITS B 3.6.1.6.1 Bases for RA B.1 deletes this description and ITS B 3.6.1.6 Bases for SR 3.6.1.6.1 changes it to "monitoring the decay rate of the Drywell-to-Suppression Chamber differential pressure." Justification P63 states that this change is made since "There is no specific requirement to maintain a specified differential pressure for a specified time period without makeup." The CTS markup adds Action B. The justification (L2) for the addition of ACTION B uses the exact same words as STS B 3.6.1.8 Bases RA B.1, which implies that this alternate method was going to be used for both ITS 3.6.1.6 RA B.1 and SR 3.6.1.6.1.

TVA Response

The acceptance criteria of SR 3.6.1.6.1 (see ITS Bases) and CTS 4.7.A.4.d provide for an alternate test method to demonstrate satisfactory vacuum breaker closure. The method described in STS 3.6.1.8 is not feasible at BFN since all "make-up" cannot be isolated during plant operation. Specifically, the Drywell Control Air System is a source of make-up that cannot be isolated when the unit is operating. Hence, we have included, as the alternate test method for ITS SR 3.6.1.6.1, the test described in CTS 4.7.A.4.d. This test can be performed without isolating make-up.

For clarification purposes and in response to the NRC comment, we have added a more explicit discussion of this alternate test method to the Bases for SR 3.6.1.6.1 and also to the Bases for ITS 3.6.1.6 Required Action B.1. DOC L2 has also been revised to better address the alternate test method.

3.6.1.6-2

CTS 3.7.A.4.b states that a Suppression Chamber-to-Drywell vacuum breaker may be not fully closed so long as it is determined to be not more than 3° open as indicated by position lights. The markup indicates that this requirement will be Note 2 to ITS SR 3.6.1.6.1. ITS SR 3.6.1.6.1 does not show a Note 2. The ITS B 3.6.1.6.1 Bases for APPLICABLE SAFETY ANALYSIS, LCO, and SR 3.6.1.6.1 all have inserts which describe or discuss this requirement. The discussion in SR 3.6.1.6.1 Bases is not characterized as a Note 2. These changes are all designated P55.

TVA Response

A Note 2, which is a restatement of CTS 3.7.A.4.b criteria, has been added back into ITS SR 3.6.1.6.1 and into the STS mark-up. The current licensing basis is that leakage equivalent to one drywell vacuum breaker opened to no more than a nominal 3° as confirmed by the position indicating lights is acceptable. On this basis, an indefinite allowable repair time for a malfunction of the operator or disc (if nearly closed) of one vacuum breaker is justified. The current JD P55 adequately describes this change.

3.6.1.6-3

See Item Number 3.6.1.5-9

TVA Response

The ITS 3.6.1.6 Applicability Bases have been modified to be more similar to the NUREG-1433 Bases with regard to the effects of the containment spray systems as adapted for BFN-specific accident analyses results. A similar change was made to ITS 3.6.1.5 as discussed in response to question 3.6.1.5-9.

3.6.1.6-4

STS SR 3.6.1.8 requires the vacuum breakers be verified closed every 14 days and after any discharge or steam or any operation causing a vacuum breaker to open. ITS SR 3.6.1.6.1 deletes the second frequency (steam or operational opening). The justification (P22) states that this frequency is not needed since ITS SR 3.0.1 would not be met and appropriate actions taken. The justification also states that if conditions exist for the vacuum breakers to be potentially opened, control room operators would be alerted to the possibility and would ensure the vacuum breakers were closed at the completion of the

evolution. The SR frequency assures that this is done. Further justification for these frequencies/justifications is that they delay the entering into the appropriate actions based on statements made in the LCO Bases section (See Item Number 3.6.1.6-6). The staff has determined based on the justification that this is a generic change which is beyond the scope of review of a conversion.

TVA Response (Revision 1)

CTS do not have SRs which require verification that the suppression chamber vacuum breakers are closed after discharge of steam from the safety/relief valves or other operations. Therefore, BFN has elected not to incorporate the subject STS SR 3.6.1.8.1 requirements in the conversion to ITS. JD P22 has been revised to better reflect this position.

3.6.1.6-5

STS SR 3.6.1.2 requires a functional test of the vacuum breakers within 12 hours of any discharge of steam into the suppression chamber and following any operation that causes the vacuum breaker to open. ITS SR 3.6.1.6.2 deletes these frequencies/conditions. The justification (P23) quotes a memorandum from C.E McCraken to C.I.Grimes, dated 9/8/92, providing the basis for the SR frequency. The staff determined that this was sufficient justification to retain the frequencies/conditions in Revision 1 to NUREG 1433. The licensee provides additional discussion for deleting these frequencies based on the NRC memorandum. Further justifications is that they delay the entering into the appropriate actions based on statements made in the LCO Bases section (See Item Number 3.6.1.6-6). The staff has determined that this is a generic change which is beyond the scope of review for a conversion.

TVA Response (Revision 1)

CTS do not have SRs which require functional tests of the suppression chamber vacuum breakers after discharge of steam from the safety/relief valves or other operations. Therefore, BFN has elected not to incorporate STS SR 3.6.1.8.2 in the conversion to ITS. JD P23 has been revised to better reflect this position.

3.6.1.6-6

The LCO Bases for STS 3.6.1.8 requires the vacuum breakers to be closed except during testing or when performing their intended function. ITS B 3.6.1.6 Bases LCO deletes the exception for

"during testing." ITS SR 3.6.1.6.1 has a Note associated with it that provides an exception during surveillance testing. The deletion of phrase "during testing or" from the LCO Bases section negates the Note. See Item Number 3.6.1.5-8.

TVA Response

The words "during testing or" have been added to the ITS 3.6.1.6 LCO Bases in this revision package.

ITS SECTION 3.6.2.3

RHR SUPPRESSION POOL COOLING

3.6.2.3-1

ITS 3.6.2.3 adds an ACTION C which states that with three or more RHR suppression pool cooling subsystems inoperable restore required RHR Systems to OPERABLE status in 8 hours. This change also modifies ITS 3.6.2.3 ACTION D (STS 3.6.2.3 ACTION C). The CTS does not have this requirement instead the CTS under these conditions would require a shutdown in accordance with 1.0.c.1. This change since it involves a total loss of function which requires a shutdown per STS 3.6.2.3 ACTION C is potentially a generic change which is beyond to review of a conversion. The change is unacceptable.

TVA Response (Revision 1)

The BFN design with respect to suppression pool cooling is different from the generic BWR-4 design as described in the NUREG-1433 Bases. The generic BWR-4 has two subsystems each containing two pumps and one heat exchanger contrasted with the BFN design of four pumps with four heat exchangers. For the generic BWR-4, if two subsystems were lost, there would be no suppression pool cooling capability. At BFN, since each RHR pump has its own separate heat exchanger, there are four RHR subsystems instead of the generic BWR-4 two subsystems. ACTION C corresponds to the case for which only one OPERABLE subsystem is remaining and some suppression pool cooling capability remains unlike the generic BWR-4 for which there would be no suppression pool cooling capability. ITS ACTION D corresponds to the case for which there is no suppression pool cooling capability. Therefore, ACTION C allows for plant specific design differences at BFN for which there remains some suppression pool cooling capability with three subsystems inoperable. The eight hours allows a reasonable time to restore an additional subsystem prior to entering ITS ACTION D. This is consistent with proposed Residual Heat Removal Service Water (RHRSW) requirements in ITS 3.7.1.

In light of the NRC comment and to facilitate the review of the conversion package, in this submittal we have modified ACTION C and ACTION D to be consistent with STS provisions as adapted to BFN system design. Specifically, the "or more" has been deleted from ACTION C and ACTION D modified for consistency. DOC L1 and JD P44 were revised appropriately.

3.6.2.3-2

CTS 3.5.B.1 requires the RHR System to be OPERABLE anytime there is irradiated fuel in the reactor vessel, the reactor vessel pressure is above atmospheric pressure, and prior to STARTUP from a COLD SHUTDOWN condition. ITS 3.6.2.3 changes the APPLICABILITY to MODES 1, 2, and 3. The reactor vessel pressure can be pressurized above atmospheric pressure in MODE 4. This change is a less restrictive change. There is no discussion or justification for this less restrictive change.

TVA Response

MODE 4 requires the reactor temperature to be $\leq$ 212°F and, thus, the reactor coolant would be in an incompressible liquid state. If the nuclear system is pressurized during MODE 4, it is by mechanical means since no steam is present. In the event of a breach of the reactor coolant boundary while in a MODE 4 pressurized condition, the reactor pressure would rapidly return to atmospheric with a very small associated loss of reactor coolant. The pressurized condition is not capable of causing large amounts of reactor coolant to be lost or causing large heat inputs to the suppression pool. Hence, the condition is essentially the equivalent of a MODE 4 unpressurized condition. Thus, it is concluded that the MODE 4 pressurized condition does not warrant any additional RHR requirements for the MODE 4 condition beyond those specified by ITS 3.4.8, 3.5.2, and 3.10.1.

To address NRC's concern regarding the Less Restrictive aspect of the change, a new DOC L3 has been added.

3.6.2.3-3

CTS 3.5.B.5 and 3.5.B.6 specify the remedial actions to be taken if one or two RHR pumps (containment cooling mode) or associated heat exchangers, respectively, are inoperable. Operation may continue for 30 days provided that the associated diesel generator is OPERABLE. This requirement has been relocated to ITS 3.8.1. There is no discussion or justification for this administrative change.

TVA Response

As noted in the mark-up for CTS 3.5.B.5 and 3.5.B.6, the requirement for the diesel generators to be OPERABLE has been relocated to ITS 3.8.1. Refer to DOC L6 for ITS 3.8.1 for the justification.

ITS SECTION 3.6.2.4

RHR SUPPRESSION POOL SPRAY

3.6.2.4-1

CTS 4.5.B.2 requires an air test be performed on the drywell and torus headers and nozzles every 5 years. CTS 4.5.B.2 allows substituting a water test for the air test. Even though the ITS retains the surveillance, the details of the methods of performing the surveillance test requirements (air test or water test) have been relocated to the Bases and procedures. ITS B.3.6.2.4 Bases SR 3.6.2.4.2 do not specify which test can be used (air and water) for these SRs. Thus, the details have not been relocated to the Bases. See Item Number 3.6.2.4-2.

TVA Response (Revision 1)

ITS SR 3.6.2.4.2 verifies the suppression pool spray nozzles are unobstructed. The detailed methods used to perform this SR (use of air or water) are immaterial to the completion of the SR as long as the methods can verify that the nozzles are unobstructed. However, to address NRC's specific concern, the Bases for ITS SR 3.6.2.4.2 have been revised to include "using air or water" and DOC LA1 revised.

3.6.2.4-2

CTS 4.5.B.2 requires an air test be performed on the drywell and torus headers nozzles every 5 years. CTS 4.5.B.2 allows substituting a water test for the air test. Even though the ITS retains the surveillance, the details of the air and water tests are moved to the ITS Bases and procedures which are controlled by licensee controlled programs. There is inadequate discussion and justification for moving the details of the air and water tests to Bases and plant procedures, the procedure is not identified, and the change control process for the procedures is not described. See Item Number 3.6.2.4-1.

TVA Response

See the response for NRC comment 3.6.2.4-1. The same reasoning is applicable.

3.6.2.4-3

See Item Number 3.6.2.3-2.

TVA Response

MODE 4 requires the reactor temperature to be $\leq$ 212°F and, thus, the reactor coolant would be in an incompressible liquid state. If the nuclear system is pressurized during MODE 4, it must be by mechanical means since no steam energy is available. In the event of a breach of the reactor coolant boundary while in a MODE 4 pressurized condition, the reactor pressure would rapidly return to atmospheric with a very small associated loss of reactor coolant. The pressurized condition is not capable of causing large amounts of reactor coolant to be lost or causing large heat inputs to the suppression pool air space. Therefore, the condition is essentially the equivalent of MODE 4 unpressurized condition. Thus, it is concluded that the MODE 4 pressurized condition does not warrant any additional RHR requirements for the MODE 4 condition beyond those specified by ITS 3.4.8, 3.5.2, and 3.10.1.

To address NRC's concern regarding the Less Restrictive aspect of the change, a new DOC L3 has been added.

3.6.2.4-4

See Item Number 3.6.2.3-3

TVA Response

As noted in the mark-up for CTS 3.5.B.5 and 3.5.B.6, the requirement for the diesel generators to be OPERABLE has been relocated to ITS 3.8.1. Refer to DOC L6 for ITS 3.8.1 for the justification.

ITS SECTION 3.6.2.5

RESIDUAL HEAT REMOVAL (RHR) DRYWELL SPRAY

3.6.2.5-1

See Item Numbers 3.6.2.4-1 and 3.6.2.4-2

TVA Response (Revision 1)

ITS SR 3.6.2.5.2 verifies the suppression pool spray nozzles are unobstructed. The detailed methods used to verify this SR (air or water) are immaterial to the completion of the SR as long as the methods can verify the fact that the nozzles are unobstructed. However, to address NRC's specific concern, the Bases for ITS SR 3.6.2.5.2 have been revised to include "using air or water" and DOC LA1 revised.

3.6.2.5-2

See Item Numbers 3.6.2.4-1 and 3.6.2.4-2

TVA Response

See the response for the previous item. The same reasoning is applicable.

3.6.2.5-3

See Item Number 3.6.2.3-2

TVA Response

MODE 4 requires the reactor temperature to be $\leq$ 212°F and, thus, the reactor coolant would be in an incompressible liquid state. If the nuclear system is pressurized during MODE 4, it must be by mechanical means since no steam energy is present. In the event of a breach of the reactor coolant boundary while in a MODE 4 pressurized condition, the reactor pressure would rapidly return to atmospheric with a very small associated loss of reactor coolant. Therefore, the pressurized condition is not capable of causing large amounts reactor coolant to be lost or provide significant heat input to the drywell air space. Thus, there is

no need to relocate the subject MODE 4 CTS requirement for drywell spray to the ITS.

To address NRC's concern regarding the Less Restrictive aspect of this change, a new DOC L3 has been added.

3.6.2.5-4

ITS B 3.6.2.5 Bases has two typographical errors: on page 609 of 939, a line should be between the end of the BACKGROUND Section and the APPLICABLE SAFETY ANALYSIS Section; and on page 612 of 939 "Surveillance Requirements (Continued)" should be moved to top of page and "SR 3.6.2.5.2 (continued)" should be deleted, and paragraphs made into 1 paragraph.

TVA Response

TVA agrees with the NRC review comment. The typographical errors have been corrected.

ITS SECTION 3.6.3.2

PRIMARY CONTAINMENT OXYGEN CONCENTRATION

S3.6.3.2-1

STS 3.6.3.2, Drywell Cooling System Fans is deleted from the ITS. The ITS is renumbered such that ITS 3.6.3.2 is Primary Containment Oxygen Concentration. The discussion and justification (P5) for deleting Drywell Cooling System fans states that the BFN specific analysis does not assume Drywell Cooling System fans are available to assure adequate mixing. However, the Bases for STS 3.6.3.2 APPLICABLE SAFETY ANALYSIS states that hydrogen is released to the drywell within 2 minutes following a DBA LOCA. Natural circulation phenomena results in a gradient concentration difference in the drywell and suppression chamber. "Even though this gradient is acceptably small and no credit for mechanical mixings 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 staff has determined that this system meets Criterion 3 of 10 CFR 50.36(c)(2)(ii)(C). Thus in light of the STS Bases discussion, P5 is inaccurate and incomplete.

TVA Response (Revision 1)

CTS and the BFN Licensing Basis do not have requirements for the Drywell Cooling System Fans. Therefore, BFN has elected not to incorporate STS 3.6.3.2 in the conversion to ITS. JD P5 has been revised to directly reflect this position.

3.6.3.2-1

CTS 3.7.A.5.a requires reducing the containment atmosphere to less than 4% oxygen with nitrogen gas. This requirement is not retained in ITS 3.6.3.2. The requirement is moved to plant procedures which are controlled by licensee controlled programs. In addition, the justification does not provide adequate discussion on why this requirement may be relocated to plant procedures.

TVA Response

ITS LCO 3.6.3.2 requires primary containment oxygen concentration to be < 4.0 volume percent similar to CTS 3.7.A.5.a. The method employed by BFN to control oxygen concentration is by inerting the drywell with nitrogen gas from the Containment Inerting System as described in Section 5.2 of the FSAR. Review of changes to plant design features as described in the FSAR are performed in accordance with 10 CFR 50.59. Each respective unit has unit-specific system operating procedures for inerting the drywell with nitrogen (OI-76, "Containment Inerting System"). The details of valve lineups and procedures for inerting are contained in this OI. Changes to OIs are governed by the plant administrative procedures which include a review for 10 CFR 50.59 applicability. The removal of this level of detail is consistent with NUREG-1433 and the NRC Final Policy Statement on Technical Specification Improvements of July 22, 1993, since the parameter of concern is oxygen concentration.

3.6.3.2-2

CTS 4.7.A.5.a and 4.7.A.5.b requires that the methods to measure primary containment oxygen concentration account for instrument uncertainty and calibrating the instrument each refueling cycle. These requirements are not retained in ITS 3.6.3.2. These requirements are moved to plant procedures which are controlled by licensee controlled programs. In addition, the justification does not provide adequate discussion on why these requirements may be relocated to plant procedures.

TVA Response

CTS 4.7.A.5.a and 4.7.A.5.b will be relocated to the TRM and TRM implementing procedures. Changes to the TRM are governed by the 10 CFR 50.59 process. Changes to TRM implementing procedures are made in accordance with site administrative processes which include a review for 10 CFR 50.59 applicability. Either the installed instrumentation covered in the TRM or grab samples

analyzed by laboratory instrumentation are satisfactory to comply with the weekly SR 3.6.3.2.1 for measuring oxygen concentration.

The removal of this level of detail is consistent with NUREG-1433 and the NRC Final Policy Statement on Technical Specification Improvements of July 22, 1993, since the parameter of concern is oxygen concentration, not the measurement technique. DOC LA2 has been revised to reference the TRM.

3.6.3.2-3

CTS 3.7.A.5.c and CTS 4.7.A.5.c require that if plant control air is used to supply the pneumatic control system, the reactor is not started or if the reactor is operating the reactor is brought to COLD SHUTDOWN within 24 hours. This requirement is not retained in ITS 3.6.3.2. The CTS requirement and associated Surveillance Requirements are moved to the TRM. The change control process for the TRM is not discussed in the justification. It also appears this is a change to the current licensing basis. No justification was provided for relocating the CTS requirements to the TRM.

TVA Response

The drywell control air compressors are the normal supply for pneumatic control within the drywell. There are two drywell control air compressors which take suction from the drywell atmosphere. These compressors are highly reliable and are powered from a diesel backed AC power supply. There is also an additional backup supply from the CAD system which was not installed when the plant was originally licensed. The only instance that plant control air would be used for drywell service during power operation is when both drywell air compressors are failed and the CAD system cross-tie is not available. Therefore, if plant control air is used as a supply for pneumatic control for drywell service, this configuration would be a highly unusual, short-term line-up. In this case, the concern would be for inadvertently increasing the oxygen concentration inside the drywell while it was inerted, since the plant control air system uses air as the pneumatic control medium. Since SR 3.6.3.2.1 ensures the primary containment oxygen concentration is maintained within limits and there are no safety related functions performed by the drywell control air compressors (or plant control air, if so aligned), it is acceptable to relocate the CTS requirement to the TRM. Changes to the TRM are governed by the 10 CFR 50.59 process.

3.6.3.2-4

CTS 4.7.A.5.a requires primary containment oxygen concentration be measured and recorded daily. The recording requirement is not retained in ITS 3.6.3.2. The requirement to record the containment oxygen concentration is relocated to plant procedures which are controlled by licensee controlled programs. In addition, the justification does not provide adequate discussion on why this requirement may be relocated to plant procedures.

TVA Response

Logging of data required for the performance of surveillance tests is considered routine practice which is required by plant testing instructions and quality assurance requirements. Therefore, it is not required to retain a specific requirement to record data in the equivalent ITS SR. Recording of the oxygen concentration for the performance of ITS SR 3.6.3.2.1 will be located in the plant procedure which implements ITS SR 3.6.3.2.1. Changes to SR procedures are controlled by plant administrative processes which include a review for 10 CFR 50.59 applicability.

3.6.3.2-5

ITS B3.6.3.3 Bases BACKGROUND section refers to the drywell cooling system fans (STS 3.6.3.2) as one means of inerting, maintaining oxygen concentration and mitigating the events that produce hydrogen in Primary Containment. ITS B3.6.3.2 Bases BACKGROUND deletes this reference to the Drywell Cooling System Fans based on the deletion of STS 3.6.3.2 from the ITS. Item Number S3.6.3.2-1 questions this STS deletion. This item will be pursued in conjunction with Item Number S3.6.3.2-1.

TVA Response

See the response to Item S3.6.3.2-1.

ITS SECTION 3.6.4.1

SECONDARY CONTAINMENT

3.6.4.1-1

CTS 3.7.C.1, 3.7.C.2 and 3.7.C.3 specify that secondary containment, reactor zone secondary containment, and refueling zone secondary containment integrity be maintained, respectively. Secondary containment, reactor zone secondary containment, and refueling zone secondary containment integrity is described and defined in CTS 1.0.P.1, 1.0.P.2, and 1.0.P.3 respectively. ITS 3.6.4.1 does not require reactor zone or refueling zone secondary containment integrity be maintained. The justification states that a combined secondary containment integrity test will demonstrate TS OPERABILITY. It also states that due to leakage between zones, zone integrity is difficult to maintain. Since the current licensing basis requires integrity in all areas, the justification about difficulty in maintaining zone integrity due to leakage is unacceptable. The deletion of these requirements based on this justification is a beyond scope of review for this conversion. In addition, the deletion of these requirements would constitute a less restrictive change, not a more restrictive change. The requirements and description/definition of secondary containment integrity (OPERABILITY) found in CTS 1.0.P should as a minimum be relocated to the Bases for ITS 3.6.4.1 and appropriate changes to ITS 3.6.4.1 ACTIONS and SRs be made to accommodate the BFN secondary containment design. Thus the change now becomes an administrative change. See Item Numbers 3.6.4.1-4, 3.6.4.1-6, 3.6.4.1-7 and 3.6.4.1-8.

TVA Response

Zonal isolation within the secondary containment was part of the original reactor building design but, in practice, is not utilized. Rather, for the purposes of maintaining secondary containment, the whole of the four zones (3 reactor zones and refuel zone) exterior boundaries is considered the secondary containment boundary. Hence, the zonal concept has been abandoned and the CTS provisions 3.7.C.3 and 3.7.C.4, and associated definitions (1.0.P.1, 1.0.P.2 and 1.0.P.3) have been deleted in the proposed ITS. Since actual operating practice is to treat the secondary containment as a single collective volume, the zonal CTS provisions are enveloped by the macroscopic CTS secondary

containment requirements and, hence, the CTS requirements for zonal isolation are not needed. Additional detail is provided below.

The secondary containment is one contiguous volume for the three BFN units with interconnecting flow paths. The reactor building is divided into four normal HVAC ventilation zones (3 reactor zones plus a refueling zone) with separate normal HVAC systems. A secondary containment isolation signal can be generated from within any of the four ventilation zones or manually from the control room. An isolation signal from a reactor zone will cause the normal HVAC in that area and the refuel floor to isolate, that zone's secondary containment isolation valves to isolate, and the standby gas treatment (SGT) system to initiate. The other zones are not affected. Similarly, an isolation signal from the refuel zone will cause the normal HVAC in only that area to isolate, that zone's secondary containment isolation valves to isolate and the SGT system to initiate. The other zones are not affected. If in either scenario, a high level of radiation is detected in another zone(s), that zone(s) will also isolate until ultimately all four zones could isolate. The SGT system is fully capable of performing its' required function for the whole of the four zones or any portion as described above.

The discussion in 3.6.4.1 DOC M5 regarding the difficulty in maintaining zonal integrity was provided as the reason for why the zonal concept has been abandoned rather than as a justification for demonstrating the change is acceptable. The justification for acceptability is based on the integrity of the overall secondary containment boundary as demonstrated by testing. Under current practice, a secondary containment breach (to the environs) or a non-operable secondary containment for any zone is considered to be a non-operable secondary containment for the entire reactor building. This is considered a more restrictive change since the CTS flexibility of being able to remove a zone from the secondary containment has been deleted. However, as explained above, in actual practice there are no operating activities which credit the ability to establish zonal separation.

The overall requirement for secondary containment operability (CTS 3.7.C.1) is contained in ITS LCO 3.6.4.1 and the actions for when it is not operable (CTS 3.7.C.2) have been retained in Required Actions A, B, and C and will be applied uniformly to all zones. The definitions for zonal integrity (CTS 1.0.P) are already contained in ITS by the proposed SRs and LCOs. For example, CTS 1.0.P.1.a is

captured by ITS SR 3.6.4.1.1 and SR 3.6.4.1.2. CTS 1.0.P.1.b is captured by ITS SR 3.6.4.1.4 and LCO 3.6.4.3. CTS 1.0.P.1.c is captured by ITS LCO 3.6.4.2. Definitions CTS 1.0.P.2 and 1.0.P.3 are captured by the same ITS sections since secondary containment is now considered one volume.

As discussed above, the proposed ITS are a simplification of CTS and reflect actual plant practice by formally abandoning CTS provisions which would allow interzonal separation. The ITS provisions treat secondary containment as a single integral building which is consistent with NUREG-1433. Therefore, BFN does not consider this change beyond scope or less restrictive.

3.6.4.1-2

CTS 4.7.C.1.a requires performing the secondary containment surveillance requirement to verify maintaining 1/4 inch of water vacuum under calm wind conditions. This requirement is moved to ITS B.3.6.4.3 Bases BACKGROUND Section and plant procedures which are controlled by licensee controlled programs.

TVA Response

As noted in the NRC comment, the requirement regarding calm wind conditions is relocated to ITS 3.6.4.3 Background Bases and renamed as "neutral" wind conditions. Additionally, for clarification, the requirement for neutral wind conditions (< 5 mph) has been added to the SR 3.6.4.1.3 and 3.6.4.1.4 Bases and will also be included in the procedures which implement these SRs. Changes to SR implementing procedures are controlled by plant administrative processes which include a review for 10 CFR 50.59 applicability. Changes to the Bases are controlled by ITS 5.5.10, "Technical Specifications (TS) Bases Control Program" which requires a 10 CFR 50.59 review.

3.6.4.1-3

CTS 4.7.C.1.a requires performing the secondary containment surveillance requirement to verify maintaining 1/4 inch of water vacuum under calm wind conditions (< 5 mph) with a system leakage rate of <12,000 cfm. This requirement is retained in ITS SR 3.6.4.1.4 with the exception of the "calm wind condition." This has been relocated to ITS B 3.6.4.3 Bases BACKGROUND Section and changed to "neutral wind

conditions." No justification has been provided of changes made to ITS SR 3.6.4.1.4 and ITS Associated Bases to require this current licensing basis requirements or show that the ITS SR is equivalent to the CTS SR. In addition, no justification has been provided to show that calm wind conditions (< 5 mph) is equivalent to neutral wind conditions which the staff considers 0 mph.

TVA Response

In response to the NRC comment, neutral wind has been clarified in ITS 3.6.4.3 Background Bases to mean less than 5 mph as currently defined in CTS 4.7.C.1.a. Also, as discussed in comment 3.6.4.1-2, the requirement for neutral wind conditions has been added to the SR 3.6.4.1.3 and 3.6.4.1.4 Bases. DOC LA1 has been revised to clarify this point.

3.6.4.1-4

CTS 4.7.C.2 requires operating the Standby Gas Treatment System after a secondary containment violation is identified and the affected zones are isolated from the remainder of secondary containment to confirm the SGT's ability to maintain the proper vacuum. This requirement is moved to plant procedures which are controlled by licensee controlled programs. It is unclear from the justification and discussion as to why this requirement is retained, but relocated to plant procedures. Testing redundant systems was deleted from TS years ago. In addition, relocating this requirement to plant procedures provides additional justification for the staff concern in Item Number 3.6.4.1-1.

TVA Response

As discussed in item 3.6.4.1-1, the provisions for zonal separation have been abandoned. The CTS mark-up has been revised and DOC LA2 has been eliminated since it pertained to implementing zonal separation. Since the zonal concept is not used by BFN, the capability to isolate selected secondary containment zones no longer could be used to continue operation in the non-affected zones by operating the SGT system. The LCO for ITS 3.6.4.1 would not be met and Required Actions would be taken which would require all zones to be placed in Conditions for which the LCO did not apply. The basis for this change is described in DOC M5 as a more restrictive change since continued operation in the non-affected zones would not be allowed.

3.6.4.1-5

CTS 4.7.C.1.a requires performing the secondary containment surveillance each refueling outage prior to refueling. ITS SR 3.6.4.1.3 and ITS SR 3.6.4.1.4 extends the frequency by changing to testing on a STAGGERED TEST BASIS, which means all three SGT subsystems are tested every 2 refueling cycles. ITS SR 3.6.4.1.3 and ITS SR 3.6.4.1.4 reduces the STI based on Generic Letter 91-04. Generic Letter 91-04 provides justification for changing the refueling outage and associate SR frequencies from 18 months to 24 months. This generic letter does not apply in this case. Therefore, the justification for this less restrictive change is unacceptable.

TVA Response

The references to NRC Generic Letter 91-04 have been eliminated from DOC L1 for ITS 3.6.4.1 and additional justification added to DOC L1. Operating experience has shown an 18-month staggered test interval is acceptable from a reliability standpoint and extending the test interval reduces the chances for an unnecessary plant transients due to testing (as explained in revised DOC L1).

3.6.4.1-6

ITS 3.6.4.1 RA C.1 is modified by a Note stating that ITS LCO 3.0.3 is not applicable if moving fuel assemblies in MODES 4 and 5. The STS was developed for a single unit not for a multi-unit plant with a shared secondary containment. Thus this Note to ITS 3.6.4.1 may not be applicable for the BFN design and the CTS. See Item Numbers 3.6.4.1-1, 3.6.4.1-7, and 3.6.4.1-8.

TVA Response

ITS LCO 3.0.3 is the motherhood clause and provides a time frame for shutting down the reactor when an LCO and the associated Actions are not met, or an associated Action is not provided. LCO 3.0.3 states that it is only applicable during MODES 1, 2 and 3. With regard to ITS 3.6.4.1 Required Action C.1, it is possible that secondary containment could become inoperable with the reactor in MODES 1, 2, or 3 while fuel movements are in process (for example, fuel transfers in progress in the spent fuel pool). In this case, Conditions A and B would apply to the reactor and Condition C would apply to the fuel movement. Similarly, if other units are operating, that units'

Conditions A and B would apply. The addition of the note serves to emphasize that LCO 3.0.3 would not apply to the fuel transfer activities.

3.6.4.1-7

STS 3.6.4.1 ACTIONS were developed based on a single unit, not for a multi-unit plant with a shared secondary containment. CTS 3.7.C.2, 3.7.C.3, 3.7.C.4, and 4.7.C.2 specify the remedial actions to be taken in the event that secondary containment, reactor zone secondary containment or refueling zone are inoperable, including the required shutdown or ALL units at BFN. ITS 3.6.4.1 ACTIONS do not reflect the CTS requirements nor is there appropriate justification for changing the CTS requirements when converting to the ITS. See Item Numbers 3.6.4.1-1, 3.6.4.1-4, 3.6.4.1-6 and 3.6.4.1-8.

TVA Response

As discussed in item 3.6.4.1-1, the provisions for zonal separation have been abandoned and the secondary containment is treated as one contiguous system. The associated requirements for zonal violations from CTS 3.7.C.2, 3.7.C.3, 3.7.C.4, and 4.7.C.2 have accordingly not been included in ITS. The secondary containment requirements for the other units are included explicitly in that unit's ITS. In ITS, a loss of secondary containment on any unit or the refuel zone will be treated as a loss of secondary containment for all reactor units.

3.6.4.1-8

CTS 3.7.C.1 requires maintaining containment integrity in the reactor zone "at all times" except as noted. ITS 3.6.4.1 APPLICABILITY is MODES 1, 2, and 3, During movement of irradiated fuel, During CORE ALTERATIONS, and During Operations with the Potential for Draining the Reactor Vessel (OPDRV). The ITS changes the APPLICABILITY and deletes the operability requirements for MODES 4 and 5, and the defueled condition. There is no discussion or justification for this more restrictive change in the APPLICIBILITY. See Item Numbers 3.6.4.1-1, 3.6.4.1-4, 3.6.4.1-6, and 3.6.4.1-7.

TVA Response (Revision 1)

In response to the NRC comment, a new more restrictive (M6) has been generated to address the more restrictive aspects of the ITS Applicability for ITS 3.6.4.1.

3.6.4.1-9

STS SR 3.6.4.1.1 verifies the containment vacuum is < 0.25 inch of vacuum water gauge on a 24 hour frequency. This SR has been deleted from the ITS based on the justification that it is a bracketed, optional requirement. CTS 4.7.C.1.a verifies that the secondary containment's capability to maintain 0.25 inch of water vacuum under certain conditions each refueling outage. ITS B.3.6.4.1 Bases BACKGROUND Section used the same words as the STS. The implication of CTS 4.7.C.1.a and the ITS Bases wording is that the secondary containment is maintained at < 0.25 inch of vacuum water gauge at all times. Therefore the justification for deleting STS SR 3.6.4.1.1 and the Associated Bases is inadequate.

TVA Response (Revision 1)

CTS 4.7.C.1.a verifies the capability of the secondary containment to maintain 0.25 inch of water vacuum with the Standby Gas Treatment (SGT) system operating. CTS does not require the secondary containment to be maintained at 0.25 inch of water vacuum at all times with normal Heating Ventilation and Air Conditioning (HVAC) systems. To address the NRC concern, the BACKGROUND Bases for ITS 3.6.4.1 have been revised to clearly indicate the above.

3.6.4.1-10

As a result of the change made by Item Number 3.6.4.1-9, the numbering of the STS SRs were changed in the ITS. Resolution of this item will depend on the resolution of Item Number 3.6.4.1-9.

TVA Response

Based on the disposition of Item 3.6.4.1-9, no changes to the SR numbering is required.

ITS SECTION 3.6.4.2

SECONDARY CONTAINMENT ISOLATION VALVES

3.6.4.2-1

The CTS does not contain any surveillance requirements for SCIVs. Thus, ITS SR 3.6.4.2.1 (STS SR 3.6.4.2.2), ITS SR 3.6.4.2.2 (STS SR 3.6.4.2.3), and their Associated Bases were added. STS SR 3.6.4.2.1, which verifies the secondary containment manual isolation valves and blind flanges that are required to be closed during accident conditions are closed, was not included in the ITS. The associated Bases sections for STS B3.6.4.2, LCO and SR 3.6.4.2.1 were also deleted. The justification (P56) states that BFN does not have this requirement, and chooses not to adopt it, but will maintain the requirement under administrative controls. This justification directly contradicts justification A2 which states that the new LCO will require all SCIVs the be OPERABLE consistent with the secondary containment OPERABILITY requirements. The bases for secondary containment (B.3.6.4.1) requires leak tightness to assure that the required vacuum can be maintained. Since this requirement is maintained by administrative controls, it can be considered part of the current licensing basis. In addition, the CTS for Primary Containment did not have similar surveillances for manual valves and blind flanges but they were added to ITS 3.6.1.3. Therefore, STS SR 3.6.4.1.1 and associated Bases need to be added to ITS 3.6.4.2.

TVA Response

STS SR 3.6.4.2.1 requires that each secondary containment isolation manual valve and blind flange that is required to be closed during an accident be verified closed every 31 days. CTS does not contain this requirement and BFN chooses to maintain CTS licensing requirements by not adopting the subject STS SR.

The piping systems which penetrate secondary containment maintain the secondary containment boundary via a combination of pipes and valves/isolation devices. Isolation devices include devices such as blind flanges, pipe caps and loop seals. The pipes and isolation devices are depicted on controlled BFN drawings.

Some locations utilize a closed valve/isolation device and the piping as the secondary containment boundary. Other locations rely on the integrity of the closed loop piping. BFN has adequate administrative controls on the manual valves and isolation devices such that monthly checks are not required. These controls are as follows:

1. Independent valve lineup verifications following outages when a system has been taken out of its normal alignment.

2. Independent licensed operator preparation and verification of tagouts and independent placement and verification of these tagouts.

3. Blind flanges and pipe caps are only positioned using maintenance work control documents which are reviewed by Operations for system impact.

The nature of systems with normally closed valves/caps is such that there is seldom a need to operate these devices and so the potential for degrading secondary containment by misoperation or failure is minimized. BFN operating experience indicates the above controls are very effective in maintaining status control. Additionally, problems with leaking blind flanges or manual valves would be identified during the performance of ITS SR 3.6.4.1.4.

DOC A2 is not in contradiction with this position since the SCIVs referred to in A2 are the dampers for the HVAC systems that penetrate secondary containment. These dampers must be operable per the requirements and their leak tightness checked periodically.

<u>3.6.4.2-2</u>

See Item Number 3.6.4.1-8

<u>TVA Response (Revision 1)</u>

In response to the NRC comment, a new more restrictive (M3) has been generated to address the more restrictive aspects of the ITS Applicability for ITS 3.6.4.2.

3.6.4.2-3

See Item Number 3.6.4.1-6

TVA Response

Refer to the response to NRC comment 3.6.4.1-6. The same reasoning applies to this Item.

3.6.4.2-4

See Item Number 3.6.4.1-7

TVA Response

Refer to the response to NRC comment 3.6.4.1-7. No changes are required.

3.6.4.2-5

See Item Number 3.6.4.1-1

TVA Response

Bases on the disposition of Item 3.6.4.1-1, no changes are required.

3.6.4.2-6

CTS 3.7.C.1, 3.7.C.2 and 3.7.C.3 specify secondary containment, reactor zone secondary containment, and refueling zone secondary containment integrity be maintained, respectively. Secondary containment, reactor zone secondary containment, and refueling zone secondary containment is described and defined with regards to SCIVs in CTS 1.0.P.1, 1.0.P.2 and 1.0.P.3, respectively. The CTS markup does not include a markup of CTS 3.7.C.3 with regards to SCIVs. See Item Number 3.6.4.1-1.

TVA Response

As discussed in item 3.6.4.1-1, the provisions for zonal separation have been abandoned and the secondary containment is treated as one contiguous system. The associated requirements for zonal violations from CTS 3.7.C.3 have similarly not been included in ITS. The requirements for SCIVs are contained in ITS 3.6.4.2.

3.6.4.2-7

As a result of the change made by Item Number 3.6.4.2-1, the numbers of the STS SRs were changed in the ITS. Resolution of this item will depend on the resolution of Item Number 3.6.4.2-1.

TVA Response

Based on the disposition of Item 3.6.4.2-1, no changes to the SR numbering is required.

STANDBY GAS TREATMENT (SGT) SYSTEM

3.6.4.3-1

CTS 3.7.B.4 specifies the actions to be taken if one SGT is inoperable. Based on the CTS APPLICABILITY this action applies at all times. ITS 3.6.4.3 adds ACTIONS C & E which are applicable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATION, or during OPDRVs for one and two SGT system(s) inoperable, respectively. This change is characterized as administrative change A1 - reformatting, renumbering and editorial rewording to make the CTS consistent with NUREG-1433. The addition of ITS 3.6.4.3 ACTION C is a less restrictive change from CTS 3.7.B.4 while the addition of ITS 3.6.4.3 ACTION E is less restrictive since the CTS does not have the equivalent to ACTION E, in CTS 3.7.B, but would require a shutdown in accordance with 1.0.C. Adding these ACTIONS is a less restrictive change and a justification is not provided. See Item Numbers 3.6.4.1-6, 3.6.4.3-6, 3.6.4.3-8, and 3.6.4.3-9.

TVA Response

TVA agrees that the addition of ITS Required Action C.1 is a less restrictive change, but it is already addressed by DOC L2. CTS 3.7.B.3 requires that if one train of SGT is found inoperable, REACTOR POWER OPERATION and fuel handing operations are permitted for only 7 days. After the 7 days, CTS 3.7.B.4 requires an immediate cessation of reactor operation and fuel handling. ITS Required Action C.1 allows unlimited duration of reactor operation and fuel handling provided that two OPERABLE SGT subsystems are in operation.

As stated in the ITS 3.6.4.3 Required Actions Bases for C.1, this action will ensure that the remaining SGT subsystems are operable, that no failures related to automatic actuation could prevent operation, and any other failure would be readily detected. The SGT systems are basically simple systems with a minimum number of active components. It is, therefore, highly unlikely that an operating system would suddenly and catastrophically fail. With two systems in operation, the function of the SGT and, hence, secondary containment would be assured in the event of an accident requiring secondary containment.

TVA disagrees that the addition of Required Action E is a less restrictive change. Required Action E is the same requirement as CTS 3.7.B.4.a for fuel handling, core alterations, and OPDRVs. A unit can be in Mode 1, 2, or 3 and be moving fuel inside secondary containment (i.e., fuel movements within the fuel pool). If two or three SGT subsystems became inoperable, Condition D would apply to the reactor and Condition E would apply to the fuel related activities. Similarly, if other units are operating, that unit's Conditions A, B, or D would apply, if required. This is the same as CTS 3.7.B.4.a and 3.7.B.4.b.

See the responses to items 3.6.4.1-6 and 3.6.4.1-8 for additional discussion.

3.6.4.3-2

CTS 4.7.B.2.d requires each SGT train be operated a total of at least 10 hours each month. ITS SR 3.6.4.3.1 requires each SGT train be operated continuously for ≥ 10 hours with heaters operating. While the Justification (M2) addresses the more restrictive change of going from a total of 10 hours per month to continuously operating for at least 10 hours, no mention is made about the addition of "with heaters operating." There is no discussion or justification for this more restrictive requirement to have the heaters operating.

TVA Response

The SGT system heaters automatically operate (if flow is adequate and temperatures are not abnormally high) when SGT is started. To address the NRC comment, DOC M2 has been revised to provide additional justification on this change

3.6.4.3-3

CTS 4.7.B.2.e requires testing the seals of gaskets for housing doors. This requirement is not retained in ITS 3.6.4.3. These requirements are moved to plant procedures and/or system operating instructions, which are controlled by licensee controlled programs.

TVA Response

The CTS requirement has been explicitly added to the BASES of ITS SR 3.6.4.3.2. This will insure the smoke test is performed whenever SBGT filter testing is performed in accordance with the Ventilation Filter Testing Program, and thereby preserve the present CTS requirement. Changes to the BASES will be controlled by ITS 5.5.10. DOC LA1 has been revised to correspond to the above discussion.

3.6.4.3-4

CTS 4.7.B.3.a requires that once per operating cycle automatic initiation of each branch of SGT is demonstrated from each control room.

ITS SR 3.6.4.3.3 requires verifying each SGT subsystem actuates on an actual or simulated initiation signal every 18 months.

The method used to perform the surveillance is moved to plant procedures which are controlled by licensee controlled programs.

TVA Response

The change in the wording of CTS 4.7.B.3.a to the wording of ITS SR 3.6.4.3.3 is considered an administrative change that has not changed either the method of performing the test or deleted/changed the amount of information contained in TS. The test of the "automatic initiation" stated in CTS has been clarified to state "on an actual or simulated initiation signal". BFN considers these terms to be equivalent. Details regarding methods for verifying proper operation of the SGT system will be included in the plant procedure which implements SR 3.6.4.3.3. SR procedure revisions are performed in accordance with site administrative procedures which include a review for 10 CFR 50.59 applicability. See the response to Item 3.6.4.3-5 for additional information.

3.6.4.3-5

CTS 4.7.B.3.a requires demonstrating once per operating cycle automatic initiation of each branch of SGT "from each control room." ITS SR 3.6.4.3.3 requires verifying each SGT subsystem actuates on an actual or simulated initiated signal every 18 months. There is inadequate discussion and justification for deleting the requirement for initiating SGT from each control room and adding the requirement to actuate the system using a simulated or actual initiation signal. This is a less restrictive change in that one is going from the CTS requirement or testing from each unit (control room) to the ITS requirement which could be done from only one unit all the time.

TVA Response

The change in the wording of CTS 4.7.B.3.a to the wording of ITS SR 3.6.4.3.3 is considered an administrative change that has not changed either the method of performing the test or deleted/changed the amount of information contained in TS. The test of the "automatic initiation" stated in CTS has been clarified to state "on an actual or simulated initiation signal". BFN considers these terms to be equivalent.

The three SGT trains can be started from the control bay either manually from handswitches or from test handswitches which provide a simulated Primary Containment Isolation Signal (PCIS) in order to initiate an auto-start signal for SGT. The A and B trains of SGT can be manually started from hand switches in the Units 1 or 3 control rooms. The C train can be manually started from handswitches in the Unit 2 or 3 control rooms.

There are two test handswitches in the Unit 1 control room which provide simulated PCIS signals to the A and B trains, respectively. There is one test handswitch in the Unit 2 control room which provides a simulated PCIS signal to the C train. There are no test handswitches in the Unit 3 control room and, hence, no automatic testing is done from this unit. These three test handswitches are currently used to test the three trains by providing an "automatic initiation" and will be used under ITS to provide an "actual or simulated initiation signal" for performing SR 3.6.4.3.3. The simulated signal for testing under SR 3.6.4.3.3 can only be performed with the above described test switches. This surveillance test will be classified as a common surveillance test which means a single test is conducted for all three units to satisfy the SR (simultaneously).

Accordingly, BFN does not consider this change to be a less restrictive change since the system design dictates the test methodology which will not change under ITS.

3.6.4.3-6

An alternative action is proposed to suspending operations if a SGT System cannot be returned to OPERABLE status within seven days and movement of irradiated fuel assemblies, CORE ALTERATIONS, or OPDRVs are being conducted. The alternative (ITS 3.6.4.3 RA C.1) is to initiate operation of the two remaining SGT systems. The CTS does not have this requirement. The addition of this less restrictive requirement will depend on the resolution of Item Numbers 3.6.4.1-6, 3.6.4.3-1, and 3.6.4.3-9.

TVA Response

See the responses to NRC comments 3.6.4.1-6, 3.6.4.3-1, and 3.6.4.3-9 for the disposition of this Item. No additional changes are required.

3.6.4.3-7

See Item Number 3.6.4.1-6, 3.6.4.3-1, 3.6.4.3-6, and 3.6.4.3-9.

TVA Response

See the responses to NRC comments 3.6.4.1-6, 3.6.4.3-1, 3.6.4.3-6, and 3.6.4.3-9 for the disposition of this Item. No additional changes are required.

3.6.4.3-8

CTS 3.7.B.1 requires 3 trains of Standby Gas Treatment (SGT) System be OPERABLE "at all times" when secondary containment integrity is required. See Item Number 3.6.4.1-8 for concern about secondary containment integrity which also applies here. ITS 3.6.4.3 APPLICABILITY is MODES 1, 2, and 3, During movement of irradiated fuel, During CORE ALTERATIONS. and During Operations with the Potential for Draining the Reactor Vessel. There is no discussion or justification for this more restrictive change to the CTS APPLICABILITY. See Item Number 3.6.4.3-6, 3.6.4.3-7, and 3.6.4.3-9.

TVA Response (Revision 1)

In response to the NRC comment, a new more restrictive (M3) has been generated to address the more restrictive aspects of the ITS Applicability for ITS 3.6.4.3.

3.6.4.3-9

STS 3.6.4.3 ACTIONS were developed based on a single unit with two SGT Systems not for a multi-unit plant with a shared secondary containment (See Item Number 3.6.4.1-7) and three SGT Systems. CTS 3.7.B.4 specifies the remedial actions to be taken in the event that one SGT System is inoperable including the required shutdown of ALL Units at BFN, and CTS 1.0.C specifies the shutdown of all units if more than one SGT system is inoperable. ITS 3.6.4.3 ACTIONS do not reflect the CTS requirements nor is there appropriate justification for changing the CTS requirements when converting to the ITS. See Item Numbers 3.6.4.3-1, 3.6.4.3-6, 3.6.4.3-7, and 3.6.4.3-8.

TVA Response

As discussed in the response to Item 3.6.4.3-1 and in DOC L2, ITS Required Action C.1 is a less restrictive change which is being adopted in the conversion to ITS. Other than this addition, the CTS requirements for operating reactors (CTS 3.7.B.4.b) are equivalent to ITS 3.6.4.3 Required Actions B and D and the CTS 3.7.B.4.a requirements for fuel handling operations are analogous to ITS Required Actions C.2 and E.

Regarding the issue of single unit versus multi-unit, if any SGT train(s) is found inoperable, each unit's individual ITS will govern the Required Actions for that unit.

3.6.4.3-10

CTS 4.7.B.3.b requires demonstrating manual operability at least once per year of the bypass valve for filter cooling. The CTS markup shows that CTS 4.7.B.3.b will be ITS SR 3.6.4.3.4 requires verifying that each decay heat removal damper can open. The difference between the CTS and ITS are the CTS words "bypass valve for filter cooling" and the ITS words "decay heat removal damper". There is no discussion or justification to show that these two valves are the same or to show why the CTS bypass valve requirement was deleted in favor of the STS decay heat removal damper, if they are not the same.

TVA Response (Revision 1)

In response to the NRC comment, in this submittal proposed ITS SR 3.6.4.3.4 has been added and revised to better reflect plant nomenclature. Added explanation is provided below.

The filter cooling bypass valve(s) described in CTS 4.7.B.3.b are per existing plant design, three locked in place manual dampers. The SGT Operating Instruction (OI-65) and the field identification tags call these dampers "Decay Heat Discharge" dampers for the three SGT trains. and these dampers are locked in the proper position to obtain the required bypass flow. Hence, in the current SR, demonstration of manual operability is performed by verifying on a yearly frequency that the dampers are in their correct position. As noted above, in converting to ITS, we have chosen to revise the CTS terminology to better match actual plant nomenclature. No changes will result from the wording changes regarding the scope of the existing CTS surveillance test to that under proposed ITS SR 3.6.4.3.4.

3.6.4.3-11

STS SR 3.6.4.3.4 requires verifying each SGT filter cooler bypass damper can open and the fan starts on an 18 month frequency. ITS SR 3.6.4.3.4 requires verifying that each decay heat removal damper can open on a 12 month frequency. There is no discussion or justification for deleting the STS requirement that the fan starts.

TVA Response (Revision 1)

As discussed in the response to NRC comment 3.6.4.3-10, the SGT filter cooler bypass damper(s) (BFN plant field nomenclature - SGT Decay Heat Discharge Dampers) are locked in place manual valves. To make use of the dampers' bypass function, the normal SGT fans are operated. No automatic modes or interlocks exist between the these dampers and the SGT fans, and there are no CTS requirements for testing the SGT fans in association with the testing of these dampers. Also, in ITS, the SGT fans are already tested on a frequent (monthly) basis for SR 3.6.4.3.1. Therefore, it is not appropriate to include the STS fan start requirement in ITS SR 3.6.4.3.4.

3.6.4.3-12

See Item Number 3.6.4.1-3.

TVA Response

As discussed in the response to NRC comment 3.6.4.1-3, neutral wind has been clarified in ITS 3.6.4.3 Background Bases to mean less than 5 mph as currently defined in CTS 4.7.C.1.a. Also, as discussed in comment 3.6.4.1-2, the requirement for neutral wind conditions has been added to the SR 3.6.4.1.3 and 3.6.4.1.4 Bases.

3.6.4.3-13

STS B3.6.4.3 Bases for SR 3.6.4.3.2 states that "The SGT filter tests are in accordance with Regulatory Guide (RG) 1.52 (Ref. 3). " ITS B3.6.4.3 Bases for SR 3.6.4.3.2 deletes this statement and Reference 3 from ITS B.3.6.4.3 Bases REFERENCE Section. The basis for this deletion is that the filter tests are not done in accordance with RG 1.52 Revision [2], but in accordance with the ventilation filtration testing program (ITS 5.5.7). ITS 5.5.7 states that the VF7P test shall be done in accordance with RG 1.52 Rev. 2. Therefore, the justification P41 is wrong, and the STS statement and Reference 3 should be reinserted into ITS B3.6.4.3 Bases SR 3.6.4.3.2 and ITS B.3.6.4.3 Bases REFERENCES, respectively. Furthermore, the staff would consider this change and that portion of the justification (P41) which refers to the VFTP as a generic change.

TVA Response

Section 5.0 of ITS has previously been revised to remove references to ventilation testing in accordance with Regulatory Guide 1.52. Specifically, the Ventilation Filter Test Program (VFTP) described in ITS 5.5.7 has been revised to more closely match CTS requirements for ventilation system testing. BFN is not committed to Regulatory Guide 1.52 and all references have been removed from ITS. With these changes, P41 is accurate.

SUMMARY DESCRIPTION of ITS/BASES CHANGES
ITS SECTION 3.6 - CONTAINMENT SYSTEMS

TVA is submitting a proposed supplement to TS-362 for Section 3.6, CONTAINMENT SYSTEMS. This supplement makes several ITS/Bases changes resulting from a meeting with the NRC reviewer on Section 3.6 as described below.

SR 3.6.1.3.11 and Bases

In response to an NRC comment, added a new SR for water leakage testing of lines penetrating containment. This testing is currently being performed as part of the Containment Leakage Rate Test Program.

ITS 3.6.2.3 Conditions C and D, and Bases

In response to an NRC comment, modified the subject Condition statements regarding actions for multiple suppression pool cooling subsystems out of service to more closely match NUREG-1433 provisions. This change is slightly more restrictive than the current proposed ITS provisions.

SR 3.6.4.3.4 and Bases

In response to an NRC comment, added SR 3.6.4.3.4 for consistency with NUREG-1433. Component nomenclature has been modified to match BFN terminology.

Bases - Background 3.6.1.1, Limiting Condition for Operation (LCO) 3.6.1.2, SR 3.6.1.2.1

Minor text changes to match pending TS Task Force (TSTF)-52 Bases verbiage.

BASES - SR 3.6.1.2.2

Capitalized OPERABILITY for consistency with remainder of section.

BASES - LCO 3.6.1.3, SR 3.6.2.4.2, SR 3.6.2.5.2, Background 3.6.4.1

Incorporated minor miscellaneous text changes in response to NRC reviewer comments.

BASES - SR 3.6.1.3.2 and SR 3.6.1.3.3

Relocated one sentence to the end of the first paragraph in both of these Bases sections for consistency with approved TSTF-46.