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June 21, 2002

Mr. Anthony R. Pietrangelo, Director
Risk & Performance-Based Regulation
Nuclear Generation
Nuclear Energy Institute
1776 I Street, N.W.
Suite 400
Washington, DC 20006-3708

Dear Mr. Pietrangelo:

This is to inform you of the disposition for traveler TSTF-373, Revision 1 containing proposed changes to the improved Standard Technical Specifications (ISTS), initiated by the NEI Technical Specification Task Force (TSTF). TSTF-373, R.1 will require modification.

The staff has reviewed traveler TSTF-373, R.1 which proposed extending the allowed outage time for containment isolation valves from the current 4/72 hours to 7 days in NUREG-1432, STS 3.6.3. Comments and a staff markup of the appropriate specification that may be useful for possible modification of TSTF-373, R.1 are enclosed.

Please contact me at (301) 415-1161 or email wdb@nrc.gov if you have any questions or need further information on these dispositions.

Sincerely,

A handwritten signature in black ink that reads "William D. Beckner".

William D. Beckner, Program Director
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Enclosures: As stated

cc: J. Arbuckle, BWROG
D. Bice, CEOG
N. Clarkson, BWOG
S. Wideman, WOG
D. Hoffman, EXCEL

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NAME	RGiardina <i>RG</i>	LHill <i>LH</i>	RDermig <i>RD</i>	WBeckner <i>WB</i>
DATE	6/6/2002	6/6/2002	6/20/2002	6/19/2002

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Staff Comments on TSTF-373 Revision 1

1. As part of the response to Comment 6 for TSTF-373 Revision 0, TSTF-373 Revision 1 Condition A specifies a Completion Time of 72 hours to isolate certain penetrations. The discussion for the TSTF states that "the proposed change allows 7 days vice 72 hours to isolate an inoperable containment isolation valve." NUREG-1432 "Standard Technical Specification — Combustion Engineering Plants" (STS) Revision 2 specifies 4 hours not 72 hours to isolate containment isolation valves (CIV) on penetrations with 2 or more CIVs and 72 hours (STS Condition C) for penetrations with one CIV and a closed system. Revise the Completion Time for Condition A to 4 hours. See attached markup.
2. The response to Comment 1 for TST-373 Revision 0 is incomplete. The Bases' Reviewer's Note does not make sense and it still seems to restrict the condition to only the containment sump pump valves to the ECCS and the containment spray pumps. The Comment dealt with those other CIV's that did not meet the criteria to extend the Completion Time from 4 hours to 7 days. The Reviewer's Note should be modified as shown in the attached markup.
3. The response to Comment 3 for TSTF-373 Revision 0 is incomplete. The proposed Revision 1 change would be acceptable if all the CIVs covered by Condition D had only one Completion Time either 72 hours or 7 days. However, the TSTF needs to address the condition where some of the Condition D CIVs meet the 7 day criteria and some do not, similar to what is proposed for Conditions A and B (see Comment 2 above). Either two separate actions need to be developed or one action in a format similar to NUREG-1433/1434 BWR 4/6 STS 3.6.1.3 Condition C. See attached markup.
4. The staff disagrees with Owner's Group response to Comments 4 and 7. The responses basically stated that the specific staff conditions stated in the staff SE should not be included in a Reviewer's Note since they "could be taken out of context and possibly misused by individuals reading only the conditions and not the balance of the entire SE...." In addition because of the issuance of the Maintenance Rule revision, the configuration risk management program (CRMP) is no longer required. The staff does not believe that including the SE conditions in a Reviewer's Note would be taken out of context or misused but rather clarify and limit what is required to use this Completion Time. In addition because the maintenance rule has been revised and the CRMP is no longer required, just relying on the staff SE, one could assume that because CRMP Condition (i) is no longer required CRMP Conditions (ii), (iii) and (iv) are also no longer required. Unless these conditions are stated in a Reviewer's Note, more confusion would be introduced due to the Conditions being taken out of context, and what would be acceptable in an amendment package/conversion. Thus the four conditions of implementation specified in TSTF-373 Rev. 1 Justification Section 4.0 "Technical Analysis" need to be specified in a Reviewer's Note (Insert 2). Furthermore CRMP Condition (iv) also needs to be listed. CRMP Conditions (ii) and (iii) are Condition of Implementation 4. Even though 10 CFR 50.65(a)(4) "requires that the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities," CRMP Condition (iv) provides additional information, guidelines, and requirements for implementing 10 CFR 50.65 (a)(4) with regards to the AOT extension. See attached markup for revised Reviewer's Note.

Enclosure 1

STAFF MARKUP

Containment Isolation Valves (Atmospheric and Dual)
3.6.3

TSTF-373, Rev. 1

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves (Atmospheric and Dual)

LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

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

Insert 1

ACTIONS

- NOTES -

1. Penetration flow paths [except for [42] inch purge valve penetration flow paths] may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each penetration flow path.
3. Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p><u>- NOTE -</u> Only applicable to penetration flow paths with two [or more] containment isolation valves.</p> <hr/> <p>One or more penetration flow paths with one containment isolation valve inoperable [for reasons other than Condition[s] D [and E]].</p>	<p>A1 B</p> <p>Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p>AND</p>	<p>4 hours</p> <p>[7 days]</p>

A

INSERT 1

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. <u>NOTE</u> Only applicable to the [containment sump supply valves to the ECCS and containment spray pumps].</p> <hr/> <p>One or more penetration flow paths with one containment isolation valve inoperable.</p>	<p>A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p><u>AND</u></p> <p>A.2 <u>NOTE</u> Isolation devices in high radiation areas may be verified by use of administrative means.</p> <hr/> <p>Verify the affected penetration flow path is isolated.</p>	<p>2 hours ④</p> <p>Once per 31 days for isolation devices outside containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>(A)2 ↑ (B)</p> <p>----- - NOTES - 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. -----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days for isolation devices outside containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B C</p> <p>- NOTE - Only applicable to penetration flow paths with two [or more] containment isolation valves.</p> <p>One or more penetration flow paths with two [or more] containment isolation valves inoperable [for reasons other than Condition[s] D [and E]].</p>	<p>B1 C</p> <p>Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	<p>1 hour</p>
<p>D D</p> <p>- NOTE - Only applicable to penetration flow paths with only one containment isolation valve and a closed system.</p> <p>One or more penetration flow paths with one containment isolation valve inoperable.</p>	<p>D1 D</p> <p>AND</p> <p>Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	<p>[72] hours</p> <p>[7 days]</p>

↖ INSERT A

Insert A

1. Option 1

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. ----- - NOTE - Only applicable to penetration flow paths with only one containment isolation valve and a closed system that do not meet the 7 day Completion Time criteria. ----- One or more penetration flow paths with one containment isolation valve inoperable.</p>	<p>D.1 Isolation devices in high radiation areas may be verified by use of administrative means. <u>AND</u> ----- - NOTES - D.2 Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. Verify the affected penetration flow path is isolated</p>	<p>72 hours Once per 31 days</p>

Insert A (Continued)

1. Option 1 (Continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p data-bbox="201 359 553 667">E. ----- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. That do meet the 7 day Completion Time criteria. ----- One or more penetration flow paths with one containment isolation valve inoperable.</p>	<p data-bbox="623 359 1005 596">E.1 Isolation the effected penetration flow path by use of at least one closed and de-activated, automatic valve, closed manual valve, or blind flange.</p> <p data-bbox="623 638 683 667"><u>AND</u></p> <p data-bbox="623 709 980 739">E.2 -----</p> <p data-bbox="743 741 878 770">- NOTES -</p> <ol data-bbox="688 812 1005 974" style="list-style-type: none">1. Isolation devices in high radiation areas maybe verified by use of administrative means. <p data-bbox="688 1016 1013 1213">B. Isolation devices that are locked, sealed, or otherwise secured maybe verified by use of administrative means.</p> <p data-bbox="688 1255 1005 1350">----- Verify the affected penetration flow path is isolated</p>	<p data-bbox="1040 359 1146 388">[7 days]</p> <p data-bbox="1040 1255 1284 1285">Once per 31 days</p>

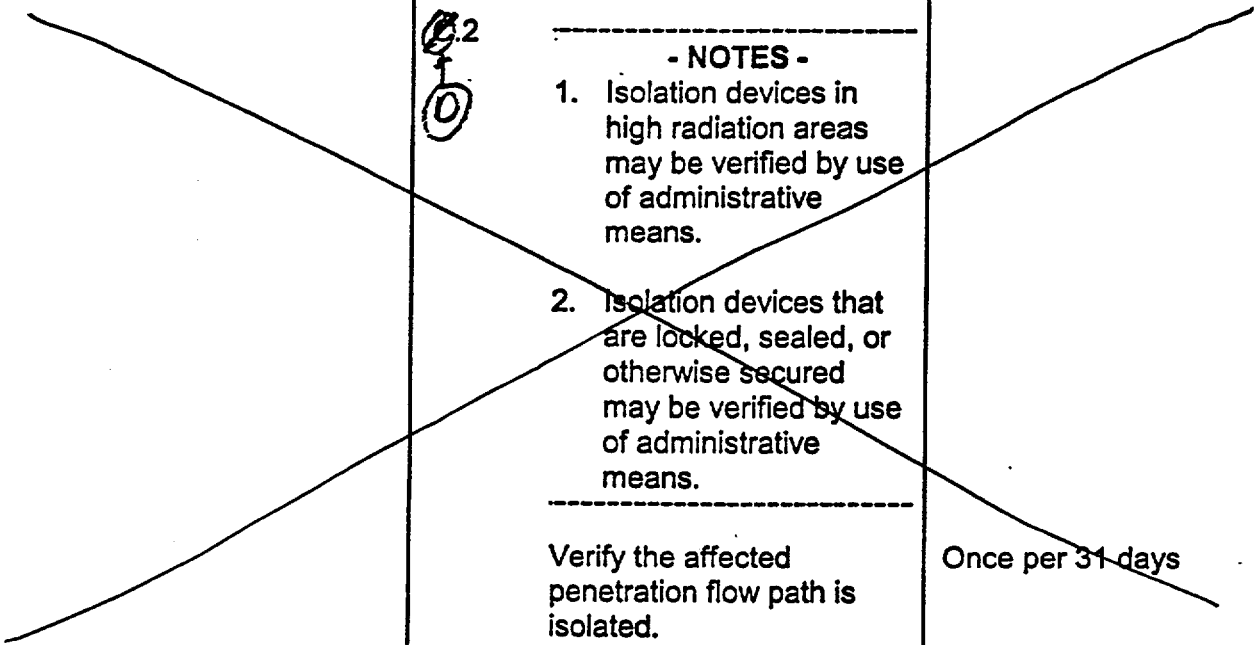
Insert A (Continued)

2. Option 2

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Only applicable to penetration flow paths with only one containment isolation valve and a closed system.</p> <p>-----</p> <p>One or more penetration flow paths with one containment isolation valve inoperable.</p>	<p>D.1 Isolation the effected penetration flow path by use of at least one closed and de-activated, automatic valve, closed manual valve, or blind flange.</p> <p><u>AND</u></p> <p>D.2 -----</p> <p style="text-align: center;">- NOTES -</p> <p>1. Isolation devices in high radiation areas maybe verified by use of administrative means.</p> <p>B. Isolation devices that are locked, sealed, or otherwise secured maybe verified by use of administrative means.</p> <p>-----</p> <p>Verify the affected penetration flow path is isolated</p>	<p>[72] hours for those penetration that do not meet the 7 day criteria</p> <p><u>AND</u></p> <p>[7] days for those penetrations that do meet the 7 day criteria.</p> <p>Once per 31 days</p>

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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p style="text-align: center;">② ① ①</p> <p style="text-align: center;">----- - NOTES - 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. -----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days</p>
<p>④ [One or more secondary containment bypass leakage [or purge valve leakage] not within limit. ⑤</p>	<p>④.1 ⑤</p> <p>Restore leakage within limit.</p>	<p>4 hours for secondary containment bypass leakage</p> <p><u>AND</u></p> <p>24 hours for purge valve leakage]</p>
<p>⑤ [One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits. ⑥</p>	<p>④.1 ⑥</p> <p>Isolate the affected penetration flow path by use of at least one [closed and de-activated automatic valve with resilient seals, closed manual valve with resilient seals, or blind flange].</p> <p><u>AND</u></p>	<p>24 hours</p>

Containment Isolation Valves (Atmospheric and Dual)
3.6.3,

TSTF-373, Rev 1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>Ⓜ2 ⓕ</p> <p>----- - NOTES - 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. -----</p> <p>Verify the affected penetration flow path is isolated.</p> <p><u>AND</u></p> <p>Ⓜ3 ⓕ</p> <p>Perform SR 3.6.3.6 for the resilient seal purge valves closed to comply with Required Action E.1.</p>	<p>Once per 31 days for isolation devices outside containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment</p> <p>Once per [] days]</p>
<p>ⓕ Required Action and associated Completion Time not met. ⓖ</p>	<p>ⓕ.1 ⓖ</p> <p><u>AND</u></p> <p>ⓕ.2 ⓖ</p> <p>Be in MODE 3.</p> <p>Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>

BASES

ACTIONS (continued)

The ACTIONS are further modified by a third Note, which ensures that appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

A fourth Note has been added that requires entry into the applicable Conditions and Required Actions of LCO 3.6.1 when leakage results in exceeding the overall containment leakage limit.

Insert 3

Insert 2

A.1 and A.2 (B)

Condition A and for

In the event one containment isolation valve in one or more penetration flow paths is inoperable, [except for purge valve leakage and shield building bypass leakage not within limit], the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For penetrations isolated in accordance with Required

(B)

Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within the 4 hour Completion Time. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4. (Refs 3 and 4)

(B)

[7 day]

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the

INSERT 2

-----Reviewer's Note-----

Adoption of the 7 day Completion Time is contingent on the following conditions identified in Reference 4:

1. Individual licensees requesting CIV Completion Time relaxations should state in their plant-specific application that they have verified that the Joint Applications Report (JAR) results apply to their plant. Licensees should verify that the relaxed Completion Times will only apply to penetrations analyzed to meet the risk guidelines of Regulatory Guide 1.177 and fall within the 14 containment penetration configurations considered in the JAR. Any other containment penetration configurations not analyzed in the JAR must be supported by a plant-specific analysis. Licensee submittals must retain the current Completion Times for the three configurations that were not analyzed in the JAR: containment sump valves to the ECCS and containment spray systems pumps, valves associated with the main feedwater system, and main steam isolation valves.
 2. Licensees should provide sufficient quantitative or qualitative substantiation to demonstrate that external events will not affect the results of the analysis supporting the extended Completion Times.
 3. Licensees should state that they have verified acceptable PRA quality as described in Regulatory Guide 1.177.
 4. Licensees should require verification of the operability of the remaining CIV(s) in a penetration flow path before entering the extended Completion Time for corrective maintenance. The JAR assumes that the penetrations remain physically intact in MODES in which these valves are to be operable during corrective maintenance. Licensees should describe in their plant specific application how the affected penetration will remain physically intact, or state that the penetration will be isolated so as to not permit a release to the outside environment.
 5. The licensee should consider the additive nature of multiple failed CIVs, and the possibility of entering multiple AOTs and verify that these situations will result in risks consistent with the incremental conditional core damage probability (ICCDP) and incremental large early release probability (ICLERP) guidelines so that defense-in-depth for safety systems will be maintained.
-

INSERT 3A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic containment isolation valve, a closed manual, a blind flange, and a check valve with flow through the valve secured. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required A.1 must be completed within the 4 hours Completion Time. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4 (Refs. 4 and 5).

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgement and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Condition A has been modified by a Note indicating that this Condition is only applicable to [the containment sump supply valves to the ECCS and containment spray pumps].

-----Reviewer's Note-----

Condition A is only applicable to the containment isolation valves that do not meet the conditions to extend the Completion Time to 7 days.

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

BASES

ACTIONS (continued)

previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Condition ^(B)A has been modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two [or more] containment isolation valves. For penetration flow paths with only one containment isolation valve and a closed system, Condition ^(D)C provides appropriate actions.

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

^(C)B.1

With two [or more] containment isolation valves in one or more penetration flow paths inoperable, [except for purge valve leakage and shield building bypass leakage not within limit], the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with Required Action ^(B)B.1, the affected penetration must be verified to be isolated on a periodic basis per Required ^(B)Action ^(B)A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are

BASES

ACTIONS (continued)

operated under administrative controls and the probability of their misalignment is low.

(C) Condition (B) is modified by a Note indicating this Condition is only applicable to penetration flow paths with two [or more] containment isolation valves. Condition (B) of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path.

(C.1 and C.2)

Insert 4

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. Required Action (C.1) must be completed within the (72 hour) Completion Time. The specified time period is reasonable, considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4. In the event the affected penetration is isolated in accordance with Required Action (C.1), the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying that each affected penetration flow path is isolated is appropriate considering the valves are operated under administrative controls and the probability of their misalignment is low.

[7 day]

(D) Condition (C) is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. The closed system must meet the requirements of Reference (4). This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system.

Required Action (C.2) is modified by two Notes. Note 1 applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these

~~INSERT 4~~

~~----- Reviewer's Note~~

~~The 7 day Completion Time for Required Action D.1 is only applicable to the containment isolation valves that meet the conditions in References 3 and 4. For any containment isolation valves meeting Condition D and not meeting the conditions of References 3 and 4, a 72 hour Completion Time is applied.~~

Insert 4

1. Option 1

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. Required Action D.1 must be completed within the [72] hour Completion Time. The specified time period is reasonable, considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4. In the event the affected penetration is isolated in accordance with Required Action D.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying that each affected penetration flow path is isolated is appropriate considering the valves are operated under administrative controls and the probability of their misalignment is low.

Condition D is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system that do not meet the 7 day Completion Time criteria. The closed system must meet the requirements of Reference 4. This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system.

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

E.1 and E.2

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. Required Action E.1 must be completed within the [7 day] Completion Time. The specified time period is reasonable, considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4. In the event the affected penetration is isolated in accordance with Required Action E.1, the

Insert 4 (Continued)

Option 1 (Continued)

affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying that each affected penetration flow path is isolated is appropriate considering the valves are operated under administrative controls and the probability of their misalignment is low.

Condition E is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system that do meet the 7 day Completion Time Criteria. The closed system must meet the requirements of Reference 4. This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system.

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

Insert 4

2. Option 2

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. Required Action D.1 must be completed within [4] hour Completion Time for those penetrations that do not meet the 7 day Completion Time criteria and 7 days for all other penetrations. The specified time periods are reasonable, considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4. In the event the affected penetration is isolated in accordance with Required Action D.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. The Completion Time or once per 31 days for verifying that each affected penetration flow path is isolated is appropriate considering the valves are operated under administrative controls and the probability of their misalignment is low.

Condition D is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. The closed system must meet the requirements of Reference 4. This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system.

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

BASES

ACTIONS (continued)

~~areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is small.~~

[0.1] (E)

With the secondary containment bypass leakage rate (SR 3.6.3.9) [or purge valve leakage rate (SR 3.6.3.6)] not within limit, the assumptions of the safety analysis are not met. Therefore, the leakage must be restored to within limit. Restoration can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. When a penetration is isolated, the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed to be the lesser actual pathway leakage of the two devices. The 4 hour Completion Time for secondary containment bypass leakage is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of secondary containment bypass leakage to the overall containment function. [The 24 hour Completion Time for purge valve leakage is acceptable considering the purge valves remain closed so that a gross breach of containment does not exist.]

 - REVIEWER'S NOTE - (E)

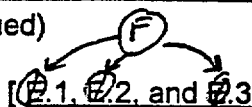
[The bracketed options provided in ACTION (D) reflect options in plant design and options in adopting the associated leakage rate Surveillances.

The options (in both ACTION (D) and ACTION (E) for purge valve leakage, are based primarily on the design - if leakage rates can be measured (F) separately for each purge valve, ACTION (E) is intended to apply. This would be required to be able to implement Required Action (E)3. Should the design allow only for leak testing both purge valves simultaneously, (E) then the Completion Time for ACTION (D) should include the "24 hours for purge valve leakage" and ACTION (E) should be eliminated.]]

(F)

BASES

ACTIONS (continued)



In the event one or more containment purge valves in one or more penetration flow paths are not within the purge valve leakage limits, purge valve leakage must be restored to within limits, or the affected penetration must be isolated. The method of isolation must be by the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a [closed and de-activated automatic valve with resilient seals, a closed manual valve with resilient seals, or a blind flange]. A purge valve with resilient seals utilized to satisfy Required Action E.1 must have been demonstrated to meet the leakage requirements of SR 3.6.3.6. The specified Completion Time is reasonable, considering that one containment purge valve remains closed so that a gross breach of containment does not exist.

In accordance with Required Action E.2, this penetration flow path must be verified to be isolated on a periodic basis. The periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident, which are no longer capable of being automatically isolated, will be in the isolation position should an event occur. This Required Action does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment capable of being mispositioned are in the correct position. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

For the containment purge valve with resilient seal that is isolated in accordance with Required Action E.1, SR 3.6.3.6 must be performed at least once every [92] days. This assures that degradation of the resilient seal is detected and confirms that the leakage rate of the containment purge valve does not increase during the time the penetration is isolated. The normal Frequency for SR 3.6.3.6, 184 days, is based on an NRC initiative, Generic Issue B-20 (Ref. 4). Since more reliance is placed on a single valve while in this Condition, it is prudent to perform the SR more often. Therefore, a Frequency of once per [92] days was chosen and has been shown to be acceptable based on operating experience.

BASES

ACTIONS (continued)

Required Action ^(F)B.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned.]

^(G)A.1 and ^(H)A.2

If the Required Actions and associated Completion Times are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE [SR 3.6.3.1
REQUIREMENTS

Each [42] inch containment purge valve is required to be verified sealed closed at 31 day intervals. This Surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment purge valve. Detailed analysis of the purge valves failed to conclusively demonstrate their ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be in the sealed closed position during MODES 1, 2, 3, and 4. A containment purge valve that is sealed closed must have motive power to the valve operator removed. This can be accomplished by de-energizing the source of electric power or by removing the air supply to the valve operator. In this application, the term "sealed" has no connotation of leak tightness. The Frequency is a result of an NRC initiative, Generic Issue B-24 (Ref. ⁽⁶⁾), related to containment purge valve use during unit operations. This SR is not required to be met while in Condition E of this LCO. This is reasonable since the penetration flow path would be isolated.] ⁽⁷⁾

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.4

This SR requires verification that each containment isolation manual valve and blind flange located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the containment boundary is within design limits. For containment isolation valves inside containment, the Frequency of "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is appropriate, since these containment isolation valves are operated under administrative controls and the probability of their misalignment is low. Containment isolation valves that are open under administrative controls are not required to meet the SR during the time that they are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

The Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

SR 3.6.3.5

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

SR 3.6.3.6

For containment purge valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J, Option [A][B], (Ref. 6), is required to ensure OPERABILITY. Operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. Based on this observation and the importance of maintaining this penetration leak tight

Containment Isolation Valves (Atmospheric and Dual)
B 3.6.3

BASES

 SURVEILLANCE REQUIREMENTS (continued)

(due to the direct path between containment and the environment), a Frequency of 184 days was established as part of the NRC resolution of Generic Issue B-20, "Containment Leakage Due to Seal Deterioration" (Ref. ①. ⑥)

Additionally, this SR must be performed within 92 days after opening the valve. The 92 day Frequency was chosen recognizing that cycling the valve could introduce additional seal degradation (beyond that occurring to a valve that has not been opened). Thus, decreasing the interval (from 184 days) is a prudent measure after a valve has been opened.

SR 3.6.3.7

Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures each automatic containment isolation valve will actuate to its isolation position on a containment isolation actuation signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The [18] month Frequency was developed considering it is prudent that this SR be performed only during a unit outage, since isolation of penetrations would eliminate cooling water flow and disrupt normal operation of many critical components. Operating experience has shown that these components usually pass this SR when performed on the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

[SR 3.6.3.8

 - REVIEWER'S NOTE -

This SR is only required for those units with resilient seal purge valves allowed to be open during [MODE 1, 2, 3, or 4] and having blocking devices on the valves that are not permanently installed.

Verifying that each [42] inch containment purge valve is blocked to restrict opening to \leq [50]% is required to ensure that the valves can close under DBA conditions within the times assumed in the analyses of References 1 and 2. If a LOCA occurs, the purge valves must close to maintain containment leakage within the values assumed in the accident analysis. At other times when purge valves are required to be capable of closing (e.g., during movement of [recently] irradiated fuel assemblies), pressurization concerns are not present, thus the purge valves can be

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BASES

SURVEILLANCE REQUIREMENTS (continued)

fully open. The [18] month Frequency is appropriate because the blocking devices are typically removed only during a refueling outage.]

[SR 3.6.3.9

This SR ensures that the combined leakage rate of all secondary containment bypass leakage paths is less than or equal to the specified leakage rate. This provides assurance that the assumptions in the safety analysis are met. The leakage rate of each bypass leakage path is assumed to be the maximum pathway leakage (leakage through the worse of the two isolation valves) unless the penetration is isolated by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. In this case, the leakage rate of the isolated bypass leakage path is assumed to be the actual pathway leakage through the isolation device. If both isolation valves in the penetration are closed, the actual leakage rate is the lesser leakage rate of the two valves. The Frequency is required by the Containment Leakage Rate Testing Program. This SR simply imposes additional acceptance criteria.

Editorial Correction

[Bypass leakage is considered part of L.] ←

REVIEWER'S NOTE
[Unless specifically exempted.]]

REFERENCES

1. FSAR, Section [].
2. FSAR, Section [].
- 5 ~~7~~. Standard Review Plan 6.2.4.
- 6 ~~A~~. Generic Issue B-20.
- 7 ~~B~~. Generic Issue B-24.
- 8 ~~B~~. 10 CFR 50, Appendix J, Option [A][B].

Insert 5

INSERT 5

3. Combustion Engineering Owners Group (CEOG) Joint Applications Report (JAR) CE-NPSD-1168, Joint Applications Report for Containment Isolation Valve AOT Extension, dated June 1999.
4. NRC Safety Evaluation for CEOG Joint Applications Report CE-NPSD-1168, "JAR for CIV AOT Extension," dated June 26, 2000.