



Cheryl A. Gayheart  
Regulatory Affairs Director

3535 Colonnade Parkway  
Birmingham, AL 35243  
205 992 5316

cagayhea@southernco.com

December 6, 2021

Docket Nos.: 50-321  
50-366

NL-21-0722  
10 CFR 50.90

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

Southern Nuclear Operating Company  
Edwin I. Hatch Nuclear Plant - Units 1 and 2  
License Amendment Request: Revise Technical Specifications to Adopt TSTF-207-A,  
"Completion Time for Restoration of Various Excessive Leakage Rates"

Ladies and Gentlemen:

Pursuant to the provisions of Section 50.90 of Title 10 of the Code of Federal Regulations (10 CFR), Southern Nuclear Operating Company (SNC) hereby requests a license amendment to Edwin I. Hatch Nuclear Plant (HNP) Unit 1 Renewed Facility Operating License DPR-57 and Unit 2 Renewed Facility Operating License NPF-5. The proposed amendment requests adoption of Technical Specifications Task Force (TSTF)-207-A, Revision 5, "Completion Time for Restoration of Various Excessive Leakage Rates," specifically, the amendment proposes administrative changes and changes to Completion Times for restoring leakage rates of Primary Containment Isolation Valves (PCIVs). These changes are consistent with the Improved Technical Specifications (NUREG-1433).

The enclosure provides a description and assessment of the proposed changes. Attachment 1 provides the existing Technical Specifications (TS) pages marked to show the proposed change. Attachment 2 provides revised (clean) TS pages. Attachment 3 provides the existing TS Bases pages marked to show revised text associated with the proposed TS changes and is provided for information only.

SNC requests approval of the proposed amendment by December 31, 2022. The proposed changes would be implemented within 90 days after issuance of the amendment.

There are no regulatory commitments made in this submittal.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Georgia Official.

If you should have any questions regarding this submittal, please contact Ryan Joyce at 205.992.6468.

U.S. Nuclear Regulatory Commission  
NL-21-0722  
Page 2

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 6<sup>th</sup> day of December 2021.

Respectfully submitted,



Cheryl A. Gayheart  
Regulatory Affairs Director  
Southern Nuclear Operating Company

CAG/tle

Enclosure: Description and Assessment

Attachments: 1. Proposed Technical Specifications Changes (Mark-Up)  
2. Revised Technical Specifications Pages  
3. Proposed Technical Specifications Bases Changes (Mark-Up) –  
For Information Only

cc: NRC Regional Administrator, Region II  
NRC NRR Project Manager – Hatch  
NRC Senior Resident Inspector – Hatch  
Director, Environmental Protection Division – State of Georgia  
RType: CHA02.004

**Southern Nuclear Operating Company  
Edwin I. Hatch Nuclear Plant - Units 1 and 2**

**License Amendment Request: Revise Technical Specifications to  
Adopt TSTF-207-A, “Completion Time for Restoration of Various  
Excessive Leakage Rates”**

**Enclosure**

**Description and Assessment**

## 1.0 SUMMARY DESCRIPTION

Southern Nuclear Operating Company (SNC) requests amendments to the Technical Specifications (TS) for the Edwin I. Hatch Nuclear Plant (HNP), Unit Nos. 1 and 2. The proposed change incorporates Technical Specifications Task Force (TSTF)-207-A, "Completion Time for Restoration of Various Excessive Leakage Rates," Revision 5 (Reference 1). Portions of TSTF-207-A were incorporated into the Hatch TS as part of Amendments No. 195 (HNP Unit 1) and No. 135 (HNP Unit 2) (Reference 2). These Amendments were issued on March 3, 1995 and implemented the Boiling Water Reactor (BWR) Owners Group Standard Technical Specifications (STS), NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4." Implementation of STS at Hatch predated NRC approval of TSTF-207-A, Revision 5, which occurred on June 13, 2000. Therefore, the proposed changes to incorporate the remaining portions of TSTF-207-A, Revision 5, are requested.

TSTF-207-A, Revision 5, modifies NUREG-1433, TS 3.6.1.3, Primary Containment Isolation Valves (PCIVs). TS 3.6.1.3, Conditions A and B are revised to include penetration flow paths that have more than 2 PCIVs in series. The words "except due to leakage not within limit" are replaced with "for reasons other than Condition D" for TS 3.6.1.3, Conditions A, B, and C, to be consistent with NUREG-1433 Revision 5. This change is considered administrative. TS 3.6.1.3, Condition D is also revised to call out individual types of penetration flow paths and provide separate Completion Times for each penetration flow path type.

Associated TS Bases are revised to reflect these TS changes.

## 2.0 DETAILED DESCRIPTION

### 2.1 Existing Technical Specifications

TS 3.6.1.3, Conditions A and B both contain a Note stating that the Condition is only applicable to penetration flow paths with two PCIVs. TS 3.6.1.3, Condition A requires entry if one or more penetration flow paths have one PCIV inoperable except when that inoperability is due to leakage not within limit. TS 3.6.1.3, Condition B requires entry if one or more penetration flow paths have two PCIVs inoperable except when that inoperability is due to leakage not within limit.

TS 3.6.1.3, Condition C is applicable to penetration flow paths with only one PCIV and requires entry if one or more such penetration flow paths have one PCIV inoperable except when that inoperability is due to leakage not within limit.

TS 3.6.1.3, Condition D requires entry when one or more penetration flow paths have leakage not within the specified limit and has a Required Action to restore leakage to within limit. Condition D has a Completion Time of 4 hours.

### 2.2 Reason for Proposed Change

The Note of TS 3.6.1.3, Conditions A and B, states that the Conditions are only applicable to penetration flow paths with two PCIVs. This license amendment request proposes revising the Note such that it applies to penetration flow paths with two **or more** PCIVs. Similarly, TS 3.6.1.3, Condition B is revised to require entry when one or more penetration flow paths with two **or more** PCIVs are inoperable. Some penetration flow paths may have more than two PCIVs in

series in the flow path (e.g., in some cases a third qualified isolation valve downstream of the outboard valve.) This change will clarify that TS 3.6.1.3 Conditions A and B entry is the appropriate action for inoperable PCIVs in penetration flow paths with more than two PCIVs.

Additionally, TS 3.6.1.3, Conditions A, B and C all contain an exception for situations where PCIV inoperability is due to leakage rates not within limits. TS 3.6.1.3, Conditions A, B, and C will be reworded such that the exception will be for PCIV inoperability **for reasons other than Condition D**. This change eliminates potential questions regarding what leakages are being referred to in TS 3.6.1.3, Conditions A, B, and C. Since TS 3.6.1.3, Condition D requires entry for leakage not within limits, this change is considered administrative. This change is proposed to make TS 3.6.1.3, Conditions A, B, and C consistent with phrasing of exceptions in NUREG-1433, Revision 5.

For a Main Steam Isolation Valve (MSIV) inoperability, for reasons other than not meeting the MSIV leakage rate limit, TS 3.6.1.3, Required Action A.1 currently allows 8 hours to restore the inoperability or isolate the penetration. For an MSIV not meeting the MSIV leakage rate limit, TS 3.6.1.3, Condition D currently requires restoration to within limits with a Completion Time of 4 hours. As a result, there appears to be a conflict between Required Action A.1 Completion Time of 8 hours and Required Action D.1 Completion Time of 4 hours, in the event of an MSIV inoperability. The proposed change clarifies when TS 3.6.1.3, Condition D should be entered by listing individual penetration flow path leakage types and providing Completion Times of 4 hours for secondary containment bypass leakage and 8 hours for MSIV leakage. This change makes the Completion Times of TS 3.6.1.3, Condition D consistent with those of TS 3.6.1.3, Condition A.

TSTF-207-A, Revision 5, also adds a separate TS 3.6.1.3, Condition D Completion Time of 72 hours for Excess Flow Check Valves (EFCVs) with leakage not within limits. For an EFCV inoperability, for reasons other than not meeting the EFCV leakage rate limit, TS 3.6.1.3, Required Action C.1 currently allows 72 hours to restore the inoperability or isolate the penetration. For an EFCV not meeting the EFCV leakage rate limit, TS 3.6.1.3, Condition D currently requires restoration to within limits with a Completion Time of 4 hours. As a result, there appears to be a conflict between Required Action C.1 Completion Time of 72 hours and Required Action D.1 Completion Time of 4 hours, in the event of an EFCV inoperability. The proposed change clarifies when TS 3.6.1.3, Condition D should be entered by listing individual penetration flow path leakage types and providing Completion Times of 72 hours for EFCV leakage. This change makes the Completion Times of TS 3.6.1.3, Condition D consistent with those of TS 3.6.1.3, Condition C.

### **2.3 Description of Proposed Change**

Southern Nuclear Operating Company (SNC) requests an amendment to the TS for the HNP, Unit Nos. 1 and 2. The proposed change incorporates TSTF-207-A as follows.

Enclosure to NL-21-0722  
Description and Assessment

Current TS 3.6.1.3 CONDITION	Proposed TS 3.6.1.3 CONDITION
<p>A. -----NOTE----- Only applicable to penetration flow paths with two PCIVs. -----</p> <p>One or more penetration flow paths with one PCIV inoperable except due to leakage not within limit.</p>	<p>A. -----NOTE----- Only applicable to penetration flow paths with two <b>or more</b> PCIVs. -----</p> <p>One or more penetration flow paths with one PCIV inoperable <del>except due to leakage not within limit</del> <b>for reasons other than Condition D.</b></p>
<p>B. -----NOTE----- Only applicable to penetration flow paths with two PCIVs. -----</p> <p>One or more penetration flow paths with two PCIVs inoperable except due to leakage not within limit.</p>	<p>B. -----NOTE----- Only applicable to penetration flow paths with two <b>or more</b> PCIVs. -----</p> <p>One or more penetration flow paths with two <b>or more</b> PCIVs inoperable <del>except due to leakage not within limit</del> <b>for reasons other than Condition D.</b></p>
<p>C. -----NOTE----- Only applicable to penetration flow paths with only one PCIV. -----</p> <p>One or more penetration flow paths with one PCIV inoperable except due to leakage not within limit.</p>	<p>C. -----NOTE----- Only applicable to penetration flow paths with only one PCIV. -----</p> <p>One or more penetration flow paths with one PCIV inoperable <del>except due to leakage not within limit</del> <b>for reasons other than Condition D.</b></p>

TS 3.6.1.3 Condition D currently appears as follows:

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more penetration flow paths with leakage not within limit.	D.1 Restore leakage to within limit.	4 hours

TS 3.6.1.3 Condition D is revised as follows:

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more penetration flow paths with leakage <b>secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate</b> not within limit.	D.1 Restore leakage to within limit.	4 hours <b>for secondary containment bypass leakage</b>  <u>AND</u>  8 hours for MSIV leakage  <u>AND</u>  72 hours for EFCV leakage

The associated TS 3.6.1.3 Bases will also be revised, in accordance with TSTF-207-A, Revision 5, to reflect these changes.

See the attached marked up pages for HNP Units 1 and 2, included in Attachment 1, for the details concerning the specific changes. Attachment 2 provides revised (clean) TS pages. Attachment 3 provides the existing TS Bases pages marked to show revised text associated with the proposed TS changes and is provided for information only.

There are no deviations from the preapproved TSTF-207-A, Revision 5, in the proposed HNP TS changes.

### 3.0 TECHNICAL EVALUATION

The Nuclear Regulatory Commission (NRC) did not issue a letter approving TSTF-207-A, Revision 5; however, it was incorporated by the NRC into Revision 2 of the Improved Standard Technical Specifications NUREGs. The provisions of TSTF-207-A have been adopted by other plants as part of complete conversion to Improved Standard Technical Specifications.

The addition of “**or more**” to the Note of TS 3.6.1.3, Conditions A and B, ensures the Conditions are applicable to penetration flow paths with more than two PCIVs. Similarly, the addition of “**or more**” to TS 3.6.1.3, Condition B ensures entry when one or more penetration flow paths with two **or more** PCIVs are inoperable, except when that inoperability is due to leakage not within limit, is appropriate because some penetration flow paths may have more than two PCIVs in series in the flow path. This change will clarify that TS 3.6.1.3 entry is the appropriate action for inoperable PCIVs in penetration flow paths with more than two PCIVs.

The revision of “except due to leakage not within limit” in TS 3.6.1.3, Conditions A, B and C to “**for reasons other than Condition D**” does not change how TS 3.6.1.3 is implemented. Since TS 3.6.1.3, Condition D requires entry for leakage not within limits, this change does not alter when entry into TS 3.6.1.3, Conditions A, B, C, or D is required. Therefore, this change is considered administrative.

TS 3.6.1.3 Condition A currently allows an 8-hour Completion Time for MSIV inoperability due to reasons *other* than leakage not within MSIV limits. Currently, TS 3.6.1.3, Condition D

Completion Time of 4 hours for MSIV inoperability due to leakage not within limits is inconsistent with that of TS 3.6.1.3, Condition A for MSIVs. The revision of TS 3.6.1.3, Required Action D.1 Completion Time for MSIVs leakage rate not within limit from 4 hours to 8 hours makes the Completion Time of Condition D consistent with that of Condition A. As stated in the Bases for TS 3.6.1.3, the Completion Time of 8 hours for the MSIV allows a period of time to restore the MSIV to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown. The extension to the time period to restore the MSIV leakage rate, when two MSIVs in one penetration are inoperable due to leakage, is considered to be acceptable since TS 3.6.1.3, Note 4 continues to provide assurance that MSIV leakage does not adversely impact Primary Containment OPERABILITY during the extended time period by requiring entry into TS 3.6.1.1, "Primary Containment," Conditions.

TS 3.6.1.3 Condition C currently allows a 72-hour Completion Time for EFCV inoperability due to reasons *other* than leakage not within EFCV limits. The addition of a separate TS 3.6.1.3, Condition D Completion Time of 72 hours for EFCV inoperability due to leakage not within limits makes the Completion Time of Condition D consistent with that of Condition C for EFCV inoperability for reasons other than leakage not within limits. As stated in the Bases for TS 3.6.1.3, the Completion Time of 72 hours to restore EFCV operability is reasonable considering the EFCVs act as a penetration isolation boundary and the small pipe diameter of the affected penetrations. An EFCV inoperability due to leakage not within limits is a comparable level of degradation to an EFCV inoperability for reasons other than leakage not within limits, i.e., failure to close or failure to maintain pressure boundary. Therefore, it is not necessary for EFCV inoperability due to leakage not within limits to have a more restrictive Completion Time than the NRC approved Completion Time of 72 hours for EFCV inoperability for reasons other than leakage not within limits.

#### 4.0 REGULATORY ANALYSIS

##### 4.1 Applicable Regulatory Requirements/Criteria

10 CFR 50.36, *Technical specifications*

10 CFR 50.36(c)(2)(ii) states: *A technical specification limiting condition for operation of a nuclear reactor must be established for each item meeting one or more of the following criteria:...*

*(C) Criterion 3. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.*

TS 3.6.1.3, *Primary Containment Isolation Valves (PCIVs)*, satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

The function of the PCIVs, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs) to within limits. Primary containment isolation ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a DBA.

Appendix A to 10 CFR 50, "General Design Criteria [GDC] for Nuclear Power Plants" contains the following pertinent criteria:

*Criterion 16 – Containment design. Reactor containment and associated systems shall be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require.*

*Criterion 53 – Provisions for containment testing and inspection. The reactor containment shall be designed to permit (1) appropriate periodic inspection of all important areas, such as penetrations, (2) an appropriate surveillance program, and (3) periodic testing at containment design pressure of the leaktightness of penetrations which have resilient seals and expansion bellows.*

Criteria 16 and 53 specify that the reactor containment is maintained, with periodic verification, an essentially leak-tight barrier. These criteria, however, do not contain actions required to be taken if leakage rates are exceeded.

It is noted HNP Unit 2 was licensed to the 10 CFR 50, Appendix A, GDC. However, HNP Unit 1 was not licensed to the 10 CFR 50, Appendix A, GDC. HNP Unit 1 was licensed to the applicable Atomic Energy Commission (AEC) preliminary general design criteria identified in Federal Register 32 FR 10213, published July 11, 1967 (ADAMS Accession No. ML043310029). The applicable AEC proposed criteria were compared to the 10 CFR 50, Appendix A, GDC, as documented in the Hatch Updated Final Safety Analysis Report (UFSAR), Appendix F, "Conformance to the Atomic Energy Commission (AEC) Criteria." Following implementation of the proposed change, HNP Unit 1 will remain in compliance with applicable AEC design criteria as described in the HNP Unit 1 UFSAR. Therefore, this difference does not alter the conclusion that the proposed changes are applicable to HNP Unit 1.

#### **4.2** Precedent

As previously discussed, TSTF-207-A, Revision 5, has been incorporated by the NRC into Revision 2 of the Improved Standard Technical Specifications NUREGs. The provisions of TSTF-207-A have been adopted by other plants as part of complete conversion to Improved Standard Technical Specifications. The Amendment issued to North Anna Power Station (Reference 3) is one example. Additionally, the NRC issued Amendment 208 to Entergy's Columbia Generating Station which incorporated several generic TS changes associated with containment isolation valves, including TSTF-207-A, Revision 5 changes (Reference 4).

#### **4.3** No Significant Hazards Consideration Analysis

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Southern Nuclear Operating Company (SNC), requests an amendment to the Technical Specifications (TS) for Edwin I. Hatch Nuclear Plant (HNP), Units 1 and 2 to adopt Technical Specifications Task Force (TSTF)-207-A, Revision 5, "Completion Time for Restoration of

Various Excessive Leakage Rates.” The proposed change has been reviewed considering applicable requirements of 10 CFR 50.36; 10 CFR 50, Appendix A; and other applicable NRC documents. SNC has evaluated the proposed changes and determined that the change does not involve a Significant Hazards Consideration. SNC has evaluated if a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, “Issuance of amendment,” as discussed below:

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

Response: No

There are no changes to the plant configuration assumed for any accident. The changes specified in TSTF-207-A, Revision 5, addressed individually below, cannot adversely affect the probability or consequences of accidents previously evaluated.

The addition of “**or more**” to the Note of TS 3.6.1.3, Conditions A and B, ensures the Conditions are applicable to penetration flow paths with more than two primary containment isolation valves (PCIVs). The addition of “**or more**” to Condition B to ensure entry when one or more penetration flow paths with two **or more** PCIVs are inoperable. This change is necessary because some penetration flow paths may have more than two PCIVs in series in the flow path. This change clarifies that TS 3.6.1.3 entry is the appropriate action for inoperable PCIVs in penetration flow paths with more than two PCIVs and has no impact on any accident initiator or accident mitigation.

The revision of “except due to leakage not within limit” in TS 3.6.1.3, Conditions A, B and C to “**for reasons other than Condition D**” does not change how TS 3.6.1.3 is implemented. This change does not alter when entry into TS 3.6.1.3, Conditions A, B, C, or D is required. Therefore, this change is considered administrative and has no impact on any accident initiator or accident mitigation.

The revision of TS 3.6.1.3, Required Action D.1 Completion Time for MSIV leakage rate not within limit from 4 hours to 8 hours makes the Completion Time of Condition D consistent with that of Condition A. The extension to the time period to restore the MSIV leakage rate, when two MSIVs in one penetration are inoperable due to leakage, is considered to be acceptable since Note 4 of TS 3.6.1.3 continues to provide assurance that MSIV leakage does not adversely impact Primary Containment OPERABILITY during the extended time period by requiring entry into TS 3.6.1.1, “Primary Containment.” The ability of the containment to meet its design function and mitigate the consequences of an accident are unchanged.

The addition of a separate TS 3.6.1.3, Condition D Completion Time of 72 hours for EFCV inoperability due to leakage not within limits makes the Completion Time of TS 3.6.1.3, Condition D consistent with that of TS 3.6.1.3,

Condition C for EFCV inoperability for reasons other than leakage not within limits. EFCVs are installed on instrument line penetrations that provide acceptable barriers in the event that the single isolation valve fails.

The PCIVs are not an initiator of any accident previously evaluated. The consequences of a previously evaluated accident during the extended Completion Times are the same as the consequences during the existing Completion Times.

Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No

No new accident scenarios, failure mechanisms, or limiting single failures are introduced as a result of the proposed changes. All systems, structures, and components previously required for the mitigation of a transient remain capable of fulfilling their intended design functions. The proposed changes have no adverse effects on any safety-related system or component and do not challenge the performance or integrity of any safety related system.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from those that have been previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The changes made in accordance with TSTF-207-A, Revision 5, do not impact the leakage limits for primary containment isolation valves. There are no effects on the plant safety analyses.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, SNC concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

#### **4.4** Conclusion

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

## **5.0 ENVIRONMENTAL EVALUATION**

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. The proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

## **6.0 REFERENCES**

1. Technical Specification Task Force (TSTF)-207-A, Revision 5, "Completion Time for Restoration of Various Excessive Leakage Rates," dated March 24, 2000
2. Letter from NRC to Georgia Power Company, "Issuance of Amendments – Edwin I. Hatch Nuclear Plant, Units 1 and 2," dated March 3, 1995 (ML013060412)
3. Letter from NRC to Virginia Electric and Power Company, "North Anna Power Station, Units 1 and 2 – Issuance of Amendments Re: Conversion to Improved Technical Specifications," dated April 5, 2002 (ML021200265)
4. Letter from NRC to Energy Northwest, "Columbia Generating Station – Issuance of Amendment Re: Adoption of Approved Generic Technical Specification Changes Associated with Containment Isolation Valves," dated September 15, 2008 (ML081900507)

**Southern Nuclear Operating Company  
Edwin I. Hatch Nuclear Plant - Units 1 and 2**

**License Amendment Request: Revise Technical Specifications to Adopt  
TSTF-207-A, “Completion Time for Restoration of Various  
Excessive Leakage Rates”**

**Attachment 1**

**Proposed Technical Specifications Changes (Mark-Up)**

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTES-----

1. Penetration flow paths except for 18 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 systems made inoperable by PCIVs.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Only applicable to penetration flow paths with two <u>or more</u> PCIVs. -----</p> <p>One or more penetration flow paths with one PCIV inoperable <del>except due to leakage not within limit</del> <u>for reasons other than Condition D.</u></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>4 hours except for main steam line</p> <p><u>AND</u></p> <p>8 hours for main steam line</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. (continued)</p>	<p>A.2</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Isolation devices in high radiation areas may be verified by use of administrative means.</li> <li>2. Isolation devices that are locked, sealed, or otherwise secured may be verified by administrative means.</li> </ol> <p>-----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days for isolation devices outside primary containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days, for isolation devices inside primary containment</p>
<p>B. -----NOTE-----</p> <p>Only applicable to penetration flow paths with two <u>or more</u> PCIVs.</p> <p>-----</p> <p>One or more penetration flow paths with two <u>or more</u> PCIVs inoperable <del>except due to leakage not within limit</del> <u>for reasons other than Condition D.</u></p>	<p>B.1</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>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. -----NOTE----- Only applicable to penetration flow paths with only one PCIV. ----- One or more penetration flow paths with one PCIV inoperable <del>except due to leakage not within limits for</del> <a href="#">reasons other than Condition D.</a></p>	<p>C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p> <p><u>AND</u></p> <p>C.2 -----NOTES----- 1. Valves and blind flanges 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 administrative means. ----- Verify the affected penetration flow path is isolated.</p>	<p>4 hours except for excess flow check valve (EFCV) line and penetrations with a closed system</p> <p><u>AND</u></p> <p>72 hours for EFCV line and penetrations with a closed system</p> <p>Once per 31 days</p>
<p>D. One or more <del>penetration flow paths with leakage</del> <a href="#">secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate</a> not within limit.</p>	<p>D.1 Restore leakage to within limit.</p>	<p>4 hours <a href="#">for secondary containment bypass leakage</a></p> <p><u>AND</u></p> <p><a href="#">8 hours for MSIV leakage</a></p> <p><u>AND</u></p> <p><a href="#">72 hours for EFCV leakage</a></p>

<p>E. Required Action and associated Completion Time of Condition A, B, C, or D not met.</p>	<p>E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 4.</p>	<p>12 hours  36 hours</p>
--	---	-----------------------------------

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTES-----

1. Penetration flow paths except for 18 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 systems made inoperable by PCIVs.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Only applicable to penetration flow paths with two <u>or more</u> PCIVs. ----- One or more penetration flow paths with one PCIV inoperable <del>except due to leakage not within limit</del> <u>for reasons other than Condition D.</u></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>4 hours except for main steam line <u>AND</u> 8 hours for main steam line</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. (continued)</p>	<p>A.2</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Isolation devices in high radiation areas may be verified by use of administrative means.</li> <li>2. Isolation devices that are locked, sealed, or otherwise secured may be verified by administrative means.</li> </ol> <p>-----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days for isolation devices outside primary containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days, for isolation devices inside primary containment</p>
<p>B. -----NOTE-----</p> <p>Only applicable to penetration flow paths with two <u>or more</u> PCIVs.</p> <p>-----</p> <p>One or more penetration flow paths with two <u>or more</u> PCIVs inoperable <del>except due to leakage not within limit</del> <u>for reasons other than Condition D.</u></p>	<p>B.1</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>

(continued)



<p>E. Required Action and associated Completion Time of Condition A, B, C, or D not met.</p>	<p>E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 4.</p>	<p>12 hours  36 hours</p>
--	---	-----------------------------------

**Southern Nuclear Operating Company  
Edwin I. Hatch Nuclear Plant - Units 1 and 2**

**License Amendment Request: Revise Technical Specifications to Adopt  
TSTF-207-A, “Completion Time for Restoration of Various  
Excessive Leakage Rates”**

**Attachment 2**

**Revised Technical Specifications Pages**

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTES-----

1. Penetration flow paths except for 18 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 systems made inoperable by PCIVs.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Only applicable to penetration flow paths with two or more PCIVs. ----- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.</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>4 hours except for main steam line</p> <p><u>AND</u></p> <p>8 hours for main steam line</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. (continued)</p>	<p>A.2</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Isolation devices in high radiation areas may be verified by use of administrative means.</li> <li>2. Isolation devices that are locked, sealed, or otherwise secured may be verified by administrative means.</li> </ol> <p>-----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days for isolation devices outside primary containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days, for isolation devices inside primary containment</p>
<p>B. -----NOTE-----</p> <p>Only applicable to penetration flow paths with two or more PCIVs.</p> <p>-----</p> <p>One or more penetration flow paths with two or more PCIVs inoperable for reasons other than Condition D.</p>	<p>B.1</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>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. -----NOTE----- Only applicable to penetration flow paths with only one PCIV. ----- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.</p>	<p>C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p> <p><u>AND</u></p> <p>C.2 -----NOTES----- 1. Valves and blind flanges 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 administrative means. ----- Verify the affected penetration flow path is isolated.</p>	<p>4 hours except for excess flow check valve (EFCV) line and penetrations with a closed system</p> <p><u>AND</u></p> <p>72 hours for EFCV line and penetrations with a closed system</p> <p>Once per 31 days</p>
<p>D. One or more secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate not within limit.</p>	<p>D.1 Restore leakage to within limit.</p>	<p>4 hours for secondary containment bypass leakage</p> <p><u>AND</u></p> <p>8 hours for MSIV leakage</p> <p><u>AND</u></p> <p>72 hours for EFCV leakage</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 Be in MODE 3.	12 hours
	<u>AND</u> E.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.3.1 -----NOTE-----                      Not required to be met when the 18 inch primary containment purge valves are open for inerting, de-inerting, pressure control, ALARA, or air quality considerations for personnel entry, or Surveillances that require the valves to be open.                      -----                      Verify each 18 inch primary containment purge valve is closed.</p>	In accordance with the Surveillance Frequency Control Program
<p>SR 3.6.1.3.2 -----NOTES-----                      1. Valves and blind flanges in high radiation areas may be verified by use of administrative means.                      2. Not required to be met for PCIVs that are open under administrative controls.                      -----                      Verify each primary containment isolation manual valve and blind flange that is located outside primary containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.3	<p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Valves and blind flanges in high radiation areas may be verified by use of administrative means.</li> <li>2. Not required to be met for PCIVs that are open under administrative controls.</li> </ol> <p>-----</p> <p>Verify each primary containment manual isolation valve and blind flange that is located inside primary containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.</p>	<p>Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days</p>
SR 3.6.1.3.4	<p>Verify continuity of the traversing incore probe (TIP) shear isolation valve explosive charge.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
SR 3.6.1.3.5	<p>Verify the isolation time of each power operated, automatic PCIV, except for MSIVs, is within limits.</p>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>
SR 3.6.1.3.6	<p>Verify the isolation time of each MSIV is <math>\geq 3</math> seconds and <math>\leq 5</math> seconds.</p>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>
SR 3.6.1.3.7	<p>Verify each automatic PCIV, excluding EFCVs, actuates to the isolation position on an actual or simulated isolation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
SR 3.6.1.3.8	<p>Verify each reactor instrumentation line EFCV (of a representative sample) actuates to restrict flow to within limits.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.9	Remove and test the explosive squib from each shear isolation valve of the TIP system.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.3.10	Verify combined MSIV leakage rate for all four main steam lines is $\leq 100$ scfh when tested at $\geq 28.0$ psig and $< 50.8$ psig.  <u>OR</u>  Verify combined MSIV leakage rate for all four main steam lines is $\leq 144$ scfh when tested at $\geq 50.8$ psig.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.11	Deleted	
SR 3.6.1.3.12	Cycle each 18 inch excess flow isolation damper to the fully closed and fully open position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.3.13	Verify the combined leakage rate for all secondary containment bypass leakage paths is $\leq 0.02$ La when pressurized to $\geq$ Pa.	In accordance with the Primary Containment Leakage Rate Testing Program

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

NOTES

1. Penetration flow paths except for 18 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 systems made inoperable by PCIVs.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Only applicable to penetration flow paths with two or more PCIVs. ----- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.</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>4 hours except for main steam line</p> <p><u>AND</u></p> <p>8 hours for main steam line</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. (continued)</p>	<p>A.2 -----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 administrative means.            -----             Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days for isolation devices outside primary containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days, for isolation devices inside primary containment</p>
<p>B. -----NOTE-----            Only applicable to penetration flow paths with two or more PCIVs.            -----             One or more penetration flow paths with two or more PCIVs inoperable for reasons other than Condition D.</p>	<p>B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	<p>1 hour</p>

(continued)



ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 Be in MODE 3.	12 hours
	<u>AND</u> E.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.3.1 -----NOTE-----                      Not required to be met when the 18 inch primary containment purge valves are open for inerting, de-inerting, pressure control, ALARA, or air quality considerations for personnel entry, or Surveillances that require the valves to be open.                      -----                      Verify each 18 inch primary containment purge valve is closed.</p>	In accordance with the Surveillance Frequency Control Program
<p>SR 3.6.1.3.2 -----NOTES-----                      1. Valves and blind flanges in high radiation areas may be verified by use of administrative means.                      2. Not required to be met for PCIVs that are open under administrative controls.                      -----                      Verify each primary containment isolation manual valve and blind flange that is located outside primary containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.3	<p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>Valves and blind flanges in high radiation areas may be verified by use of administrative means.</li> <li>Not required to be met for PCIVs that are open under administrative controls.</li> </ol> <p>-----</p> <p>Verify each primary containment manual isolation valve and blind flange that is located inside primary containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.</p>	<p>Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days</p>
SR 3.6.1.3.4	<p>Verify continuity of the traversing incore probe (TIP) shear isolation valve explosive charge.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
SR 3.6.1.3.5	<p>Verify the isolation time of each power operated, automatic PCIV, except for MSIVs, is within limits.</p>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>
SR 3.6.1.3.6	<p>Verify the isolation time of each MSIV is <math>\geq 3</math> seconds and <math>\leq 5</math> seconds.</p>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>
SR 3.6.1.3.7	<p>Verify each automatic PCIV, excluding EFCVs, actuates to the isolation position on an actual or simulated isolation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
SR 3.6.1.3.8	<p>Verify each reactor instrumentation line EFCV (of a representative sample) actuates to restrict flow to within limits.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.9	Remove and test the explosive squib from each shear isolation valve of the TIP system.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.3.10	Verify the combined leakage rate for all secondary containment bypass leakage paths is $\leq 0.02 L_a$ when pressurized to $\geq P_a$ .	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.11	Verify combined MSIV leakage rate for all four main steam lines is $\leq 100$ scfh when tested at $\geq 28.8$ psig and $< 47.3$ psig.  <u>OR</u>  Verify combined MSIV leakage rate for all four main steam lines is $\leq 144$ scfh when tested at $\geq 47.3$ psig.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.12	Deleted	
SR 3.6.1.3.13	Cycle each 18 inch excess flow isolation damper to the fully closed and fully open position.	In accordance with the Surveillance Frequency Control Program

**Southern Nuclear Operating Company  
Edwin I. Hatch Nuclear Plant - Units 1 and 2**

**License Amendment Request: Revise Technical Specifications to Adopt  
TSTF-207-A, “Completion Time for Restoration of Various  
Excessive Leakage Rates”**

**Attachment 3**

**Proposed Technical Specification Bases Changes (Mark-Up)**

BASES

---

ACTIONS  
(continued)

A.1 and A.2

With one or more penetration flow paths with one PCIV inoperable, except for ~~inoperability due to leakage~~secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate not within a ~~limit specified in an SR to this LCO~~, the affected penetration flow paths 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, a blind flange, and a check valve with flow through the valve secured.

For a penetration isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available valve to the primary containment.

If a valve is inoperable due to isolation time not within limits or other condition that would not be expected to adversely affect leakage characteristics, the inoperable valve may be used to isolate the penetration.

The Required Action must be completed within the 4 hour Completion Time (8 hours for main steam lines). The Completion Time of 4 hours is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. For main steam lines, an 8 hour Completion Time is allowed. The Completion Time of 8 hours for the main steam lines allows a period of time to restore the MSIVs to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown.

For affected penetrations that have been isolated in accordance with Required Action A.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to ensure that primary 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 that those devices outside containment

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

and capable of potentially being mispositioned are in the correct position. The Completion Time of "Once per 31 days for isolation devices outside primary containment" is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low. For the devices inside primary containment, the time period specified "Prior to entering MODE 2 or 3 from MODE 4, if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the devices and other administrative controls ensuring that device misalignment is an unlikely possibility.

Condition A is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two or more PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

Required Action A.2 is modified by two notes. Note 1 applies to isolation devices located in high radiation areas, and allows them to be verified 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, once they have been verified to be in the proper position, is low.

B.1

With one or more penetration flow paths with two PCIVs inoperable except for secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate ~~due to leakage~~ not within limits, either the inoperable PCIVs must be restored to OPERABLE status or 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. A check valve may not be used to isolate the affected penetration.

(continued)

## BASES

---

### ACTIONS

#### B.1 (continued)

If a valve is inoperable due to isolation time not within limits or other condition that would not be expected to adversely affect leakage characteristics, the inoperable valve may be used to isolate the penetration. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1.1.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two or more PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

#### C.1 and C.2

With one or more penetration flow paths with one PCIV inoperable, ~~except due to leakage~~ except for secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate not within limits, 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.

If a valve is inoperable due to isolation time not within limits or other condition that would not be expected to adversely affect leakage characteristics, the inoperable valve may be used to isolate the penetration.

(continued)

BASES

---

ACTIONS

C.1 and C.2 (continued)

The Completion Time of 4 hours for PCIVs other than those in penetrations with a closed system and EFCVs is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY in MODES 1, 2, and 3. The Completion Time of 72 hours for penetrations with a closed system is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary. The closed system must meet the requirements of Reference 7. The Completion Time of 72 hours for EFCVs is also reasonable considering the instrument to act as a penetration isolation boundary and the small pipe diameter of the affected penetrations. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident are isolated.

The Completion Time of once per 31 days for verifying each affected penetration is isolated is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low.

Condition C is modified by a Note indicating that this Condition is only applicable to penetration flow paths with only one PCIV. For penetration flow paths with two or more PCIVs, Conditions A and B provide the appropriate Required Actions.

Required Action C.2 is modified by two notes. Note 1 applies to valves and blind flanges located in high radiation areas and allows them to be verified 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 low.

(continued)

BASES

---

ACTIONS  
(continued)

D.1

~~With the MSIV leakage rate~~ With the secondary containment bypass leakage rate (SR 3.6.1.3.13, MSIV leakage rate (SR 3.6.1.3.10), or EFCV leakage rate (SR 3.6.1.3.8), not within limit, the assumptions of the safety analysis may not be met. Therefore, the leakage must be restored to within limit ~~within 4 hours~~. Restoration can be accomplished by isolating the penetration 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 and the relative importance to the overall containment function. For MSIV leakage, an 8 hour Completion Time is allowed. The Completion Time of 8 hours for MSIV leakage allows a period of time to restore the MSIVs to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown. The 72 hour Completion Time for EFCV is acceptable based on the instrument and the small pipe diameter of the penetration (hence reliability) to act as a penetration isolation boundary.

E.1 and E.2

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

BASES

---

ACTIONS  
(continued)

A.1 and A.2

With one or more penetration flow paths with one PCIV inoperable, except for ~~inoperability due to leakage~~ secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate not within a ~~limit specified in an SR to this LCO~~, the affected penetration flow paths 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, a blind flange, and a check valve with flow through the valve secured.

For a penetration isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available valve to the primary containment.

If a valve is inoperable due to isolation time not within limits or other condition that would not be expected to adversely affect leakage characteristics, the inoperable valve may be used to isolate the penetration.

The Required Action must be completed within the 4 hour Completion Time (8 hours for main steam lines). The Completion Time of 4 hours is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. For main steam lines, an 8 hour Completion Time is allowed. The Completion Time of 8 hours for the main steam lines allows a period of time to restore the MSIVs to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown.

For affected penetrations that have been isolated in accordance with Required Action A.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to ensure that primary 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 that those devices outside containment

(continued)

BASES

---

ACTIONS

A.1 and A.2 (continued)

and capable of potentially being mispositioned are in the correct position. The Completion Time of "Once per 31 days for isolation devices outside primary containment" is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low. For the devices inside primary containment, the time period specified "Prior to entering MODE 2 or 3 from MODE 4, if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the devices and other administrative controls ensuring that device misalignment is an unlikely possibility.

Condition A is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two [or more](#) PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

Required Action A.2 is modified by two notes. Note 1 applies to isolation devices located in high radiation areas, and allows them to be verified 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, once they have been verified to be in the proper position, is low.

B.1

With one or more penetration flow paths with two PCIVs inoperable except ~~due to leakage~~ [for secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate](#) not within limits, either the inoperable PCIVs must be restored to OPERABLE status or 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. A check valve may not be used to isolate the affected penetration.

(continued)

BASES

---

ACTIONS

B.1 (continued)

If a valve is inoperable due to isolation time not within limits or other condition that would not be expected to adversely affect leakage characteristics, the inoperable valve may be used to isolate the penetration. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1.1.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two or more PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

C.1 and C.2

With one or more penetration flow paths with one PCIV inoperable, ~~except due to leakage~~except for secondary containment bypass leakage rate, MSIV leakage rate, or EFCV leakage rate not within limits, 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.

If a valve is inoperable due to isolation time not within limits or other condition that would not be expected to adversely affect leakage characteristics, the inoperable valve may be used to isolate the penetration.

(continued)

BASES

---

ACTIONS

C.1 and C.2 (continued)

The Completion Time of 4 hours for PCIVs other than those in penetrations with a closed system and EFCVs is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY in MODES 1, 2, and 3. The Completion Time of 72 hours for penetrations with a closed system is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary. The closed system must meet the requirements of Reference 8. The Completion Time of 72 hours for EFCVs is also reasonable considering the instrument to act as a penetration isolation boundary and the small pipe diameter of the affected penetrations. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident are isolated.

The Completion Time of once per 31 days for verifying each affected penetration is isolated is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low.

Condition C is modified by a Note indicating that this Condition is only applicable to penetration flow paths with only one PCIV. For penetration flow paths with two [or more](#) PCIVs, Conditions A and B provide the appropriate Required Actions.

Required Action C.2 is modified by two notes. Note 1 applies to valves and blind flanges located in high radiation areas and allows them to be verified 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 low.

(continued)

BASES

---

ACTIONS  
(continued)D.1

With the secondary containment bypass leakage rate ([SR 3.6.1.3.13](#)), ~~or~~ MSIV leakage rate ([SR 3.6.1.3.10](#)), or EFCV leakage rate ([SR 3.6.1.3.8](#)), not within limit, the assumptions of the safety analysis may not be met. Therefore, the leakage must be restored to within limit-~~within 4 hours~~. Restoration can be accomplished by isolating the penetration 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 and the relative importance to the overall containment function. [For MSIV leakage, an 8 hour Completion Time is allowed. The Completion Time of 8 hours for MSIV leakage allows a period of time to restore the MSIVs to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line\(s\) and a potential for plant shutdown. The 72 hour Completion Time for EFCV is acceptable based on the instrument and the small pipe diameter of the penetration \(hence reliability\) to act as a penetration isolation boundary.](#)

E.1 and E.2

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

(continued)