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Waterford 3

W3F1-2002-0101

December 16, 2002

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Waterford Steam Electric Station, Unit 3
Docket No. 50-382
License Amendment Request NPF-38-246
Main Steam Line Isolation Valves

REFERENCES: NUREG-1432, *Standard Technical Specifications Combustion Engineering Plants*, Revision 2

Dear Sir or Madam:

Pursuant to 10CFR50.90, Entergy Operations, Inc. (Entergy) hereby requests the following amendment for Waterford Steam Electric Station, Unit 3 (Waterford 3). This change will revise current Main Steam Line Isolation Valve (MSIV) Technical Specification 3/4.7.1.5 to more closely reflect specification 3.7.2 contained in NUREG-1432, Revision 2. In addition, this change will remove the MSIVs from the scope of Containment Isolation Valve (CIV) Technical Specification 3/4.6.3 such that only Technical Specification 3/4.7.1.5 will apply to the MSIVs. The MSIVs will continue to perform as CIVs as currently described in the Final Safety Analysis Report. These changes will provide increased flexibility and clarity regarding the implementation of the Technical Specifications regarding MSIVs.

The proposed change has been evaluated in accordance with 10CFR50.91(a)(1) using criteria in 10CFR50.92(c) and it has been determined that this change involves no significant hazards considerations. The bases for these determinations are included in the attached submittal.

The proposed change does not include any new commitments. A similar Technical Specification change was approved for Comanche Peak Steam Electric Station on August 18, 1997.

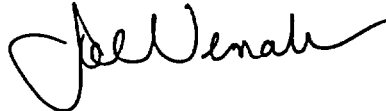
Entergy requests approval of the proposed amendment by September 12, 2003 so that the changes can be implemented for Waterford 3's Fall 2003 refueling outage. Once approved, the amendment shall be implemented within 60 days. Although this request is neither exigent nor emergency, your prompt review is requested.

A001

If you have any questions or require additional information, please contact D. Bryan Miller at 504-739-6692.

I declare under penalty of perjury that the foregoing is true and correct. Executed on December 16, 2002.

Sincerely,

A handwritten signature in black ink, appearing to read "J. E. Venable", with a stylized, cursive script.

J. E. Venable
Vice President, Operations
Waterford Steam Electric Station, Unit 3

JEV/DBM/cbh

Attachments:

1. Analysis of Proposed Technical Specification Change
2. Proposed Technical Specification Changes (mark-up)
3. Proposed Technical Requirements Manual Changes (mark-up)
4. Changes to Technical Specification Bases Pages (mark-up)

cc: E.W. Merschhoff, NRC Region IV
N. Kalyanam, NRC-NRR
J. Smith
N.S. Reynolds
NRC Resident Inspectors Office
Louisiana DEQ/Surveillance Division
American Nuclear Insurers

Attachment 1

W3F1-2002-0101

Analysis of Proposed Technical Specification Change

1.0 DESCRIPTION

This letter is a request to amend Operating License(s) NPF-38 for Waterford Steam Electric Station, Unit 3 (Waterford 3).

The proposed change will modify the Operating License by revising current MSIV Technical Specification 3/4.7.1.5 to more closely reflect specification 3.7.2 contained in NUREG-1432, *Standard Technical Specifications Combustion Engineering Plants*, Revision 2. This change also proposes to remove the MSIVs from the scope of Technical Specification 3/4.6.3, Containment Isolation Valves, by removing the MSIVs (MS MVAAA124A(B)) from Technical Requirements Manual Table 3.6-2, Containment Isolation Valves. Additionally, an interim position to Technical Specification 3/4.6.3 for containment spray valves CS-125A(B) will be deleted since it has expired. These changes will provide increased flexibility and clarity regarding the implementation of Technical Specifications for MSIVs during normal and refueling operations.

2.0 PROPOSED CHANGE

The following changes are being made to Technical Specification 3/4.7.1.5 on page 3/4 7-9. The marked-up Technical Specification page is provided in Attachment 2.

- The title line, "MAIN STEAM LINE ISOLATION VALVES," will be modified by adding "(MSIVs)" at the end. This change also requires that index page VIII be updated to match.
- Limiting Condition for Operation (LCO) 3.7.1.5 currently states, "Each main steam line isolation valve shall be OPERABLE." It is proposed to revise this statement to read, "Two MSIVs shall be OPERABLE."
- Technical Specification 3/4.7.1.5 is currently Applicable in Modes 1, 2, 3, and 4. It is proposed to revise the Modes of Applicability to Mode 1, and Modes 2, 3, and 4 except when all MSIVs are closed.
- The Mode 1 Action statement currently states, "With one main steam line isolation valve inoperable but open, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 4 hours; otherwise, be in at least HOT STANDBY within the next 6 hours." It is proposed to revise this statement to read, "With one MSIV inoperable, restore the valve to OPERABLE status within 8 hours or be in STARTUP within the next 6 hours."
- The Modes 2, 3, and 4 Action statement currently states, "With one main steam line isolation valve inoperable, subsequent operation in MODE 2, 3, or 4 may proceed provided: a. The isolation valve is maintained closed b. The provisions of Specification 3.0.4 are not applicable. Otherwise, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours." The proposed Mode 2, 3, and 4 Action statement will be modified by a note stating, "Separate ACTION entry is allowed for each MSIV." The new Action statement will read, "With one or more MSIVs inoperable, close the inoperable valve within 8 hours and verify the valve is closed once

per 7 days or be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. The provisions of Specification 3.0.4 are not applicable."

- Surveillance Requirement 4.7.1.5 currently states, "Each main steam isolation valve shall be demonstrated OPERABLE by verifying full closure within 4.0 seconds when tested pursuant to Specification 4.0.5." It is proposed to revise this Surveillance Requirement and add an additional Surveillance Requirement to the specification. The revised Surveillance Requirements will be modified by a note that reads, "Note: Required to be performed for entry into MODES 1 and 2 only." New Surveillance Requirement 4.7.1.5 will read, "Each MSIV shall be demonstrated OPERABLE: a. By verifying the isolation time for each MSIV is within its limit when tested pursuant to Specification 4.0.5. b. By verifying each MSIV actuates to the isolation position on an actual or simulated actuation signal at least once per 18 months."

Technical Requirements Manual Table 3.6-2, "Containment Isolation Valves," currently lists MSIVs MSMVAAA124A and MSMVAAA124B as containment isolation valves. For this reason, the MSIVs are also subject to the requirements of Technical Specification 3/4.6.3, Containment Isolation Valves. It is proposed to consolidate the Technical Specification requirements for the MSIVs under Technical Specification 3/4.7.1.5 without changing the function of the MSIVs as described in the FSAR. This change would be implemented by removing these valves from Technical Requirements Manual Table 3.6-2. The marked-up Technical Requirements Manual page is provided in Attachment 3 for information in understanding the extent and impact of this change.

A one time exception to Technical Specification 3/4.6.3 for containment spray valves CS-125A(B) will be deleted since it has expired and is no longer used. The marked-up Technical Specification Page is provided in Attachment 2.

In summary, Technical Specification 3/4.7.1.5, Main Steam Isolation Valves, will be modified to more closely reflect specification 3.7.2, Main Steam Isolation Valves, contained in NUREG-1432, *Standard Technical Specifications Combustion Engineering Plants*, Revision 2. This change will extend the allowed outage time for an inoperable MSIV from 4 hours to 8 hours and clarify the applicability requirements in MODES 2, 3, and 4. This change will also remove the MSIVs from the scope of Technical Specification 3/4.6.3, "Containment Isolation Valves," without changing the function of the MSIVs as described in the FSAR, by removing the MSIVs from Technical Requirements Manual Table 3.6-2, Containment Isolation Valves. Finally, this change will delete an interim position to Technical Specification 3/4.6.3 for containment spray valves CS-125A(B).

It is proposed to revise the Technical Specification Bases such that they are comparable to the Technical Specification 3.7.2 Bases contained in NUREG-1432, Revision 2. The marked-up Bases pages are contained in Attachment 4 for information only.

3.0 BACKGROUND

One MSIV is provided in each of the two steam lines to isolate the steam generators from the remaining portions of the secondary system in the event of a loss of coolant accident or a main steam line break. Detailed analyses of such accidents are provided in FSAR Chapters 6 and 15. Following the unlikely event of a main steam line rupture, the MSIVs will close upon receipt of a main steam isolation signal (MSIS) to minimize energy release. The main steam system is

a closed system within containment; therefore the main steam line containment penetrations meet 10 CFR 50, Appendix A, General Design Criterion (GDC) 57 and only require one isolation valve per penetration. The MSIVs are located just outside containment and are downstream of the main steam safety valves, atmospheric dump valves, and emergency feedwater steam supply lines. Further discussion of the MSIVs and the main steam system is provided in FSAR Section 10.3.

In addition to Technical Specification 3/4.7.1.5, Main Steam Line Isolation Valves, the MSIVs are also included in the Technical Requirements Manual (TRM) table that identifies those containment isolation valves that fall within the scope of Technical Specification 3/4.6.3, Containment Isolation Valves. This has led to Technical Specification implementation issues when tagging the MSIVs closed, for personnel safety prior to entering Mode 4 post-outage. An inoperable containment isolation valve in the closed position requires entry into the Technical Specification 3.6.3 Action Statements even though their isolation function is fulfilled. This is based on NRC Inspection Manual, Part 9900, Technical Guidance STS3464.TG. This requires entry into both Technical Specification 3.6.3 and 3.7.1.5. Additionally, Technical Specification 3.7.1.5 only addresses the inoperability of one MSIV in Modes 2, 3, and 4. There are no provisions for two MSIVs being inoperable and entry into any of these Modes, with two inoperable MSIVs, is not in accordance with the Technical Specifications.

The proposed change will place the control of the MSIVs under a single Technical Specification, 3/4.7.1.5, and clarify the Technical Specification modes of applicability and operability requirements for the MSIVs. The change to remove the MSIVs from the scope of Technical Specification 3/4.6.3 is consistent with the change that was previously approved (reference Amendment 167) for the Waterford 3 main feedwater isolation valves where they were removed from the scope of Technical Specification 3/4.6.3 and are now covered by a single Technical Specification, 3.7.1.6, Main Feedwater Isolation Valves. Because the MSIV Technical Specification issue arises each refueling outage, Entergy requests that the proposed change be approved prior to Waterford 3's Fall 2003 refueling outage.

4.0 TECHNICAL ANALYSIS

4.1 Technical Specification 3/4.7.1.5

The title line, "MAIN STEAM LINE ISOLATION VALVES," will be modified by adding "(MSIVs)" at the end. This is an editorial change and has no affect on the intent or purpose of the Technical Specification.

4.1.1 Limiting Condition for Operation

Limiting Condition for Operation 3.7.1.5 currently states, "Each main steam line isolation valve shall be OPERABLE." It is proposed to revise this statement to read, "Two MSIVs shall be OPERABLE." Since the Waterford 3 design contains only two MSIVs, the current and proposed Limiting Condition for Operation are equivalent. The proposed change is a presentation preference which is considered to be administrative in nature. In addition to the justification provided above, the proposed change is consistent with NUREG-1432.

4.1.2 Applicability

Technical Specification 3/4.7.1.5 is currently Applicable in Modes 1, 2, 3, and 4. It is proposed to revise the Modes of Applicability to Mode 1, and Modes 2, 3, and 4 except when all MSIVs are closed. The proposed change is less restrictive, since in Modes 2, 3 and 4 operability is not required if all MSIVs are closed. When all MSIVs are closed, the main steam lines are isolated and the design function of the MSIVs has been met. The MSIVs are in the closed position under administrative controls which minimizes the probability of the MSIVs being mispositioned. If one or both of the MSIVs are not fully closed in Modes 2, 3 or 4, then the provisions of the Limiting Condition for Operation apply. With all MSIVs closed in these Modes, the Limiting Condition for Operation and Surveillance Requirements are not needed and are not required to assure safe operation of the plant. In addition to the justification provided above, except for the inclusion of Mode 4, the proposed change is consistent with NUREG-1432. The inclusion of Mode 4 is consistent with the current Technical Specification.

4.1.3 Mode 1 Action

The Mode 1 Action statement currently states, "With one main steam line isolation valve inoperable but open, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 4 hours; otherwise, be in at least HOT STANDBY within the next 6 hours." It is proposed to revise this statement to read, "With one MSIV inoperable, restore the valve to OPERABLE status within 8 hours or be in STARTUP within the next 6 hours."

The current Action for one MSIV inoperable in Mode 1 allows 4 hours for restoration, and if not met, requires the plant to be in Hot Standby (Mode 3) within the next 6 hours. The proposed Action for Mode 1 allows 8 hours for restoration and then requires the plant be in Startup (Mode 2) within 6 hours. The proposed change will require the plant to go to a Mode that exits the requirements of the Action statement, i.e., go to at least Mode 2. The provisions of the Actions are no longer applicable once the Mode in which the Actions are required is exited. Thus, the current Actions for Mode 1 are not applicable when the plant reaches Mode 2, and the plant has the full 6 hours (currently provided to reach Hot Standby) to reach Mode 2 (the next lower mode of operation). Once the plant reaches Mode 2, a separate Action applies and requires the inoperable MSIV to be closed or a plant shutdown is required. The use of the current Action for an inoperable MSIV in Mode 1 and the same provision in the proposed Action both result in the plant being taken out of Mode 1 to at least Mode 2. Therefore, this change is a presentation preference and is considered to be administrative. In addition to the justification provided above, the proposed change is consistent with NUREG-1432.

The current Action directs a 4 hour restoration time for an inoperable MSIV in Mode 1. The proposed Action is less restrictive because it will allow an 8 hour restoration time with one MSIV inoperable in Mode 1. The MSIV's safety function is to close in the event of a steam line break. The MSIVs are also classified as a containment isolation valve for a closed system (Generic Design Criteria (GDC) 57). The steam line break analysis in FSAR Section 15.1.3 assumes a failure of one of the MSIVs to close. For the containment isolation function, in the event of an inoperable MSIV coincident with a LOCA, the closed system remains intact. The closed system is subjected to a Type A containment leakage test, is missile-protected, is designed as seismic category I, and typically has flow through it during normal operation such that any loss of integrity could be continually observed through leakage detection systems within containment and system walkdowns outside containment. Therefore, with an inoperable MSIV the safety analyses (both LOCA and steam line break) remain valid assuming no additional failures. The increase in core damage frequency and large early release fraction, resulting from the increased

restoration time, is negligible. The proposed 8 hour restoration time is greater than that normally allowed for containment isolation valves because the MSIVs are valves that isolate a closed system penetrating containment. These valves differ from other containment isolation valves in that the closed system provides an additional means of containment isolation. The 8 hour restoration time is reasonable, considering the probability of an accident occurring during the time period that would require closure of the MSIVs. In addition to the justification provided above, the proposed change is consistent with NUREG-1432.

4.1.4 Mode 2, 3, and 4 Action

The Modes 2, 3, and 4 Action statement currently states, "With one main steam line isolation valve inoperable, subsequent operation in MODE 2, 3, or 4 may proceed provided: a. The isolation valve is maintained closed. b. The provisions of Specification 3.0.4 are not applicable. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours." The proposed Mode 2, 3, and 4 Action statement will be modified by a note stating, "Separate ACTION entry is allowed for each MSIV." The new Action statement will read, "With one or more MSIVs inoperable, close the inoperable valve within 8 hours and verify the valve is closed once per 7 days or be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. The provisions of Specification 3.0.4 are not applicable."

The current Action for an inoperable MSIV in Modes 2, 3, or 4 requires the MSIV to be maintained closed. For Modes 2, 3 or 4, the proposed Action is more restrictive because it adds a requirement for the affected MSIV to be verified closed once per 7 days. This change adds an additional Action when MSIVs are inoperable in Modes 2, 3 or 4. This verification is added to ensure that the inoperable valve remains in its safety function position. The 7-day interval is chosen based on engineering judgment, MSIV status indication available in the Control Room, and other administrative controls to ensure the valves are in the closed position. This change does not adversely affect safety because it ensures that the inoperable valve remains in its safety function position. In addition to the justification provided above, the proposed change is consistent with NUREG-1432.

The current Mode 2, 3, and 4 Action directs closure of the inoperable MSIV in Modes 2, 3, and 4. If both the MSIVs are inoperable in Modes 2, 3, or 4, the plant is required by the current "otherwise" action, to be in Hot Standby in the next 6 hours and in Cold Shutdown within the following 30 hours. The proposed change in the Mode 2, 3, and 4 Action will allow:

- one or more MSIVs to be inoperable,
- separate Action entry for the inoperable valves, and
- 8 hours to close each inoperable valve.

These changes are considered to be less restrictive.

The change to allow one or both MSIVs to be inoperable and to continue operation is acceptable in Modes 2, 3 and 4, when considering that the valves are located on a closed system with respect to containment integrity and that inoperable MSIVs are required to be closed. Once closed the design function of the valves is met and there is no reason to require the plant to be placed in a lower Mode of operation. Also, separate Action entry for Modes 2, 3 and 4, is acceptable, since the inoperable MSIV is still required to be closed. The current Action for an inoperable MSIV in Modes 2, 3 or 4 allows continued operation as long as the inoperable MSIV is maintained closed. The current Action requires valve closure to be performed

immediately and does not allow the 8 hour restoration time of the proposed Action. The 8 hours allows some time for repair of the MSIVs with the plant hot. The likelihood of an accident occurring that would require the closure of the MSIVs in Modes 2, 3 or 4 in this time period is small. In addition to the justification provided above, except for the inclusion of Mode 4, the proposed change is consistent with NUREG-1432. The inclusion of Mode 4 is consistent with the current Technical Specification.

The current Action for Modes 2, 3, and 4, contains an exception to the provisions of Specification 3.0.4 such that entry into applicable Modes is allowed while in the Action for an inoperable MSIV. The proposed Action for Modes 2, 3, and 4, will retain the exception to the provisions of Specification 3.0.4. The inclusion of the Specification 3.0.4 exception is consistent with the current Technical Specification.

The current Action for Modes 2, 3, and 4 contains an "otherwise" Action to be entered if the Actions for an inoperable MSIV are not met. This Action requires the plant to be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. The Applicability for the current Technical Specification includes Modes 1, 2, 3, and 4; therefore, the Action to go to an end state of Cold Shutdown (Mode 5) is appropriate in order to exit the Applicability. The Applicability for the proposed Technical Specification includes Mode 1, and Modes 2, 3, and 4 except when all MSIVs are closed. The proposed Action for Modes 2, 3, and 4 retains the requirement to be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. Thus the proposed Action for Mode 2, 3, and 4 will also require the plant go to an end state that exits the Applicability, i.e., go to at least Cold Shutdown. This requirement is consistent with the current Technical Specification.

4.1.5 Surveillance Requirements

Surveillance Requirement 4.7.1.5 currently states, "Each main steam isolation valve shall be demonstrated OPERABLE by verifying full closure within 4.0 seconds when tested pursuant to Specification 4.0.5." It is proposed to revise this Surveillance Requirement and add an additional Surveillance Requirement to the specification. The revised Surveillance Requirements will be modified by a note that reads, "Note: Required to be performed for entry into MODES 1 and 2 only." New Surveillance Requirement 4.7.1.5 will read, "Each MSIV shall be demonstrated OPERABLE: a. By verifying the isolation time for each MSIV is within its limit when tested pursuant to Specification 4.0.5. b. By verifying each MSIV actuates to the isolation position on an actual or simulated actuation signal at least once per 18 months."

The current Surveillance Requirement requires a verification of the 4.0 second isolation time of each main steam line isolation valve in accordance with Specification 4.0.5. Specification 4.0.5 invokes the Inservice Testing Program. The proposed change will delete the isolation time from the Surveillance Requirement and instead require the MSIV isolation time be within its limit when tested pursuant to Specification 4.0.5. This is consistent with Surveillance Requirement 4.6.3.3, which verifies the isolation time for containment isolation valves. Rather than specify the isolation time, Surveillance Requirement 4.6.3.3 requires the isolation times to be within limits when tested pursuant to Specification 4.0.5 therefore, the proposed change is consistent with 4.6.3.3. The Inservice Testing Program verifies the MSIVs will stroke within the time assumed in the accident analysis. Since the proposed and current Surveillance Requirements insure the MSIV stroke time will be as assumed in the accident analysis they provide equivalent testing requirements. Therefore, the proposed change is considered to be administrative in nature.

The proposed change adds a Surveillance Requirement that verifies each MSIV actuates to the isolation position on an actual or simulated actuation signal at least once per 18 months. This change is more restrictive because it adds a new Surveillance Requirement to Technical Specification 3/4.7.1.5. However, while this is a new Surveillance Requirement for Technical Specification 3/4.7.1.5 it is the same as another existing Surveillance Requirement. Technical Specification 3.3.2, Engineering Safety Features Actuation System Instrumentation, Surveillance Requirement 4.3.2.1 (Table 4.3-2 Item 4.d) requires a functional test of the actuation relay (K305) once per 18 months. This functional test verifies automatic closure of the MSIVs on a simulated main steam isolation signal. Therefore this change imposes no new testing requirement but instead clarifies that automatic closure capabilities must be proven for operability of the MSIVs.

The proposed change adds a note that requires the Surveillance Requirements be performed for entry into Modes 1 and 2 only. The addition of this Note is considered to be less restrictive since the proposed Technical Specification will allow entry into Mode 3 or 4 with the Surveillance Requirement not performed for both MSIVs, in order to allow testing at hot conditions. The current Technical Specification will allow one MSIV to not be in compliance with Surveillance Requirement, and using the provisions of Technical Specification 3.0.4, Mode 3 and 4 can be entered for testing as long as the Actions for inoperable MSIVs are met such that unlimited continued operation in the Action is allowed. The allowance of this Note is acceptable, since the MSIVs are expected to pass the Surveillance Requirement and are not known to be inoperable for any other reason. The note ensures that the test is completed prior to entry into Modes 1 or 2, thus providing assurance that the MSIVs can perform their design function at the required closure times. In addition to the justification provided above, the proposed change is consistent with NUREG-1432.

4.2 Technical Requirements Manual and Technical Specification 3/4.6.3

MSIVs MSMVAAA124A and MSMVAAA124B are currently listed in Technical Requirements Manual (TRM) Table 3.6-2, "Containment Isolation Valves." Valves (e.g., MSIVs) listed in this table are subject to the requirements of Technical Specification 3/4.6.3, Containment Isolation Valves. The proposed change will consolidate the requirements associated with the MSIVs in Technical Specification 3/4.7.1.5. This change would be implemented by removing the MSIVs from TRM Table 3.6-2. Consolidation of the MSIV Operability requirements under one Technical Specification is consistent with the treatment of the Waterford 3 main feedwater isolation valves (MFIVs) which are addressed by single Technical Specification 3.7.1.6, Main Feedwater Isolation Valves. Consolidation of the MFIVs under TS 3.7.1.6 was approved in Amendment 167 issued on September 5, 2000. Like the MFIVs, the MSIVs will continue to be listed as containment isolation valves in FSAR Table 6.3-32 and will continue to comply with all containment isolation valve requirements as they currently do except that Technical Specification 3/4.6.3 will no longer apply to them. Proposed Technical Specification 3/4.7.1.5 provides equivalent assurance of MSIV Operability as is currently provided by Technical Specification 3/4.6.3 therefore, this change is neutral.

4.3 Technical Specification 3/4.6.3

Technical Specification 3/4.6.3, Containment Isolation Valves, contains a footnote (#) that states, "Containment Spray Valves CS-125A and/or B may be left in the Open position until startup (prior to entering Mode 4) following Refueling Outage 6." Refueling Outage 6 was

completed in April of 1994. This interim position was added to the Technical Specification by Amendment 86, issued on October 1, 1993, to address Operability concerns with CS-125A(B) discovered during Cycle 6. This is an administrative change to delete an interim position that has expired and can no longer be used.

5.0 REGULATORY ANALYSIS

5.1 Applicable Regulatory Requirements/Criteria

The proposed changes have been evaluated to determine whether applicable regulations and requirements continue to be met. The proposed change does not involve a physical alteration of the plant. No new equipment is being introduced, and installed equipment is not being operated in a new or different manner. Therefore regulatory requirements (e.g., Standard Review Plan Section 6.2.4, Containment Isolation System, 10 CFR 50, Appendix J, Option B, ASME Section XI, etc.) continue to be met as currently described in the FSAR. The main steam system is a closed system inside containment and as such complies with GDC 57. Compliance with GDC 57, as a result of this Technical Specification change, remains unchanged.

Entergy has determined that the proposed changes do not require any exemptions or relief from regulatory requirements, other than the Technical Specifications, and do not affect conformance with any GDC differently than described in the FSAR.

5.2 No Significant Hazards Consideration

Technical Specification 3/4.7.1.5, Main Steam Isolation Valves, will be modified to more closely reflect Specification 3.7.2, Main Steam Isolation Valves (MSIVs), in NUREG-1432, "Standard Technical Specifications Combustion Engineering Plants," Revision 2. The change will extend the allowed outage time for an inoperable MSIV from 4 hours to 8 hours and clarify the applicability requirements in MODES 2, 3, and 4. This change will also remove the MSIVs from the scope of Technical Specification 3/4.6.3, "Containment Isolation Valves," by removing the MSIVs from Technical Requirements Manual Table 3.6-2, Containment Isolation Valves. Finally, this change deletes an expired interim position to Technical Specification 3/4.6.3 for containment spray valves CS-125A(B). The specific changes are described in more detail below:

1) Administrative and/or neutral/equivalent:

- Add "MSIV" acronym to title line and reword Limiting Condition for Operation without changing its intent.
- Change Mode 1 Action end state to go to Mode 2 verses Mode 3 since once Mode 2 is entered the Mode 1 Action is no longer applicable.
- Delete the isolation time specified in the Surveillance Requirement and instead specify the isolation time be within the limits of Specification 4.0.5 (i.e., Inservice Testing Program.)
- Assure MSIV Operability for containment isolation purposes via proposed Technical Specification 3/4.7.1.5 rather than Technical Specification 3/4.6.3.
- Delete expired interim position on Technical Specification 3/4.6.3.

2) Less restrictive:

- Change Mode 2, 3, and 4 applicability by adding "except when all MSIVs are closed."

- Extend Allowed Outage Time for an inoperable MSIV from 4 hours to 8 hours.
- Allow continued operation in Mode 2, 3, and 4 with both MSIVs inoperable.
- Allow separate Action entry in Mode 2, 3, and 4.
- Surveillance requirements required to be performed for entry into Mode 1 and 2 only.

3) More restrictive:

- Add requirement to verify valves closed per the Mode 2, 3, and 4 Action are closed every 7 days.
- Add new Surveillance Requirement 4.7.5.1b to verify isolation on an actuation signal.

The "administrative and neutral/equivalent" changes will not be discussed further since they do not change the requirements or intent of the current Technical Specifications. Entergy Operations, Inc. has evaluated the less restrictive and more restrictive changes to determine whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

Response: No.

The proposed change to the applicability for the main steam line isolation valves will not require operability when all MSIVs are closed in Modes 2, 3, and 4. Analyzed events are assumed to be initiated by the failure of plant structures, systems or components. In the closed position the MSIVs are already in their safety function position. In this position, there can be no increase in the probability or consequences of an accident.

The consequences of previously analyzed events are dependent on the initial conditions assumed for the analysis, and the availability and successful functioning of the equipment assumed to operate in response to the analyzed event. When the MSIVs are closed in Modes 2, 3, and 4 they are performing their design function for containment isolation and for main steam line isolation on the secondary side of the plant. The proposed change does not alter the initial conditions assumed in the safety analyses. The plant parameters assumed for the analyses are maintained within assumed limits through compliance with the Technical Specifications and plant procedures. Additionally, the proposed change does not impose any new safety analyses limits. Therefore, the proposed change does not involve a significant increase in the consequences of an accident previously evaluated.

The proposed change increases the allowed outage time for an inoperable MSIV from 4 hours to 8 hours in Mode 1 and for Modes 2, 3, and 4; will allow both MSIVs to be inoperable, will allow separate action entry for the inoperable valves, and will allow 8 hours to close each inoperable valve. Analyzed events are assumed to be initiated by the failure of plant structures, systems or components. Extending the time available to complete repairs of an inoperable component does not have a detrimental impact on the integrity of plant components nor does it increase the probability that these components will fail. The proposed changes are not related in any way to the probability of failure of a plant structure, system or component which would result in the occurrence of an

analyzed event. Because the probability of failure of plant equipment is not affected, there is no impact on the probability of occurrence of a previously analyzed accident.

The consequences of previously analyzed events are dependent on the initial conditions assumed for the analysis, and the availability and successful functioning of the equipment assumed to operate in response to the analyzed event. The steam line break analysis in FSAR Section 15.1.3 assumes a failure of one MSIV to close. For the containment isolation function, in the event of an inoperable MSIV coincident with a LOCA, the closed system (i.e., the steam generator tubes and main steam line piping) remains intact. The closed system is subjected to a Type A containment leakage test, is missile protected, and seismic category I piping, and typically has flow through it during normal operation such that any loss of integrity could be continually observed through leakage detection systems within containment and system walkdowns outside containment. Therefore, with an inoperable MSIV the safety analysis (both LOCA and steam line break) remains valid assuming no additional failures. The increase in core damage frequency and large early release fraction, resulting from the increased restoration time, is negligible. The proposed 8 hour Allowed Outage Time is sufficiently short to ensure that the MSIVs are operable when required to perform their design function. Even though both MSIVs will be allowed under separate condition entry, to be inoperable in Modes 2, 3, and 4 the inoperable valves are still required to be closed. The 8 hour Allowed Outage Time to close an inoperable valve is based on the small likelihood of an accident occurring that will need the MSIV isolation function during this time period and the fact that the valves are located on a closed system with respect to containment integrity. The proposed change does not alter the initial conditions assumed in the safety analyses. The plant parameters assumed for the analyses are maintained within assumed limits through compliance with the Technical Specifications and plant procedures. Additionally, the proposed change does not impose any new safety analyses limits. Therefore, the proposed change does not involve a significant increase in the consequences of an accident previously evaluated.

The proposed change will add a Note to the MSIV surveillance to allow entry into Mode 3 for testing at hot conditions. Analyzed events are assumed to be initiated by the failure of plant structures, systems or components. The addition of this allowance for testing is not related in any way to the probability of failure of a plant structure, system or component which would result in the occurrence of an analyzed event. Because the probability of failure of plant equipment is not affected, there is no impact on the probability of occurrence of a previously analyzed accident.

The consequences of previously analyzed events are dependent on the initial conditions assumed for the analysis, and the availability and successful functioning of the equipment assumed to operate in response to the analyzed event. The proposed change will allow entry into Mode 3 in order to perform MSIV testing at hot conditions. However, prior to this testing, the MSIVs are not known to be inoperable from any other cause other than not having performed the Surveillance Requirement to demonstrate closure times at hot plant conditions, which they are expected to pass. The proposed change will allow entry into Mode 3 for the condition where both MSIVs may require closure time testing. This testing allowance is limited to Mode 3, and must be completed prior to entry into Modes 1 or 2. The proposed change does not alter the initial conditions assumed in the safety analyses. The plant parameters assumed for the analyses are maintained within assumed limits through compliance with the Technical

Specifications and plant procedures. Additionally, the proposed change does not impose any new safety analyses limits. Therefore, the proposed change does not involve a significant increase in the consequences of an accident previously evaluated.

The proposed change will require MSIVs, that are closed in accordance with the Mode 2, 3, and 4 Action, be verified closed once per seven days. Analyzed events are assumed to be initiated by the failure of plant structures, systems or components. The addition of this requirement is not related in any way to the probability of failure of a plant structure, system or component which would result in the occurrence of an analyzed event. Because the probability of failure of plant equipment is not affected, there is no impact on the probability of occurrence of a previously analyzed accident.

The consequences of previously analyzed events are dependent on the initial conditions assumed for the analysis, and the availability and successful functioning of the equipment assumed to operate in response to the analyzed event. The proposed change adds a Surveillance Requirement to Technical Specification 3/4.7.1.5 to verify proper MSIV isolation on an actuation signal. This is not a new Surveillance Requirement for the Technical Specifications. Technical Specification 3.3.2, Engineering Safety Features Actuation System Instrumentation, Surveillance Requirement 4.3.2.1 (Table 4.3-2 Item 4.d) requires a functional test of the actuation relay (K305) once per 18 months which verifies automatic closure of the MSIVs on a simulated main steam isolation signal. The proposed change does not alter the initial conditions assumed in the safety analyses. The plant parameters assumed for the analyses are maintained within assumed limits through compliance with the Technical Specifications and plant procedures. Additionally, the proposed change does not impose any new safety analyses limits. Therefore, the proposed change does not involve a significant increase in the consequences of an accident previously evaluated.

Therefore, none of the proposed change described above involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No.

The proposed change does not involve a physical alteration of the plant. No new equipment is being introduced, and installed equipment is not being operated in a new or different manner. There is no change being made to the parameters within which the plant is operated, or to the setpoints at which protective or mitigative actions are initiated. No alteration in the procedures which ensure the plant remains within analyzed limits is being proposed, and no change is being made to the procedures relied upon to respond to an off-normal event. As such, no new failure modes are being introduced.

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

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

Response: No.

The margin of safety is established through equipment design, limitations on operating parameters, and the setpoints at which automatic actions are initiated. No equipment design features are impacted by this change, no operating parameters are revised, and no changes to the actuation setpoints are involved.

The design safety function of the MSIVs is to close upon receipt of a main steam isolation signal. With the MSIVs already closed in Modes 2, 3 or 4, the design function is satisfied.

The proposed change will increase the allowed outage time from 4 hours to 8 hours in Mode 1, for an inoperable MSIV. The proposed change will also relax current allowances for MSIVs in Modes 2, 3, and 4; however, the relaxations are in lower modes of operation where the potential for an accident that would require the MSIV isolation function is reduced. The proposed changes will still ensure that the inoperable MSIV(s) are restored or closed in a reasonable time of 8 hours. Once closed, the MSIVs meet their design safety function.

The proposed change will add a note indicating the Surveillance Requirements must be performed prior to entry into Modes 1 or 2. The MSIVs are expected to pass the Surveillance Requirement and are not known to be inoperable for any other reason than not having performed the valve closure test at hot conditions. The testing is limited to Mode 3, when the reactor is subcritical, thus verifying the MSIV closure times prior to power operation.

The proposed change will require MSIVs, which are closed in accordance with the Mode 2, 3, and 4 Action, be verified closed once per seven days. This requirement provides additional assurance that the MSIVs perform their design safety function to close.

The proposed change adds a Surveillance Requirement to Technical Specification 3/4.7.1.5 to verify proper MSIV isolation on an actuation signal. This, however, is not a new Surveillance Requirement for the Technical Specifications. Technical Specification 3.3.2, Engineering Safety Features Actuation System Instrumentation, Surveillance Requirement 4.3.2.1 (Table 4.3-2 Item 4.d) requires a functional test of the actuation relay (K305) once per 18 months which verifies automatic closure of the MSIVs on a simulated main steam isolation signal.

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

Based on the above, Entergy concludes that the proposed amendment(s) present 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.

5.3 Environmental Considerations

The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment 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 amendment.

6.0 PRECEDENCE

A similar Technical Specification change was approved for Comanche Peak Steam Electric Station, Units 1 and 2 in Amendments 54 and 40 to Facility Operating License Numbers NPF-87 and NPF-89 as documented in an August 18, 1997 letter from the NRC. (Reference TAC Nos. M91064 and M91065.)

Attachment 2

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Proposed Technical Specification Changes (mark-up)

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CONTAINMENT SYSTEMS

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 Each containment isolation valves shall be OPERABLE. *1

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

ACTION:

With one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

- a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or
- b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or
- c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or
- d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 do not apply.

Locked or sealed closed valves may be opened on an intermittent basis under administrative control.

~~* Containment Spray Valves CS-125 A and/or B may be left in the Open position until startup (prior to entering Mode 4) following Refueling Outage 6.~~

SURVEILLANCE REQUIREMENTS

4.6.3.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.

PLANT SYSTEMS

MAIN STEAM LINE ISOLATION VALVES (MSIVs)

LIMITING CONDITION FOR OPERATION

3.7.1.5 Each main steam line isolation valve shall be OPERABLE.

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

ACTION:

MODE 1

With one main steam line isolation valve inoperable but open, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 4 hours; otherwise, be in at least HOT STANDBY within the next 6 hours.

MODES 2, 3, and 4

With one main steam line isolation valve inoperable, subsequent operation in MODE 2, 3, or 4 may proceed provided:

- a. The isolation valve is maintained closed.
- b. The provisions of Specification 3.0.4 are not applicable.

Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.5 Each main steam line isolation valve shall be demonstrated OPERABLE by verifying full closure within 4.0 seconds when tested pursuant to Specification 4.0.5.

← Replace w/ Tech Spec Insert

TECHNICAL SPECIFICATION INSERT

3.7.1.5 Two MSIVs shall be OPERABLE.

APPLICABILITY: MODE 1, and
 MODES 2, 3, and 4 except when all MSIVs are closed.

ACTION:

MODE 1

With one MSIV inoperable, restore the valve to OPERABLE status within 8 hours or be in STARTUP within the next 6 hours.

MODES 2, 3 and 4

Note: Separate ACTION entry is allowed for each MSIV.

With one or more MSIVs inoperable, close the inoperable valve within 8 hours and verify the valve is closed once per 7 days or be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable.

SURVILLANCE REQUIREMENTS

Note: Required to be performed for entry into MODES 1 and 2 only.

4.7.1.5 Each MSIV shall be demonstrated OPERABLE:

- a. By verifying the isolation time for each MSIV is within its limit when tested pursuant to Specification 4.0.5.
- b. By verifying each MSIV actuates to the isolation position on an actual or simulated actuation signal at least once per 18 months.

Attachment 3

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Proposed Technical Requirements Manual Changes (mark-up)

TABLE 3.6-2
CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	Penetration Number	ACTUATION SIGNALS ⁽¹⁾								HDP	RAS	EFAS	CSAS	MSIS	SIAS	Check Valve	Manual / Remote	CPIS	CIAS
LRT MVAAA109	ILRT Connection	63																X		
LRT MVAAA110	ILRT Connection	63																X		
LRT MVAAA201	ILRT Test Connection	65																X		
LRT MVAAA2011	ILRT Test Connection	65																X		
LRT MVAAA202	ILRT Test Connection	65																X		
LRT MVAAA203	ILRT Test Connection	65																X		
LRT MVAAA2031	ILRT Test Connection	65																X		
LRT MVAAA204	ILRT Test Connection	65																X		
LRT MVAAA400	LLRT Test Connection	53																X		
MS MVAAA116A	Atmospheric Dump Valve	1																X ⁽⁴⁾		
MS MVAAA116B	Atmospheric Steam Dump	2																X ⁽⁴⁾		
MS MVAAA119A	Main Steam Drain	1		X																
MS MVAAA119B	Main Steam Drain	2		X																
MS MVAAA120A	Main Steam Drain	1		X																
MS MVAAA120B	Main Steam Drain	2		X																
MS MVAAA1244A	MSIV Bypass	1																X		
MS MVAAA1244B	MSIV Bypass	2																X		
MS MVAAA124A	Main Steam	1																		
MS MVAAA124B	Main Steam	2																		
MS MVAAA401A	Steam to Emergency Steam Generator Feed Pump Turbine	1																X ⁽⁴⁾		
MS MVAAA401B	Steam to Emergency Steam Generator Feed Pump Turbine	2																X ⁽⁴⁾		

Attachment 4

W3F1-2002-0101

**Changes to Technical Specification Bases Pages
(mark-up)**

(Information Only)

PLANT SYSTEMS

BASES

3/4.7.1.4 ACTIVITY

The limitations on secondary system specific activity ensure that the resultant offsite radiation dose will be limited to a small fraction of 10 CFR Part 100 limits in the event of a steam line rupture. This dose also includes the effects of a coincident 1 gpm primary to secondary tube leak in the steam generator of the affected steam line and a concurrent loss-of-offsite electrical power. These values are consistent with the assumptions used in the safety analyses.

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVE (MSIV)

Replace w/ Bases Insert

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blow down in the event of a steam line rupture. This restriction is required to (1) minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and (2) limit the pressure rise within containment in the event the steam line rupture occurs within containment. The OPERABILITY of the main steam isolation valves within the closure times of the Surveillance Requirements are consistent with the assumptions used in the safety analyses. The Surveillance Requirement to verify isolation in less than or equal to 4 seconds is based on static testing. The static test using 4 seconds demonstrates the ability of the MSIVs to close in less than or equal to the 7 second required closure time under design basis accident conditions.

3/4.7.1.6 MAIN FEEDWATER ISOLATION VALVES

The Main Feedwater Isolation Valves (MFIVs) isolate main feedwater (MFW) flow to the secondary side of the steam generators following a high energy line break (HELB). Closure of the MFIVs terminates flow to both steam generators, mitigating the consequences for feedwater line breaks (FWLBs). Closure of the MFIVs effectively terminates the addition of main feedwater to an affected steam generator, limiting the mass and energy release for Main Steam Line Breaks (MSLBs) or FWLBs inside containment, and reducing the cooldown effects for MSLBs.

The MFIVs isolate the non-safety related feedwater supply from the safety related portion of the system. In the event of a secondary side pipe rupture inside containment, the valves limit the quantity of high energy fluid that enters containment through the break, and provide a pressure boundary for the controlled addition of Emergency Feedwater (EFW) to the intact steam generator.

One MFIV is located on each MFW line, outside, but close to, containment. The MFIVs are located upstream of the EFW injection point so that EFW may be supplied to a steam generator following MFIV closure. The piping volume from the valve to the steam generator must be accounted for in calculating mass and energy releases, and refilled prior to EFW reaching the steam generator following either a MSLB or FWLB.

BASES INSERT

The MSIVs isolate steam flow from the secondary side of the steam generators following a high energy line break. MSIV closure terminates flow from the unaffected (intact) steam generator.

One MSIV is located in each main steam line outside, but close to, containment. The MSIVs are downstream from the main steam safety valves (MSSVs), atmospheric dump valves, and auxiliary feedwater pump turbine steam supplies to prevent their being isolated from the steam generators by MSIV closure. Closing the MSIVs isolates each steam generator from the other, and isolates the turbine, Steam Bypass System, and other auxiliary steam supplies from the steam generators.

The MSIVs close on a main steam isolation signal (MSIS) generated by either low steam generator pressure or high containment pressure. The MSIVs fail as is on loss of power to the actuator however; the operators for the MSIV are furnished with redundant hydraulic fluid dump valves powered by diverse power, to ensure that no single electrical failure will prevent valve closure. The MSIVs may also be actuated manually.

A description of the MSIVs is found in Final Safety Analysis Report (FSAR), Section 10.3.

The design basis of the MSIVs is established by the containment analysis for the large steam line break (SLB) inside containment, as discussed in FSAR, Section 6.2. It is also influenced by the accident analysis of the SLB events presented in FSAR, Section 15.1.3. The design precludes the blowdown of more than one steam generator, assuming a single active component failure (e.g., the failure of one MSIV to close on demand).

The OPERABILITY of the MSIVs ensures that no more than one steam generator will blow down in the event of a steam line rupture. This restriction is required to (1) minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and (2) limit the pressure rise within containment in the event the steam line rupture occurs within containment.

The MSIVs satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

This Limiting Condition for Operation (LCO) requires that the MSIV in each of the two steam lines be OPERABLE. The MSIVs are considered OPERABLE when the isolation times are within limits, and they close on an isolation actuation signal.

This LCO provides assurance that the MSIVs will perform their design safety function to mitigate the consequences of accidents that could result in offsite exposures comparable to the 10 CFR 100 limits or the NRC staff approved licensing basis.

The MSIVs must be OPERABLE in MODE 1 and in MODES 2, 3 and 4 except when all MSIVs are closed. In these MODES there is significant mass and energy in the RCS and steam generators. When the MSIVs are closed, they are already performing their safety function.

In MODES 5 and 6, the steam generators do not contain much energy because their temperature is below the boiling point of water; therefore, the MSIVs are not required for isolation of potential high energy secondary system pipe breaks in these MODES.

MODE 1 ACTION

With one MSIV inoperable in MODE 1, time is allowed to restore the component to OPERABLE status. Some repairs can be made to the MSIV with the unit hot. The 8 hour Allowed Outage Time is reasonable, considering the probability of an accident occurring during the time period that would require closure of the MSIVs.

The 8 hour Allowed Outage Time is greater than that normally allowed for containment isolation valves because the MSIVs are valves that isolate a closed system penetrating containment. These valves differ from other containment isolation valves in that the closed system provides an additional means for containment isolation.

If the MSIV cannot be restored to OPERABLE status within 8 hours, the unit must be placed in a MODE in which the ACTION does not apply. To achieve this status, the unit must be placed in MODE 2 within 6 hours and the MODE 2, 3, and 4 ACTION would be entered. The Allowed Outage Time is reasonable, based on operating experience, to reach MODE 2 and close the MSIVs in an orderly manner and without challenging unit systems.

MODE 2, 3, and 4 ACTION

This ACTION is modified by a Note indicating that separate ACTION entry is allowed for each MSIV.

Since the MSIVs are required to be OPERABLE in MODES 2, 3 and 4, the inoperable MSIVs may either be restored to OPERABLE status or closed. When closed, the MSIVs are already in the position required by the assumptions in the safety analysis.

The 8 hour Allowed Outage Time is consistent with that allowed in the MODE 1 ACTION. The 8 hour Allowed Outage Time begins from the time when the MSIV is first determined to be inoperable. For example:

- If the MSIV becomes inoperable in MODE 1 and the plant is taken to MODE 2 in accordance with the MODE 1 ACTION and greater than 8 hours has expired since the MSIV became inoperable then the MSIV must be closed immediately upon entry into MODE 2 or shutdown to Mode 3 must be completed within the next 6 hours.
- If an MSIV becomes inoperable in MODE 2, it must be restored to OPERABLE or closed within 8 hours. If not, the plant must be in MODE 3 within the next 6 hours and MODE 5 in the following 30 hours.
- If an MSIV becomes inoperable in either MODE 3 or 4, it must be restored to OPERABLE or closed within 8 hours. If not, the plant must be in MODE 5 within the next 30 hours. Since the plant is already in MODE 3 or lower the 6 hour allowance for reaching Mode 3 is not applicable.

Inoperable MSIVs that cannot be restored to OPERABLE status within the specified Allowed Outage Time, but are closed, must be verified on a periodic basis to be closed. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day interval is reasonable, based on engineering judgment, MSIV status indications available in the control room, and other administrative controls, to ensure these valves are in the closed position.

If the MSIVs cannot be restored to OPERABLE status, or closed, within the associated Allowed Outage Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within the following 30 hours. The Allowed Outage Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

Surveillance Requirements

These Surveillance Requirements (SR) are modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. This allows a delay of testing until MODE 3, in order to establish conditions consistent with those under which the acceptance criterion was generated.

SR 4.7.1.5a verifies that the closure time of each MSIV is within its limit when tested pursuant to Specification 4.0.5. Specification 4.0.5 invokes the Inservice Testing Program. The MSIV isolation time is assumed in the accident and containment analyses. This SR is normally performed during a refueling outage but may be performed upon returning the unit to operation following a refueling outage. The MSIVs should not be tested at power since even a part stroke exercise increases the risk of a valve closure with the unit generating power. As the MSIVs are not tested at power, they are exempt from the ASME Code, Section XI (Inservice Inspection, Article IWW-3400), requirements during operation in MODES 1 and 2.

The Frequency for this SR is in accordance with the Specification 4.0.5.

This test may be conducted in MODE 3, with the unit at operating temperature and pressure.

SR 4.7.1.5b verifies that each MSIV can close on an actual or simulated actuation signal. This Surveillance may be performed upon returning the plant to operation following a refueling outage. The Frequency of MSIV testing is every 18 months. The 18 month Frequency for testing is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, this Frequency is acceptable from a reliability standpoint.