

PLANT SYSTEMSBASES3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES (continued)LCO

This LCO requires that four MSIVs in the 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 10CFR100 limits or the NRC Staff approved licensing basis.

APPLICABILITY

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

In MODE 4, even though steam generator energy is low, the MSIVs must be operable in MODE 4 except when closed and deactivated. INSERT

In MODE 5 or 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.

ACTIONSMODE 1

With one MSIV inoperable in MODE 1, action must be taken to restore OPERABLE status within 8 hours. Some repairs to the MSIV can be made with the unit hot. The 8 hour Completion Time is reasonable, considering the low probability of an accident occurring during this time period that would require a closure of the MSIVs.

The 8 hour Completion 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 a passive barrier for containment isolation.

INSERT D

The MSIVs must be OPERABLE in MODE 4 except when closed and deactivated. In MODE 4 with Reactor Coolant System temperature greater than or equal to 320 °F, the MSIVs shall close within 120 seconds to ensure that the accident analysis assumptions are met. A temperature greater than or equal to 320 °F has been specified because the steam energy is sufficient to provide the motive force to operate the MSIVs.

BASES3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES (continued)

If the MSIV cannot be restored to OPERABLE status within 8 hours, the plant must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 2 within 6 hours. The Completion Times are reasonable, based on operating experience, to reach MODE 2 and to close the MSIVs in an orderly manner and without challenging plant systems.

MODES 2, 3, and 4

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 Completion Time is consistent with that allowed in Mode 1.

For inoperable MSIVs that cannot be restored to OPERABLE status within the specified Completion Time, but are closed, the inoperable MSIVs 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 verification time is reasonable, based on engineering judgment, in view of MSIV status indications available in the control room, and other administrative controls, to ensure that these valves are in the closed position.

If the MSIVs cannot be restored to OPERABLE status or are not closed within the associated Completion 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 at least in MODE 3 within 6 hours, and in MODE 5 within the next 30 hours. The allowed Completion 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. The Action Statement is modified by a note indicating that separate condition entry is allowed for each MSIV.

SURVEILLANCE REQUIREMENTS*INSERT C 7*

4.7.1.5.1 This surveillance verifies that MSIV closure time is less than 10 seconds on an actual or simulated actuation signal in MODES 1, 2, and 3 when tested pursuant to Specification 4.0.5. A simulated signal is defined as any of the following engineered safety features actuation system instrumentation functional units per Technical Specification Table 4.3-2: 4.a.1) manual initiation, individual, 4.a.2) manual initiation, system, 4.c. containment pressure high-2, 4.d. steam line pressure low, and 4.e. steam line pressure - negative rate high. The MSIV closure time is assumed in the accident analyses. This surveillance is normally performed upon returning the plant to operation following a refueling outage. The test is conducted in MODE 3 with the plant at suitable (appropriate) conditions (e.g., pressure and temperature). This surveillance requirement is modified by an exception which allows a delay of testing until MODE 3, to establish conditions consistent with those under which the acceptance criterion was generated. This exception

BASESSURVEILLANCE REQUIREMENTS (continued)

to Specification 4.0.4 would also allow the MSIVs to be cycled to demonstrate post repair OPERABILITY. Action requirements shall not apply until OPERABILITY has been verified. In addition, if the closure time of the MSIV is less than 10 seconds when verified in accordance with Specification 4.7.1.5.2, the OPERABILITY demonstration of the MSIV in MODES 1, 2, or 3 is not required per Specification 4.7.1.5.1.

4.7.1.5.2 This surveillance verifies that MSIV closure time is less than 120 seconds on an actual or simulated actuation signal in MODE 4 when tested pursuant to Specification 4.0.5. A simulated signal is defined as any of the following engineered safety features actuation system instrumentation functional units per Technical Specification Table 4.3-2: 4.a.1) manual initiation, individual, 4.a.2) manual initiation, system, 4.c. containment pressure high-2, 4.d. steam line pressure low, and 4.e. steam line pressure - negative rate high. This MSIV closure time is assumed in the analyses. This surveillance is normally performed upon returning the plant to operation following a refueling outage. The test is conducted in MODE 4 with the plant at suitable (appropriate) conditions (e.g., pressure and temperature). This surveillance requirement is modified by an exception which allows a delay of testing until MODE 4, to establish conditions consistent with those under which the acceptance criterion was generated. This exception to Specification 4.0.4 would also allow the MSIVs to be cycled to demonstrate post repair OPERABILITY. Action requirements shall not apply until OPERABILITY has been verified.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure-induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on a steam generator RT_{NDT} of 60°F and are sufficient to prevent brittle fracture.

3/4.7.3 REACTOR PLANT COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the Reactor Plant Component Cooling Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

3/4.7.4 SERVICE WATER SYSTEM

The OPERABILITY of the Service Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

INSERT C

4.7.1.5.1 This surveillance performs a partial stroke test in MODES 1 or 2. The partial stroke test shows that the MSIV's actuation solenoid valves operate in the proper amount of time. In addition, the part stroke test shows that the main valve is free to move. This provides reasonable assurance that the MSIV will operate as assumed in the accident analysis. This surveillance is normally performed during full power operation with the plant at suitable (appropriate) conditions (e.g. pressure and temperature). In addition, if the closure time of the MSIV is less than 10 seconds when verified in accordance with Specification 4.7.1.5.2, the OPERABILITY demonstration of the MSIV in MODES 1 or 2 is not required per Specification 4.7.1.5.1.

4.7.1.5.2 This surveillance demonstrates that MSIV closure time is less than 10 seconds on an actual or simulated actuation signal in MODE 3, when tested pursuant to Specification 4.0.5. A simulated signal is defined as any of the following engineering safety features actuation system instrumentation functional units per Technical Specifications Table 4.3-2: 4.a.1) manual initiation, individual, 4.a.2) manual initiation, system, 4.c. containment pressure high-2, 4.d. steam line pressure low, or 4.e. steam line pressure - negative rate high. The MSIV closure time is assumed in the accident analyses. This surveillance is normally performed upon returning the plant to operation following a refueling outage. The test is normally conducted in MODES 3 or 4 with the plant at suitable (appropriate) conditions (e.g. pressure and temperature). This surveillance requirement is modified by an exception which allows a delay of testing until the proper operating conditions are met, or until it is desired to operate the valves. This exception to Specification 4.0.4 would also allow the MSIVs to be cycled to demonstrate post repair OPERABILITY. In addition, if the closure time of the MSIV is less than 10 seconds when verified in accordance with Specification 4.7.1.5.2, the OPERABILITY demonstration of the MSIV in MODES 1 or 2 is not required per Specification 4.7.1.5.1.

4.7.1.5.3 This surveillance verifies that MSIV closure time is less than 120 seconds on an actual or simulated actuation signal in MODE 4, with the RCS temperature greater than or equal to 320 degrees Fahrenheit, when tested pursuant to Specification 4.0.5. The MSIVs are required to be closed and deactivated with the RCS less than 320 degrees Fahrenheit in MODE 4. A simulated signal is defined as any of the following engineering safety features actuation system instrumentation functional units per Technical Specifications Table 4.3-2: 4.a.1) manual initiation, individual, 4.a.2) manual initiation, system, 4.c. containment pressure high-2, 4.d. steam line pressure low, or 4.e. steam line pressure - negative rate high. The MSIV closure time is assumed in the accident analyses.

This surveillance only applies in MODE 4, at an RCS temperature greater than or equal to 320 degrees Fahrenheit, because the MSIVs are steam operated and a minimum steam pressure is required to operate the valve. The test is normally conducted in MODE 4 with the plant at suitable (appropriate) conditions (e.g. pressure and temperature). If the valves are not to be opened or energized in MODE 4 the surveillance is not performed. This surveillance requirement is modified by an exception which allows a delay of testing until the proper operating conditions are met, or until it is desired to operate the valves. This exception to Specification 4.0.4 would also allow the MSIVs to be cycled to demonstrate post repair OPERABILITY. In addition, if the closure time of the MSIV is less than 10 seconds when verified in accordance with Specification 4.7.1.5.3, the OPERABILITY demonstration of the MSIV in MODES 1, 2, or 3 is not required per Specification 4.7.1.5.1 and 4.7.1.5.2.

PLANT SYSTEMS

MAIN STEAM LINE ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.5 Each main steam line isolation valve (MSIV) shall be OPERABLE.

APPLICABILITY: MODE 1

MODES 2, 3, and 4, except when ^a ~~all~~ MSIVs ^{is} are closed and deactivated.

ACTION:

MODE 1:

With one MSIV inoperable, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 8 hours; otherwise be in MODE 2 within the next 6 hours

MODES 2, 3, and 4:

With one or more MSIVs inoperable, subsequent operation in MODE 2, or 3, or 4 may proceed provided the inoperable isolation valve(s) are closed ^{WITHIN} 8 hours and verified closed once per 7 days. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Separate condition entry is allowed for each MSIV.

SURVEILLANCE REQUIREMENTS

4.7.1.5.1 Each MSIV shall be demonstrated OPERABLE* by verifying full closure within 10 seconds on an actual or simulated actuation signal in MODES 1, 2, and 3 when tested pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.

4.7.1.5.2 Each MSIV shall be demonstrated OPERABLE by verifying full closure within 120 seconds on an actual or simulated actuation signal in MODE 4 when tested pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for entry into MODE 4. *INSERT A*

INSERT B

*If the closure time of the MSIV is less than 10 seconds when verified in accordance with Specification 4.7.1.5.2, then the operability demonstration of the MSIV in MODES 1, 2, or 3 is not required per Specification 4.7.1.5.1.

INSERT A

4.7.1.5.1 In MODES 1 and 2, each MSIV shall be demonstrated OPERABLE, pursuant to Specification 4.0.5, by verifying a partial stroke in MODES 1 or 2, or a full closure per Surveillance 4.7.1.5.2.

4.7.1.5.2 In MODE 3, each MSIV shall be demonstrated OPERABLE, pursuant to Specification 4.0.5, by verifying full closure within 10 seconds on an actual or simulated actuation signal when full stroke tested in MODES 3 or 4. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.

4.7.1.5.3 In MODE 4 with the RCS temperature greater than or equal to 320 degrees Fahrenheit*, each MSIV shall be demonstrated OPERABLE, pursuant to Specification 4.0.5, by verifying full closure within 120 seconds on an actual or simulated actuation signal when full stroke tested in MODE 4. The provisions of Specification 4.0.4 are not applicable for entry into MODE 4.

INSERT B

* In MODE 4, the MSIVs are required to be closed and deactivated with RCS temperature less than 320 degrees Fahrenheit.

Docket No. 50-423
B16570

Attachment 3

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Main Steam Isolation Valve Surveillances
(PTSCR 3-25-97)
Retyped Pages

June 1997

RETYPE OF PROPOSED REVISION

Refer to the attached retype of the proposed revision to the Technical Specifications. The attached retype reflects the currently issued version of the Technical Specifications. Pending Technical Specification revisions or Technical Specification revisions issued subsequent to this submittal are not reflected in the enclosed retype. The enclosed retype should be checked for continuity with Technical Specifications prior to issuance.

PLANT SYSTEMS

BASES

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES (continued)

LCO

This LCO requires that four MSIVs in the 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 10CFR100 limits or the NRC Staff approved licensing basis.

APPLICABILITY

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

The MSIVs must be OPERABLE in MODE 4 except when closed and deactivated. In MODE 4 with Reactor Coolant System temperature greater than or equal to 320°F, the MSIVs shall close within 120 seconds to ensure that the accident analysis assumptions are met. A temperature greater than or equal to 320°F has been specified because the steam energy is sufficient to provide the motive force to operate the MSIVs.

In MODE 5 or 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.

ACTIONS

MODE 1

With one MSIV inoperable in MODE 1, action must be taken to restore OPERABLE status within 8 hours. Some repairs to the MSIV can be made with the unit hot. The 8 hour Completion Time is reasonable, considering the low probability of an accident occurring during this time period that would require a closure of the MSIVs.

The 8 hour Completion 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 a passive barrier for containment isolation.

PLANT SYSTEMS

BASES

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES (continued)

If the MSIV cannot be restored to OPERABLE status within 8 hours, the plant must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 2 within 6 hours. The Completion Times are reasonable, based on operating experience, to reach MODE 2 and to close the MSIVs in an orderly manner and without challenging plant systems.

MODES 2, 3, and 4

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 Completion Time is consistent with that allowed in MODE 1.

For inoperable MSIVs that cannot be restored to OPERABLE status within the specified Completion Time, but are closed, the inoperable MSIVs 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 verification time is reasonable, based on engineering judgment, in view of MSIV status indications available in the control room, and other administrative controls, to ensure that these valves are in the closed position.

If the MSIVs cannot be restored to OPERABLE status or are not closed within the associated Completion 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 at least in MODE 3 within 6 hours, and in MODE 5 within the next 30 hours. The allowed Completion 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. The Action Statement is modified by a note indicating that separate condition entry is allowed for each MSIV.

SURVEILLANCE REQUIREMENTS

4.7.1.5.1 This surveillance performs a partial stroke test in MODES 1 or 2. The partial stroke test shows that the MSIV's actuation solenoid valves operate in the proper amount of time. In addition, the part stroke test shows that the main valve is free to move. This provides reasonable assurance that the MSIV will operate as assumed in the accident analysis. This surveillance is normally performed during full power operation with the plant at suitable (appropriate) conditions (e.g., pressure and temperature). In addition, if the closure time of the MSIV is less than 10 seconds when verified in accordance with Specification 4.7.1.5.2, the OPERABILITY demonstration of the MSIV in MODES 1 or 2 is not required per Specification 4.7.1.5.1.

SURVEILLANCE REQUIREMENTS (continued)

4.7.1.5.2 This surveillance demonstrates that MSIV closure time is less than 10 seconds on an actual or simulated actuation signal in MODE 3, when tested pursuant to Specification 4.0.5. A simulated signal is defined as any of the following engineering safety features actuation system instrumentation functional units per Technical Specifications Table 4.3-2: 4.a.1) manual initiation, individual, 4.a.2) manual initiation system, 4.c. containment pressure high-2, 4.d. steam line pressure low, or 4.e. steam line pressure - negative rate high. The MSIV closure time is assumed in the accident analyses. This surveillance is normally performed upon returning the plant to operation following a refueling outage. The test is normally conducted in MODES 3 or 4 with the plant at suitable (appropriate) conditions (e.g., pressure and temperature). This surveillance requirement is modified by an exception which allows a delay of testing until the proper operating conditions are met, or until it is desired to operate the valves. This exception to Specification 4.0.4 would also allow the MSIVs to be cycled to demonstrate post repair OPERABILITY. In addition, if the closure time of the MSIV is less than 10 seconds when verified in accordance with Specification 4.7.1.5.2, the OPERABILITY demonstration of the MSIV in MODES 1 or 2 is not required per Specification 4.7.1.5.1.

4.7.1.5.3 This surveillance verifies that MSIV closure time is less than 120 seconds on an actual or simulated actuation signal in MODE 4, with the RCS temperature greater than or equal to 320 degrees Fahrenheit, when tested pursuant to Specification 4.0.5. The MSIVs are required to be closed and deactivated with the RCS less than 320 degrees Fahrenheit in MODE 4. A simulated signal is defined as any of the following engineering safety features actuation system instrumentation functional units per Technical Specifications Table 3.4-2: 4.a.1) manual initiation, individual, 4.a.2) manual initiation, system 4.c. containment pressure high-2, 4.d. steam line pressure low, or 4.e. steam line pressure - negative rate high. The MSIV closure time is assumed in the accident analyses.

This surveillance only applies in MODE 4, at an RCS temperature greater than or equal to 320 degrees Fahrenheit, because the MSIVs are steam operated and a minimum steam pressure is required to operate the valve. The test is normally conducted in MODE 4 with the plant at suitable (appropriate) conditions (e.g., pressure and temperature). If the valves are not to be opened or energized in MODE 4, the surveillance is not performed. This surveillance requirement is modified by an exception which allows a delay of testing until the proper operating conditions are met, or until it is desired to operate the valves. This exception to Specification 4.0.4 would also allow the MSIVs to be cycled to demonstrate post repair OPERABILITY. In addition, if the closure time of the MSIV is less than 10 seconds when verified in accordance with Specification 4.7.1.5.3, the OPERABILITY demonstration of the MSIV in MODES 1, 2, or 3 is not required per Specification 4.7.1.5.1 and 4.7.1.5.2.

PLANT SYSTEMS

BASES

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure-induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on a steam generator RT_{NDT} of 60°F and are sufficient to prevent brittle fracture.

3/4.7.3 REACTOR PLANT COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the Reactor Plant Component Cooling Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

3/4.7.4 SERVICE WATER SYSTEM

The OPERABILITY of the Service Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

PLANT SYSTEMS

MAIN STEAM LINE ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.5 Each main steam line isolation valve (MSIV) shall be OPERABLE.

APPLICABILITY: MODE 1

MODES 2, 3, and 4*, except when a MSIV is closed and deactivated.

ACTION:

MODE 1:

With one MSIV inoperable, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 8 hours; otherwise be in MODE 2 within the next 6 hours

MODES 2, 3, and 4:

With one or more MSIVs inoperable, subsequent operation in MODE 2, or 3, or 4 may proceed provided the inoperable isolation valve(s) are closed within 8 hours and verified closed once per 7 days. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Separate condition entry is allowed for each MSIV.

SURVEILLANCE REQUIREMENTS

4.7.1.5.1 In MODES 1 and 2, each MSIV shall be demonstrated OPERABLE, pursuant to Specification 4.0.5, by verifying a partial stroke in MODES 1 or 2, or a full closure per Surveillance 4.7.1.5.2.

4.7.1.5.2 In MODE 3, each MSIV shall be demonstrated OPERABLE, pursuant to Specification 4.0.5, by verifying full closure within 10 seconds on an actual or simulated actuation signal when full stroke tested in MODES 3 or 4. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.

4.7.1.5.3 In MODE 4 with the RCS temperature greater than or equal to 320 degrees Fahrenheit*, each MSIV shall be demonstrated OPERABLE, pursuant to Specification 4.0.5, by verifying full closure within 120 seconds on an actual or simulated actuation signal when full stroke tested in MODE 4. The provisions of Specification 4.0.4 are not applicable for entry into MODE 4.

*In MODE 4, the MSIVs are required to be closed and deactivated with RCS temperature less than 320 degrees Fahrenheit.

Docket No. 50-423
B16570

Attachment 4

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Main Steam Isolation Valve Surveillances
(PTSCR 3-25-97)
Background and Safety Assessment

June 1997

Background

The Millstone Unit 3 Inservice Pump and Valve Test Program has received relief from the quarterly full stroke surveillance testing requirement. The accepted alternate testing method is to partially stroke test the MSIVs during power operation and full stroke test the valves during shutdowns pursuant to Specification 4.0.5.

Safety Assessment

The MSIVs are equipped with provisions for inservice testing by partial stroking. The partial stroking is accomplished by opening a solenoid valve to admit steam pressure into the lower piston chamber. After a time delay the solenoid valve for the upper piston chamber opens. After 10 percent travel the position indicating device vents both piston chambers and the valve fully opens to the back seat due to pressure acting on the valve plug.

Currently, Technical Specifications Surveillance 4.7.1.5.1 requires "verifying full closure within 10 seconds ... in MODES 1, 2, and 3 when tested pursuant to Specification 4.0.5." The current surveillance requirement to full stroke test the MSIVs is not performed during power operation as the Millstone Unit 3 Inservice Pump and Valve Test Program pursuant to Specification 4.0.5, has received relief from the quarterly full stroke surveillance testing requirement. The basis for the relief is that full stroking the MSIVs to the closed position during power operation would result in an unbalanced steam flow condition producing an abnormal power distribution in the reactor core, possibly causing a reactor trip. The accepted alternate testing method is to partially stroke test the MSIVs during power operation and full stroke test the valves during shutdowns.

The proposed changes to Technical Specifications Surveillances 4.7.1.5.1 and 4.7.1.5.2 are to clarify the testing of the MSIVs by rewording and separating the requirements into three surveillances. Surveillance 4.7.1.5.1 will identify a Mode 1 and 2 requirement to partial stroke test the MSIVs in Mode 1 and 2 unless a successful 10 second full stroke test was performed during the surveillance period. Surveillance 4.7.1.5.2 will identify a Mode 3 requirement to perform a 10 second full closure test of the MSIVs in Mode 3 or 4. Surveillance 4.7.1.5.3 will identify a Mode 4 requirement to perform a 120 second full closure test of the MSIVs in Mode 4 when the RCS temperature is greater than or equal to 320 degrees F. The 320 degree F restriction on testing the valves is consistent with recommendations from the valve manufacturer. Additionally, a footnote is added to the LCO and the surveillance to identify that the MSIVs are required to be closed and deactivated when the RCS temperature is less than 320 degrees F. The footnote will eliminate the potential to declare the MSIVs operable in the upper range of Mode 4 and then allow the MSIVs to remain open during a cooldown into the lower range of Mode 4 where they may not be able to meet their

required stroke time. The testing will be performed pursuant to Specification 4.0.5 and the provisions of Specification 4.0.4 will not be applicable for entry into Modes 3 and 4.

The other proposed changes to reword the Applicability and Action statements of Technical Specification 3.7.1.5 and Bases Section B3/4.7.1.5 are to clarify the testing of the MSIVs. These are considered administrative changes.

Docket No. 50-423
B16570

Attachment 5

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Main Steam Isolation Valve Surveillances
(PTSCR 3-25-97)

Significant Hazards Consideration and Environmental Considerations

June 1997

Significant Hazards Consideration

NNECO has reviewed the proposed revision in accordance with 10CFR50.92 and has concluded that the revision does not involve a significant hazards consideration (SHC). The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not satisfied. The proposed revision does not involve a SHC because the revision would not:

1. Involve a significant increase in the probability or consequence of an accident previously evaluated.

The proposed changes to Technical Specifications Surveillances 4.7.1.5.1 and 4.7.1.5.2 are to clarify the testing of the MSIVs by rewording and separating the requirements into three surveillances. Currently, Technical Specifications Surveillance 4.7.1.5.1 requires "verifying full closure within 10 seconds ... in MODES 1, 2, and 3 when tested pursuant to Specification 4.0.5." The current surveillance requirement to full stroke test the MSIVs is not performed during power operation as the Millstone Unit 3 Inservice Pump and Valve Test Program pursuant to Specification 4.0.5, has received relief from the quarterly full stroke surveillance testing requirement. The basis for the relief is that full stroking the MSIVs to the closed position during power operation would result in an unbalanced steam flow condition producing an abnormal power distribution in the reactor core, possibly causing a reactor trip. The MSIVs are equipped with provisions for inservice testing by partial stroking. The partial stroking is accomplished by opening a solenoid valve to admit steam pressure into the lower piston chamber. After a time delay the solenoid valve for the upper piston chamber opens. After 10 percent travel the position indicating device vents both piston chambers and the valve fully opens to the back seat due to pressure acting on the valve plug. The accepted alternate testing method is to partially stroke test the MSIV's during power operation and full stroke test the valves during shutdowns.

The proposed changes to Technical Specifications Surveillance 4.7.1.5.2 will identify a Mode 3 requirement to perform a 10 second full closure test of the MSIVs in Mode 3 or 4. Surveillance 4.7.1.5.3 will identify a Mode 4 requirement to perform a 120 second full closure test of the MSIVs in Mode 4 when the RCS temperature is greater than or equal to 320 degrees F. The 320 degree F restriction on testing the valves is consistent with recommendations from the valve manufacturer. Additionally, a footnote is added to the LCO and the surveillance to identify that the MSIVs are required to be closed and deactivated when the RCS temperature is less than 320 degrees F.

The proposed changes are consistent with equipment design and the surveillance testing of the MSIVs provides the necessary assurance that the valves will function consistent with accident analyses.

The other proposed changes to reword the Applicability and Action statements of Technical Specification 3.7.1.5 and Bases Section B3/4.7.1.5 are considered administrative changes.

Therefore, the proposed revision does not involve a significant increase in the probability or consequence of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes to the surveillance testing of the MSIVs does not change the operation of the valves as assumed for accident analyses. The MSIVs are currently equipped with provisions for partial stroking.

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

3. Involve a significant reduction in a margin of safety.

The proposed changes to Technical Specifications Surveillances 4.7.1.5.1 and 4.7.1.5.2 are to clarify the testing of the MSIVs by rewording and separating the requirements into three surveillances. Surveillance 4.7.1.5.1 will identify a Mode 1 and 2 requirement to partial stroke test the MSIVs in Mode 1 and 2 unless a successful 10 second full stroke test was performed during the surveillance period. Surveillance 4.7.1.5.2 will identify a Mode 3 requirement to perform a 10 second full closure test of the MSIVs in Mode 3 or 4. Surveillance 4.7.1.5.3 will identify a Mode 4 requirement to perform a 120 second full closure test of the MSIVs in Mode 4 when the RCS temperature is greater than or equal to 320 degrees F. The 320 degree F restriction on testing the valves is consistent with recommendations from the valve manufacturer. Additionally, a footnote is added to the LCO and the surveillance to identify that the MSIVs are required to be closed and deactivated when the RCS temperature is less than 320 degrees F. The footnote will eliminate the potential to declare the MSIVs operable in the upper range of Mode 4 and then allow the MSIVs to remain open during a cooldown into the lower range of Mode 4 where they may not be able to meet their required stroke time. The full closure test times are consistent with the current MSIV surveillances and the partial stroke testing is consistent with the Millstone Unit 3 Inservice Pump and Valve Test Program.

The other proposed changes to reword the Applicability and Action statements of Technical Specification 3.7.1.5 and Bases Section B3/4.7.1.5 are considered administrative changes.

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

In conclusion, based on the information provided, it is determined that the proposed revision does not involve an SHC.

Environmental Considerations

NNECO has reviewed the proposed license amendment against the criteria of 10CFR51.22 for environmental considerations. The proposed revision does not involve an SHC, does not significantly increase the type and amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, NNECO concludes that the proposed revision meets the criteria delineated in 10CFR51.22(c)(9) for categorical exclusion from the requirements of an environmental considerations.