

MARKUP OF PROPOSED REVISION

Refer to the attached markup of the proposed revision to the Technical Specifications. The attached markup reflects the currently issued version of the Technical Specifications listed below. Pending Technical Specification revisions or Technical Specification revisions issued subsequent to this submittal are not reflected in the enclosed markup.

The following Technical Specifications changes are included in the attached markup:

- Revise the wording to exempt the operating charging pump and associated piping from the requirement to be verified full of water.

Surveillance 4.5.2.b.1

- Revise the wording to remove the method of verification.

Surveillance 4.5.2.b.1

- Revise the wording to identify the method of verification to be utilized in verifying that the Emergency Core Cooling System (ECCS) piping is full of water.

Basis for 3.5.2

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

<u>Valve Number</u>	<u>Valve Function</u>	<u>Valve Position</u>
3SIH*MVB8806	RWST Supply to SI Pumps	OPEN
3SIH*MVB8802A	SI Pump A to Hot Leg Injection	CLOSED
3SIH*MVB8802B	SI Pump B to Hot Leg Injection	CLOSED
3SIH*MVB8835	SI Cold Leg Master Isolation	OPEN
3SIH*MVB8813	SI Pump Master Miniflow Isolation	OPEN
3SIL*MVB8840	RHR to Hot Leg Injection	CLOSED
3SIL*MVB8809A	RHR Pump A to Cold Leg Injection	OPEN
3SIL*MVB8809B	RHR Pump B to Cold Leg Injection	OPEN

- b. At least once per 31 days by:

Insert
S.1

- 1) ~~Verifying that the ECCS piping, except for the RSE pump, heat exchanger and associated piping, is full of water by venting the ECCS pump casings and accessible discharge piping high points, and~~
 - 2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suction during LOCA conditions. This visual inspection shall be performed:
- 1) For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
 - 2) At least once daily of the areas affected (during each day) within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.
- d. At least once each REFUELING INTERVAL by:
- 1) Verifying automatic interlock action of the RHR System from the Reactor Coolant System by ensuring that with a simulated or actual Reactor Coolant System pressure signal greater than or equal to 390 psia the interlocks prevent the valves from being opened.

INSERT S.1

- 1) Verifying that the ECCS piping, except for the operating centrifugal charging pump(s) and associated piping, the RSS pump, the RSS heat exchanger and associated piping, is full of water, and

BASES

ECCS SUBSYSTEMS (Continued)

The limitation for a maximum of one centrifugal charging pump and one safety injection pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps and safety injection pumps except the required OPERABLE charging pump to be inoperable below 350°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Surveillance Requirements for throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses.

Insert B.1
Surveillance Requirement 4.5.2.C.2 requires that the visual inspection of the containment be performed at least once daily if the containment has been entered that day and when the final containment entry is made. This will reduce the number of unnecessary inspections and also reduce personnel exposure.

3/4.5.4 REFUELING WATER STORAGE TANK

The OPERABILITY of the refueling water storage tank (RWST) as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWST minimum volume and boron concentration ensure that: (1) sufficient water is available within containment to permit recirculation cooling flow to the core, and (2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses.

The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 7.0 and 7.5 for the solution recirculated within containment after a LOCA. This pH band minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

The maximum/minimum solution temperatures for the RWST in MODES 1, 2, 3 and 4 are based on analysis assumptions.

INSERT B.1

Surveillance Requirement 4.5.2.b.1 requires verifying that the ECCS piping is full of water except for the operating centrifugal charging pump(s) and associated piping, and the RSS pump, the RSS heat exchanger and associated RSS piping. The ECCS pumps are normally in a standby, nonoperating mode, with the exception of the operating centrifugal charging pump(s). As such, the ECCS flow path piping has the potential to develop voids and pockets of entrained gases. Maintaining the piping from the ECCS pumps to the RCS full of water ensures that the system will perform properly when required to inject into the RCS. This Surveillance Requirement is met by venting ECCS pump casings and the accessible discharge piping high points except for; (1) the RSS pump, RSS heat exchanger and associated RSS piping that is not maintained filled with water during plant operation is excluded from the Surveillance Requirement, (2) the operating centrifugal charging pump(s) and associated piping are also excluded as the operating pump is self venting and cannot develop voids and pockets of entrained gases; and (3) the nonoperating centrifugal charging pumps do not have casing vent connections and the pump manufacturer indicates that venting the suction pipe will assure that the pump casing does not contain voids and pockets of entrained gases. The venting of the nonoperating centrifugal charging pumps is accomplished by venting with the test connection.

Attachment 3

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Emergency Core Cooling Systems
(PTSCR 3-19-96)
Retyped Pages

May 1997

RETYPE OF PROPOSED CHANGE

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.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

<u>Valve Number</u>	<u>Valve Function</u>	<u>Valve Position</u>
3SIH*MV8806	RWST Supply to SI Pumps	OPEN
3SIH*MV8802A	SI Pump A to Hot Leg Injection	CLOSED
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3SIH*MV8813	SI Pump Master Miniflow Isolation	OPEN
3SIL*MV8840	RHR to Hot Leg Injection	CLOSED
3SIL*MV8809A	RHR Pump A to Cold Leg Injection	OPEN
3SIL*MV8809B	RHR Pump B to Cold Leg Injection	OPEN

- b. At least once per 31 days by:

- 1) Verifying that the ECCS piping, except for the operating centrifugal charging pump(s) and associated piping, the RSS pump, the RSS heat exchanger and associated piping, is full of water, and
- 2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

- c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

- 1) For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
- 2) At least once daily of the areas affected (during each day) within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.

- d. At least once each REFUELING INTERVAL by:

- 1) Verifying automatic interlock action of the RHR System from the Reactor Coolant System by ensuring that with a simulated or actual Reactor Coolant System pressure signal greater than or equal to 390 psia the interlocks prevent the valves from being opened.

EMERGENCY CORE COOLING SYSTEMS

BASES

ECCS SUBSYSTEMS (Continued)

The limitation for a maximum of one centrifugal charging pump and one safety injection pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps and safety injection pumps except the required OPERABLE charging pump to be inoperable below 350°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Surveillance Requirements for throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses.

Surveillance Requirement 4.5.2.b.1 requires verifying that the ECCS piping is full of water except for the operating centrifugal charging pump(s) and associated piping, and the RSS pump, the RSS heat exchanger and associated RSS piping. The ECCS pumps are normally in a standby, nonoperating mode, with the exception of the operating centrifugal charging pump(s). As such, the ECCS flow path piping has the potential to develop voids and pockets of entrained gases. Maintaining the piping from the ECCS pumps to the RCS full of water ensures that the system will perform properly when required to inject into the RCS. This Surveillance Requirement is met by venting ECCS pump casings and the accessible discharge piping high points except for: (1) the RSS pump, RSS heat exchanger and associated RSS piping that is not maintained filled with water during plant operation is excluded from the Surveillance Requirement, (2) the operating centrifugal charging pump(s) and associated piping is also excluded as an operating pump is self venting and cannot develop voids and pockets of entrained gases, and (3) the nonoperating centrifugal charging pumps do not have casing vent connections and the pump manufacturer indicates that venting the suction pipe will assure that the pump casing does not contain voids and pockets of entrained gases. The venting of the nonoperating centrifugal charging pumps is accomplished by venting with the suction line test connection.

Surveillance Requirement 4.5.2.C.2 requires that the visual inspection of the containment be performed at least once daily if the containment has been entered that day and when the final containment entry is made. This will reduce the number of unnecessary inspections and also reduce personnel exposure.

EMERGENCY CORE COOLING SYSTEMS

BASES

3/4.5.4 REFUELING WATER STORAGE TANK

The OPERABILITY of the refueling water storage tank (RWST) as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWST minimum volume and boron concentration ensure that: (1) sufficient water is available within containment to permit recirculation cooling flow to the core, and (2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses.

The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 7.0 and 7.5 for the solution recirculated within containment after a LOCA. This pH band minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

The maximum/minimum solution temperatures for the RWST in MODES 1, 2, 3 and 4 are based on analysis assumptions.

Attachment 4

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Emergency Core Cooling Systems
(PTSCR 3-19-96)
Background and Safety Assessment

May 1997

Background

Technical Specification Surveillance 4.5.2.b.1 currently requires that the ECCS piping, except for the RSS pump, heat exchanger and associated piping, be verified full of water by venting the ECCS pump casings and accessible discharge piping high points.

This proposed revision would revise the surveillance to exempt the operating charging pump(s) and associated piping from the requirement to be verified full of water and move the description of the verification method from the surveillance to the Bases Section.

Safety Assessment

The requirements of Technical Specification Surveillance 4.5.2.b.1 are being modified to exempt the operating centrifugal charging pump(s) and associated piping from the requirement to be vented at least once per 31 days. This surveillance is intended for systems and components that have the potential to develop voids and pockets of entrained gases due to their not being in service. An operating centrifugal charging pump and the associated piping is self venting and cannot develop voids and pockets of entrained gases.

The requirements of Technical Specification Surveillance 4.5.2.b.1 are also being modified to move the description of the venting method from the surveillance to the Bases Section. Currently the surveillance identifies that ECCS piping is to be verified full of water by venting ECCS pump casings and accessible discharge piping high points except for the RSS pump, RSS heat exchanger and associated RSS piping that are not maintained filled with water during plant operation. The venting description will be expanded when moved to the bases to include an exclusion for the above described operating centrifugal charging pump(s) and associated piping and the venting method used for nonoperating centrifugal charging pumps. The centrifugal charging pumps have top mounted suction and discharge nozzles and do not have casing vents. The pump manufacturer has indicated that venting the pump suction pipe will assure that the pump is full of water. This venting of the nonoperating centrifugal charging pumps is accomplished by using a pump suction line test connection. These proposed changes are considered administrative.

This proposed change:

- is consistent with the design of the centrifugal charging pumps,
- does not change the operation of any system or system component during normal or accident evaluations, and
- considered safe because it will not result in the plant being operated in an unsafe condition, decrease available safety margins, nor adversely impact the

consequences of an accident. It will cause no increase in the risk to the public health or safety. It does not increase either the probability of event occurrence, the probability of human errors mitigating the event, the probability of the failure of mitigating equipment, nor does it introduce any new accidents or equipment malfunctions.

Attachment 5

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Emergency Core Cooling Systems
(PTSCR 3-19-96)

Significant Hazards Consideration and Environmental Considerations

May 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 bases 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 change to Technical Specification Surveillance 4.5.2.b.1 to exempt the operating centrifugal charging pump(s) and associated piping from the requirement to be vented will not effect the requirement that ECCS piping be full of water. An operating centrifugal charging pump and the associated piping is self venting and cannot develop voids and pockets of entrained gases. This change is consistent with the design of the charging system and ensuring that ECCS piping is full of water does not involve a significant increase in the probability or consequence of an accident previously evaluated.

The proposed change to Technical Specification Surveillance 4.5.2.b.1 to move and expand the description of the venting method from the surveillance to the Bases Section are considered administrative changes.

Therefore, the proposed changes do 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 change to exempt the operating centrifugal charging pump(s) and associated piping from the requirement to be periodically vented by crediting its self venting capabilities does not change the operation of the charging system or any of its components during normal or accident evaluations.

The proposed changes to move and expand the description of the venting method from the surveillance to the Bases Section are considered administrative changes.

Therefore, the proposed change 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 change to Technical Specification Surveillance 4.5.2.b.1 to exempt the operating centrifugal charging pump(s) and associated piping from the requirement to be manually vented by crediting its self venting capabilities, is consistent with the design of the charging system. This proposed change continues to ensure that ECCS piping is full of water and thus, does not involve a significant reduction in a margin of safety.

The proposed change to Technical Specification Surveillance 4.5.2.b.1 to move the description of the venting method from the surveillance to the Bases Section is considered an administrative change. Currently the surveillance identifies that ECCS piping is to be verified full of water by venting ECCS pump casings and accessible discharge piping high points except for the RSS pump, RSS heat exchanger and associated RSS piping that are not maintained filled with water during plant operation. The venting description will be expanded when moved to the bases to include an exclusion for the above described operating centrifugal charging pump(s) and associated piping and the venting method used for nonoperating centrifugal charging pumps. The centrifugal charging pumps have top mounted suction and discharge nozzles and do not have casing vents. The pump manufacturer has indicated that venting the pump suction pipe will assure that the pump is full of water. This venting of the nonoperating centrifugal charging pumps is accomplished by using a pump suction line test connection.

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

In conclusion, based on the information provided, it is determined that the proposed change 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 change does not involve a 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 change meets the criteria delineated in 10CFR51.22(c)(9) for categorical exclusion from the requirements of an environmental considerations.