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August 5, 2022
L-20-239

10 CFR 50.90

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

SUBJECT:

Perry Nuclear Power Plant, Unit No. 1
Docket No. 50-440, License No. NPF-58

Application to Revise the Technical Specifications to Adopt TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position"

Pursuant to 10 CFR 50.90, Energy Harbor Nuclear Corp. is submitting a request for an amendment to the Technical Specifications (TS) for Perry Nuclear Power Plant, Unit No. 1 (PNPP).

Energy Harbor Nuclear Corp. requests adoption of TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS), into PNPP TS. The proposed amendment modifies certain TS Surveillance Requirements (SR) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system or component (SSC) remains operable (i.e., capable of performing its specified safety function).

The enclosure provides a description and assessment of the proposed changes. Attachment 1 provides the existing TS pages marked up to show the proposed changes. Attachment 2 provides revised (clean) TS pages for information only. Attachment 3 provides existing TS Bases pages marked to show the proposed changes for information only.

Energy Harbor Nuclear Corp. requests that the amendment be reviewed under the Consolidated Line Item Improvement Process (CLIIP). Approval of the proposed amendment is requested by January 16, 2023. Once approved, the amendment shall be implemented within 90 days.

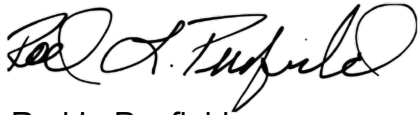
In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Ohio Official.

Perry Nuclear Power Plant
L-20-239
Page 2

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Phil H. Lashley, Manager – Nuclear Licensing, at (330) 696-7208.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 5, 2022.

Sincerely,

A handwritten signature in black ink, appearing to read "Rod L. Penfield", written in a cursive style.

Rod L. Penfield

Enclosure: Evaluation of Proposed Change

cc: NRC Region III Administrator
NRC Resident Inspector
NRR Project Manager
Executive Director, Ohio Emergency Management Agency,
(State of Ohio NRC Liaison)
Utility Radiological Safety Board

Evaluation of Proposed Change
Page 1 of 7

Subject: Application to Revise the Technical Specifications to Adopt TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position"

1.0 DESCRIPTION

2.0 ASSESSMENT

- 2.1 Applicability of Safety Evaluation
- 2.2 Variations
- 2.3 Licensee Verifications

3.0 REGULATORY ANALYSIS

- 3.1 No Significant Hazards Consideration Analysis
- 3.2 Conclusion

4.0 ENVIRONMENTAL CONSIDERATION

5.0 ATTACHMENTS

- 1. Technical Specification Page Markups
- 2. Revised Technical Specification Pages (for information only)
- 3. TS Bases Markups (for information only)

1.0 DESCRIPTION

Energy Harbor Nuclear Corp. requests adoption of TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS), into the Perry Nuclear Power Plant, Unit No. 1 (PNPP) Technical Specifications (TS). The proposed amendment modifies the TS Surveillance Requirements (SR) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or of any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system or component (SSC) remains operable (i.e., capable of performing its specified safety function). The following SRs are affected by the proposed change.

- SRs in NUREG-1434, "Standard Technical Specifications General Electric BWR/6 Plants"
 - TS 3.5.1, "Emergency Core Cooling Systems (ECCS) Operating,"
 - TS 3.5.3, "Reactor Core Isolation Cooling (RCIC) System,"
 - TS 3.6.1.7, "Residual Heat Removal (RHR) Containment Spray System,"
 - TS 3.6.4.3, "Standby Gas Treatment (SGT) System,"
 - TS 3.7.1, "[Standby Service Water (SSW) System] and [Ultimate Heat Sink (UHS)],"
 - TS 3.7.2, "High Pressure Core Spray (HPCS) Service Water System (SWS)," and
 - TS 3.7.3, "[Control Room Fresh Air (CRFA)] System."

While the proposed exceptions permit automatic valves and dampers that are locked, sealed, or otherwise secured in the actuated position to be excluded from the SR in order to consider the SR met, the proposed changes will not permit a system that is made inoperable by locking, sealing, or otherwise securing an automatic valve or damper in the actuated position to be considered operable. As stated in the SR 3.0.1 Bases, "Nothing in this Specification, however, is to be construed as implying that systems or components are OPERABLE when:

- a. The systems or components are known to be inoperable, although still meeting the SRs."

2.0 ASSESSMENT

2.1 Applicability of Safety Evaluation

Energy Harbor Nuclear Corp. has reviewed the safety evaluation for TSTF-541 provided to the Technical Specifications Task Force in a letter dated December 10, 2019. This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-541. Energy Harbor Nuclear Corp. has concluded that the justifications presented in TSTF-541 and the safety evaluation prepared by the NRC staff are applicable to PNPP and justify this amendment for the incorporation of the changes to the PNPP TS.

Energy Harbor Nuclear Corp. acknowledges that under the proposed change, the affected valves and dampers may be excluded from the SR when locked, sealed or otherwise secured in the actuated position. However, if the safety analysis assumes movement from the actuated position following an event, or the system is rendered inoperable by locking, sealing, or otherwise securing the valve or damper in the actuated position, then the system cannot perform its specified safety function and is inoperable regardless of whether the SR is met.

Energy Harbor Nuclear Corp. acknowledges for components for which the SR allowance can be utilized, the SR must be verified to have been met within its required Frequency after removing the valve or damper from the locked, sealed or otherwise secured status. If the SR exception is utilized to not test the actuation of a valve or damper and the specified Frequency of the SR is exceeded without testing the component, the SR must be performed on the component when it is returned to service in order to meet the SR.

2.2 Variations

Energy Harbor Nuclear Corp. is proposing the following variations from the TS changes described in TSTF-541 or the applicable parts of the NRC staff's safety evaluation:

The PNPP TS utilize different titles than the Standard Technical Specifications on which TSTF-541 was based. Specifically:

- In the TSTF, the title of TS 3.6.4.3 in NUREG-1434 is "Standby Gas Treatment (SGT) System." In the PNPP TS, the title of TS 3.6.4.3 is "Annulus Exhaust Gas Treatment (AEGT) System."
- In the TSTF, the title of TS 3.7.1 in NUREG-1434 is "[Standby Service Water (SSW)] System and [Ultimate Heat Sink (UHS)]." In the PNPP TS, the title of TS 3.7.1 is "Emergency Service Water (ESW) System-Divisions 1 and 2."

- In the TSTF, the title of TS 3.7.2 in NUREG-1434 is "High Pressure Core Spray (HPCS) Service Water System (SWS)." In the PNPP TS, the title of TS 3.7.2 is "Emergency Service Water (ESW) System-Division 3."
- In the TSTF, the title of TS 3.7.3 in NUREG-1434 is "[Control Room Fresh Air (CRFA)] System]." In the PNPP TS, the title of TS 3.7.3 is "Control Room Emergency Recirculation (CRER) System."

These differences are administrative and do not affect the applicability of TSTF-541 to the PNPP TS.

The PNPP TS have incorporated TSTF-542, Revision 2, "Reactor Pressure Vessel Water Inventory Control," [ADAMS Accession No. ML18292A816] which had not been incorporated into the standard TS on which TSTF-541 was based. The changes in TSTF-541 are equally applicable to new SR 3.5.2.7 and SR 3.5.2.8 added by TSTF-542. Therefore, the TSTF-541 allowance is added to those SRs. Additionally, the PNPP TS have incorporated TSTF-582, "RPV WIC Enhancements," [ADAMS Accession No. ML21034A417] which renumbered SR 3.5.2.7 and SR 3.5.2.8 to SR 3.5.2.6 and SR 3.5.2.7, respectively. This difference is administrative and does not affect the applicability to the PNPP TS.

The PNPP Technical Specifications contain a Surveillance Frequency Control Program. Therefore, the Frequency for the affected SRs is "In accordance with the Surveillance Frequency Control Program." This has no effect on the applicability of the proposed change.

2.3 Licensee Verifications

Energy Harbor Nuclear Corp. confirms that existing administrative processes, such as the Corrective Action Program, Operability Determination process, the maintenance, design control, configuration control, and operating procedures, etc., will be used to assess the operability of the system or of any supported systems when utilizing the SR allowances, which includes consideration of whether movement of the affected valves or dampers following an event is assumed in the safety analysis.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Analysis

Energy Harbor Nuclear Corp. requests adoption of TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS), into the Perry Nuclear Power Plant, Unit No. 1 (PNPP) Technical

Specifications (TS). The proposed amendment modifies the TS Surveillance Requirements (SRs) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or of any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system or component (SSC) remains operable (i.e., capable of performing its specified safety function).

Energy Harbor Nuclear Corp. has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

Response: No

The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed or otherwise secured in the actuated position. The performance or lack of performance of SRs is not an initiator of any accident previously evaluated. As a result, the proposed change has no effect on the probability of any accident previously evaluated. The proposed change excludes performance of portions of certain SRs, but the SSC must still be capable of performing the safety functions assumed in the accident analysis. Otherwise, the SSC is inoperable, and the associated TS Actions are followed. As a result, the SSCs continue to perform their mitigating functions and the consequences of any accident previously evaluated are not affected.

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

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

Response: No

The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed or otherwise secured in the actuated position. The proposed change will not change the design function or operability requirements of the affected SSCs. The SSC must still be capable of performing the safety functions assumed in the accident analysis or the SSC is inoperable, and the associated TS Actions are followed. The

proposed change does not create any credible new failure mechanisms, malfunctions, or accident initiators not considered in the design and licensing bases.

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

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

Response: No

The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed or otherwise secured in the actuated position. The proposed change does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis assumptions and acceptance criteria are not affected by this change.

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

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

3.2 Conclusion

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

4.0 ENVIRONMENTAL CONSIDERATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical

exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

Attachment 1

Technical Specification Page Markups
(8 pages follow)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.5</p> <p>-----NOTE----- Vessel injection/spray may be excluded. -----</p> <p>Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal- <u>except for valves that are locked, sealed, or otherwise secured in the actuated position.</u></p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.1.6</p> <p>-----NOTE----- Valve actuation may be excluded. -----</p> <p>Verify the ADS actuates on an actual or simulated automatic initiation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.1.7</p> <p>-----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -----</p> <p>Verify each ADS valve actuator strokes when manually actuated.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.1.8</p> <p>-----NOTE----- ECCS actuation instrumentation is excluded. -----</p> <p>Verify the ECCS RESPONSE TIME for each ECCS injection/spray subsystem is within limits.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.2.5</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Operation may be through the test return line. 2. Credit may be taken for normal system operation to satisfy this SR. <p>-----</p> <p>Operate the required ECCS injection/spray subsystem through the recirculation line for ≥ 10 minutes.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.2.6</p> <p>Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal, <u>except for valves that are locked, sealed, or otherwise secured in the actuated position.</u></p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.2.7</p> <p>-----NOTE-----</p> <p>Vessel injection/spray may be excluded.</p> <p>-----</p> <p>Verify the required LPCI or LPCS injection/spray subsystem actuates on a manual injection signal, or the required HPCS subsystem can be manually operated, <u>except for valves that are locked, sealed, or otherwise secured in the actuated position.</u></p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.3.5</p> <p>-----NOTE----- Vessel injection may be excluded. -----</p> <p>Verify the RCIC System actuates on an actual or simulated automatic initiation signal: <u>except for valves that are locked, sealed, or otherwise secured in the actuated position.</u></p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.7.1</p> <p>-----NOTE----- RHR containment spray subsystems may be considered OPERABLE during alignment and operation for decay heat removal when below the RHR cut in permissive pressure in MODE 3 if capable of being manually realigned and not otherwise inoperable. -----</p> <p>Verify each RHR containment spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.6.1.7.2</p> <p>Verify each RHR pump develops a flow rate of ≥ 5250 gpm on recirculation flow through the associated heat exchangers to the suppression pool.</p>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>
<p>SR 3.6.1.7.3</p> <p>Verify each RHR containment spray subsystem automatic valve in the flow path actuates to its correct position on an actual or simulated automatic initiation signal- <u>except for valves that are locked, sealed, or otherwise secured in the actuated position.</u></p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.6.1.7.4</p> <p>Verify each spray nozzle is unobstructed.</p>	<p>Following maintenance which could result in nozzle blockage.</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each AEGT subsystem for ≥ 15 continuous minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.3.2	Perform required AEGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each AEGT subsystem actuates on an actual or simulated initiation signal: <u>except for dampers that are locked, sealed, or otherwise secured in the actuated position.</u>	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Both ESW Division 1 and Division 2 subsystems inoperable.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	Verify each required Division 1 and 2 ESW subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.1.2	Verify each required Division 1 and 2 ESW subsystem actuates on an actual or simulated initiation signal- <u>except for valves that are locked, sealed, or otherwise secured in the actuated position.</u>	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.2 Emergency Service Water (ESW) System-Division 3

LCO 3.7.2 The Division 3 ESW subsystem shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ESW Division 3 subsystem inoperable.	A.1 Declare High Pressure Core Spray System inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	Verify each required Division 3 ESW subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.2.2	Verify the Division 3 ESW subsystem actuates on an actual or simulated initiation signal: <u>except for valves that are locked, sealed, or otherwise secured in the actuated position.</u>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.3.3	Verify each CRER subsystem actuates on an actual or simulated initiation-signal. <u>except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.</u>	In accordance with the Surveillance Frequency Control Program
SR 3.7.3.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program.

Attachment 2

Revised Technical Specification Pages (for information only)
(8 pages follow)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.5	<p>-----NOTE----- Vessel injection/spray may be excluded. -----</p> <p>Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.6	<p>-----NOTE----- Valve actuation may be excluded. -----</p> <p>Verify the ADS actuates on an actual or simulated automatic initiation signal.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.7	<p>-----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -----</p> <p>Verify each ADS valve actuator strokes when manually actuated.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.8	<p>-----NOTE----- ECCS actuation instrumentation is excluded. -----</p> <p>Verify the ECCS RESPONSE TIME for each ECCS injection/spray subsystem is within limits.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.5	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Operation may be through the test return line. 2. Credit may be taken for normal system operation to satisfy this SR. <p>-----</p> <p>Operate the required ECCS injection/spray subsystem for ≥ 10 minutes.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.6	Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.7	<p>-----NOTE-----</p> <p>Vessel injection/spray may be excluded.</p> <p>-----</p> <p>Verify the required injection/spray subsystem can be manually operated, except for valves that are locked, sealed, or otherwise secured in the actuated position.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.3.5	<p>-----NOTE----- Vessel injection may be excluded. -----</p> <p>Verify the RCIC System actuates on an actual or simulated automatic initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.7.1	<p>-----NOTE-----</p> <p>RHR containment spray subsystems may be considered OPERABLE during alignment and operation for decay heat removal when below the RHR cut in permissive pressure in MODE 3 if capable of being manually realigned and not otherwise inoperable.</p> <p>-----</p> <p>Verify each RHR containment spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.7.2	Verify each RHR pump develops a flow rate of ≥ 5250 gpm on recirculation flow through the associated heat exchangers to the suppression pool.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.1.7.3	Verify each RHR containment spray subsystem automatic valve in the flow path actuates to its correct position on an actual or simulated automatic initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.7.4	Verify each spray nozzle is unobstructed.	Following maintenance which could result in nozzle blockage.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each AEGT subsystem for ≥ 15 continuous minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.3.2	Perform required AEGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each AEGT subsystem actuates on an actual or simulated initiation signal, except for dampers that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Both ESW Division 1 and Division 2 subsystems inoperable.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	Verify each required Division 1 and 2 ESW subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.1.2	Verify each required Division 1 and 2 ESW subsystem actuates on an actual or simulated initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.2 Emergency Service Water (ESW) System-Division 3

LCO 3.7.2 The Division 3 ESW subsystem shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ESW Division 3 subsystem inoperable.	A.1 Declare High Pressure Core Spray System inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	Verify each required Division 3 ESW subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.2.2	Verify the Division 3 ESW subsystem actuates on an actual or simulated initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.3.3	Verify each CRER subsystem actuates on an actual or simulated initiation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.3.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program.

Attachment 3

TS Bases Markups (for information only)
(11 pages follow)

BASES

SURVEILLANCE
REQUIREMENTSSR 3.5.1.4 (continued)

elevation head loss and piping system friction loss at the required flow rate. This safety analysis value is determined by engineering calculation. In addition, pump operability may be limited by the ASME “required action” range value for these pumps. The Frequency for this Surveillance is in accordance with the INSERVICE TESTING PROGRAM requirements.

SR 3.5.1.5

The ECCS subsystems are required to actuate automatically to perform their design functions. This Surveillance test verifies that, with a required system initiation signal (actual or simulated), the automatic initiation logic of HPCS, LPCS, and LPCI will cause the systems or subsystems to operate as designed, including actuation of the system throughout its emergency operating sequence, automatic pump startup, and actuation of all automatic valves to their required positions. This Surveillance also ensures that the HPCS System will automatically restart on an RPV low water level (Level 2) signal received subsequent to an RPV high water level (Level 8) trip and that the suction is automatically transferred from the CST to the suppression pool on a condensate storage tank low water level signal and on a suppression pool high water level signal. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.1, “Emergency Core Cooling System (ECCS) Instrumentation,” overlaps this Surveillance to provide complete testing of the assumed safety function.

HPCS testing may be performed in any MODE. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS
(continued)SR 3.5.2.5

Verifying that the required ECCS injection/spray subsystem can be manually aligned, and the pump started and operated for at least 10 minutes demonstrates that the subsystem is available to mitigate a draining event. This SR is modified by two Notes. Note 1 states that testing the ECCS injection/spray subsystem may be done through the test return line to avoid overfilling the refueling cavity. Note 2 states that credit for meeting the SR may be taken for normal system operation that satisfies the SR, such as using the RHR mode of LPCI for ≥ 10 minutes. The minimum operating time of 10 minutes was based on engineering judgement.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.5.2.6

Verifying that each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated RPV water level isolation signal is required to prevent RPV water inventory from dropping below the TAF should an unexpected draining event occur. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS
(continued)SR 3.5.2.7

This Surveillance verifies that a required LPCI subsystem or LPCS System can be manually aligned and started from the control room, including any necessary valve alignment, instrumentation, or controls, to transfer water from the suppression pool or CST to the RPV. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency.

The Surveillance is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note that excludes vessel injection/spray during the Surveillance. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the Surveillance.

REFERENCES

1. Information Notice 84-81, "Inadvertent Reduction in Primary Coolant Inventory in Boiling Water Reactors During Shutdown and Startup," November 1984.
2. Information Notice 86-74, "Reduction of Reactor Coolant Inventory Because of Misalignment of RHR Valves," August 1986.
3. Generic Letter 92-04, "Resolution of the Issues Related to Reactor Vessel Water Level Instrumentation in BWRs Pursuant to 10 CFR 50.54(f)," August 1992.
4. NRC Bulletin 93-03, "Resolution of Issues Related to Reactor Vessel Water Level Instrumentation in BWRs," May 1993.
5. Information Notice 94-52, "Inadvertent Containment Spray and Reactor Vessel Draindown at Millstone 1," July 1994.
6. General Electric Service Information Letter No. 388, "RHR Valve Misalignment During Shutdown Cooling Operation for BWR 3/4/5/6," February 1983.

BASES

SURVEILLANCE
REQUIREMENTSSR 3.5.3.5 (continued)

automatic pump startup and actuation of all automatic valves to their required positions. This Surveillance test also ensures that the RCIC System will automatically restart on an RPV low water level (Level 2) signal received subsequent to an RPV high water level (Level 8) trip and that the suction is automatically transferred from the CST to the suppression pool on a condensate storage tank low water level signal and on a suppression pool high water level signal. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.3, "Reactor Core Isolation Cooling (RCIC) System Instrumentation," overlaps this Surveillance to provide complete testing of the assumed safety function.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note that excludes vessel injection during the Surveillance. Since all active components are testable and full flow can be demonstrated by recirculation through the full flow test line, coolant injection into the RPV is not required during the Surveillance.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 33.
2. USAR, Section 5.4.6.
3. Memorandum from R.L. Baer (NRC) to V. Stello, Jr. (NRC), "Recommended Interim Revisions to LCO's for ECCS Components," December 1, 1975.

BASES

SURVEILLANCE
REQUIREMENTSSR 3.6.1.7.1 (continued)

A Note has been added to this SR that allows RHR containment spray subsystems to be considered OPERABLE during alignment and operation for decay heat removal with reactor steam pressure less than the RHR cut in permissive pressure in MODE 3, if capable of being manually realigned (remote or local) and not otherwise inoperable. This allows operation in the RHR shutdown cooling mode during MODE 3 if necessary.

SR 3.6.1.7.2

Verifying each RHR pump develops a flow rate ≥ 5250 gpm with flow through the associated heat exchangers ensures that pump performance has not degraded below the required flow rate during the cycle. It is tested in the suppression pool cooling mode to demonstrate pump OPERABILITY without spraying down equipment in primary containment. Flow is a normal test of centrifugal pump performance required by the ASME Code (Ref. 2). This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice inspections confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the INSERVICE TESTING PROGRAM.

SR 3.6.1.7.3

This SR verifies that each RHR containment spray subsystem automatic valve actuates to its correct position upon receipt of an actual or simulated automatic actuation signal. Actual spray initiation is not required to meet this SR. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.2.5 overlaps this SR to provide complete testing of the safety function.

(continued)

BASES

SURVEILLANCE
REQUIREMENTSSR 3.6.4.3.1 (continued)

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.4.3.2

This SR verifies that the required AEGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The AEGT System filter tests are in accordance with Regulatory Guide 1.52 (Ref. 4). The VFTP includes testing HEPA filter efficiency, system flow rate, and general operating parameters of the filtration system. (Note: Values identified in the VFTP are Surveillance Requirement values.) Specified test frequencies and additional information are discussed in detail in the VFTP.

SR 3.6.4.3.3

This SR verifies that each AEGT subsystem starts and isolation dampers open upon receipt of a manual initiation signal from the control room and an actual or simulated initiation and operates throughout its emergency operating sequence for the LOCA signal.

The SR excludes automatic dampers that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers that are locked, sealed, or otherwise secured in the actuated position since the affected dampers were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.5.1.6 overlaps this SR to provide complete testing of the safety function. This Surveillance can be performed with the reactor at power. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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BASES (continued)

- REFERENCES
1. 10 CFR 50, Appendix A, GDC 41.
 2. USAR, Section 6.5.3.
 3. USAR, Section 15.6.5.
 4. Regulatory Guide 1.52, Rev. 4.
 5. Deleted.
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BASES

SURVEILLANCE
REQUIREMENTSSR 3.7.1.1 (continued)

rather, it involves verification that those valves potentially capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

Isolation of the ESW subsystem to components or systems does not necessarily affect the OPERABILITY of the associated ESW subsystem. As such, when the ESW subsystem pump, valves, and piping are OPERABLE, but a branch connection off the main header is isolated, the associated ESW subsystem needs to be evaluated to determine if it is still OPERABLE.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.7.1.2

This SR verifies that the automatic isolation valves of the Division 1 and Division 2 ESW subsystems will automatically realign to the safety or emergency position to provide cooling water exclusively to the safety related equipment during an accident event. This is demonstrated by use of an actual or simulated initiation signal. This SR also verifies the automatic start capability of the ESW pump in each subsystem. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.5.1.6 overlaps this SR to provide complete testing of the safety function.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. Regulatory Guide 1.27, Revision 2, January 1976.
2. USAR, Section 9.2.1.
3. USAR, Table 9.2-7.

(continued)

BASES

SURVEILLANCE
REQUIREMENTSSR 3.7.2.1 (continued)

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.7.2.2

This SR verifies that the automatic isolation valve of the Division 3 ESW subsystem will automatically realign to the safety or emergency position to provide cooling water exclusively to the safety related equipment during an accident event. This is demonstrated by use of an actual or simulated initiation signal. This SR also verifies the automatic start capability of the Division 3 ESW pump. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.5.1.6 overlaps this SR to provide complete testing of the safety function.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. USAR, Section 9.2.1.
2. USAR, Chapter 6.
3. USAR, Chapter 15.

BASES

SURVEILLANCE
REQUIREMENTS
(continued)SR 3.7.3.3

This SR verifies that each CRER subsystem starts and operates on an actual or simulated initiation signal, and the isolation dampers that establish a portion of the CRE boundary close within 10 seconds. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.7.1.5 overlaps this SR to provide complete testing of the safety function. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.7.3.4

This SR verifies the OPERABILITY of the CRE boundary by testing for unfiltered air leakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program.

The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem TEDE and the CRE occupants are protected from hazardous chemicals and smoke. This SR verifies that the unfiltered air leakage into the CRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air leakage is greater than the assumed flow rate, Condition B must be entered. Required Action B.3 allows time to restore the CRE boundary to OPERABLE status provided mitigating actions can ensure that the CRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3, (Ref. 7), which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F (Ref. 10). These compensatory measures may be used as mitigating actions as required by Required Action B.2.

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BASES ~~(continued)~~SURVEILLANCE
REQUIREMENTSSR 3.7.3.4 (continued)

Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE boundary, or a combination of these actions (Ref. 11). Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the CRE boundary has been restored to OPERABLE status.

REFERENCES

1. USAR, Section 6.5.1.
2. USAR, Section 6.4.
3. USAR, Chapter 6.
4. USAR, Chapter 15.
5. USAR, Section 2.2.
6. Letter from L. W. Pearce (FENOC) to Document Control Desk (NRC) dated May 30, 2006, "Perry Nuclear Power Plant Final Response to Generic Letter 2003-01, 'Control Room Habitability' (TAC No. MB9839)."
7. Regulatory Guide 1.196.
8. Deleted.
9. Deleted.
10. NEI 99-03, "Control Room Habitability Assessment," June 2001.
11. Letter from Eric J. Leeds (NRC) to James W. Davis (NEI) dated January 30, 2004, "NEI Draft White Paper, Use of Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability," (ADAMS Accession No. ML040160868).
12. Regulatory Guide 1.52, Revision 4.