



NMP2L2592

September 24, 2015

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

Nine Mile Point Nuclear Station, Unit 2  
Renewed Facility Operating License No. NPF-69  
NRC Docket No. 50-410

Subject: Supplemental Information Regarding TSTF-425 License Amendment Request

- References:
1. Letter from David T. Gudger (Exelon) to U.S. Nuclear Regulatory Commission, dated July 10, 2014: Application to Revise Technical Specifications to Adopt TSTF-523, "Generic Letter 2008-01, Managing Gas Accumulation," using the Consolidated Line Item Improvement Process
  2. Letter from James Barstow (Exelon) to U.S. Nuclear Regulatory Commission, dated November 19, 2014: Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program (Adoption of TSTF-425, Revision 3)
  3. Letter from U.S. Nuclear Regulatory Commission to David T. Gudger (Exelon), dated July 30, 2015: Calvert Cliffs Nuclear Power Plant Unit Nos. 1 and 2; R.E. Ginna Nuclear Power Plant; and Nine Mile Point Nuclear Station, Unit No. 2 - Issuance of Amendments Regarding Implementation of Technical Specification Task Force Traveler 523, "Generic Letter 2008-01, Managing Gas Accumulation" (TAC Nos. MF4405, MF4406, MF4407, and MF4409)
  4. Letter from James Barstow (Exelon) to U.S. Nuclear Regulatory Commission, dated September 10, 2015: Response to Request for Additional Information - "Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program (Adoption of TSTF-425, Revision 3)"

On July 10, 2014, Exelon Generation Company, LLC (Exelon) submitted a license amendment request to adopt Technical Specification Task Force 523 (TSTF-523). (Reference 1).

On November 19, 2014, Exelon submitted a license amendment request to adopt TSTF-425 (Reference 2).

On July 30, 2015, the U.S Nuclear Regulatory Commission (NRC) issued Amendment 150 (Reference 3) to the Nine Mile Point Unit 2 (NMP2) Technical Specifications (TS) approving the implementation of TSTF-523 "Generic Letter 2008-01, Managing Gas Accumulation."

Issuance of Amendment 150 to the NMP2 TS added new Surveillance Requirements (SR) and modified the language of existing surveillances.

This letter supplements the original submittal of TSTF-425 (Reference 2) to:

1. Include the new surveillances added to the NMP2 TS as a result of Amendment 150, and
2. Update the text of previously submitted surveillances whose language was modified as a result of Amendment 150.

Exelon recognizes that these new surveillances and its associated surveillance frequencies are deviations from the approved TSTF-425 because they were not included in the NUREG-1433 mark-ups provided in TSTF-425. However, Exelon has determined that relocating the frequencies for these new NMP2 surveillances is consistent with TSTF-425, Revision 3; and with the NRC staff's model Safety Evaluation dated July 6, 2009 (74 FR 31996), including the scope exclusions identified in the model Safety Evaluation.

Specifically, these surveillances are not:

1. Frequencies that reference other approved programs for the specific interval (such as the Inservice Testing Program or the Primary Containment Leakage Rate Testing Program);
2. Frequencies that are purely event driven (e.g., "Each time the control rod is withdrawn to the 'full out' position");
3. Frequencies that are event-driven but have a time component for performing the surveillance on a one-time basis once the event occurs (e.g., "within 24 hours after thermal power reaching 95% RTP"); and
4. Frequencies that are related to specific conditions (e.g., battery degradation, age, and capacity) or conditions for the performance of a surveillance requirement (e.g., "drywell to suppression chamber differential pressure decrease").

These surveillances involve fixed periodic frequencies, and in accordance with TSTF-425, changes to the frequencies for these surveillances would be controlled under the Surveillance Frequency Control Program (SFCP). The SFCP provides the necessary administrative controls to require that surveillances related to testing, calibration, and

inspection are conducted at a frequency to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

Furthermore, TSTF-523 recognized that these new SR frequencies are within the scope of TSTF-425. As shown in the marked-up pages of TSTF-523, the surveillance frequency requirements were stated as either "In accordance with the Surveillance Frequency Control Program" for licensees with an approved SFCP, or "31 days" for licensees without an approved SFCP; thus implicitly recognizing that these surveillance were in the scope of TSTF425.

Attachment 1 contains a brief description of the surveillances added and modified by implementing TSTF-523. Surveillances whose text was modified by the issuance of TSTF-523 do not represent a deviation from TSTF-425; however, they are only included for completeness of information. New surveillances are shown underlined and in bolded text.

Attachment 2 contains the original TSTF-425 (NUREG-1433) vs. NMP2 Cross-Reference revised to include the new surveillances and replaces the original attachment. New information is shown in red text.

Attachment 3 contains the originally submitted marked-up TS pages per TSTF-425 revised to include the new or modified surveillances. New and modified surveillances are shown highlighted in yellow for ease of identification.

Attachment 4 contains the marked-up TS Bases including the new Bases as approved by TSTF-523. New Bases are identified by revision marks on the right-hand side of the pages.

Exelon has reviewed the information supporting a finding of No Significant Hazards consideration provided to the NRC in Reference 1. The additional information provided in this supplement does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. Furthermore, the additional information provided in this supplement does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

No regulatory commitments are contained in this letter.

If you should have any questions regarding this submittal, please contact Enrique Villar at 610-765-5736.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 24<sup>th</sup> day of September 2015.

Respectfully,

A handwritten signature in black ink, appearing to read "James T. Barstow", written over a horizontal line.

James Barstow  
Director - Licensing & Regulatory Affairs

Supplement to License Amendment Request  
Adoption of TSTF-425, Rev. 3  
September 24, 2015  
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Exelon Generation Company, LLC

Attachments: 1. Description of Affected Surveillances as Modified by Reference 3  
2. Revised TSTF-425 (NUREG-1433) vs. NMP Unit 2 Cross-Reference  
3. Marked up Technical Specification Pages as Modified by Reference 3  
4. Marked up Technical Specifications Bases as Modified by Reference 3

cc:	USNRC Region I Regional Administrator	w/attachments
	USNRC Senior Resident Inspector – NMP	"
	USNRC Project Manager, NRR – NMP	"
	A. L. Peterson, NYSERDA	"

**ATTACHMENT 1**

**Supplement to License Amendment Request**

**Nine Mile Point Nuclear Station, Unit 2  
Docket No. 50-410**

**Application for Technical Specification Change Regarding Risk-  
Informed Justification for the Relocation of Specific Surveillance  
Frequency Requirements to a Licensee Controlled Program  
(Adoption of TSTF-425, Revision 3)**

**Description of Affected Surveillances As Modified By Reference 3**

**DESCRIPTION OF AFFECTED SURVEILLANCES AS MODIFIED BY REFERENCE 3**

(1) **Added SR 3.4.9.2, which states,**

Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

With a note that states:

Not required to be performed until 12 hours after reactor steam dome pressure is less than the RHR cut-in permissive pressure.

And a frequency of 31 days

(2) **Added SR 3.4.10.2, which states,**

Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

With a frequency of 31 days

(3) Revised the language for SR 3.5.1.1 from

Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.

to:

Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.

(4) Added a note to SR 3.5.1.2, which states,

Not required to be met for system vent flow paths opened under administrative control.

(5) Revised the language for SR 3.5.2.3 from

Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.

to:

Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.

- (6) Added a note to SR 3.5.2.4, which states,

Not required to be met for system vent flow paths opened under administrative control.

- (7) Revised the language for SR 3.5.3.1 from

Verify the RCIC System piping is filled with water from the pump discharge valve to the injection valve.

to:

Verify the RCIC system locations susceptible to gas accumulation are sufficiently filled with water.

- (8) Added a note to SR 3.5.3.2 which states,

Not required to be met for system vent flow paths opened under administrative control.

- (9) **Added SR 3.6.2.3.3, which states,**

Verify RHR suppression pool cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

With a frequency of 31 days

- (10) **Added SR 3.6.2.4.3, which states,**

Verify RHR suppression pool cooling spray subsystem locations susceptible to gas accumulation are sufficiently filled with water.

With a frequency of 31 days

- (11) **Added SR 3.9.8.2, which states**

Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

With a frequency of 31 days

(12) **Added SR 3.9.9.2, which states,**

Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

With a frequency of 31 days

**ATTACHMENT 2**

**Supplement to License Amendment Request**

**Nine Mile Point Nuclear Station, Unit 2  
Docket No. 50-410**

**Application for Technical Specification Change Regarding Risk-  
Informed Justification for the Relocation of Specific Surveillance  
Frequency Requirements to a Licensee Controlled Program  
(Adoption of TSTF-425, Revision 3)**

**Revised TSTF-425 (NUREG-1433/1434) vs. NMP Unit 2 Cross-Reference**

**TSTF-425 vs. NMP Unit 2 Cross-Reference**

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
<b>Control Rod Operability</b>	<b>3.1.3</b>	<b>3.1.3</b>
Control rod position	3.1.3.1	3.1.3.1
Notch test - fully withdrawn control rod one notch	3.1.3.2	=====
Notch test - partially withdrawn control rod one notch	3.1.3.3	3.1.3.3
<b>Control Rod Scram Times</b>	<b>3.1.4</b>	<b>3.1.4</b>
Scram time testing	3.1.4.2	3.1.4.2
<b>Control Rod Scram Accumulators</b>	<b>3.1.5</b>	<b>3.1.5</b>
Control rod scram accumulator pressure	3.1.5.1	3.1.5.1
<b>Rod Pattern Control</b>	<b>3.1.6</b>	<b>3.1.6</b>
[BPWS] Analyzed rod position sequence	3.1.6.1	3.1.6.1
<b>Standby Liquid Control (SLC) System</b>	<b>3.1.7</b>	<b>3.1.7</b>
Volume of sodium pentaborate [Level of pentaborate in SLC tank]	3.1.7.1	3.1.7.1
Temperature of sodium pentaborate solution	3.1.7.2	3.1.7.2
Temperature of pump suction piping	3.1.7.3	3.1.7.3
Continuity of explosive charge	3.1.7.4	3.1.7.4
Concentration of boron solution (sodium pentaborate)	3.1.7.5	3.1.7.5
Manual/power operated valve position	3.1.7.6	3.1.7.6
Pump flow rate	3.1.7.7	=====
Flow through one SLC subsystem	3.1.7.8	3.1.7.8
Heat traced piping is unblocked	3.1.7.9	3.1.7.9
<b>Scram Discharge Volume (SDV) Vent &amp; Drain Valves</b>	<b>3.1.8</b>	<b>3.1.8</b>
Each SDV vent & drain valve open	3.1.8.1	3.1.8.1
Cycle each SDV vent & drain valve fully closed/fully open position	3.1.8.2	3.1.8.2
Each SDV vent & drain valve closes on receipt of scram	3.1.8.3	3.1.8.3
<b>Average Planar Linear Heat Generation Rate (APLHGR)</b>	<b>3.2.1</b>	<b>3.2.1</b>
APLHGR less than or equal to limits	3.2.1.1	3.2.1.1
<b>Minimum Critical Power Ratio (MCPR)</b>	<b>3.2.2</b>	<b>3.2.2</b>
MCPR greater than or equal to limits	3.2.2.1	3.2.2.1
<b>Linear Heat Generation Rate (LHGR)</b>	<b>3.2.3</b>	<b>3.2.3</b>
LHGR less than or equal to limits	3.2.3.1	3.2.3.1
<b>Average Power Range Monitor (APRM) Gain &amp; Setpoints</b>	<b>3.2.4</b>	=====
MFLPD is within limits	3.2.4.1	=====
APRM setpoints or gain are adjusted for calculated MFLPD	3.2.4.2	=====
<b>Reactor Protection System (RPS) Instrumentation</b>	<b>3.3.1.1</b>	<b>3.3.1.1</b>
Channel Check	3.3.1.1.1	3.3.1.1.1
Channel Check (OPRM upscale)	=====	3.3.1.1.2
Absolute diff. between APRM channels & calculated power	3.3.1.1.2	3.3.1.1.3
Adjust channel to conform to calibrated flow	3.3.1.1.3	Table 3.3.1.1-1 2b

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
Channel Functional Test (12 hours after entering Mode 2)	3.3.1.1.4	3.3.1.1.4
Channel Functional Test (weekly)	3.3.1.1.5	_____
Verify SRM and IRM overlap	_____	3.3.1.1.5
Verify IRM and APRM overlap	_____	3.3.1.1.6
Calibrate local power range monitors	3.3.1.1.6	3.3.1.1.7
Channel Functional Test	3.3.1.1.7	3.3.1.1.8
Calibrate trip units	3.3.1.1.8	3.3.1.1.9
Channel Calibration (APRMs/WRNMs)	3.3.1.1.9	3.3.1.1.10
Perform a Channel Calibration	_____	3.3.1.1.11
Channel Functional Test	3.3.1.1.10	3.3.1.1.12
Channel Calibration	3.3.1.1.11	3.3.1.1.13
Verify APRM Flow Biased STP – High	3.3.1.1.12	Table 3.3.1.1-1 2b
Logic System Functional Test	3.3.1.1.13	3.3.1.1.14
Verify TSV/TCV closure/Trip Oil Press-Low Not Bypassed	3.3.1.1.14	3.3.1.1.15
Verify RPS Response Time	3.3.1.1.15	3.3.1.1.17
Verify APRM OPRM Upscale is not by-passed	_____	3.3.1.1.16
<b>Source Range Monitor (SRM) [Wide Range Neutron Monitor (WRNM)] Instrumentation</b>	<b>3.3.1.2</b>	<b>3.3.1.2</b>
Channel Check	3.3.1.2.1	3.3.1.2.1
Verify Operable SRM Detector [WRNM Detector]	3.3.1.2.2	3.3.1.2.2
Channel Check	3.3.1.2.3	3.3.1.2.3
Verify count rate	3.3.1.2.4	3.3.1.2.4
Channel Functional Test (Mode 5)	3.3.1.2.5	3.3.1.2.5
Channel Functional Test (Modes 2, 3, 4, 5)	3.3.1.2.6	3.3.1.2.6
Channel Calibration	3.3.1.2.7	3.3.1.2.7
<b>Control Rod Block Instrumentation</b>	<b>3.3.2.1</b>	<b>3.3.2.1</b>
Channel Functional Test (RWM)	3.3.2.1.2	3.3.2.1.1
	3.3.2.1.3	3.3.2.1.2
Channel Functional Test (RBM)	3.3.2.1.1	3.3.2.1.3
	3.3.2.1.4	3.3.2.1.4
RWM not bypassed	3.3.2.1.5	3.3.2.1.5
Channel Functional Test (Reactor Mode Switch –Shutdown position)	3.3.2.1.6	3.3.2.1.6
Channel Calibration	3.3.2.1.7	3.3.2.1.7
<b>Feedwater &amp; Main Turbine High Water Level Trip Instrumentation</b>	<b>3.3.2.2</b>	<b>3.3.2.2</b>
Channel Check	3.3.2.2.1	3.3.2.2.1
Channel Functional Test	3.3.2.2.2	3.3.2.2.2
Channel Calibration	3.3.2.2.3	3.3.2.2.3
Logic System Functional Test	3.3.2.2.4	3.3.2.2.4
<b>Post Accident Monitor (PAM) Instrumentation</b>	<b>3.3.3.1</b>	<b>3.3.3.1</b>
Channel Check	3.3.3.1.1	3.3.3.1.1
Calibration	3.3.3.1.2	3.3.3.1.2

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
<b>Remote Shutdown System</b>	<b>3.3.3.2</b>	<b>3.3.3.2</b>
Channel Check	3.3.3.2.1	3.3.3.2.1
Verify control circuit and transfer switch capable of function	3.3.3.2.2	3.3.3.2.2
Channel Calibration	3.3.3.2.3	3.3.3.2.3
<b>End-of-Cycle-Recirculation Pump Trip (RPT) Instrumentation</b>	<b>3.3.4.1</b>	<b>3.3.4.1</b>
Channel Functional Test	3.3.4.1.1	3.3.4.1.1
Calibrate trip units	3.3.4.1.2	-----
Channel Calibration	3.3.4.1.3	3.3.4.1.2
Logic System Functional Test	3.3.4.1.4	3.3.4.1.3
Verify TSV/TCV Closure/Trip Oil Press-Low Not Bypassed	3.3.4.1.5	3.3.4.1.4
Verify EOC-RPT System Response Time	3.3.4.1.6	3.3.4.1.5
Determine RPT breaker interruption time	3.3.4.1.7	3.3.4.1.6
<b>Anticipated Trip Without Scram-RPT Instrumentation</b>	<b>3.3.4.2</b>	<b>3.3.4.2</b>
Channel Check	3.3.4.2.1	3.3.4.2.1
Channel Functional Test	3.3.4.2.2	3.3.4.2.2
Calibrate trip units	3.3.4.2.3	3.3.4.2.3
Reactor Vessel Steam Dome Pressure	-----	3.3.4.2.4
Channel Calibration	3.3.4.2.4	3.3.4.2.5
Logic System Functional Test	3.3.4.2.5	3.3.4.2.6
<b>Emergency Core Cooling System (ECCS) Instrumentation</b>	<b>3.3.5.1</b>	<b>3.3.5.1</b>
Channel Check	3.3.5.1.1	3.3.5.1.1
Channel Functional Test	3.3.5.1.2	3.3.5.1.2
Calibrate trip units	3.3.5.1.3	3.3.5.1.3
Channel Calibration	3.3.5.1.4	3.3.5.1.4
Channel Calibration	3.3.5.1.5	3.3.5.1.5
Logic System Functional Test	3.3.5.1.6	3.3.5.1.6
Verify ECCS Response Time	3.3.5.1.7	-----
<b>Reactor Core Isolation Cooling (RCIC) System Instrumentation</b>	<b>3.3.5.2</b>	<b>3.3.5.2</b>
Channel Check	3.3.5.2.1	3.3.5.2.1
Channel Functional Test	3.3.5.2.2	3.3.5.2.2
Calibrate trip units	3.3.5.2.3	3.3.5.2.3
Channel Calibration (Quarterly)	3.3.5.2.4	-----
Channel Calibration(24 Months)	3.3.5.2.5	3.3.5.2.4
Logic System Functional Test	3.3.5.2.6	3.3.5.2.5
<b>Primary Containment Isolation Instrumentation</b>	<b>3.3.6.1</b>	<b>3.3.6.1</b>
Channel Check	3.3.6.1.1	3.3.6.1.1
Verify Actual Ambient Temperature	-----	3.3.6.1.2
Channel Functional Test (Quarterly)	3.3.6.1.2	3.3.6.1.3
Channel Functional Test (semi annually)	3.3.6.1.5	-----
Calibrate trip units	3.3.6.1.3	3.3.6.1.4
Channel Calibration (Quarterly)	3.3.6.1.4	-----

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
Channel Calibration (24 Months)	3.3.6.1.6	3.3.6.1.5
Logic System Functional Test	3.3.6.1.7	3.3.6.1.6
Verify Isolation Response Time	3.3.6.1.8	3.3.6.1.7
<b>Secondary Containment Isolation Instrumentation</b>	<b>3.3.6.2</b>	<b>3.3.6.2</b>
Channel Check	3.3.6.2.1	3.3.6.2.1
Channel Functional Test	3.3.6.2.2	3.3.6.2.2
Calibrate trip units	3.3.6.2.3	3.3.6.2.3
Channel Calibration (Quarterly)	3.3.6.2.4	=====
Channel Calibration (24 months)	3.3.6.2.5	3.3.6.2.4
Logic System Functional Test	3.3.6.2.6	3.3.6.2.5
Verify Isolation Response Time (Refueling Floor Exhaust Radiation –High)	3.3.6.2.7	=====
<b>Low-Low-Set (LLS) Instrumentation</b>	<b>3.3.6.3</b>	=====
Channel Check	3.3.6.3.1	=====
Channel Functional Test	3.3.6.3.2	=====
Channel Functional Test	3.3.6.3.3	=====
Channel Functional Test	3.3.6.3.4	=====
Calibrate trip units	3.3.6.3.5	=====
Channel Calibration	3.3.6.3.6	=====
Logic System Functional Test	3.3.6.3.7	=====
<b>Main Control Room Environmental Control (MCREC) [Main Control Room Emergency Ventilation (MCREV)] Instrumentation</b>	<b>3.3.7.1</b>	<b>3.3.7.1</b>
Channel Check	3.3.7.1.1	3.3.7.1.1
Channel Functional Test	3.3.7.1.2	3.3.7.1.2
Calibrate trip units	3.3.7.1.3	3.3.7.1.3
Channel Calibration	3.3.7.1.4	3.3.7.1.4
Logic System Functional Test	3.3.7.1.5	3.3.7.1.5
<b>Mechanical Vacuum Pump Isolation Instrumentation</b>	=====	<b>3.3.7.2</b>
Channel Check	=====	3.3.7.2.1
Channel Functional Test	=====	3.3.7.2.2
Channel Calibration	=====	3.3.7.2.3
Logic System Functional Test	=====	3.3.7.2.4
<b>Loss of Power (LOP) Instrumentation</b>	<b>3.3.8.1</b>	<b>3.3.8.1</b>
Channel Check	3.3.8.1.1	=====
Channel Functional Test	3.3.8.1.2	3.3.8.1.1
Channel Calibration	3.3.8.1.3	3.3.8.1.2
Logic System Functional Test	3.3.8.1.4	3.3.8.1.3
<b>RPS Electric Power Monitoring</b>	<b>3.3.8.2</b>	<b>3.3.8.2</b>
Channel Functional Test	3.3.8.2.1	3.3.8.2.1
Channel Calibration (RPS MG set/alt. power supply monitoring)	3.3.8.2.2	3.3.8.2.2
System functional test	3.3.8.2.3	3.3.8.2.3
<b>RPS – Scram Solenoid</b>	=====	<b>3.3.8.3</b>
Channel Functional Test	=====	3.3.8.3.1

Technical Specification Section Title/Surveillance Description*	TSTF-425 (NUREG1433)	NMP Unit 2
Channel Calibration	=====	3.3.8.3.2
Logic System Functional Test	=====	3.3.8.3.3
<b>Recirculation Loops Operating</b>	<b>3.4.1</b>	<b>3.4.1</b>
Recirc loop jet pump flow mismatch with both loops operating	3.4.1.1	3.4.1.1
<b>Flow Control Valves (See Note 1)</b>	<b>3.4.2</b>	<b>3.4.2</b>
FCV fails as is on loss of Hydraulic Pressure	3.4.2.1	3.4.2.1
Average rate of FCV movement	3.4.2.2	3.4.2.2
<b>Jet Pumps</b>	<b>3.4.2</b>	<b>3.4.3</b>
Criteria satisfied for each operating recirc loop	3.4.2.1	3.4.3.1
<b>Safety/Relief Valves (SRVs) [and Safety Valves (SVs)]</b>	<b>3.4.3</b>	<b>3.4.4</b>
Safety function lift setpoints	3.4.3.1	=====
SRV actuates on actual or simulated signal	3.4.3.2	=====
<b>Reactor Coolant System (RCS) Operational Leakage</b>	<b>3.4.4</b>	<b>3.4.5</b>
RCS unidentified and total leakage increase within limits	3.4.4.1	3.4.5.1
<b>RCS PIV Leakage</b>	<b>3.4.5</b>	<b>3.4.6</b>
PIV Leakage within limits	3.4.5.1	=====
<b>RCS Leakage Detection Instrumentation</b>	<b>3.4.6</b>	<b>3.4.7</b>
Channel Check	3.4.6.1	3.4.7.1
Channel Functional Test	3.4.6.2	3.4.7.2
Source Check of required drywell atmospheric monitoring system	=====	3.4.7.3
Channel Functional Test of required drywell atmospheric monitoring system	=====	3.4.7.4
Channel Calibration of required leak detection instrumentation	3.4.6.3	3.4.7.5
<b>RCS Specific Activity</b>	<b>3.4.7</b>	<b>3.4.8</b>
Dose Equivalent I-131 specific activity	3.4.7.1	3.4.8.1
<b>Residual Heat Removal (RHR) Shutdown Cooling - Hot Shutdown</b>	<b>3.4.8</b>	<b>3.4.9</b>
One RHR Shutdown cooling subsystem operating	3.4.8.1	3.4.9.1
Verify locations susceptible to gas accumulation are filled with water	=====	3.4.9.2
<b>RHR Shutdown Cooling - Cold Shutdown</b>	<b>3.4.9</b>	<b>3.4.10</b>
One RHR Shutdown cooling subsystem operating	3.4.9.1	3.4.10.1
Verify locations susceptible to gas accumulation are filled with water	=====	3.4.10.2
<b>RCS Pressure/Temperature Limit</b>	<b>3.4.10</b>	<b>3.4.11</b>
RCS pressure, temperature, heatup and cooldown rates	3.4.10.1	3.4.11.1
RPV flange/head flange temperatures (tensioning head bolt stud)	3.4.10.7	3.4.11.7
RPV flange/head flange temperatures (after RCS temp $\leq$ 80°F)	3.4.10.8	3.4.11.8
RPV flange/head flange temperatures (after RCS temp $\leq$ 100°F)	3.4.10.9	3.4.11.9
<b>Reactor Steam Dome Pressure</b>	<b>3.4.11</b>	<b>3.4.12</b>
Verify reactor steam dome pressure	3.4.11.1	3.4.12.1
<b>ECCS - Operating</b>	<b>3.5.1</b>	<b>3.5.1</b>
Verify injection/spray piping filled with water (Note 2)	3.5.1.1	3.5.1.1
Verify each valve in flow path is in correct position (Note 2)	3.5.1.2	3.5.1.2
Verify ADS nitrogen pressure	3.5.1.3	3.5.1.3

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Verify RHR (LPCI) cross tie valve is closed and power removed	3.5.1.4	=====
Verify LPCI inverter output voltage	3.5.1.5	=====
Verify ECCS pumps develop specified flow	3.5.1.7	=====
Verify HPCI flow rate (Rx press < 1020 [1053], > 920 [940])	3.5.1.8	=====
Verify HPCI flow rate (Rx press < 165 [175])	3.5.1.9	=====
Verify ECCS actuates on initiation signal	3.5.1.10	3.5.1.5
Verify ADS actuates on initiation signal	3.5.1.11	3.5.1.6
Verify each ADS valve opens [actuator strokes] when manually actuated	3.5.1.12	3.5.1.7
Verify ECCS Response Time	=====	3.5.1.8
<b>ECCS - Shutdown</b>	<b>3.5.2</b>	<b>3.5.2</b>
Verify suppression pool water level	3.5.2.1	3.5.2.1
Verify, for CS, suppression pool water level and CST water level	3.5.2.2	3.5.2.2
Verify ECCS piping filled with water (Note 2)	3.5.2.3	3.5.2.3
Verify each valve in flow path is in correct position (Note 2)	3.5.2.4	3.5.2.4
Verify ECCS actuates on initiation signal	3.5.2.6	3.5.2.6
Verify ECCS Response Time	=====	3.5.2.7
<b>RCIC System</b>	<b>3.5.3</b>	<b>3.5.3</b>
Verify RCIC piping filled with water (Note 2)	3.5.3.1	3.5.3.1
Verify each valve in flow path is in correct position (Note 2)	3.5.3.2	3.5.3.2
Verify RCIC flow rate	3.5.3.3	3.5.3.3
Verify RCIC flow rate (Rx press < 165)	3.5.3.4	3.5.3.4
Verify RCIC actuates on initiation signal	3.5.3.5	3.5.3.5
<b>Primary Containment</b>	<b>3.6.1.1</b>	<b>3.6.1.1</b>
<del>Verify drywell to suppression chamber differential pressure [bypass leakage] (Note 3)</del>	<del>3.6.1.1.2</del>	<del>3.6.1.1.2</del>
Verify drywell to suppression chamber bypass and combined leakage at initial diff. pressure of ≥ 3 psid	=====	3.6.1.1.3
<b>Primary Containment Air Lock</b>	<b>3.6.1.2</b>	<b>3.6.1.2</b>
Verify only one door can be opened at a time	3.6.1.2.2	3.6.1.2.2
<b>Primary Containment Isolation Valves (PCIVs)</b>	<b>3.6.1.3</b>	<b>3.6.1.3</b>
Verify purge valve is closed except one valve in a penetration	3.6.1.3.1	=====
Verify each 18 (20) inch primary purge valve is closed	3.6.1.3.2	3.6.1.3.1
Verify each manual PCIV outside containment is closed	3.6.1.3.3	3.6.1.3.2
Verify continuity of traversing incore probe (TIP) shear valve	3.6.1.3.5	3.6.1.3.4
Verify PCIV isolation times (except MSIVs)	3.6.1.3.6	=====
Perform leak rate testing for valves with resilient seals	3.6.1.3.7	3.6.1.3.6
Verify automatic PCIV actuates to isolation position	3.6.1.3.9	3.6.1.3.8
Verify sample of Excess Flow Check Valves actuate to isolation position	3.6.1.3.10	3.6.1.3.9
Test explosive squib from each shear valve	3.6.1.3.11	3.6.1.3.10
<b>Drywell/Containment Pressure</b>	<b>3.6.1.4</b>	<b>3.6.1.4</b>

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
Verify drywell pressure is within limit	3.6.1.4.1	3.6.1.4.1
<b>Drywell Average Air Temperature</b>	<b>3.6.1.5</b>	<b>3.6.1.5</b>
Verify drywell average air temperature is within limit	3.6.1.5.1	3.6.1.5.1
<b>RHR Drywell Spray (See Note 1)</b>	<b>3.6.1.7</b>	<b>3.6.1.6</b>
Verify RHR drywell spray valves is not locked is in its correct position	3.6.1.7.1	3.6.1.6.1
Verify each RHR pump is operable (Admin. Means)	-----	3.6.1.6.2
<b>LLS Valves</b>	<b>3.6.1.6</b>	-----
Verify each LLS valve opens when manually actuated	3.6.1.6.1	-----
Verify LLS system actuates on initiation signal	3.6.1.6.2	-----
<b>Reactor Building - Suppression Chamber Vacuum Breakers</b>	<b>3.6.1.7</b>	-----
Verify each vacuum breaker is closed	3.6.1.7.1	-----
Perform functional test on each vacuum breaker	3.6.1.7.2	-----
Verify opening setpoint for each vacuum breaker	3.6.1.7.3	-----
<b>Suppression Chamber - Drywell Vacuum Breakers</b>	<b>3.6.1.8</b>	<b>3.6.1.7</b>
Verify each vacuum breaker is closed	3.6.1.8.1	3.6.1.7.1
Perform functional test on each vacuum breaker	3.6.1.8.2	3.6.1.7.2
Verify opening setpoint for each vacuum breaker	3.6.1.8.3	3.6.1.7.3
<b>Main Steam Isolation Valve (MSIV) Leakage Control System</b>	<b>3.6.1.9</b>	-----
Operate each MSIV LCS blower	3.6.1.9.1	-----
Verify continuity of inboard MSIV LCS heater element	3.6.1.9.2	-----
Perform functional test of each MSIV LCS subsystem	3.6.1.9.3	-----
<b>Suppression Pool Average Temperature</b>	<b>3.6.2.1</b>	<b>3.6.2.1</b>
Verify suppression pool average temperature within limits	3.6.2.1.1	3.6.2.1.1
<b>Suppression Pool Water Level</b>	<b>3.6.2.2</b>	<b>3.6.2.2</b>
Verify suppression pool water level within limits	3.6.2.2.1	3.6.2.2.1
<b>RHR Suppression Pool Cooling</b>	<b>3.6.2.3</b>	<b>3.6.2.3</b>
Verify each valve in flow path is in correct position	3.6.2.3.1	3.6.2.3.1
Verify location susceptible to gas accumulation are filled with water	-----	3.6.2.3.3
<b>RHR Suppression Pool Spray</b>	<b>3.6.2.4</b>	<b>3.6.2.4</b>
Verify each valve in flow path is in correct position	3.6.2.4.1	3.6.2.4.1
Verify location susceptible to gas accumulation are filled with water	-----	3.6.2.4.3
<b>Drywell - Suppression Chamber Differential Pressure</b>	<b>3.6.2.5</b>	-----
Verify differential pressure is within limit	3.6.2.5.1	-----
<b>Drywell Cooling System Fans</b>	<b>3.6.3.1</b>	-----
Operate each fan $\geq$ 15 minutes	3.6.3.1.1	-----
Verify each fan flow rate	3.6.3.1.2	-----
<b>Primary Containment Oxygen Concentration</b>	<b>3.6.3.2</b>	<b>3.6.3.2</b>
Verify oxygen concentration is within limits	3.6.3.2.1	3.6.3.2.1
<b>Containment Atmosphere Dilution (CAD) System</b>	<b>3.6.3.3</b>	-----
Verify CAD liquid nitrogen storage	3.6.3.3.1	-----
Verify each CAD valve in flow path is in correct position	3.6.3.3.2	-----
<b>Secondary Containment</b>	<b>3.6.4.1</b>	<b>3.6.4.1</b>

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
Verify SC vacuum is > 0.25 inch of vacuum water gauge	3.6.4.1.1	3.6.4.1.1
Verify all SC equipment hatches closed and sealed	3.6.4.1.2	3.6.4.1.2
Verify one SC access door in each opening is closed	3.6.4.1.3	3.6.4.1.3
Verify SC drawn down using one SGTS	3.6.4.1.4	3.6.4.1.4
Verify SC can be maintained using one SGTS	3.6.4.1.5	3.6.4.1.5
<b>Secondary Containment Isolation Valves</b>	<b>3.6.4.2</b>	<b>3.6.4.2</b>
Verify each SC isolation manual valve is closed	3.6.4.2.1	3.6.4.2.1
Verify isolation time of each SCIV	3.6.4.2.2	3.6.4.2.2
Verify each automatic SCIV actuates to isolation position	3.6.4.2.3	3.6.4.2.3
<b>Standby Gas Treatment (SGT) System</b>	<b>3.6.4.3</b>	<b>3.6.4.3</b>
Operate each SGT subsystem with heaters operating	3.6.4.3.1	3.6.4.3.1
Verify each SGT subsystem actuates on initiation signal	3.6.4.3.3	3.6.4.3.3
Verify each SGT filter cooler bypass damper can be opened	3.6.4.3.4	3.6.4.3.4
<b>Residual Heat Removal Service Water (RHRSW) System [High Pressure Service Water (HPSW) System]</b>	<b>3.7.1</b>	-----
Verify each RHRSW [HPSW] valve in flow path in correct position	3.7.1.1	-----
<b>Plant Service Water (PSW) System and Ultimate Heat Sink (UHS)</b>	<b>3.7.2</b>	<b>3.7.1</b>
Verify water temperature of intake tunnel	-----	3.7.1.1
Verify water level in Cooling tower basin	3.7.2.1	-----
Verify water level in pump well of pump structure	3.7.2.2	3.7.1.2
Verify average water temperature of heat sink	3.7.2.3	3.7.1.3
Verify each required SW pump is in operation	-----	3.7.1.4
Verify current of deicer heater within limits	-----	3.7.1.5
Verify each PSW valve in flow path is in correct position	3.7.2.5	3.7.1.6
Verify PSW actuates on initiation signal	3.7.2.6	3.7.1.7
Verify current of deicer heater within limits	-----	3.7.1.8
Operate each cooling tower fan	3.7.2.4	-----
<b>DG (1B) SSW System</b>	<b>3.7.3</b>	-----
Verify valves are in the correct position	3.7.3.1	-----
Ensure SSW system pump automatic start	3.7.3.2	-----
<b>MCREC [MCREV] System [CREV for NMP]</b>	<b>3.7.4</b>	<b>3.7.2</b>
Operate each MCREC [CREV for NMP] subsystem	3.7.4.1	3.7.2.1
Verify each subsystem actuates on initiation signal	3.7.4.3	3.7.2.3
Maintain positive pressure	3.7.4.4	-----
<b>Control Room Air Conditioning System</b>	<b>3.7.5</b>	<b>3.7.3</b>
Verify each subsystem has capability to remove heat load	3.7.5.1	3.7.3.1
<b>Main Condenser Offgas</b>	<b>3.7.6</b>	<b>3.7.4</b>
Verify gross gamma activity rate of the noble gases	3.7.6.1	3.7.4.1
<b>Main Turbine Bypass System</b>	<b>3.7.7</b>	<b>3.7.5</b>
Verify one complete cycle of each main turbine bypass valve	3.7.7.1	-----
Perform system functional test	3.7.7.2	3.7.5.1

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
Verify Turbine Bypass System Response Time within limits	3.7.7.3	3.7.5.2
<b>Spent Fuel Storage Pool Water Level</b>	<b>3.7.8</b>	<b>3.7.6</b>
Verify spent fuel storage pool water level	3.7.8.1	3.7.6.1
<b>AC Sources - Operating</b>		<b>3.8.1</b>
Verify correct breaker alignment	3.8.1.1	3.8.1.1
Verify each DG starts from standby conditions/steady state	3.8.1.2	3.8.1.2
Verify each DG is synchronized and loaded	3.8.1.3	3.8.1.3
Verify each day tank level	3.8.1.4	3.8.1.4
Check for and remove accumulated water from day tank	3.8.1.5	3.8.1.5
Verify fuel oil transfer system operates	3.8.1.6	3.8.1.6
Verify each DG starts from standby conditions	3.8.1.7	3.8.1.2
Verify transfer of power from offsite circuit to alternate circuit	3.8.1.8	3.8.1.14
Verify DG rejects load greater than single largest load	3.8.1.9	3.8.1.7
Verify DG maintains load following load reject	3.8.1.10	3.8.1.8
Verify on loss of offsite power signal	3.8.1.11	3.8.1.9
Verify DG starts on ECCS initiation signal	3.8.1.12	3.8.1.10
Verify DG automatic trips bypassed on ECCS initiation signal	3.8.1.13	3.8.1.11
Verify each DG operates for > 24 hours	3.8.1.14	3.8.1.12
Hot Restart	3.8.1.15	3.8.1.13
Verify each DG synchronizes with offsite power	3.8.1.16	3.8.1.14
Verify ECCS initiation signal overrides test mode	3.8.1.17	3.8.1.15
Verify interval between each timed load block	3.8.1.18	3.8.1.16
Verify on LOOP in conjunction with ECCS initiation signal	3.8.1.19	3.8.1.17
Verify simultaneous DG starts	3.8.1.20	3.8.1.18
<b>Diesel Fuel Oil, Lube Oil, and Starting Air</b>	<b>3.8.3</b>	<b>3.8.3</b>
Verify fuel oil storage tank volume	3.8.3.1	3.8.3.1
Verify lube oil inventory	3.8.3.2	3.8.3.2
Verify each DG air start receiver pressure	3.8.3.4	3.8.3.4
Check/remove accumulated water from fuel oil storage tank	3.8.3.5	3.8.3.5
<b>DC Sources – Operating</b>	<b>3.8.4</b>	<b>3.8.4</b>
Verify battery terminal voltage	3.8.4.1	3.8.4.1
Verify no visible corrosion or battery connection resistance	-----	3.8.4.2
Verify battery cells, plates, racks show no physical damage	-----	3.8.4.3
Remove visible corrosion and coat connections	-----	3.8.4.4
Verify battery connection resistance	-----	3.8.4.5
Verify each battery charger supplies amperage	3.8.4.2	3.8.4.6
Verify battery capacity is adequate to maintain emergency loads	3.8.4.3	3.8.4.7
Verify battery capacity during performance discharge test	-----	3.8.4.8
<b>Battery Parameters</b>	<b>3.8.6</b>	<b>3.8.6</b>
Verify battery meets Category A limits	-----	3.8.6.1
Verify battery meets Category B limits	-----	3.8.6.2
Verify electrolyte temperature	-----	3.8.6.3

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
Verify battery float current	3.8.6.1	-----
Verify battery pilot cell voltage	3.8.6.2	-----
Verify battery connected cell electrolyte level	3.8.6.3	-----
Verify battery pilot cell temperature	3.8.6.4	-----
Verify battery connected cell voltage	3.8.6.5	-----
Verify battery capacity is adequate to maintain emergency loads	3.8.6.6	3.8.4.8
<b>Inverters - Operating</b>	<b>3.8.7</b>	<b>3.8.7</b>
Verify correct inverter voltage, frequency and alignment	3.8.7.1	3.8.7.1
<b>Inverters - Shutdown</b>	<b>3.8.8</b>	-----
Verify correct inverter voltage, frequency and alignment	3.8.8.1	-----
<b>Distribution System - Operating</b>	<b>3.8.9</b>	<b>3.8.8</b>
Verify correct breaker alignment/power to distribution subsystems	3.8.9.1	3.8.8.1
<b>Distribution System - Shutdown</b>	<b>3.8.10</b>	<b>3.8.9</b>
Verify correct breaker alignment/power to distribution subsystems	3.8.10.1	3.8.9.1
<b>Refueling Equipment Interlocks</b>	<b>3.9.1</b>	<b>3.9.1</b>
Channel Functional Test of refueling equip interlock inputs	3.9.1.1	3.9.1.1
<b>Refuel Position One-Rod-Out Interlock</b>	<b>3.9.2</b>	<b>3.9.2</b>
Verify reactor mode switch locked in refuel position	3.9.2.1	3.9.2.1
Perform Channel Functional Test	3.9.2.2	3.9.2.2
<b>Control Rod Position</b>	<b>3.9.3</b>	<b>3.9.3</b>
Verify all control rods fully inserted	3.9.3.1	3.9.3.1
<b>Control Rod Operability - Refueling</b>	<b>3.9.5</b>	<b>3.9.5</b>
Insert each withdrawn control rod one notch	3.9.5.1	3.9.5.1
Verify each withdrawn control rod scram accumulator press	3.9.5.2	3.9.5.2
<b>Reactor Pressure Vessel (RPV) Water Level - Irradiated Fuel</b>	<b>3.9.6</b>	<b>3.9.6</b>
Verify RPV water level	3.9.6.1	3.9.6.1
<b>Reactor Pressure Vessel (RPV) Water Level – New Fuel</b>	<b>3.9.7</b>	<b>3.9.7</b>
Verify RPV water level	3.9.7.1	3.9.7.1
<b>RHR - High Water Level</b>	<b>3.9.8</b>	<b>3.9.8</b>
Verify one RHR shutdown cooling subsystem operating	3.9.8.1	3.9.8.1
Verify location susceptible to gas accumulation are filled with water	-----	3.9.8.2
<b>RHR - Low Water Level</b>	<b>3.9.9</b>	<b>3.9.9</b>
Verify one RHR shutdown cooling subsystem operating	3.9.9.1	3.9.9.1
Verify location susceptible to gas accumulation are filled with water	-----	3.9.9.2
<b>Reactor Mode Switch Interlock Testing</b>	<b>3.10.2</b>	<b>3.10.2</b>
Verify all control rods fully inserted in core cells	3.10.2.1	3.10.2.1
Verify no core alterations in progress	3.10.2.2	3.10.2.2
<b>Single Control Rod Withdrawal - Hot Shutdown</b>	<b>3.10.3</b>	<b>3.10.3</b>
Verify all control rods in five-by-five array are disarmed	3.10.3.2	3.10.3.2
Verify all control rods other than withdrawn rod are fully inserted	3.10.3.3	3.10.3.3
<b>Single Control Rod Withdrawal - Cold Shutdown</b>	<b>3.10.4</b>	<b>3.10.4</b>
Verify all control rods in five-by-five array are disarmed	3.10.4.2	3.10.4.2

<b>Technical Specification Section Title/Surveillance Description*</b>	<b>TSTF-425 (NUREG1433)</b>	<b>NMP Unit 2</b>
Verify all control rods other than withdrawn rod are fully inserted	3.10.4.3	3.10.4.3
Verify a control rod withdrawal block is inserted	3.10.4.4	3.10.4.4
<b>Single Control Rod Drive (CRD) Removal - Refueling</b>	<b>3.10.5</b>	<b>3.10.5</b>
Verify all control rods other than withdrawn rod are fully inserted	3.10.5.1	3.10.5.1
Verify all control rods in five-by-five array are disarmed	3.10.5.2	3.10.5.2
Verify a control rod withdrawal block is inserted	3.10.5.3	3.10.5.3
Verify no core alterations in progress	3.10.5.5	3.10.5.5
<b>Multiple CRD Withdrawal - Refueling</b>	<b>3.10.6</b>	<b>3.10.6</b>
Verify four fuel assemblies removed from core cells	3.10.6.1	3.10.6.1
Verify all other rods in core cells inserted	3.10.6.2	3.10.6.2
Verify fuel assemblies being loaded comply with reload sequence	3.10.6.3	3.10.6.3
<b>ShutDown Margin Test - Refueling</b>	<b>3.10.8</b>	<b>3.10.8</b>
Verify no other core alterations in progress	3.10.8.4	3.10.8.4
Verify CRD charging water header pressure	3.10.8.6	3.10.8.6
<b>Recirculation Loops - Testing</b>	<b>3.10.9</b>	-----
Verify LCO 3.4.1 requirements suspended for < 24 hours	3.10.9.1	-----
Verify Thermal power < 5% RTP during Physics Test	3.10.9.2	-----
<b>Training Startups</b>	<b>3.10.10</b>	-----
Verify all operable IRM channels are <25/40 div. of full scale	3.10.10.1	-----
Verify average reactor coolant temperature < 200 F	3.10.10.2	-----
<b>Programs (Surveillance Frequency Control Program [SFCP])</b>	<b>5.5.15</b>	<b>5.5.14</b>

\* The Technical Specification Section Title/Surveillance Description portion of this attachment is a summary description of the referenced TSTF-425 (NUREG-1433 and 1434)/NMP Unit 2 TS Surveillances which is provided for information purposes only and is not intended to be a verbatim description of the TS Surveillances.

Note 1: Numbering correspond to NUREG 1434 Technical Specifications and surveillance requirements.

Note 2: These are existing surveillances. Only the surveillance text was slightly modified as a result of approved TSTF 523 Amendment.

Note 3: SR withdrawn per Reference 4.

**ATTACHMENT 3**

**Supplement to License Amendment Request**

**Nine Mile Point Nuclear Station, Unit 2**

**Docket No. 50-410**

**Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program  
(Adoption of TSTF-425, Revision 3)**

**Marked-up Technical Specification Pages as Modified by Reference 3**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.9.1</p> <p>----- NOTE ----- Not required to be met until 2 hours after reactor steam dome pressure is less than the RHR cut-in permissive pressure. -----</p> <p>Verify one RHR shutdown cooling subsystem or recirculation pump is operating.</p>	<p><del>12 hours</del></p> <p style="text-align: right;">  <b>INSERT 1</b> </p>
<p>SR 3.4.9.2</p> <p>----- NOTE ----- Not required to be performed until 12 hours after reactor steam dome pressure is less than the RHR cut-in permissive pressure. -----</p> <p>Verify RHR shutdown cooling subsystem Locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p><del>31 days</del></p> <p style="text-align: right;">  <b>INSERT 1</b> </p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. No RHR shutdown cooling subsystem in operation.</p> <p><u>AND</u></p> <p>No recirculation pump in operation.</p>	<p>B.1 Verify reactor coolant circulating by an alternate method.</p> <p><u>AND</u></p> <p>B.2 Monitor reactor coolant temperature and pressure.</p>	<p>1 hour from discovery of no reactor coolant circulation</p> <p><u>AND</u></p> <p>Once per 12 hours thereafter</p> <p>Once per hour</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.10.1 Verify one RHR shutdown cooling subsystem or recirculation pump is operating.</p>	<p><del>12 hours</del></p> <p>↑</p> <p>INSERT 1</p>
<p>SR 3.4.10.2 Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>31 days</p> <p>↑</p> <p>INSERT 1</p>

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.1</p> <p>Verify, for each ECCS injection/spray subsystem, <b>locations susceptible to gas accumulation</b> are sufficiently filled with water.</p>	<p><del>31 days</del></p> <p>↑</p> <p><b>INSERT 1</b></p>
<p>SR 3.5.1.2</p> <p>----- NOTE -----</p> <p>Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the residual heat removal cut-in permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable.</p> <p>----- NOTE -----</p> <p><b>Not required to be met for system vent paths opened under administrative control.</b></p> <p>-----</p> <p>Verify each ECCS injection/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><del>31 days</del></p> <p>↓</p> <p><b>INSERT 1</b></p>
<p>SR 3.5.1.3</p> <p>Verify:</p> <p>a. For each ADS nitrogen receiver discharge header, the pressure is <math>\geq 160</math> psig; and</p> <p>b. For each ADS nitrogen receiver tank, the pressure is <math>\geq 334</math> psig.</p>	<p><del>31 days</del></p> <p>↑</p> <p><b>INSERT 1</b></p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.2.2      Verify, for the required High Pressure Core Spray (HPCS) System, the:</p> <p>a.      Suppression pool water level is <math>\geq 195</math> ft; or</p> <p>b.      Condensate storage tank B water level is <math>\geq 26.9</math> ft.</p>	<p><del>12 hours</del></p> <p>↑ <span style="border: 1px solid black; padding: 2px;">INSERT 1</span></p> <p>↓ <span style="border: 1px solid black; padding: 2px;">INSERT 1</span></p>
<p>SR 3.5.2.3      Verify, for each required ECCS injection/spray subsystem, <b>locations susceptible to gas accumulation</b> are sufficiently filled with water.</p>	<p><del>31 days</del></p>
<p>SR 3.5.2.4      -----NOTE----- One low pressure coolant injection (LPCI) subsystem may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned and not otherwise inoperable.</p> <p>-----NOTE----- <b>Not required to be met for system vent flow paths opened under administrative control.</b></p> <p>Verify each required ECCS injection/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>↓ <span style="border: 1px solid black; padding: 2px;">INSERT 1</span></p> <p><del>31 days</del></p>

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.3.1      Verify the RCIC System <b>locations susceptible to gas accumulations</b> are sufficiently filled with water.</p>	<p><del>31 days</del> → <b>INSERT 1</b></p>
<p>SR 3.5.3.2      -----NOTE-----  <b>Not required to be met for system vent flow paths opened under administrative control.</b></p> <p>Verify each RCIC System 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>→ <b>INSERT 1</b>  <del>31 days</del></p>
<p>SR 3.5.3.3      ----- NOTE -----  Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test.</p> <p>Verify, with reactor pressure ≤ 1035 psig and ≥ 935 psig, the RCIC pump can develop a flow rate ≥ 600 gpm against a system head corresponding to reactor pressure.</p>	<p>→ <b>INSERT 1</b>  <del>92 days</del></p>
<p>SR 3.5.3.4      ----- NOTE -----  Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test.</p> <p>Verify, with reactor pressure ≤ 165 psig, the RCIC pump can develop a flow rate ≥ 600 gpm against a system head corresponding to reactor pressure.</p>	<p>→ <b>INSERT 1</b>  <del>24 months</del></p>

(continued)

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
<p>SR 3.6.2.3.1      Verify each RHR suppression pool cooling subsystem manual and power operated valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.</p>	<p><del>31 days</del></p> 
<p>SR 3.6.2.3.2      Verify each required RHR pump develops a flow rate <math>\geq 7450</math> gpm through the associated heat exchanger while operating in the suppression pool cooling mode.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.6.2.3.3      Verify RHR suppression pool cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p><del>31 days</del></p> 

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.6.2.4.1	Verify each RHR suppression pool spray subsystem manual and power operated valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	<del>31 days</del> ↑ INSERT 1
SR 3.6.2.4.2	Verify each required RHR pump develops a flow rate $\geq 450$ gpm while operating in the suppression pool spray mode.	In accordance with the Inservice Testing Program
SR 3.6.2.4.3	Verify RHR suppression pool spray subsystem locations susceptible to gas accumulation are sufficiently filled with water.	<del>31 days</del> ↑ INSERT 1

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
SR 3.9.8.1      Verify one RHR shutdown cooling subsystem is operating.	12 hours ↑ INSERT 1
SR 3.9.8.2      Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	<del>31 days</del> ↑ INSERT 1

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
SR 3.9.9.1      Verify one RHR shutdown cooling subsystem is operating.	<del>12 hours</del> ↑ INSERT 1
SR 3.9.9.2      Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	<del>31 days</del> ↑ INSERT 1

**ATTACHMENT 4**

**Supplement to License Amendment Request**

**Nine Mile Point Nuclear Station, Unit 2**

**Docket No. 50-410**

**Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program  
(Adoption of TSTF-425, Revision 3)**

**Marked –up Technical Specification Bases as Modified by Reference 3**

BASES (continued)

SURVEILLANCE  
REQUIREMENTS

SR 3.4.9.1

This Surveillance verifies that one RHR shutdown cooling subsystem or recirculation pump is in operation and circulating reactor coolant. The required flow rate is determined by the flow rate necessary to provide sufficient decay heat removal capability. ~~The Frequency of 12 hours is sufficient in view of other visual and audible indications available to the operator for monitoring the RHR subsystem in the control room.~~

INSERT 3

This Surveillance is modified by a Note allowing sufficient time to align the RHR System for shutdown cooling operation after clearing the pressure interlock that isolates the system, or for placing a recirculation pump in operation. The Note takes exception to the requirements of the Surveillance being met (i.e., forced coolant circulation is not required for this initial 2 hour period), which also allows entry into the Applicability of this Specification in accordance with SR 3.0.4 since the Surveillance will not be "not met" at the time of entry into the Applicability.

SR 3.4.9.2

RHR Shutdown Cooling System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the RHR shutdown cooling subsystems and may also prevent water hammer, pump cavitation, and pumping of noncondensable gas into the reactor vessel.

Selection of RHR Shutdown Cooling System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plant and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

(continued)

BASES (continued)

SURVEILLANCE  
REQUIREMENTS

SR 3.4.9.2 (continued)

The RHR Shutdown Cooling System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the RHR Shutdown Cooling System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

RHR Shutdown Cooling System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative subset of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

This SR is modified by a Note that states the SR is not required to be performed until 12 hours after reactor steam dome pressure is less than the RHR cut in permissive pressure. In a rapid shutdown, there may be insufficient time to verify all susceptible locations prior to entering the Applicability.

~~The 31 day Frequency takes into consideration the gradual nature of gas accumulation in the RHR Shutdown Cooling System piping and the procedural controls governing system operation.~~

REFERENCES

1. 10 CFR 50.36(c)(2)(ii).

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

BASES

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ACTIONS  
(continued)

B.1 and B.2

With no RHR shutdown cooling subsystem and no recirculation pump in operation, except as is permitted by LCO Note 1, and until RHR or recirculation pump operation is re-established, an alternate method of reactor coolant circulation must be placed into service. This will provide the necessary circulation for monitoring coolant temperature. The 1 hour Completion Time is based on the coolant circulation function and is modified such that the 1 hour is applicable separately for each occurrence involving a loss of coolant circulation. Furthermore, verification of the functioning of the alternate method must be reconfirmed every 12 hours thereafter. This will provide assurance of continued temperature monitoring capability.

During the period when the reactor coolant is being circulated by an alternate method (other than by the required RHR shutdown cooling system or recirculation pump), the reactor coolant temperature and pressure must be periodically monitored to ensure proper function of the alternate method. The once per hour Completion Time is deemed appropriate.

---

SURVEILLANCE  
REQUIREMENTS

SR 3.4.10.1

This Surveillance verifies that one RHR shutdown cooling subsystem or recirculation pump is in operation and circulating reactor coolant. The required flow rate is determined by the flow rate necessary to provide sufficient decay heat removal capability. ~~The Frequency of 12 hours is sufficient in view of other visual and audible indications available to the operator for monitoring the RHR subsystem in the control room.~~

← **INSERT 3**

SR 3.4.10.2

RHR Shutdown Cooling System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the RHR shutdown cooling subsystems and may also prevent water hammer, pump cavitation, and pumping of noncondensable gas into the reactor vessel.

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(continued)

BASES (continued)

**SURVEILLANCE  
REQUIREMENTS**

SR 3.4.10.2 (continued)

Selection of RHR Shutdown Cooling System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plant and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The RHR Shutdown Cooling System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the RHR Shutdown Cooling System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

RHR Shutdown Cooling System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative subset of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

(continued)

BASES (continued)

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SURVEILLANCE  
REQUIREMENTS

SR 3.4.10.2 (continued)

~~The 31 day Frequency takes into consideration the gradual nature of gas accumulation in the RHR Shutdown Cooling System piping and the procedural controls governing system operation.~~

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REFERENCES

1. 10 CFR 50.36(c)(2)(ii).
- 
- 

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

BASES

SURVEILLANCE  
REQUIREMENTS

SR 3.6.2.3.1 (continued)

~~The Frequency of 31 days is justified because the valves are operated under procedural control, improper valve position would affect only a single subsystem, the probability of an event requiring initiation of the system is low, and the system is a manually initiated system. This Frequency has been shown to be acceptable, based on operating experience.~~

← INSERT 3

SR 3.6.2.3.2

Verifying each required RHR pump develops a flow rate  $\geq 7450$  gpm, while operating in the suppression pool cooling mode with flow through the associated heat exchanger, ensures that the primary containment peak pressure and temperature can be maintained below the design limits during a DBA (Ref. 1). The flow is also a normal test of centrifugal pump performance required by the ASME OM Code (Ref. 3). This test confirms one point on the pump design curve, and the results are indicative of overall performance. Such inservice tests confirm component OPERABILITY and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the Inservice Testing Program.

SR 3.6.2.3.3

RHR Suppression Pool Cooling System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the RHR Suppression Pool Cooling subsystems and may also prevent water hammer and pump cavitation.

Selection of RHR Suppression Pool Cooling System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plant and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

(continued)

BASES

SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.6.2.3.3 (continued)

The RHR Suppression Pool Cooling System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the RHR Suppression Pool Cooling System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

RHR Suppression Pool Cooling System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative subset of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

~~The 31 day Frequency takes into consideration the gradual nature of gas accumulation in the RHR Suppression Pool Cooling System piping and the procedural controls governing system operation.~~

REFERENCES

1. USAR, Section 6.2.
2. 10 CFR 50.36(c)(2)(ii).
3. ASME Code for Operation and Maintenance of Nuclear Power Plants.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

BASES

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SURVEILLANCE  
REQUIREMENTS

SR 3.6.2.4.1 (continued)

acceptable since the RHR suppression pool cooling mode is manually initiated. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves 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.

~~The Frequency of 31 days is justified because the valves are operated under procedural control, improper valve position would affect only a single subsystem, the probability of an event requiring initiation of the system is low, and the subsystem is a manually initiated system. This Frequency has been shown to be acceptable based on operating experience.~~

INSERT 3

SR 3.6.2.4.2

Verifying each required RHR pump develops a flow rate  $\geq 450$  gpm while operating in the suppression pool spray mode helps ensure that the primary containment pressure can be maintained below the design limits during a DBA (Ref. 1). The normal test of centrifugal pump performance required by the ASME OM Code (Ref. 3) is covered by the requirements of LCO 3.6.2.3, "RHR Suppression Pool Cooling." The Frequency of this SR is in accordance with the Inservice Testing Program.

SR 3.6.2.4.3

RHR Suppression Pool Spray System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the RHR Suppression Pool Spray subsystems and may also prevent water hammer and pump cavitation.

Selection of RHR Suppression Pool Spray System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plant and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

(continued)

BASES

SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.6.2.4.3 (continued)

The RHR Suppression Pool Spray System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the RHR Suppression Pool Spray System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

RHR Suppression Pool Spray System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative subset of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

~~The 31 day Frequency takes into consideration the gradual nature of gas accumulation in the RHR Suppression Pool Spray System piping and the procedural controls governing system operation.~~

REFERENCES

1. USAR, Section 6.2.2.2.
2. 10 CFR 50.36(c)(2)(ii).
3. ASME Code for Operation and Maintenance of Nuclear Power Plants.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

BASES

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ACTIONS

B.1, B.2, B.3, and B.4 (continued)

must be restored to OPERABLE status. In this case, a surveillance may need to be performed to restore the component to OPERABLE status. Actions must continue until all required components are OPERABLE.

C.1 and C.2

If no RHR shutdown cooling subsystem is in operation, an alternate method of coolant circulation is required to be established within 1 hour. The Completion Time is modified such that 1 hour is applicable separately for each occurrence involving a loss of coolant circulation.

During the period when the reactor coolant is being circulated by an alternate method (other than by the required RHR shutdown cooling subsystem), the reactor coolant temperature must be periodically monitored to ensure proper functioning of the alternate method. The once per hour Completion Time is deemed appropriate.

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SURVEILLANCE  
REQUIREMENTS

SR 3.9.8.1

This Surveillance demonstrates that the required RHR shutdown cooling subsystem is in operation and circulating reactor coolant. The required flow rate is determined by the flow rate necessary to provide sufficient decay heat removal capability. ~~The Frequency of 12 hours is sufficient in view of other visual and audible indications available to the operator for monitoring the RHR shutdown cooling subsystem in the control room.~~

← **INSERT 3**

SR 3.9.8.2

RHR Shutdown Cooling System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the RHR Shutdown Cooling subsystems and may also prevent water hammer, pump cavitation, and pumping of noncondensable gas into the reactor vessel.

(continued)

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BASES

SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.9.8.2 (continued)

Selection of RHR Shutdown Cooling System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plant and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The RHR Shutdown Cooling System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the RHR Shutdown Cooling System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

RHR Shutdown Cooling System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative subset of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

(continued)

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.9.8.2 (continued)

~~The 31 day Frequency takes into consideration the gradual nature of gas accumulation in the RHR Shutdown Cooling System piping and the procedural controls governing system operation.~~

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REFERENCES

1. 10 CFR 50, Appendix A, GDC 34.
2. 10 CFR 50.36(c)(2)(ii).

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The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

BASES

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ACTIONS

B.1, B.2, and B.3 (continued)

need for secondary containment isolation is indicated). This may be performed as an administrative check, by examining logs or other information to determine whether the components are out of service for maintenance or other reasons. It is not necessary to perform the Surveillances needed to demonstrate the OPERABILITY of the components. If, however, any required component is inoperable, then it must be restored to OPERABLE status. In this case, a surveillance may need to be performed to restore the component to OPERABLE status. Actions must continue until all required components are OPERABLE.

C.1 and C.2

If no RHR shutdown cooling subsystem is in operation, an alternate method of coolant circulation is required to be established within 1 hour. The Completion Time is modified such that the 1 hour is applicable separately for each occurrence involving a loss of coolant circulation.

During the period when the reactor coolant is being circulated by an alternate method (other than by the required RHR shutdown cooling subsystem), the reactor coolant temperature must be periodically monitored to ensure proper function of the alternate method. The once per hour Completion Time is deemed appropriate.

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SURVEILLANCE  
REQUIREMENTS

SR 3.9.9.1

This Surveillance demonstrates that one RHR shutdown cooling subsystem is in operation and circulating reactor coolant. The required flow rate is determined by the flow rate necessary to provide sufficient decay heat removal capability. ~~The Frequency of 12 hours is sufficient in view of other visual and audible indications available to the operator for monitoring the RHR shutdown cooling subsystem in the control room.~~

← **INSERT 3**

SR 3.9.9.2

RHR Shutdown Cooling System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the RHR Shutdown Cooling subsystems and may also prevent water hammer, pump cavitation, and pumping of noncondensable gas into the reactor vessel.

(continued)

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BASES

SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.9.9.2 (continued)

Selection of RHR Shutdown Cooling System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plant and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The RHR Shutdown Cooling System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the RHR Shutdown Cooling System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

RHR Shutdown Cooling System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative subset of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

(continued)

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.9.9.2 (continued)

~~The 31 day Frequency takes into consideration the gradual nature of gas accumulation in the RHR Shutdown Cooling System piping and the procedural controls governing system operation.~~

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REFERENCES

1. 10 CFR 50, Appendix A, GDC 34.
2. 10 CFR 50.36(c)(2)(ii).

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The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.