FENOC
FirstEnergy Nuclear Operating Company

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330-436-1360

May 24, 2016
L-16-086

10 CFR 50.90
10 CFR 50.55a

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

SUBJECT:
Beaver Valley Power Station Unit Nos. 1 and 2
Docket No. 50-334, License No. DPR-66
Docket No. 50-412, License No. NPF-73

Davis-Besse Nuclear Power Station
Docket No. 50-346, License No. NPF-3

Perry Nuclear Power Plant
Docket No. 50-440, License No. NPF-58
Application To Revise Technical Specifications to Adopt TSTF-545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing," and to Request an Alternative to the ASME Code

Pursuant to 10 CFR 50.90, FirstEnergy Nuclear Operating Company (FENOC) is submitting a request for an amendment to the Technical Specifications (TS) for Beaver Valley Power Station Unit Nos. 1 and 2, Davis-Besse Nuclear Power Station, and Perry Nuclear Power Plant. The proposed change revises the Technical Specifications (TS) to eliminate the Section 5.5, "Inservice Test Program." A new defined term, "INSERVICE TESTING PROGRAM," is added to the TS Definitions section. This request is consistent with TSTF-545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing."

Pursuant to 10 CFR 50.55a(z), the application also proposes an alternative to the testing frequencies in the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, by adoption of approved Code Case OMN-20, "Inservice Test Frequency," for the current 10 year inservice testing interval. This request is consistent with TSTF-545, Revision 3.

Attachment 1 provides a description and assessment of the proposed TS changes.

Attachments 2A through 2C provide the existing TS pages marked up to show the proposed changes.

Attachments 3A through 3C provide revised (clean) TS pages.

Attachments 4A through 4C provide TS Bases pages marked up to show the associated TS Bases changes and are provided for information only.

Attachment 5 provides the proposed alternative in accordance with 10 CFR 50.55a(z).

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

FENOC requests approval of the proposed license amendment and relief request by May 31, 2017 with a 150-day implementation period. This implementation period would allow implementation to align with the inservice testing 10-year interval update at Beaver Valley Power Station that is expected to be effective in September 2017 while still allowing adequate time for the implementation activities to be completed at the other two FENOC sites. There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at 330-315-6810.

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 24, 2016.

Sincerely,

Paul A. Harden

Attachments:

1. Description and Assessment of Proposed Technical Specification Changes

2A. Beaver Valley Power Station,
Proposed Technical Specification Changes (Mark-Up)

2B. Davis-Besse Nuclear Power Station,
Proposed Technical Specification Changes (Mark-Up)

2C. Perry Nuclear Power Plant,
Proposed Technical Specification Changes (Mark-Up)

3A. Beaver Valley Power Station,
Revised Technical Specification Pages

3B. Davis-Besse Nuclear Power Station,
Revised Technical Specification Pages

3C. Perry Nuclear Power Plant,
Revised Technical Specification Pages

4A. Beaver Valley Power Station,
Proposed Technical Specification Bases Changes (Mark-Up) – Information Only

4B. Davis-Besse Nuclear Power Station,
Proposed Technical Specification Bases Changes (Mark-Up) – Information Only

4C. Perry Nuclear Power Plant,
Proposed Technical Specification Bases Changes (Mark-Up) – Information Only

5. Proposed Alternative In Accordance with 10 CFR 50.55a(z)(2)

cc:
NRC Region I Administrator
NRC Region III Administrator
NRC Resident Inspector - Beaver Valley
NRC Resident Inspector - Davis-Besse
NRC Resident Inspector - Perry
NRC Project Manager – FENOC Fleet
Director BRP/DEP
Site BRP/DEP Representative
Utility Radiological Safety Board
Executive Director, OEMA, State of Ohio

1.0 DESCRIPTION

The proposed change eliminates the Technical Specifications (TS), Section 5.5, "Inservice Testing Program," to remove requirements duplicated in American Society of Mechanical Engineers (ASME) Code for Operations and Maintenance of Nuclear Power Plants (OM Code), Case OMN-20, "Inservice Test Frequency." A new defined term, "INSERVICE TESTING PROGRAM," is added to TS Section 1.1, "Definitions." The proposed change to the TS is consistent with TSTF-545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing," here after referred to as TSTF-545.

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

FirstEnergy Nuclear Operating Company (FENOC) has reviewed the model safety evaluation provided to the Technical Specifications Task Force in a letter dated December 11, 2015 (NRC ADAMS Accession No. ML15314A365). This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-545. FENOC concluded that the justifications presented in TSTF-545, and the model safety evaluation prepared by the NRC staff are applicable to Beaver Valley Power Station (BVPS), Unit Nos. 1 (BVPS-1) and 2 (BVPS-2), Davis-Besse Nuclear Power Station (DBNPS), and Perry Nuclear Power Plant (PNPP) and justify this amendment for the incorporation of the changes to the BVPS, DBNPS, and PNPP TS.

BVPS-1 was issued a construction permit on June 20, 1970 and the provisions of 10 CFR 50.55a(f)(1) are applicable. BVPS-2 was issued a construction permit on May 3, 1974 and the provisions of 10 CFR 50.55a(f)(2) are applicable. DBNPS was issued a construction permit on March 24, 1971 and the provisions of 10 CFR 50.55a(f)(2) are applicable. PNPP was issued a construction permit on May 3, 1977 and the provisions of 10 CFR 50.55a(f)(3) are applicable.

2.2 Variations

FENOC is proposing the following variations from the TS changes described in TSTF-545 for BVPS, DBNPS and PNPP. These variations are administrative and do not affect the applicability of TSTF-545 or the NRC staff's model safety evaluation to the proposed license amendment dated December 11, 2015.

<u>BVPS TS Change Variations</u>

The BVPS TSs utilize different numbering and do not include all the specifications shown on the applicable Standard Technical Specifications, Westinghouse Plants - Specifications, NUREG-1431, Revision 4.0, (Westinghouse STS) pages in TSTF-545. Specific variations are described below.

1. The specified surveillance for Westinghouse STS SR 3.4.10.1 in TSTF-545 does not show a change to make “Inservice Testing Program” all capital letters. The specified surveillance for BVPS TS SR 3.4.10.1 will be changed to make “Inservice Testing Program” all capital letters.
2. There will be no change to the specified frequency in BVPS TS Surveillance Requirement (SR) 3.4.14.1 since the specified frequency does not include a reference to the Inservice Testing Program as is shown in the specified frequency for SR 3.4.14.1 of the Westinghouse STS in TSTF-545.
3. Westinghouse STS SR 3.6.3.5 is numbered SR 3.6.3.4 in the BVPS TS. Therefore, the change to the specified frequency for SR 3.6.3.5 shown in TSTF-545 will be incorporated in the specified frequency for BVPS TS SR 3.6.3.4.
4. Since the BVPS TSs do not include SR 3.6.6A.4, SR 3.6.6B.4, SR 3.6.6C.2, or SR 3.6.12.1 as shown on the Westinghouse STS pages in TSTF-545, there will be no corresponding changes to BVPS TSs.
5. Westinghouse STS SR 3.6.6D.2 is numbered SR 3.6.6.2 in the BVPS TS. Therefore, the change to the specified frequency for SR 3.6.6D.2 shown in TSTF-545 will be incorporated in the specified frequency for BVPS TS SR 3.6.6.2.
6. Westinghouse STS SR 3.6.6E.5 is numbered SR 3.6.7.2 in the BVPS TS. Therefore, the change to the specified frequency for SR 3.6.6E.5 shown in TSTF-545 will be incorporated in the specified frequency for BVPS TS SR 3.6.7.2.
7. Westinghouse STS pages in TSTF-545 propose elimination of TS 5.5.8, "Inservice Testing Program," however, the Inservice Testing Program specification is numbered 5.5.4 in the BVPS TS. BVPS TS 5.5.4 will be revised to show that the Inservice Testing Program has been deleted and the subsequent TSs 5.5.5 through 5.5.15 will not be renumbered. BVPS TS do not include TS numbers 5.5.16 through 5.5.20 as shown in Westinghouse STS pages in TSTF-545.
8. Due to not renumbering specifications after BVPS TSs 5.5.4, changes related to section renumbering were not incorporated.

<u>DBNPS TS Change Variations</u>

The DBNPS TSs utilize different numbering and do not include all the specifications shown on the applicable Standard Technical Specifications, Babcock and Wilcox Plants – Specifications, NUREG-1430, Revision 4.0 (Babcock & Wilcox STS) pages in TSTF-545. Specific variations are described below.

1. Reference to the “Inservice Testing Program” will be changed to all capital letters in the surveillance and frequency statements specified in DBNPS SR 3.4.12.2, even though this change is not specified in TSTF-545 for Babcock & Wilcox STS. DBNPS TS SR 3.4.12.2 is not included in the Babcock & Wilcox STS.

2. Babcock & Wilcox STS SR 3.4.14.1 is numbered SR 3.4.14.2 in the DBNPS TS. Since DBNPS TS SR 3.4.14.2 does not invoke the Inservice Testing Program, no change to this SR is necessary.
3. Babcock & Wilcox STS SR 3.5.2.4 is numbered SR 3.5.2.2 in the DBNPS TS. Therefore, the change to the specified frequency for SR 3.5.2.4 shown in TSTF-545 will be incorporated in the specified frequency for DBNPS TS SR 3.5.2.2.
4. Babcock & Wilcox STS SR 3.6.3.5 is numbered SR 3.6.3.4 in the DBNPS TS. Therefore, the change to the specified frequency for SR 3.6.3.5 shown in TSTF-545 will be incorporated in the specified frequency for DBNPS TS SR 3.6.3.4.
5. Babcock & Wilcox STS SR 3.6.6.4 is numbered SR 3.6.6.3 in the DBNPS TS. Therefore, the change to the specified frequency for SR 3.6.6.4 shown in TSTF-545 will be incorporated in the specified frequency for DBNPS TS SR 3.6.6.3.
6. There will be no change to the specified frequency in DBNPS TS SR 3.7.5.2 since the specified frequency does not include a reference to the Inservice Testing Program as is shown in the specified frequency for SR 3.7.5.2 of the Babcock & Wilcox STS in TSTF-545.
7. Babcock & Wilcox STS pages in TSTF-545 propose elimination of TS 5.5.8, "Inservice Testing Program;" however, the Inservice Testing Program specification is numbered 5.5.7 in the DBNPS TS. DBNPS TS 5.5.7 will be revised to show that the Inservice Testing Program has been deleted and the subsequent TSs 5.5.8 through 5.5.17 will not be renumbered. DBNPS TS do not include TS numbers 5.5.18, 5.5.19, or 5.5.20 as shown in Babcock & Wilcox STS pages in TSTF-545.
8. Due to not renumbering specifications after DBNPS TSs 5.5.7, changes related to section renumbering were not incorporated.

PNPP TS Change Variations

The PNPP TSs utilize different numbering and do not include all the specifications shown on the applicable Standard Technical Specifications, General Electric BWR/6 Plants - Specifications, NUREG-1434, Revision 4.0, (General Electric BWR/6 STS) pages in TSTF-545. Specific variations are described below.

1. Reference to the “Inservice Testing Program” will be changed to all capital letters in the frequency statement specified in PNPP SR 3.6.1.9.1, even though this change is not specified in TSTF-545 for General Electric BWR/6 STS. PNPP SR 3.6.1.9.1 is not included in the General Electric BWR/6 STS.
2. Since the PNPP TSs do not include SR 3.6.4.2.2 as shown on the General Electric BWR/6 STS pages in TSTF-545, there will be no corresponding changes to PNPP TSs.
3. General Electric BWR/6 STS pages in TSTF-545 propose elimination of TS 5.5.7, "Inservice Testing Program," however, the Inservice Testing Program specification is

numbered 5.5.6 in the PNPP TS. PNPP TS 5.5.6 will be revised to show that the Inservice Testing Program has been deleted and the subsequent TSs 5.5.7 through 5.5.14 will not be renumbered. PNPP TS do not include TS numbers 5.5.15, 5.5.16, or 5.5.17 as shown in General Electric BWR/6 STS pages in TSTF-545.

4. Due to not renumbering specifications after PNPP TSs 5.5.6, changes related to section renumbering were not incorporated.

5. Reference to the “Inservice Testing Program” will be changed to all capital letters in PNPP TS 5.5.12, “Primary Containment Leakage Rate Testing Program,” even though this change is not specified in TSTF-545 for General Electric BWR/6 STS. In addition, a reference to Specification 5.5.6 in Specification 5.5.12 will be deleted. PNPP TS 5.5.12 wording is different than the General Electric BWR/6 STS 5.5.13, “Primary Containment Leakage Rate Testing Program,” wording.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Analysis

FirstEnergy Nuclear Operating Company (FENOC) requests adoption of the Technical Specification (TS) changes described in TSTF-545, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing," which is an approved change to the Improved Standard Technical Specifications (ISTS), into the Beaver Valley Power Station, Unit Nos. 1 and 2, Davis-Besse Nuclear Power Station, and Perry Nuclear Power Plant TS. The proposed change revises the TS Chapter 5, "Administrative Controls," Section 5.5, "Programs and Manuals," to delete the "Inservice Testing Program" specification. Requirements in the Inservice Testing Program are removed, as they are duplicative of requirements in the American Society of Mechanical Engineers (ASME) Operations and Maintenance (OM) Code, as clarified by Code Case OMN-20, "Inservice Test Frequency." Other requirements in Section 5.5 are eliminated because the Nuclear Regulatory Commission (NRC) has determined their appearance in the TS is contrary to regulations. A new defined term, "INSERVICE TESTING PROGRAM," is added, which references the requirements of Title 10 of the Code of Federal Regulations (10 CFR), Part 50, paragraph 50.55a(f). FENOC has evaluated whether or not a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

   Response: No

   The proposed change revises TS Chapter 5, "Administrative Controls," Section 5.5, "Programs and Manuals," by eliminating the "Inservice Testing Program" specification. Most requirements in the Inservice Testing Program are removed, as they are duplicative of requirements in the ASME OM Code, as clarified by Code

Case OMN-20, "Inservice Test Frequency." The remaining requirements in the Section 5.5 Inservice Testing Program are eliminated because the NRC has determined their inclusion in the TS is contrary to regulations. A new defined term, "INSERVICE TESTING PROGRAM," is added to the TS, which references the requirements of 10 CFR 50.55a(f).

Performance of inservice testing is not an initiator to any accident previously evaluated. As a result, the probability of occurrence of an accident is not significantly affected by the proposed change. Inservice test frequencies under Code Case OMN-20 are equivalent to the current testing period allowed by the TS with the exception that testing frequencies greater than 2 years may be extended by up to 6 months to facilitate test scheduling and consideration of plant operating conditions that may not be suitable for performance of the required testing. The testing frequency extension will not affect the ability of the components to mitigate any accident previously evaluated as the components are required to be operable during the testing period extension. Performance of inservice tests utilizing the allowances in OMN-20 will not significantly affect the reliability of the tested components. As a result, the availability of the affected components, as well as their ability to mitigate the consequences of accidents previously evaluated, is 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 change create the possibility of a new or different kind of accident from any previously evaluated?

   Response: No

   The proposed change does not alter the design or configuration of the plant. The proposed change does not involve a physical alteration of the plant; no new or different kind of equipment will be installed. The proposed change does not alter the types of inservice testing performed. In most cases, the frequency of inservice testing is unchanged. However, the frequency of testing would not result in a new or different kind of accident from any previously evaluated since the testing methods are not altered.

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

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

   Response: No

   The proposed change eliminates some requirements from the TS in lieu of requirements in the ASME Code, as modified by use of Code Case OMN-20. Compliance with the ASME Code is required by 10 CFR 50.55a. The proposed

change also allows inservice tests with frequencies greater than 2 years to be extended by 6 months to facilitate test scheduling and consideration of plant operating conditions that may not be suitable for performance of the required testing. The testing frequency extension will not affect the ability of the components to respond to an accident as the components are required to be operable during the testing period extension. The proposed change will eliminate the existing TS SR 3.0.3 allowance to defer performance of missed inservice tests up to the duration of the specified testing frequency, and instead will require an assessment of the missed test on equipment operability. This assessment will consider the effect on a margin of safety (equipment operability). Should the component be inoperable, the Technical Specifications provide actions to ensure that the margin of safety is protected. The proposed change also eliminates a statement that nothing in the ASME Code should be construed to supersede the requirements of any TS. The NRC has determined that statement to be incorrect. However, elimination of the statement will have no effect on plant operation or safety.

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

Based on the above, FENOC 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.

4.0 ENVIRONMENTAL EVALUATION

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 2A
L-16-086

Beaver Valley Power Station,
Proposed Technical Specification Changes (Mark-Up)

(12 pages follow)

1.1 Definitions

ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME	The ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.
LEAKAGE	LEAKAGE shall be: a. <u>Identified LEAKAGE</u> 1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) seal water injection or leakoff), that is captured and conducted to collection systems or a sump or collecting tank, 2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE, or 3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE); b. <u>Unidentified LEAKAGE</u> All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE, and c. <u>Pressure Boundary LEAKAGE</u> LEAKAGE (except primary to secondary LEAKAGE) through a nonisolable fault in an RCS component body, pipe wall, or vessel wall.

Insert definition of INSERVICE TESTING PROGRAM Shown:

INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.4.10.1	Verify each pressurizer safety valve is OPERABLE in accordance with the ~~Inservice Testing Program~~. Following testing, lift settings shall be within ± 1%.	In accordance with the ~~Inservice Testing Program~~

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS (continued)

SR 3.5.2.4	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the ~~Inservice Testing Program~~
SR 3.5.2.5	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.6	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.7	Verify, by visual inspection, that accessible regions of the ECCS containment sump suction inlet are not restricted by debris and that the accessible regions of the strainers show no evidence of structural distress or abnormal corrosion.	In accordance with the Surveillance Frequency Control Program

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.3.4	Verify the isolation time of each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, is within limits.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.3.5	Verify each automatic power operated containment isolation valve that is not locked, sealed or otherwise secured in position, and required to be closed during accident conditions, actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.6 Quench Spray (QS) System

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

LCO 3.6.6 Two QS trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One QS train inoperable.	A.1 Restore QS train to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.6.1	Verify each QS 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.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.2	Verify each QS pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.6.3	Verify each QS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.4	Verify each QS pump starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 5.	6 hours 84 hours
E. Three or more RS subsystems inoperable.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.7.1	Verify each RS 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.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.2	Verify each RS pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.7.3	Verify on an actual or simulated actuation signal(s): a. Each RS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position, and b. Each RS pump starts automatically.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.4	Verify each spray nozzle is unobstructed.	Following maintenance that results in the potential for nozzle blockage

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.2 ---------- **- NOTE -** Only required in MODE 1. ---------- Reduce the Power Range Neutron Flux - High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	36 hours
C. Required Action and associated Completion Time not met. <u>OR</u> One or more steam generators with ≥ 4 MSSVs inoperable.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	---------- **- NOTE -** Only required to be performed in MODES 1 and 2. ---------- Verify each required MSSV lift setpoint per Table 3.7.1-2a (Unit 1), Table 3.7.1-2b (Unit 2) in accordance with the ~~Inservice Testing Program~~. Following testing, lift setting shall be within ± 1%.	In accordance with the ~~Inservice Testing Program~~

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	---------- **- NOTE -** Only required to be performed in MODES 1 and 2. ---------- Verify the isolation time of each MSIV is within limits.	In accordance with the ~~Inservice Testing Program~~
SR 3.7.2.2	---------- **- NOTE -** Only required to be performed in MODES 1 and 2. ---------- Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time not met.	E.1 Be in MODE 3. AND E.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify the isolation time of each MFIV, MFRV, and MFRV bypass valve is within limits.	In accordance with the ~~Inservice Testing Program~~
SR 3.7.3.2	Verify each MFIV, MFRV, and MFRV bypass valve actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Required AFW train inoperable in MODE 4. OR Required feedwater injection header inoperable in MODE 4.	F.1 Initiate action to restore AFW train to OPERABLE status with a capability of providing flow to the steam generator(s).	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	--- **- NOTE -** AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. --- Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.5.2	--- **- NOTE -** Not required to be performed for the turbine driven AFW pump until 24 hours after ≥ 600 psig in the steam generator. --- Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the ~~Inservice Testing Program~~

5.5 Programs and Manuals

5.5.2 Radioactive Effluent Controls Program (continued)

h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I,

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I, and

j. Limitations on the annual dose or dose commitment to any member of the public, beyond the site boundary, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Radioactive Effluent Controls Program surveillance frequency.

5.5.3 Component Cyclic or Transient Limit

This program provides controls to track the UFSAR Table 4.1-10 (Unit 1) and UFSAR Table 3.9N-1 (Unit 2), cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.4 ~~Inservice Testing Program~~ ← Deleted

~~This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. The program shall include the following:~~

~~a. Testing frequencies applicable to the ASME Code for Operations and Maintenance of Nuclear Power Plants (ASME OM Code) and applicable Addenda as follows:~~

~~ASME OM Code and applicable Addenda terminology for inservice testing activities~~	~~Required Frequencies for performing inservice testing activities~~
~~Weekly~~	~~At least once per 7 days~~
~~Monthly~~	~~At least once per 31 days~~
~~Quarterly or every 3 months~~	~~At least once per 92 days~~
~~Semiannually or every 6 months~~	~~At least once per 184 days~~
~~Every 9 months~~	~~At least once per 276 days~~
~~Yearly or annually~~	~~At least once per 366 days~~
~~Biennially or every 2 years~~	~~At least once per 731 days~~

5.5 Programs and Manuals

~~5.5.4~~ ~~Inservice Testing Program~~ ~~(continued)~~

~~b. The provisions of SR 3.0.2 are applicable to the above required Frequencies and to other normal and accelerated Frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities,~~

~~c. The provisions of SR 3.0.3 are applicable to inservice testing activities, and~~

~~d. Nothing in the ASME OM Code shall be construed to supersede the requirements of any TS.~~

5.5.5 Steam Generator (SG) Program

A Steam Generator Program for Unit 1 and Unit 2 shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the Steam Generator Program for Unit 1 shall include the provisions of Specification 5.5.5.1 and the Steam Generator Program for Unit 2 shall include the provisions of Specification 5.5.5.2.

5.5.5.1 Unit 1 Steam Generator Program

a. Provisions for Condition Monitoring Assessments

Condition monitoring assessment means an evaluation of the "as found" condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The "as found" condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging of tubes. Condition monitoring assessments shall be conducted during each outage during which the SG tubes are inspected or plugged, to confirm that the performance criteria are being met.

b. Provisions for Performance Criteria for SG Tube Integrity

SG tube integrity shall be maintained by meeting the performance criteria for tube structural integrity, accident induced leakage, and operational LEAKAGE.

1. Structural integrity performance criterion: All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down and all anticipated transients included in the design specification) and design basis accidents. This includes retaining a safety factor of 3.0 against burst under normal steady state full power operation primary to secondary pressure differential and a safety factor of 1.4 against burst applied to the design basis accident primary to secondary pressure differentials. Apart from the above

Attachment 2B
L-16-086

Davis-Besse Nuclear Power Station,
Proposed Technical Specification Changes (Mark-Up)

(10 pages follow)

1.1 Definitions

CHANNEL CHECK (continued)	
	the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.
CHANNEL FUNCTIONAL TEST	A CHANNEL FUNCTIONAL TEST shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY. The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total steps.
CONTROL RODS	CONTROL RODS shall be all full length safety and regulating rods that are used to shut down the reactor and control power level during maneuvering operations.
CORE OPERATING LIMITS REPORT (COLR)	The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific limits shall be determined for each reload cycle in accordance with Specification 5.6.3. Plant operation within these limits is addressed in individual Specifications.
DOSE EQUIVALENT I-131	DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or those listed in Table E-7 of Regulatory Guide 1.109, Rev. 1, NRC, 1977, or those listed in ICRP 30, Supplement to Part 1, page 192-212, table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity".
Ē - AVERAGE DISINTEGRATION ENERGY	Ē shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half lives > 15 minutes, making up at least 95% of the total noniodine activity in the coolant.

Insert definition of INSERVICE TESTING PROGRAM Shown:

INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.10 Pressurizer Safety Valves

LCO 3.4.10 Two pressurizer safety valves shall be OPERABLE with lift settings ≤ 2525 psig.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One pressurizer safety valve inoperable.	A.1 Restore valve to OPERABLE status.	15 minutes
B. Required Action and associated Completion Time of Condition A not met. OR Two pressurizer safety valves inoperable.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.10.1	Verify each pressurizer safety valve is OPERABLE in accordance with the ~~Inservice Testing Program~~. Following testing, lift settings shall be within ± 1%.	In accordance with the ~~Inservice Testing Program~~

Change "Inservice Testing Program" to INSERVICE TESTING PROGRAM.

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and Associated Completion Time not met.	D.1	Disable capability of both high pressure injection pumps to inject water into the RCS.	1 hour
	AND		
	D.2	Disable makeup pump suction automatic transfer to the borated water storage tank on low makeup tank level.	8 hours
	AND		
	D.3	Verify makeup tank level ≤ 73 inches.	8 hours
	AND		
	D.4	Verify RCS pressure and pressurizer level in Acceptable Region of Figure 3.4.12-1 or 3.4.12-2, as applicable.	8 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.12.1	Verify RCS to DHR isolation valves open with control power removed.	24 hours
SR 3.4.12.2	Verify DHR System relief valve lift setpoint ≤ 330 psig in accordance with the ~~Inservice Testing (IST) Program~~.	In accordance with the ~~IST Program~~

Change "Inservice Testing (IST) Program" and "IST Program" to INSERVICE TESTING PROGRAM.

Change "Inservice Testing Program" to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.2.1	Verify each ECCS 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.	31 days
SR 3.5.2.2	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the ~~Inservice Testing Program~~
SR 3.5.2.3	Verify ECCS piping is full of water by venting the ECCS pump casings and discharge piping high points.	24 months AND Prior to declaring ECCS OPERABLE after draining ECCS piping
SR 3.5.2.4	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.5.2.5	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	24 months
SR 3.5.2.6	Verify the correct position of each mechanical stop for the following valves: a. DH-14A; and b. DH-14B.	24 months

Change "Inservice Testing Program" to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.3.3	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------- Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.4	Verify the isolation time of each automatic power operated containment isolation valve is within limits.	In accordance with the ~~Inservice Testing Program~~

Change "Inservice Testing Program" to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.3	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.6.4	Verify each required containment air cooling train starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.5	Verify each required containment air cooling train cooling water flow rate is $\geq$ 1150 gpm.	24 months
SR 3.6.6.6	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.6.6.7	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	24 months
SR 3.6.6.8	Verify each spray nozzle is unobstructed.	Following maintenance that could result in nozzle blockage.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. OR One or more steam generators with less than two MSSVs OPERABLE. OR One or more steam generators with no MSSVs with a lift setting of 1050 psig ± 3% OPERABLE.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify each MSSV lift setpoint per Table 3.7.1-1 in accordance with the ~~Inservice Testing Program~~. Following testing, lift settings shall be within ± 1%.	In accordance with the ~~Inservice Testing Program~~

Change "Inservice Testing Program" to INSERVICE TESTING PROGRAM.

Change "Inservice Testing Program" to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	Verify isolation time of each MSIV is within limits.	In accordance with the ~~Inservice Testing Program~~
SR 3.7.2.2	Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	24 months

Change "Inservice Testing Program" to INSERVICE TESTING PROGRAM.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two valves in the same flow path inoperable.	D.1 Isolate affected flow path.	8 hours
E. Required Action and associated Completion Time not met.	E.1 Be in MODE 3. AND E.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify the isolation time of each MFSV is within limits.	In accordance with the ~~Inservice Testing Program~~
SR 3.7.3.2	Verify the isolation time of each MFCV and SFCV is within limits.	24 months
SR 3.7.3.3	Verify each MFSV, MFCV, and SFCV actuates to the isolation position on an actual or simulated actuation signal.	24 months

5.5 Programs and Manuals

5.5.5 Allowable Operating Transient Cycles Program

This program provides controls to track the UFSAR, Section 5, cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.6 Reactor Coolant Pump Flywheel Inspection Program

This program shall provide for the inspection of each reactor coolant pump flywheel. Inservice inspection of each reactor coolant pump flywheel shall be performed every 10 years. The inservice inspection shall be either an ultrasonic examination of the volume from the inner bore of the flywheel to the circle of one-half the outer radius, or a surface examination of exposed surfaces of the disassembled flywheel. The recommendations delineated in Regulatory Positions C.4.b(3), (4), and (5) of Regulatory Guide 1.14, Revision 1, August 1975, shall apply.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Reactor Coolant Pump Flywheel Inspection Program Surveillance Frequency.

5.5.7 ~~Inservice Testing Program~~ Deleted

~~This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 pumps and valves.~~

~~a. Testing frequencies applicable to the ASME Code for Operations and Maintenance of Nuclear Power Plants (ASME OM Codes) and applicable Addenda as follows:~~

~~ASME OM Code and applicable Addenda terminology for inservice testing activities~~	~~Required Frequencies for performing inservice testing activities~~
~~Monthly~~	~~At least once per 31 days~~
~~Quarterly or every 3 months~~	~~At least once per 92 days~~
~~Yearly or annually~~	~~At least once per 366 days~~
~~Biennially or every 2 years~~	~~At least once per 731 days~~

~~b. The provisions of SR 3.0.2 are applicable to the above required Frequencies and other normal and accelerated Frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities;~~

~~c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and~~

~~d. Nothing in the ASME OM Code shall be construed to supersede the requirements of any TS.~~

Attachment 2C
L-16-086

Perry Nuclear Power Plant,
Proposed Technical Specification Changes (Mark-Up)

(13 pages follow)

1.1 Definitions (continued)

EMERGENCY CORE COOLING SYSTEM (ECCS) RESPONSE TIME	The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. Exceptions are stated in the individual surveillance requirements.
END OF CYCLE RECIRCULATION PUMP TRIP (EOC-RPT) SYSTEM RESPONSE TIME	The EOC-RPT SYSTEM RESPONSE TIME shall be that time interval from initial movement of the associated turbine stop valve or the turbine control valve to complete suppression of the electric arc between the fully open contacts of the recirculation pump circuit breaker. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.
ISOLATION SYSTEM RESPONSE TIME	The ISOLATION SYSTEM RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its isolation initiation setpoint at the channel sensor until the isolation valves travel to their required positions. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. Exceptions are stated in the individual surveillance requirements.

(continued)

Insert definition of INSERVICE TESTING PROGRAM Shown:

INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

URVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.1.7.6	Verify each SLC 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, or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.1.7.7	Verify each pump develops a flow rate ≥ 32.4 gpm at a discharge pressure ≥ 1220 psig.	In accordance with the ~~Inservice Testing Program~~
SR 3.1.7.8	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	In accordance with the Surveillance Frequency Control Program
SR 3.1.7.9	Verify all heat traced piping between storage tank and pump suction is unblocked.	In accordance with the Surveillance Frequency Control Program AND Once within 24 hours after pump suction piping temperature is restored to ≥ 70°F

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.4 Safety/Relief Valves (S/RVs)

LCO 3.4.4 The safety function of seven S/RVs shall be OPERABLE.

AND

The relief function of six additional S/RVs shall be OPERABLE.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required S/RVs inoperable.	A.1 Be in MODE 3.	12 hours
	AND	
	A.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.4.1 Verify the safety function lift setpoints of the required S/RVs are as follows: Number of S/RVs: 8 — Setpoint (psig): 1165 ± 34.9 Number of S/RVs: 6 — Setpoint (psig): 1180 ± 35.4 Number of S/RVs: 5 — Setpoint (psig): 1190 ± 35.7	In accordance with the ~~Inservice Testing Program~~

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.6.1	Verify equivalent leakage of each RCS PIV is ≤ 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm, at an RCS pressure ≥ 1040 psig and ≤ 1060 psig.	In accordance with ~~Inservice Testing Program~~

Change Inservice Testing Program to the INSERVICE TESTING PROGRAM.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.5.1.1	Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.2	----------NOTE---------- 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. ---------- 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.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.3	Verify ADS accumulator supply pressure is ≥ 150 psig.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.4	Verify each ECCS pump develops the specified flow rate with sufficient pump total head to overcome the total system resistance which includes the specified reactor-to-containment wetwell differential pressure. SYSTEM / FLOW RATE / REACTOR-TO-CONTAINMENT WETWELL DIFFERENTIAL PRESSURE LPCS: ≥ 6110 gpm: ≥ 128 psid LPCI: ≥ 7100 gpm: ≥ 24 psid HPCS: ≥ 6110 gpm: ≥ 200 psid	In accordance with the ~~Inservice Testing Program~~

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate with sufficient pump total head to overcome the total system resistance which includes the specified reactor to containment wetwell differential pressure. SYSTEM / FLOW RATE / REACTOR TO CONTAINMENT WETWELL DIFFERENTIAL PRESSURE LPCS: ≥ 6110 gpm: ≥ 128 psid LPCI: ≥ 7100 gpm: ≥ 24 psid HPCS: ≥ 6110 gpm: ≥ 200 psid	In accordance with the ~~Inservice Testing Program~~
SR 3.5.2.6	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.5	Verify the isolation time of each power operated and each automatic PCIV, except MSIVs, is within limits.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.1.3.6	----------NOTE---------- Only required to be met in MODES 1, 2, and 3. ---------- Perform leakage rate testing for each primary containment purge valve with resilient seals.	In accordance with the Surveillance Frequency Control Program AND Once within 92 days after opening the valve
SR 3.6.1.3.7	Verify the isolation time of each MSIV is ≥ 2.5 seconds, and ≤ 5 seconds.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.1.3.8	Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.7.1	----------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. ---------- 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.	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.	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 3.6.1.9.1	Verify the isolation time of each valve is within limits.	In accordance with the ~~Inservice Testing Program~~

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling 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 or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.2.3.2	Verify each RHR pump develops a flow rate ≥ 7100 gpm through the associated heat exchangers to the suppression pool.	In accordance with the ~~Inservice Testing Program~~

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.5.3.1	Verify each 24 inch and 36 inch drywell purge supply and exhaust isolation valve is sealed closed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.5.3.2	Deleted.	
SR 3.6.5.3.3	----------NOTES---------- 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for drywell isolation valves that are open under administrative controls. ---------- Verify each drywell isolation manual valve and blind flange that is not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.	Prior to entering MODE 2 or 3 from MODE 4, if not performed in the previous 92 days
SR 3.6.5.3.4	Verify the isolation time of each power operated and each automatic drywell isolation valve is within limits.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.5.3.5	Verify each automatic drywell isolation valve actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program

5.5 Programs and Manuals (continued)

5.5.6 Inservice Testing Program ← Deleted

This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. The program shall include the following:

a. Testing frequencies applicable to the ASME Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code) and applicable Addenda as follows:

ASME OM Code and applicable Addenda terminology for inservice testing activities	Required frequencies for performing inservice testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

b. The provisions of SR 3.0.2 are applicable to the above required Frequencies and to other normal and accelerated Frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities;

c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and

d. Nothing in the ASME OM Code shall be construed to supersede the requirements of any TS.

5.5.7 Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature (ESF) filter ventilation systems at the frequencies specified in Regulatory Guide 1.52, Revision 2.

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

5.5.12 Primary Containment Leakage Rate Testing Program (continued)

- BN-TOP-1 methodology may be used for Type A tests.

- The corrections to NEI 94-01 which are identified on the Errata Sheet attached to the NEI letter, "Appendix J Workshop Questions and Answers," dated March 19, 1996 are considered an integral part of NEI 94-01.

- The containment isolation check valves in the Feedwater penetrations are tested per the ~~Inservice Testing Program (Technical Specification 5.5.6)~~.

- The provisions of NEI 94-01, Section 9.2.3 are revised to include the following exception: The first Type A test performed after the Type A test completed on July 1, 1994 shall be completed no later than June 29, 2009.

The peak calculated primary containment internal pressure for the design basis loss of coolant accident is 6.40 psig. For conservatism P_a is defined as 7.80 psig.

The maximum allowable primary containment leakage rate, L_a, shall be 0.20% of primary containment air weight per day at the peak containment pressure (P_a).

Leakage rate acceptance criteria are:

a. Primary containment leakage rate acceptance criterion is $\leq 1.0\ L_a$. However, during the first unit startup following testing performed in accordance with this Program, the leakage rate acceptance criteria are $< 0.6\ L_a$ for the Type B and Type C tests, and $\leq 0.75\ L_a$ for the Type A tests;

b. Air lock testing acceptance criteria are:

   1) Overall air lock leakage rate is ≤ 2.5 scfh when tested at $\geq P_a$.

   2) For each door, leakage rate is ≤ 2.5 scfh when the gap between the door seals is pressurized to $\geq P_a$.

The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

Nothing in these Technical Specifications shall be construed to modify the testing frequencies required by 10 CFR 50, Appendix J.

(continued)

Attachment 3A
L-16-086

Beaver Valley Power Station,
Revised Technical Specification Pages

(15 pages follow)

1.1 Definitions

ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME	The ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.
INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).
LEAKAGE	LEAKAGE shall be: a. <u>Identified LEAKAGE</u> 1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) seal water injection or leakoff), that is captured and conducted to collection systems or a sump or collecting tank, 2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE, or 3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE); b. <u>Unidentified LEAKAGE</u> All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE, and c. <u>Pressure Boundary LEAKAGE</u> LEAKAGE (except primary to secondary LEAKAGE) through a nonisolable fault in an RCS component body, pipe wall, or vessel wall.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.10.1	Verify each pressurizer safety valve is OPERABLE in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within $\pm$ 1%.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS (continued)

SR 3.5.2.4	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.5.2.5	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.6	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.7	Verify, by visual inspection, that accessible regions of the ECCS containment sump suction inlet are not restricted by debris and that the accessible regions of the strainers show no evidence of structural distress or abnormal corrosion.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.4	Verify the isolation time of each automatic power operated containment isolation valve that is not locked, sealed, or otherwise secured in position, and required to be closed during accident conditions, is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.3.5	Verify each automatic power operated containment isolation valve that is not locked, sealed or otherwise secured in position, and required to be closed during accident conditions, actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.6 Quench Spray (QS) System

LCO 3.6.6 Two QS trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One QS train inoperable.	A.1 Restore QS train to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.6.1	Verify each QS 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.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.2	Verify each QS pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.6.3	Verify each QS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.4	Verify each QS pump starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.5	Verify each spray nozzle is unobstructed.	Following maintenance that results in the potential for nozzle blockage

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 5.	6 hours 84 hours
E. Three or more RS subsystems inoperable.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.7.1	Verify each RS 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.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.2	Verify each RS pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.7.3	Verify on an actual or simulated actuation signal(s): a. Each RS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position, and b. Each RS pump starts automatically.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.4	Verify each spray nozzle is unobstructed.	Following maintenance that results in the potential for nozzle blockage

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.2 ---------- **- NOTE -** Only required in MODE 1. ---------- Reduce the Power Range Neutron Flux - High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	36 hours
C. Required Action and associated Completion Time not met. OR One or more steam generators with ≥ 4 MSSVs inoperable.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	---------- **- NOTE -** Only required to be performed in MODES 1 and 2. ---------- Verify each required MSSV lift setpoint per Table 3.7.1-2a (Unit 1), Table 3.7.1-2b (Unit 2) in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift setting shall be within ± 1%.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	---------- **- NOTE -** Only required to be performed in MODES 1 and 2. ---------- Verify the isolation time of each MSIV is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.7.2.2	---------- **- NOTE -** Only required to be performed in MODES 1 and 2. ---------- Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time not met.	E.1 Be in MODE 3. AND E.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify the isolation time of each MFIV, MFRV, and MFRV bypass valve is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.7.3.2	Verify each MFIV, MFRV, and MFRV bypass valve actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Required AFW train inoperable in MODE 4. OR Required feedwater injection header inoperable in MODE 4.	F.1 Initiate action to restore AFW train to OPERABLE status with a capability of providing flow to the steam generator(s).	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	---------- **- NOTE -** AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. ---------- Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.5.2	---------- **- NOTE -** Not required to be performed for the turbine driven AFW pump until 24 hours after $\geq$ 600 psig in the steam generator. ---------- Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the INSERVICE TESTING PROGRAM

5.5 Programs and Manuals

5.5.2 Radioactive Effluent Controls Program (continued)

h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I,

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives $>$ 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I, and

j. Limitations on the annual dose or dose commitment to any member of the public, beyond the site boundary, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Radioactive Effluent Controls Program surveillance frequency.

5.5.3 Component Cyclic or Transient Limit

This program provides controls to track the UFSAR Table 4.1-10 (Unit 1) and UFSAR Table 3.9N-1 (Unit 2), cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.4 Deleted

5.5 Programs and Manuals

5.5.5 Steam Generator (SG) Program

A Steam Generator Program for Unit 1 and Unit 2 shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the Steam Generator Program for Unit 1 shall include the provisions of Specification 5.5.5.1 and the Steam Generator Program for Unit 2 shall include the provisions of Specification 5.5.5.2.

5.5.5.1 Unit 1 SG Program

a. Provisions for Condition Monitoring Assessments

Condition monitoring assessment means an evaluation of the "as found" condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The "as found" condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging of tubes. Condition monitoring assessments shall be conducted during each outage during which the SG tubes are inspected or plugged, to confirm that the performance criteria are being met.

b. Provisions for Performance Criteria for SG Tube Integrity

SG tube integrity shall be maintained by meeting the performance criteria for tube structural integrity, accident induced leakage, and operational LEAKAGE.

1. Structural integrity performance criterion: All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down), all anticipated transients included in the design specification, and design basis accidents. This includes retaining a safety factor of 3.0 against burst under normal steady state full power operation primary to secondary pressure differential and a safety factor of 1.4 against burst applied to the design basis accident primary to secondary pressure differentials. Apart from the above requirements, additional loading conditions associated with the design basis accidents, or combination of accidents in accordance with the design and licensing basis, shall also be evaluated to determine if the associated loads contribute significantly to burst or collapse. In the assessment of tube integrity, those loads that do significantly affect burst or collapse shall be determined and assessed in combination with the loads due to pressure with a safety factor of 1.2 on the combined primary loads and 1.0 on axial secondary loads.

5.5 Programs and Manuals

5.5.5.1 Unit 1 SG Program (continued)

2. Accident induced leakage performance criterion: The primary to secondary accident induced leakage rate for any design basis accident, other than a SG tube rupture, shall not exceed the leakage rate assumed in the accident analysis in terms of total leakage rate for all SGs and leakage rate for an individual SG. Leakage is also not to exceed 1 gpm per SG, except during a SG tube rupture.

3. The operational LEAKAGE performance criterion is specified in LCO 3.4.13, "RCS Operational LEAKAGE."

c. Provisions for SG Tube Plugging Criteria

Tubes found by inservice inspection to contain flaws with a depth equal to or exceeding 40% of the nominal tube wall thickness shall be plugged.

d. Provisions for SG Tube Inspections

Periodic SG tube inspections shall be performed. The number and portions of the tubes inspected and methods of inspection shall be performed with the objective of detecting flaws of any type (e.g., volumetric flaws, axial and circumferential cracks) that may be present along the length of the tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet, and that may satisfy the applicable tube plugging criteria. The tube-to-tubesheet weld is not part of the tube. In addition to meeting the requirements of d.1, d.2, and d.3 below, the inspection scope, inspection methods, and inspection intervals shall be such as to ensure that SG tube integrity is maintained until the next SG inspection. A degradation assessment shall be performed to determine the type and location of flaws to which the tubes may be susceptible and, based on this assessment, to determine which inspection methods need to be employed and at what locations.

1. Inspect 100% of the tubes in each SG during the first refueling outage following SG installation.

2. After the first refueling outage following SG installation, inspect each SG at least every 72 effective full power months or at least every third refueling outage (whichever results in more frequent inspections). In addition, the minimum number of tubes inspected at each scheduled inspection shall be the number of tubes in all SGs divided by the number of SG inspection outages scheduled in each inspection period as defined in a, b, c and d below. If a degradation assessment indicates the potential for a type of degradation to occur at a location not previously inspected with a technique capable of detecting this type

5.5 Programs and Manuals

5.5.5.1 Unit 1 SG Program (continued)

of degradation at this location and that may satisfy the applicable tube plugging criteria, the minimum number of locations inspected with such a capable inspection technique during the remainder of the inspection period may be prorated. The fraction of locations to be inspected for this potential type of degradation at this location at the end of the inspection period shall be no less than the ratio of the number of times the SG is scheduled to be inspected in the inspection period after the determination that a new form of degradation could potentially be occurring at this location divided by the total number of times the SG is scheduled to be inspected in the inspection period. Each inspection period defined below may be extended up to 3 effective full power months to include a SG inspection outage in an inspection period and the subsequent inspection period begins at the conclusion of the included SG inspection outage.

a) After the first refueling outage following SG installation, inspect 100% of the tubes during the next 144 effective full power months. This constitutes the first inspection period;

b) During the next 120 effective full power months, inspect 100% of the tubes. This constitutes the second inspection period;

c) During the next 96 effective full power months, inspect 100% of the tubes. This constitutes the third inspection period; and

d) During the remaining life of the SGs, inspect 100% of the tubes every 72 effective full power months. This constitutes the fourth and subsequent inspection periods.

3. If crack indications are found in any SG tube, then the next inspection for each affected and potentially affected SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever results in more frequent inspections). If definitive information, such as from examination of a pulled tube, diagnostic non-destructive testing, or engineering evaluation indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.

e. Provisions for monitoring operational primary to secondary LEAKAGE

Attachment 3B
L-16-086

Davis-Besse Nuclear Power Station,
Revised Technical Specification Pages

(10 pages follow)

1.1 Definitions

CHANNEL CHECK (continued)	
	the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.
CHANNEL FUNCTIONAL TEST	A CHANNEL FUNCTIONAL TEST shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY. The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total steps.
CONTROL RODS	CONTROL RODS shall be all full length safety and regulating rods that are used to shut down the reactor and control power level during maneuvering operations.
CORE OPERATING LIMITS REPORT (COLR)	The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific limits shall be determined for each reload cycle in accordance with Specification 5.6.3. Plant operation within these limits is addressed in individual Specifications.
DOSE EQUIVALENT I-131	DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or those listed in Table E-7 of Regulatory Guide 1.109, Rev. 1, NRC, 1977, or those listed in ICRP 30, Supplement to Part 1, page 192-212, table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity".
$\bar{E}$ - AVERAGE DISINTEGRATION ENERGY	$\bar{E}$ shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half lives > 15 minutes, making up at least 95% of the total noniodine activity in the coolant.
INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.10 Pressurizer Safety Valves

LCO 3.4.10 Two pressurizer safety valves shall be OPERABLE with lift settings $\leq$ 2525 psig.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One pressurizer safety valve inoperable.	A.1 Restore valve to OPERABLE status.	15 minutes
B. Required Action and associated Completion Time of Condition A not met. OR Two pressurizer safety valves inoperable.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.10.1	Verify each pressurizer safety valve is OPERABLE in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within ± 1%.	In accordance with the INSERVICE TESTING PROGRAM

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and Associated Completion Time not met.	D.1	Disable capability of both high pressure injection pumps to inject water into the RCS.	1 hour
	AND		
	D.2	Disable makeup pump suction automatic transfer to the borated water storage tank on low makeup tank level.	8 hours
	AND		
	D.3	Verify makeup tank level ≤ 73 inches.	8 hours
	AND		
	D.4	Verify RCS pressure and pressurizer level in Acceptable Region of Figure 3.4.12-1 or 3.4.12-2, as applicable.	8 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.12.1	Verify RCS to DHR isolation valves open with control power removed.	24 hours
SR 3.4.12.2	Verify DHR System relief valve lift setpoint ≤ 330 psig in accordance with the INSERVICE TESTING PROGRAM.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.2.1	Verify each ECCS 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.	31 days
SR 3.5.2.2	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.5.2.3	Verify ECCS piping is full of water by venting the ECCS pump casings and discharge piping high points.	24 months AND Prior to declaring ECCS OPERABLE after draining ECCS piping
SR 3.5.2.4	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.5.2.5	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	24 months
SR 3.5.2.6	Verify the correct position of each mechanical stop for the following valves: a. DH-14A; and b. DH-14B.	24 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.3	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------- Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.4	Verify the isolation time of each automatic power operated containment isolation valve is within limits.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.3	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.6.4	Verify each required containment air cooling train starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.5	Verify each required containment air cooling train cooling water flow rate is $\geq$ 1150 gpm.	24 months
SR 3.6.6.6	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.6.6.7	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	24 months
SR 3.6.6.8	Verify each spray nozzle is unobstructed.	Following maintenance that could result in nozzle blockage.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. OR One or more steam generators with less than two MSSVs OPERABLE. OR One or more steam generators with no MSSVs with a lift setting of 1050 psig ± 3% OPERABLE.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify each MSSV lift setpoint per Table 3.7.1-1 in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within ± 1%.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	Verify isolation time of each MSIV is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.7.2.2	Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	24 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two valves in the same flow path inoperable.	D.1 Isolate affected flow path.	8 hours
E. Required Action and associated Completion Time not met.	E.1 Be in MODE 3. AND E.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify the isolation time of each MFSV is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.7.3.2	Verify the isolation time of each MFCV and SFCV is within limits.	24 months
SR 3.7.3.3	Verify each MFSV, MFCV, and SFCV actuates to the isolation position on an actual or simulated actuation signal.	24 months

5.5 Programs and Manuals

5.5.5 Allowable Operating Transient Cycles Program

This program provides controls to track the UFSAR, Section 5, cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.6 Reactor Coolant Pump Flywheel Inspection Program

This program shall provide for the inspection of each reactor coolant pump flywheel. Inservice inspection of each reactor coolant pump flywheel shall be performed every 10 years. The inservice inspection shall be either an ultrasonic examination of the volume from the inner bore of the flywheel to the circle of one-half the outer radius, or a surface examination of exposed surfaces of the disassembled flywheel. The recommendations delineated in Regulatory Positions C.4.b(3), (4), and (5) of Regulatory Guide 1.14, Revision 1, August 1975, shall apply.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Reactor Coolant Pump Flywheel Inspection Program Surveillance Frequency.

5.5.7 Deleted

Attachment 3C
L-16-086

Perry Nuclear Power Plant,
Revised Technical Specification Pages

(13 pages follow)

1.1 Definitions (continued)

EMERGENCY CORE COOLING SYSTEM (ECCS) RESPONSE TIME	The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. Exceptions are stated in the individual surveillance requirements.
END OF CYCLE RECIRCULATION PUMP TRIP (EOC-RPT) SYSTEM RESPONSE TIME	The EOC-RPT SYSTEM RESPONSE TIME shall be that time interval from initial movement of the associated turbine stop valve or the turbine control valve to complete suppression of the electric arc between the fully open contacts of the recirculation pump circuit breaker. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.
INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).
ISOLATION SYSTEM RESPONSE TIME	The ISOLATION SYSTEM RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its isolation initiation setpoint at the channel sensor until the isolation valves travel to their required positions. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. Exceptions are stated in the individual surveillance requirements.

(continued)

URVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.6	Verify each SLC 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, or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.1.7.7	Verify each pump develops a flow rate ≥ 32.4 gpm at a discharge pressure ≥ 1220 psig.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.1.7.8	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	In accordance with the Surveillance Frequency Control Program
SR 3.1.7.9	Verify all heat traced piping between storage tank and pump suction is unblocked.	In accordance with the Surveillance Frequency Control Program AND Once within 24 hours after pump suction piping temperature is restored to ≥ 70°F

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.4 Safety/Relief Valves (S/RVs)

LCO 3.4.4 The safety function of seven S/RVs shall be OPERABLE,

AND

The relief function of six additional S/RVs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required S/RVs inoperable.	A.1 Be in MODE 3.	12 hours
	AND	
	A.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.4.1	Verify the safety function lift setpoints of the required S/RVs are as follows:	In accordance with the INSERVICE TESTING PROGRAM

Number of S/RVs	Setpoint (psig)
8	1165 ± 34.9
6	1180 ± 35.4
5	1190 ± 35.7

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.6.1	Verify equivalent leakage of each RCS PIV is ≤ 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm, at an RCS pressure ≥ 1040 psig and ≤ 1060 psig.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.1.1	Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.2	----------NOTE---------- 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. ---------- 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.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.3	Verify ADS accumulator supply pressure is ≥ 150 psig.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.4	Verify each ECCS pump develops the specified flow rate with sufficient pump total head to overcome the total system resistance which includes the specified reactor-to-containment wetwell differential pressure. SYSTEM / FLOW RATE / REACTOR-TO-CONTAINMENT WETWELL DIFFERENTIAL PRESSURE LPCS: ≥ 6110 gpm: ≥ 128 psid LPCI: ≥ 7100 gpm: ≥ 24 psid HPCS: ≥ 6110 gpm: ≥ 200 psid	In accordance with the INSERVICE TESTING PROGRAM

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate with sufficient pump total head to overcome the total system resistance which includes the specified reactor to containment wetwell differential pressure. SYSTEM / FLOW RATE / REACTOR TO CONTAINMENT WETWELL DIFFERENTIAL PRESSURE LPCS: ≥ 6110 gpm: ≥ 128 psid LPCI: ≥ 7100 gpm: ≥ 24 psid HPCS: ≥ 6110 gpm: ≥ 200 psid	In accordance with the INSERVICE TESTING PROGRAM
SR 3.5.2.6	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.5	Verify the isolation time of each power operated and each automatic PCIV, except MSIVs, is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.1.3.6	----------NOTE---------- Only required to be met in MODES 1, 2, and 3. ---------- Perform leakage rate testing for each primary containment purge valve with resilient seals.	In accordance with the Surveillance Frequency Control Program AND Once within 92 days after opening the valve
SR 3.6.1.3.7	Verify the isolation time of each MSIV is ≥ 2.5 seconds, and ≤ 5 seconds.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.1.3.8	Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.1.7.1	----------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. ---------- 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.	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.	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 3.6.1.9.1	Verify the isolation time of each valve is within limits.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling 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 or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.2.3.2	Verify each RHR pump develops a flow rate ≥ 7100 gpm through the associated heat exchangers to the suppression pool.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.5.3.1	Verify each 24 inch and 36 inch drywell purge supply and exhaust isolation valve is sealed closed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.5.3.2	Deleted.	
SR 3.6.5.3.3	----------NOTES---------- 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for drywell isolation valves that are open under administrative controls. ---------- Verify each drywell isolation manual valve and blind flange that is not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.	Prior to entering MODE 2 or 3 from MODE 4, if not performed in the previous 92 days
SR 3.6.5.3.4	Verify the isolation time of each power operated and each automatic drywell isolation valve is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.5.3.5	Verify each automatic drywell isolation valve actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program

5.5 Programs and Manuals (continued)

5.5.6 Deleted

5.5.7 Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature (ESF) filter ventilation systems at the frequencies specified in Regulatory Guide 1.52, Revision 2.

(continued)

5.5 Programs and Manuals

5.5.12 Primary Containment Leakage Rate Testing Program (continued)

- BN-TOP-1 methodology may be used for Type A tests.
- The corrections to NEI 94-01 which are identified on the Errata Sheet attached to the NEI letter, "Appendix J Workshop Questions and Answers," dated March 19, 1996 are considered an integral part of NEI 94-01.
- The containment isolation check valves in the Feedwater penetrations are tested per the INSERVICE TESTING PROGRAM.
- The provisions of NEI 94-01, Section 9.2.3 are revised to include the following exception: The first Type A test performed after the Type A test completed on July 1, 1994 shall be completed no later than June 29, 2009.

The peak calculated primary containment internal pressure for the design basis loss of coolant accident is 6.40 psig. For conservatism P_a is defined as 7.80 psig.

The maximum allowable primary containment leakage rate, L_a, shall be 0.20% of primary containment air weight per day at the peak containment pressure (P_a).

Leakage rate acceptance criteria are:

a. Primary containment leakage rate acceptance criterion is $\leq 1.0\ L_a$. However, during the first unit startup following testing performed in accordance with this Program, the leakage rate acceptance criteria are $< 0.6\ L_a$ for the Type B and Type C tests, and $\leq 0.75\ L_a$ for the Type A tests;

b. Air lock testing acceptance criteria are:

   1) Overall air lock leakage rate is ≤ 2.5 scfh when tested at $\geq P_a$.

   2) For each door, leakage rate is ≤ 2.5 scfh when the gap between the door seals is pressurized to $\geq P_a$.

The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

Nothing in these Technical Specifications shall be construed to modify the testing frequencies required by 10 CFR 50, Appendix J.

(continued)

Attachment 4A
L-16-086

Beaver Valley Power Station,
Proposed Technical Specification Bases Changes (Mark-Up) – Information Only

(13 pages follow)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

SR 3.0.1 (continued)

to be met and performed in accordance with SR 3.0.2, prior to returning equipment to OPERABLE status.

Upon completion of maintenance, appropriate post maintenance testing is required to declare equipment OPERABLE. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with SR 3.0.2. Post maintenance testing may not be possible in the current MODE or other specified conditions in the Applicability due to the necessary unit parameters not having been established. In these situations, the equipment may be considered OPERABLE provided testing has been satisfactorily completed to the extent possible and the equipment is not otherwise believed to be incapable of performing its function. This will allow operation to proceed to a MODE or other specified condition where other necessary post maintenance tests can be completed.

An example of this process is:

Auxiliary feedwater (AFW) pump turbine maintenance during refueling that requires testing at steam pressures > 600 psig. However, if other appropriate testing is satisfactorily completed, the AFW System can be considered OPERABLE. This allows startup and other necessary testing to proceed until the plant reaches the steam pressure required to perform the testing.

SR 3.0.2

SR 3.0.2 establishes the requirements for meeting the specified Frequency for Surveillances and any Required Action with a Completion Time that requires the periodic performance of the Required Action on a "once per . . ." interval.

SR 3.0.2 permits a 25% extension of the interval specified in the Frequency. This extension facilitates Surveillance scheduling and considers plant operating conditions that may not be suitable for conducting the Surveillance (e.g., transient conditions or other ongoing Surveillance or maintenance activities).

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications. The 25% surveillance interval extension per SR 3.0.2 also does not apply to ~~Inservice Testing Program (IST)~~ frequencies which are greater than

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS (continued)

systems. With any RCS cold leg temperatures at or below the enable temperature specified in the PTLR, overpressure protection is provided by the OPPS. The change from MODE 1, 2, or 3 to MODE 4 reduces the RCS energy (core power and pressure), lowers the potential for large pressurizer insurges, and thereby removes the need for overpressure protection by three pressurizer safety valves.

SURVEILLANCE REQUIREMENTS

SR 3.4.10.1

SRs are specified in the ~~Inservice Testing Program~~. Pressurizer safety valves are to be tested in accordance with the requirements of the ASME Code (Ref. 4), which provides the activities and Frequencies necessary to satisfy the SRs. The lift setting shall correspond to ambient conditions of the valve at nominal temperature and pressure. Nominal temperature and pressure includes MODE 3 operating conditions as provided in the Applicability Note allowing 54 hours for testing and examination of the valves in MODE 3. No additional requirements are specified.

The pressurizer safety valve setpoints are ± 3% of 2485 psig for Unit 1 and +1.6%/-3% of 2485 psig for Unit 2 for OPERABILITY; however, the valves are reset to ± 1% of 2485 psig during the Surveillance to allow for drift.

REFERENCES

1. ASME, Boiler and Pressure Vessel Code, Section III.

2. UFSAR Chapter 14 (Unit 1), and UFSAR Chapter 15 (Unit 2).

3. WCAP-7769, October 1971 (Unit 1) and WCAP-7769, Rev. 1, June 1972 (Unit 2).

4. ASME code for Operation and Maintenance of Nuclear Power Plants.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.14.1

The list of valves for which this Surveillance is applicable is contained in the LRM. Performance of leakage testing on each RCS PIV or isolation valve used to satisfy Required Action A.1 is required to verify that leakage is below the specified limit and to identify each leaking valve. The leakage limit of 0.5 gpm per inch of nominal valve diameter up to 5 gpm maximum applies to each valve. Leakage testing requires a stable pressure condition. To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating compliance within the valve leakage criteria. In addition, for those valves where the leakage rate can be continuously monitored during plant operation, no other leakage rate testing is required. The leakage rate of valves continously monitored shall be recorded at intervals that satisfy the required Surveillance Frequency.

For the two PIVs in series, the leakage requirement applies to each valve individually and not to the combined leakage across both valves. If the PIVs are not individually leakage tested, one valve may have failed completely and not be detected if the other valve in series meets the leakage requirement. In this situation, the protection provided by redundant valves would be lost.

Testing is to be performed for all PIVs listed in the LRM prior to entering MODE 2 after the plant is placed in MODE 5 for refueling. The Frequency, which results in testing the PIVs approximately every 18 months, is within the requirements of 10 CFR 50.55a(f) as contained in the ~~Inservice Testing Program~~, and is also within the frequency allowed by the American Society of Mechanical Engineers (ASME) Code (Ref. 4), which is based on the need to perform such surveillances under the conditions that apply during an outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. However, this does not preclude performance of this Surveillance at power, if necessary to confirm OPERABILITY, when it can be accomplished in a safe manner.

An additional Frequency of "prior to entering MODE 2 whenever the unit has been in MODE 5 for 7 days or more, if leakage testing has not been performed in the previous 9 months" is applicable to certain PIVs. This additional Frequency is modified by a Note that clarifies that this Frequency is only applicable to PIVs specifically identified in the list of PIVs in the LRM. The additional testing is specified for PIVs identified as "Event V" (potential loss of coolant accident outside containment) type PIVs consistent with References 2 and 3.

Change Inservice Testing (IST) Program and IST to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS (continued)

valve motor operator is de-energized may be accomplished by verifying the absence of valve position indicator lights. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.5.2.3

Verifying the correct alignment for manual, power operated, and automatic valves in the ECCS flow paths provides assurance that the proper flow paths will exist for ECCS operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an actuation signal is allowed to be in a nonaccident position provided the valve will automatically reposition within the proper stroke time. This Surveillance does not require any testing or valve manipulation. Rather, it involves verification that those valves capable of being mispositioned are in the correct position. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.5.2.4

Periodic surveillance testing of ECCS pumps to detect gross degradation caused by impeller structural damage or other hydraulic component problems is required by the ASME Code. This type of testing may be accomplished by measuring the pump developed head at only one point of the pump characteristic curve. This verifies both that the measured performance is within an acceptable tolerance of the original pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the ECCS Flow Analysis excluding the Unit 2 recirculation spray pumps 2RSS-P21C and 2RSS-P21D. The specific acceptance criteria of the "required developed head" for each ECCS pump may be found in the ~~Inservice Testing (IST) Program~~ and the ECCS Flow Analysis, as applicable. The term "required developed head" refers to the pump performance at a given flow point that is assumed in the ECCS Flow Analysis. This is possible since the analysis assumes the pump delivers different flows at different times during accident mitigation. These multiple points are represented by a curve. The values at various flow points are defined by the Minimum Operating Point (MOP) curve in the ~~IST~~. The verification that the pump's developed head at the flow test point is greater than or equal to the required developed head is performed by using the MOP curve.

Change IST to INSERVICE TESTING PROGRAM.

Change Inservice Testing Program and IST Program to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS (continued)

For the Unit 2 recirculation spray pumps 2RSS-P21C and 2RSS-P21D, the term "required developed head" refers to the value that is assumed in the Containment Integrity Safety Analysis for the recirculation spray pump's developed head at a specific flow point. This value for the required developed head at a flow point is defined as the MOP in the ~~IST Program~~. The verification that the pump's developed head at the flow test point is greater than or equal to the required developed head is performed by using a MOP curve. The MOP curve is contained in the ~~IST Program~~ and was developed using the required developed head at a specific flow point as a reference point. From the reference point, a curve was drawn which is a constant percentage below the current pump performance curve. Based on the MOP curve, a verification is performed to ensure that the pump's developed head at the flow test point is greater than or equal to the required developed head. SRs are specified in the ~~IST Program~~ of the ASME Code. The ASME Code provides the activities and frequencies necessary to satisfy the requirements.

SR 3.5.2.5 and SR 3.5.2.6

These Surveillances demonstrate that each automatic ECCS valve actuates to the required position on an actual or simulated SI signal and that each ECCS pump, except 2RSS-P21C and 2RSS-P21D, starts on receipt of an actual or simulated SI signal. The Unit 2 recirculation spray pumps 2RSS-P21C and 2RSS-P21D start on a receipt of an actual or simulated coincidence Containment Pressure - High High signal and RWST Level Low signal or a coincidence RWST Level Extreme Low and SI signal.

For the Automatic Switchover to the Containment Sump function of the ECCS, these Surveillances include a verification of the associated required slave relay operation. The Automatic Switchover to the Containment Sump, Function 7 in LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," does not include a requirement to perform a SLAVE RELAY TEST due to equipment safety concerns if such a test was performed at power. Therefore, verification of the required slave relay OPERABILITY for the Automatic Switchover to the Containment Sump ESFAS function is included in these ECCS Surveillances. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls.

The actuation logic is tested as part of ESF Actuation System testing, and equipment performance is monitored as part of the ~~Inservice Testing Program~~. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS (continued)

within the previous 92 days" is appropriate since these containment isolation valves are operated under administrative controls and the probability of their misalignment is low. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time they are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

This Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, 3, and 4, for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

SR 3.6.3.4

Verifying that the isolation time of each automatic power operated containment isolation valve required to be closed during accident conditions (i.e., Containment Isolation Phase A or B signal) is within limits is required to demonstrate OPERABILITY. The isolation time test ensures that each valve required to automatically isolate on a Containment Isolation Phase A or B signal will isolate in a time period consistent with the assumptions of the safety analyses. The required isolation times are specified in the LRM. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The Frequency of this SR is in accordance with the ~~Inservice Testing Program~~.

SR 3.6.3.5

Automatic power operated containment isolation valves required to be closed during accident conditions close on a Phase A or Phase B containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures that each automatic power operated containment isolation valve required to be closed during accident conditions will actuate to its isolation position on a Phase A or Phase B containment isolation signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

Change Inservice Testing (IST) Program, IST Program, and Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.6.1

Verifying the correct alignment of manual, power operated, and automatic valves, excluding check valves, in the QS System provides assurance that the proper flow path exists for QS System operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they were verified to be in the correct position prior to being secured. This SR does not require any testing or valve manipulation. Rather, it involves verification that those valves outside containment and capable of potentially being mispositioned are in the correct position. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.6.2

Verifying that each QS System pump's developed head at the flow test point is greater than or equal to the required developed head ensures that QS System pump performance has not degraded during the cycle. The term "required developed head" refers to the value that is assumed in the Containment Integrity Safety Analysis for the QS pump's developed head at a specific flow point. This value for the required developed head at a flow point is defined as the Minimum Operating Point (MOP) in the ~~Inservice Testing (IST) Program~~. The verification that the pump's developed head at the flow test point is greater than or equal to the required developed head is performed by using a MOP curve. The MOP curve is contained in the ~~IST Program~~ and was developed using the required developed head at a specific flow point as a reference point. From the reference point, a curve was drawn which is a constant percentage below the current pump performance curve. Based on the MOP curve, a verification is performed to ensure that the pump's developed head at the flow test point is greater than or equal to the required developed head. Flow and differential head are normal test parameters of centrifugal pump performance required by the ASME Code (Ref. 4). Since the QS System pumps cannot be tested with flow through the spray headers, they are tested on bypass flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests 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~~.

Change Inservice Testing (IST) Program and IST Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS (continued)

E.1

With three or more RS subsystems inoperable, the unit is in a condition outside the accident analysis. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE REQUIREMENTS

SR 3.6.7.1

Verifying the correct alignment of manual, power operated, and automatic valves, excluding check valves, in the RS System provides assurance that the proper flow path exists for operation of the RS System. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified as being in the correct position prior to being secured. This SR does not require any testing or valve manipulation. Rather, it involves verification that those valves outside containment and capable of potentially being mispositioned are in the correct position. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.7.2

Verifying that each RS System pump's developed head at the flow test point is greater than or equal to the required developed head ensures that RS System pump performance has not degraded during the cycle. The term "required developed head" refers to the value that is assumed in the Containment Integrity Safety Analysis for the RS pump's developed head at a specific flow point. This value for the required developed head at a flow point is defined as the Minimum Operating Point (MOP) in the ~~Inservice Testing (IST) Program~~. The verification that the pump's developed head at the flow test point is greater than or equal to the required developed head is performed by using a MOP curve. The MOP curve is contained in the ~~IST Program~~ and was developed using the required developed head at a specific flow point as a reference point. From the reference point, a curve was drawn which is a constant percentage below the current pump performance curve. Based on the MOP curve, a verification is performed to ensure that the pump's developed head at the flow test point is greater than or equal to the required developed head. Flow and differential head are normal test parameters of centrifugal pump performance required by the ASME Code (Ref. 4). Since the RS System pumps cannot be tested with flow through the spray headers, they are tested on bypass flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

APPLICABLE SAFETY ANALYSES (continued)

exceeds the combined steam flow capacity of the turbine and the remaining OPERABLE MSSVs. Thus, for multiple inoperable MSSVs on the same steam generator it is necessary to prevent this power increase by lowering the Power Range Neutron Flux-High setpoint to an appropriate value. When the Moderator Temperature Coefficient (MTC) is positive, the reactor power may increase above the initial value during an RCS heatup event (e.g., turbine trip). Thus, for any number of inoperable MSSVs, it is necessary to reduce the trip setpoint if a positive MTC may exist at partial power conditions.

The MSSVs are assumed to have two active and one passive failure modes. The active failure modes are spurious opening, and failure to reclose once opened. The passive failure mode is failure to open upon demand.

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

LCO

The accident analysis requires that five MSSVs per steam generator be OPERABLE to provide overpressure protection for design basis transients occurring at 100.6% RTP. The LCO requires that five MSSVs per steam generator be OPERABLE in compliance with Reference 2, and the DBA analysis.

The OPERABILITY of the MSSVs is defined as the ability to open upon demand within the setpoint tolerances, to relieve steam generator overpressure, and reseat when pressure has been reduced. The OPERABILITY of the MSSVs is determined by periodic surveillance testing in accordance with the ~~Inservice Testing Program~~.

This LCO provides assurance that the MSSVs will perform their designed safety functions to mitigate the consequences of accidents that could result in a challenge to the RCPB, or Main Steam System integrity.

APPLICABILITY

In MODES 1, 2, and 3, five MSSVs per steam generator are required to be OPERABLE to prevent main steam overpressurization.

In MODES 4 and 5, there are no credible transients requiring the MSSVs. The steam generators are not normally used for heat removal in MODES 5 and 6, and thus cannot be overpressurized; there is no requirement for the MSSVs to be OPERABLE in these MODES.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS (continued)

The maximum THERMAL POWER corresponding to the heat removal capacity of the remaining OPERABLE MSSVs is determined via a conservative heat balance calculation as discussed above, with an appropriate allowance for Nuclear Instrumentation System trip channel uncertainties.

To determine the Table 3.7.1-1 Maximum Allowable Power for Required Actions B.1 and B.2 (% RTP), the calculated Maximum NSSS Power is reduced by 9% RTP to account for Nuclear Instrumentation System trip channel uncertainties. An additional conservatism is employed by setting the values equal to the most conservative between the two units, this being the Unit 1 values.

Required Action B.2 is modified by a Note, indicating that the Power Range Neutron Flux-High reactor trip setpoint reduction is only required in MODE 1. In MODES 2 and 3 the reactor protection system trips specified in LCO 3.3.1, "Reactor Trip System Instrumentation," provide sufficient protection.

The allowed Completion Times are reasonable based on operating experience to accomplish the Required Actions in an orderly manner without challenging unit systems.

C.1 and C.2

If the Required Actions are not completed within the associated Completion Time, or if one or more steam generators have ≥ 4 inoperable MSSVs, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.1.1

This SR verifies the OPERABILITY of the MSSVs by the verification of each MSSV lift setpoint in accordance with the ~~Inservice Testing Program~~ and the ASME Code (Ref. 4) requirements.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS (continued)

The 8 hour Completion Time is consistent with that allowed in Condition A.

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

D.1 and D.2

If the MSIVs cannot be restored to OPERABLE status or are not closed within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed at least in MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1

This SR verifies that MSIV closure time is within the limit specified in the Licensing Requirements Manual (Ref. 5). The MSIV total response time (signal generation plus MSIV closure time) is assumed in the accident analyses. The MSIVs should not be tested at power due to the risk of a valve closure when the unit is generating power. As MSIVs are not typically tested at power, they are exempt from the ASME Code (Ref. 6) requirements during operation in MODE 1 or 2.

The Frequency is in accordance with the ~~Inservice Testing Program~~.

This test is allowed to be conducted in MODE 3 with the unit at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.3.1

This SR verifies that the closure time of each MFIV, MFRV, and MFRV bypass valve is within the limit(s) specified in the Licensing Requirements Manual (LRM) (Ref. 2). The total response times (signal generation plus valve closure time) are assumed in the SLB or FWLB accident analyses.

The Frequency for this SR is in accordance with the ~~Inservice Testing Program~~.

SR 3.7.3.2

This SR verifies that each MFIV, MFRV, and MFRV bypass valve can close on an actual or simulated actuation signal. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. UFSAR, Section 10.3.5 (Unit 1) and Section 10.4.7 (Unit 2).
2. Licensing Requirements Manual (LRM) for BVPS Unit 1 and Unit 2.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS (continued)

be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

The SR is modified by a Note that states one or more AFW trains may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the train(s) inoperable. Since AFW may be used during startup, shutdown, hot standby operations, and hot shutdown operations for steam generator level control, and these manual operations are an accepted function of the AFW System, OPERABILITY (i.e., the intended safety function) continues to be maintained.

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

SR 3.7.5.2

Verifying that each AFW pump's developed head at the flow test point is greater than or equal to the required developed head ensures that AFW pump performance has not degraded during the cycle. The term "required developed head" refers to the value that is assumed in the AFW safety analysis for developed head at a flow point. This value for required developed head at a flow point is defined as the Minimum Operating Point (MOP) in the ~~Inservice Testing Program~~. Flow and differential head are normal test parameters of centrifugal pump performance required by the ASME Code (Ref 2). Because it is undesirable to introduce cold AFW into the steam generators while they are operating, this testing is normally performed on recirculation flow. For Unit 1, the recirculation flow rate is assumed to be a fixed value since the recirculation line flow resistance remains constant. For Unit 2, the recirculation flow rate is adjusted to a specific value. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. Performance of inservice testing as ~~required~~ in the ASME Code (Ref. 2) satisfies this requirement.

discussed

This SR is modified by a Note indicating that the SR should be deferred until suitable test conditions are established for testing the turbine driven AFW pump. This deferral is required because there is insufficient steam pressure to perform the test.

and the INSERVICE TESTING PROGRAM

Attachment 4B
L-16-086

Davis-Besse Nuclear Power Station,
Proposed Technical Specification Bases Changes (Mark-Up) – Information Only

(11 pages follow)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS (continued)

B.1 and B.2

If the Required Action cannot be met within the required Completion Time or if both pressurizer safety valves are inoperable, the plant must be brought to a MODE in which the requirement does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The 6 hours allowed is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. Similarly, the 12 hours allowed is reasonable, based on operating experience, to reach MODE 4 without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.4.10.1

SRs are specified in the ~~Inservice Testing Program~~. Pressurizer safety valves are to be tested in accordance with the requirements of the ASME OM Code (Ref. 2), which provides the activities and the Frequency necessary to satisfy the SRs. No additional requirements are specified.

The pressurizer safety valve setpoint is + 1% for OPERABILITY; however, the valves are reset to ± 1% during the Surveillance in accordance with Reference 1.

REFERENCES

1. ASME Boiler and Pressure Vessel Code, Section III.

2. ASME Code for Operation and Maintenance of Nuclear Power Plants.

Change Inservice Testing (IST) Program and IST Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS

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

must be verified to be in the Acceptable Region of Figure 3.4.12-1 or 3.4.12-2 (depending on the MODE) within 8 hours to ensure an overpressure condition cannot occur. These Figures do not include instrument error uncertainties.

SURVEILLANCE REQUIREMENTS

SR 3.4.12.1

Verification of the flow path from the RCS to the DHR System relief valve is required every 24 hours. This verification is performed by checking RCS to DHR System isolation valves in the open position with control power removed from the valve operator. This Surveillance ensures the overpressure relief flow path is aligned and remains aligned. Removal of control power ensures the flow path is not inadvertently closed.

The Frequency is adequate based on operating experience. Manual operation is required to close the isolation valves or energize control power. Valve operations are administratively controlled by procedure. In this configuration the isolation valves will not inadvertently close.

SR 3.4.12.2

Verification of the DHR System relief valve lift setpoint must be performed to ensure LTOP requirements can be met. Overpressure protection of the RCS is ensured by the DHR System relief valve, which relieves pressure and prevents the RCS from exceeding the Pressure/Temperature Limits.

The DHR System relief valve setpoint is verified in accordance with the ~~Inservice Testing (IST) Program~~ for proper operation and correct lift setting of ≤ 330 psig. This lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure. The ~~IST Program~~ specifies the testing and frequency, as directed by ASME Code.

REFERENCES

1. 10 CFR 50, Appendix G.

2. Generic Letter 88-11.

3. UFSAR, Section 9.3.5.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.14.1 (continued)

reasonable confidence that the channel is operating properly. The Frequency of 12 hours is based on instrument reliability and is reasonable for detecting off normal conditions.

SR 3.4.14.2

Performance of leakage testing on each RCS PIV or isolation valve used to satisfy Required Action A.1 or A.2 is required to verify that leakage is below the specified limit and to identify each leaking valve. The RCS PIVleakage limit is ≤ 5.0 gpm. However, RCS PIV leakage is also limited when the current measured rate is > 1.0 gpm, such that the current measured rate shall not exceed the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and 5.0 gpm by 50%. Leakage testing requires a stable pressure condition. Valves CF-30 and CF-31 will be tested with the RCS pressure > 1200 psig and valves DH-76 and DH-77 will be tested at > 575 psig (i.e., the normal core flooding tank pressure). Minimum differential test pressure across each valve shall be > 150 psid. Additionally, to satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.

For the two PIVs in series, the leakage requirement applies to each valve individually and not to the combined leakage across both valves. If the PIVs are not individually leakage tested, one valve may have failed completely and not detected if the other valve in series meets the leakage requirement. In this situation, the protection provided by redundant valves would be lost.

Testing is to be performed every 24 months, a typical refueling cycle, if the plant does not go into MODE 5 for at least 7 days. The 24 month Frequency is consistent with 10 CFR 50.55a(g) (Ref. 8) as contained in the ~~Inservice Testing Program~~, is within frequency allowed by the American Society of Mechanical Engineers (ASME) Code (Ref. 7), and is based on the need to perform such surveillances under conditions that apply during an outage and the potential for an unplanned transient if the Surveillance were performed with the plant at power.

The leakage limit is to be performed at the RCS pressure associated with MODES 1 and 2. This permits leakage testing at high differential pressures with stable conditions not possible in the MODES with lower

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.2.2 (continued)

measured performance is within an acceptable tolerance of the original pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the plant accident analysis. SRs are specified in the ~~Inservice Testing Program~~ of the ASME Code. The ASME Code provides the activities and Frequencies necessary to satisfy the requirements.

SR 3.5.2.3

With the exception of systems in operation, the ECCS pumps are normally in a standby, nonoperating mode. As such, the flow path piping has the potential to develop voids and pockets of entrained gases. This SR requires maintaining the piping from the ECCS pumps to the RCS full of water, by venting the ECCS pump casings and discharge piping high points, to ensure that the system will perform properly, injecting its full capacity into the RCS upon demand. This will also prevent water hammer, pump cavitation, and pumping of noncondensible gas (e.g., air, nitrogen, or hydrogen) into the reactor vessel following an SFAS signal or during shutdown cooling. The 24 month Frequency takes into consideration the gradual nature of gas accumulation in the ECCS piping, the existence of procedural controls governing system operation, and the fact that some venting point are not accessible during normal operation. The second Frequency is required to ensure the ECCS subsystem is refilled after draining prior to declaring the ECCS subsystem OPERABLE.

SR 3.5.2.4 and SR 3.5.2.5

These SRs demonstrate that each automatic ECCS valve actuates to the required position on an actual or simulated SFAS signal and that each ECCS pump starts on receipt of an actual or simulated SFAS signal. This SR is not required for valves that are locked, sealed, or otherwise secured in position under administrative controls. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is also acceptable based on consideration of the design reliability (and confirming operating experience) of the equipment. The actuation logic is tested as part of the SFAS testing, and equipment performance is monitored as part of the ~~Inservice Testing Program~~.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.3 (continued)

isolation valves, once they have been verified to be in their proper position, is small.

SR 3.6.3.4

Verifying that the isolation time of each automatic power operated containment isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses. The isolation time and Frequency of this SR are in accordance with the ~~Inservice Testing Program~~.

SR 3.6.3.5

For containment purge and exhaust valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J, Option B is required to ensure OPERABILITY. Operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. The test is performed by pressurizing the piping section, including one valve inside and one valve outside containment, to a pressure ≥ 20 psig. The leakage limit for each containment purge or exhaust penetration is ≤ 0.15 L_a. Based on this observation and the importance of maintaining this penetration leak tight (due to the direct path between containment and the environment), a Frequency of prior to entering MODE 2 from MODE 3 each time the plant has been in any combination of MODE 3, 4, 5, or 6 for > 72 hours, if not performed in the previous 184 days has been established.

Additionally, if a valve is opened in MODE 1, 2, 3, or 4, this SR must be performed within 72 hours after closing the valve. Alternately, if a valve is opened in other than MODE 1, 2, 3, or 4, this SR must be performed prior to entering MODE 4 from MODE 5. These two additional Frequencies were chosen recognizing that cycling a valve could introduce additional seal degradation. Thus, these additional Frequencies are a prudent measure after a valve has been opened.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6.3

Verifying that each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head ensures that spray pump performance has not degraded during the cycle. Flow and differential pressure are normal tests of centrifugal pump performance required by the ASME Code (Ref. 6). Since the Containment Spray System pumps cannot be tested with flow through the spray headers, they are tested on recirculation flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests 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 3.6.6.4

This SR requires verification that each required containment air cooling train actuates on slow speed upon receipt of an actual or simulated SFAS actuation signal. The 18 month Frequency is based on engineering judgment and has been shown to be acceptable through operating experience.

SR 3.6.6.5

Verifying that each required containment air cooling train provides a service water cooling flow rate of ≥ 1150 gpm to each cooling unit provides assurance that the flow rate assumed in the safety analyses will be achieved (Ref. 3). The 24 month Frequency is based on the need to perform this Surveillance during a plant outage.

SR 3.6.6.6 and SR 3.6.6.7

These SRs require verification that each automatic containment spray valve actuates to its correct position and that each containment spray pump starts upon receipt of an actual or simulated SFAS actuation signal. This SR is not required for valves that are locked, sealed, or otherwise secured in position under administrative controls. The 24 month Frequency is based on the need to perform these Surveillances under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillances were performed with the reactor

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

LCO

The MSSVs setpoints are established to prevent overpressurization as discussed in the Applicable Safety Analysis section of these Bases. The LCO requires all MSSVs to be OPERABLE to ensure compliance with the ASME Code following DBAs initiated at full power. Operation with less than a full complement of MSSVs requires limitations on unit THERMAL POWER and adjustment of the Reactor Protection System (RPS) trip setpoints. This effectively limits the Main Steam System steam flow while the MSSV relieving capacity is reduced due to valve inoperability. To be OPERABLE, lift setpoints must remain within limits, according to Table 3.7.1-1.

The OPERABILITY of the MSSVs is defined as the ability to open within the setpoint tolerances, relieve steam generator overpressure, and reseat when pressure has been reduced.

The OPERABILITY of the MSSVs is determined by periodic surveillance testing in accordance with the ~~Inservice Testing Program~~.

The lift settings, according to Table 3.7.1-1, correspond to ambient conditions of the valve at nominal operating temperature and pressure.

This LCO provides assurance that the MSSVs will perform the design safety function to mitigate the consequences of accidents that could result in a challenge to the RCPB.

APPLICABILITY

To support 100% RTP operation, all nine MSSVs on a steam generator are required to be OPERABLE. However, MODE 1 operation is permitted with inoperable MSSVs, provided the maximum permissible power level is reduced to a value less than that determined by Equation 3.7.1-1. In addition, in MODES 1, 2, and 3 at least two MSSVs per steam generator must be OPERABLE, one of which must have a lift setting of 1050 psig ± 3%.

In MODES 4 and 5, there is no credible transient requiring the MSSVs.

The steam generators are not normally used for heat removal in MODES 5 and 6, and thus cannot be overpressurized; there is no requirement for the MSSVs to be OPERABLE in these MODES.

ACTIONS

The ACTIONS Table is modified by a Note indicating that separate Condition entry is allowed for each MSSV.

A.1 and A.2

An alternative to restoring the inoperable MSSV(s) to OPERABLE status is to reduce power so that the available MSSV relieving capacity meets ASME Code requirements for the power level. Operation may continue,

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS (continued)

B.1 and B.2

If any Required Action and associated Completion Time of Condition A is not met, if one or more steam generators have less than two OPERABLE MSSVs, or if one or more steam generators have no OPERABLE MSSVs with a lift setpoint of 1050 psig ± 3%, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.1.1

This SR verifies the OPERABILITY of the MSSVs by the verification of each MSSV lift setpoint in accordance with the ~~Inservice Testing Program~~. The MSSV tests are to be performed in accordance with ASME OM Code (Ref. 4). According to Reference 4, the following tests are required for MSSVs:

a. Visual examination;

b. Seat tightness determination;

c. Setpoint pressure determination (lift setting);

d. Compliance with owner's seat tightness criteria; and

e. Verification of the balancing device integrity on balanced valves.

The ASME OM Code requires the testing of all valves every 5 years, with a minimum of 20% of the valves from each valve group tested every 24 months. Table 3.7.1-1 allows a ± 3% setpoint tolerance for OPERABILITY; however, the valves are reset to ± 1% during the Surveillance to allow for drift.

This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. The MSSVs may be either bench tested or tested in situ at hot conditions using an assist device to simulate lift pressure. If the MSSVs are not tested at hot conditions, the lift setting pressure shall be corrected to ambient conditions of the valve at operating temperature and pressure.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS

C.1 and C.2 (continued)

The 8 hour Completion Time is consistent with that allowed in Condition A.

Inoperable MSIVs that are closed must be verified on a periodic basis to be closed. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of MSIV status indications available in the control room, and other administrative controls, to ensure these valves are in the closed position.

D.1 and D.2

If the MSIV cannot be restored to OPERABLE status or closed in the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1

This SR verifies that the closure time of each MSIV is within the limit given in Reference 5 and is within that assumed in the accident analyses. This SR also verifies the valve closure time is in accordance with the ~~Inservice Testing Program~~. This SR is normally performed upon returning the unit to operation following a refueling outage, because the MSIVs should not be tested at power since even a partial stroke exercise increases the risk of a valve closure with the unit generating power. As the MSIVs are not to be tested at power, they are exempt from the ASME Code (Ref. 6) requirements during operation in MODES 1 and 2.

The Frequency for this SR is in accordance with the ~~Inservice Testing Program~~.

SR 3.7.2.2

This SR verifies that each MSIV can close on an actual or simulated actuation signal. This Surveillance is normally performed upon returning the plant to operation following a refueling outage. The Frequency of MSIV testing is every 24 months. The 24 month Frequency for testing is

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES

ACTIONS (continued)

E.1 and E.2

If any Required Action and associated Completion Time is not met, the unit must be in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.3.1 and SR 3.7.3.2

These SRs verify that the closure time of each MFSV, MFCV, and associated SFCV is within the limit given in Reference 1 and is within the isolation time assumed in the accident analyses. SR 3.7.3.1 also verifies the valve closure time is in accordance with the ~~Inservice Testing Program~~. These SRs are normally performed upon returning the unit to operation following a refueling outage. The MFSVs, MFCVs, and associated SFCV should not be tested at power since even a partial stroke exercise increases the risk of a valve closure with the unit generating power. This is consistent with the ASME Code (Ref. 2) requirements during operation in MODES 1 and 2.

The Frequency for SR 3.7.3.1 is in accordance with the ~~Inservice Testing Program~~ and for SR 3.7.3.2 is 24 months.

SR 3.7.3.3

This SR verifies that each MFSV, MFCV, and associated SFCV can close on an actual or simulated actuation signal. This Surveillance is normally performed upon returning the plant to operation following a refueling outage.

The Frequency for this SR is every 24 months. The 24 month Frequency for testing is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, this Frequency is acceptable from a reliability standpoint.

REFERENCES

1. Technical Requirements Manual.

2. ASME Code for Operation and Maintenance of Nuclear Power Plants.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.1 (continued)

Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position.

A Note has been added that allows the MDFP train valves to be in the non-correct position (aligned in the Main Feedwater mode) when in MODE 1 ≤ 40% RTP or in MODE 2, 3, or 4, provided the valves are capable of being locally realigned to the correct position (i.e., aligned in the AFW mode). The capability of the valves to be locally realigned to the correct position is met if a handwheel is present for each manual valve and either a handwheel is present or a power supply is available for each power operated valve. This Note is necessary because the MDFP train is normally aligned to the Main Feedwater System during a reactor startup. The allowance is acceptable since the MDFP train is a manually actuated train.

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

SR 3.7.5.2

Verifying that each AFW pump's developed head at the flow test point is greater than or equal to the required developed head ensures that AFW pump performance has not degraded during the cycle. Flow and differential head are normal tests of pump performance required by the ASME Code (Ref. 3). Because it is undesirable to introduce cold AFW into the steam generators while they are operating, this test is performed on recirculation flow.

as discussed

This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. Performance of inservice testing in the ASME Code (Ref. 3)~~, at 3 month intervals,~~ satisfies this requirement.

This SR is modified by a Note indicating that the SR should be deferred until suitable test conditions are established. This deferral is required because there is insufficient steam pressure to perform the test.

and the INSERVICE TESTING PROGRAM

Attachment 4C
L-16-086

Perry Nuclear Power Plant,
Proposed Technical Specification Bases Changes (Mark-Up) – Information Only

(18 pages follow)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.7.5 (continued)

boron precipitation occurred. The 31 day Frequency of this Surveillance is appropriate because of the relatively slow variation of boron concentration between surveillances.

SR 3.1.7.7

Demonstrating each SLC System pump develops a flow rate ≥ 32.4 gpm at a discharge pressure ≥ 1220 psig ensures that pump performance has not degraded during the fuel cycle. This minimum pump flow rate requirement ensures that, when combined with the borax-boric acid solution concentration requirements, the rate of negative reactivity insertion from the SLC System will adequately compensate for the positive reactivity effects encountered during power reduction, cooldown of the moderator, and xenon decay. 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 Surveillance is in accordance with the ~~Inservice Testing Program~~.

SR 3.1.7.8 and SR 3.1.7.9

These Surveillances ensure that there is a functioning flow path from the boron solution storage tank to the RPV, including the firing of an explosive valve. The replacement charge for the explosive valve shall be from the same manufactured batch as the one fired or from another batch that has been certified by having one of that batch successfully fired. The pump and explosive valve tested should be alternated such that both complete flow paths are tested every 48 months, at alternating 24 month intervals. The Surveillance may be performed in separate steps to prevent injecting boron into the RPV. An acceptable method for verifying flow from the pump to the RPV is to pump demineralized water from a test tank through one SLC subsystem and into the RPV. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance was performed with the reactor at power. The 24 month Frequency

CC-102

CC-102

CC-102

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.3.1.1 (continued)

The Frequency of 31 days is based upon plant operating experience with regard to channel OPERABILITY and drift, which demonstrates that failure of more than one channel of a given function in any 31 day interval is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of those displays associated with the required channels of this LCO.

SR 3.3.3.1.2

Deleted.

05-044

SR 3.3.3.1.3

For all Functions a CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop including the sensor. The test verifies that the channel responds to the measured parameter with the necessary range and accuracy. The CHANNEL CALIBRATION for the Penetration Flow Path, PCIV Position consists of the Position Indicator Test (PIT), which is conducted in accordance with the ~~ASME inservice inspection and testing program~~. The CHANNEL CALIBRATION for primary Containment/Drywell Area Gross Gamma Radiation Monitors shall consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr and a one point calibration check of the detector below 10 R/hr with an installed or portable gamma source. The Frequency is based on operating experience and consistency with the typical industry refueling cycles.

05-044

05-044

REFERENCES

1. Regulatory Guide 1.97, "Instrumentation for Light-Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 2, December 1980.

2. USAR, Table 7.1-4.

Replace this text with INSERVICE TESTING PROGRAM

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.4.4.1

This Surveillance demonstrates that the required S/RVs will open at the pressures assumed in the safety analysis of Reference 2. The demonstration of the S/RV safety function lift settings must be performed during shutdown, since this is a bench test, and in accordance with the ~~Inservice Testing Program~~. The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures.

The Frequency was selected because this Surveillance must be performed during shutdown conditions and is based on the time between refuelings. The safety lift setpoints will still be set within a tolerance of ± 1%, but the setpoints will be tested to within ± 3% to determine acceptance or failure of the as-found valve lift setpoint (Reference 4).

SR 3.4.4.2

The required relief function S/RVs are required to actuate automatically upon receipt of specific initiation signals. A system functional test is performed to verify that the mechanical portions i.e., solenoids of the automatic relief function operate as designed when initiated either by an actual or simulated initiation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.4.4 overlaps this SR to provide complete testing of the safety function.

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is based on operating experience, and is consistent with a typical industry refueling cycle. 00-102 00-102

This SR is modified by a Note that excludes valve actuation. This prevents an RPV pressure blowdown.

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.6.1 (continued)

The Frequency required by the ~~Inservice Testing Program~~ is within the ASME Code Frequency requirement. | CN 09-079

REFERENCES

1. 10 CFR 50.2.
2. 10 CFR 50.55a(c).
3. 10 CFR 50, Appendix A, GDC 55.
4. ASME Code for Operation and Maintenance of Nuclear Power Plants. | CN 09-079
5. NUREG-0677, "The Probability of Intersystem LOCA: Impact Due to Leak Testing and Operational Changes," May 1980.
6. PNPP - Unit 1, Inservice Test Program. | CN 09-079

Change Inservice Testing Program to INSERVICE TESTING PROGRAM.

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.5.1.1

The flow path piping has the potential to develop voids and pockets of entrained air. Maintaining the pump discharge lines of the HPCS System, LPCS System, and LPCI subsystems full of water ensures that the systems will perform properly, injecting their full capacity into the RCS upon demand. This will also prevent a water hammer following an ECCS initiation signal. One acceptable method of ensuring the lines are full is to vent at the high points. The 31 day Frequency is based on operating experience, on the procedural controls governing system operation, and on the gradual nature of void buildup in the ECCS piping.

SR 3.5.1.2

Verifying the correct alignment for each manual, power operated, and automatic valves in the ECCS flow paths provides assurance that the proper flow paths exist for ECCS operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an initiation signal is allowed to be in a nonaccident position provided the valve will automatically reposition in the proper system response time. This SR does not require any testing or valve manipulation; 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.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

L 96-109

The 31 day Frequency of this SR was derived from the ~~Inservice Testing Program~~ requirements for performing valve testing at least once every 92 days. The Frequency of 31 days is further justified because the valves are operated under procedural control and because improper valve alignment would only affect a single subsystem. This Frequency has been shown to be acceptable through operating experience.

This SR is modified by a Note that allows LPCI subsystems to be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the RHR cut in permissive pressure in MODE 3, if

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 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.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

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 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 24 month Frequency is based on operating experience, and is consistent with a typical industry refueling cycle. | 00-102

With the exception of the HPCS LOGIC SYSTEM FUNCTIONAL TEST, the 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is based on operating experience, and is consistent with a typical industry refueling cycle. | 00-102 | 00-102

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.1.7 (continued)

SR 3.5.1.6 and the LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.1.6 overlap this Surveillance to provide complete testing of the safety function. The Frequency of 24 months on a STAGGERED TEST BASIS Frequency ensures that both solenoids for each ADS valve power-operated actuator are alternately tested. The Frequency of the required-power-operated actuator testing is based on the tests required by ~~the ASME Code as implemented by the Inservice Testing Program of Specification 5.5.6~~. The testing Frequency required by the ~~Inservice Testing Program~~ is based on operating experience and valve performance. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. 09-079

Delete wording and insert INSERVICE TESTING PROGRAM

SR 3.5.1.8

This SR ensures that the ECCS RESPONSE TIMES are within limits for each of the ECCS injection and spray subsystems. This SR is modified by a note which identifies that the associated ECCS actuation instrumentation is not required to be response time tested. Response time testing of the remaining subsystem components is required. This is supported by Reference 15. Response time testing acceptance criteria are included in Reference 16.

ECCS RESPONSE TIME tests are conducted every 24 months. The 24 month Frequency is based on the need to perform this

(continued) 09-047

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.2.1 and SR 3.5.2.2 (continued)

≥ 16 ft 6 inches or the HPCS System is aligned to take suction from the CST and the CST contains ≥ 249,700 gallons of water, assuring 150,000 gallons of water available for HPCS, equivalent to a volume of 53%, ensures that the HPCS System can supply makeup water to the RPV. 100-048 100-048

The 12 hour Frequency of these SRs was developed considering operating experience related to suppression pool and CST water level variations during the applicable MODES.

Furthermore, the 12 hour Frequency is considered adequate in view of other indications in the control room, including alarms, to alert the operator to an abnormal suppression pool or CST water level condition.

SR 3.5.2.3

The Bases provided for SR 3.5.1.1 is applicable to SR 3.5.2.3.

SR 3.5.2.4

Verifying the correct alignment for manual, power operated, and automatic valves in the ECCS flow paths provides assurance that the proper flow paths will exist for ECCS operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an initiation signal is allowed to be in a nonaccident position provided the valve will automatically reposition in the proper system response time. This SR does not require any testing or valve manipulation; 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. The 31 day Frequency of this SR was derived from the ~~Inservice Testing Program~~ requirements for

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.5.3.1

The flow path piping has the potential to develop voids and pockets of entrained air. Maintaining the pump discharge line of the RCIC System full of water ensures that the system will perform properly, injecting its full capacity into the Reactor Coolant System upon demand. This will also prevent a water hammer following an initiation signal. One acceptable method of ensuring the line is full is to vent at the high points. The 31 day Frequency is based on the gradual nature of void buildup in the RCIC piping, the procedural controls governing system operation, and operating experience.

SR 3.5.3.2

Verifying the correct alignment for manual, power operated, and automatic valves in the RCIC flow path provides assurance that the proper flow path will exist for RCIC operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an initiation signal is allowed to be in a nonaccident position provided the valve will automatically reposition in the proper system response time. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. For the RCIC System, this SR also includes the steam flow path for the turbine and the flow controller position.

96-109

The 31 day Frequency of this SR was derived from the ~~Inservice Testing Program~~ requirements for performing valve testing at least every 92 days. The Frequency of 31 days is further justified because the valves are operated under procedural control and because improper valve position would affect only the RCIC System. This Frequency has been shown to be acceptable through operating experience.

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.5.3.3 and SR 3.5.3.4

The RCIC pump flow rates ensure that the system can maintain reactor coolant inventory during pressurized conditions with the RPV isolated. The flow tests for the RCIC System are performed at two different pressure ranges such that system capability to provide rated flow is tested both at the higher and lower operating ranges of the system. Additionally, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the RCIC System diverts steam flow. Since the required reactor steam pressure must be available to perform SR 3.5.3.3 and SR 3.5.3.4, sufficient time is allowed after adequate pressure and flow are achieved to perform these SRs. Reactor startup is allowed prior to performing the low pressure Surveillance because the reactor pressure is low and the time to satisfactorily perform the Surveillance is short. The reactor pressure is allowed to be increased to normal operating pressure since it is assumed that the low pressure test has been satisfactorily completed and there is no indication or reason to believe that RCIC is inoperable. Therefore, these SRs are modified by Notes that state the Surveillance are not required to be performed until 12 hours after the reactor steam pressure and flow are adequate to perform the test.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

A 92 day Frequency for SR 3.5.3.3 is consistent with the ~~Inservice Testing Program~~ requirements. The 24 month Frequency for SR 3.5.3.4 is based on the need to perform this Surveillance under the conditions that apply just prior to or during startup from a plant outage. The 24 month Frequency is based on operating experience, and is consistent with a typical industry refueling cycle. 00-102 00-102

SR 3.5.3.5

The RCIC System is required to actuate automatically to perform its design function. This Surveillance verifies that with a required system initiation signal (actual or simulated) the automatic initiation logic of RCIC will cause the system to operate as designed, including actuation of the system throughout its emergency operating sequence,

(continued)

BASES

SURVEILLANCE REQUIREMENT

SR 3.6.1.3.5 (continued)

full closure isolation time is demonstrated by SR 3.6.1.3.7. The isolation time test ensures that the valve will isolate in a time period less than or equal to that assumed in the safety analysis. The isolation time and Frequency of this SR are in accordance with the ~~Inservice Testing Program~~.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

SR 3.6.1.3.6

For primary containment purge valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J (Ref. 4), is required to ensure OPERABILITY. Operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. Based on this observation, and the importance of maintaining this penetration leak tight (due to the direct path between primary containment and the environment), a Frequency of 184 days was established. Additionally, this SR must be performed within 92 days after opening the valve. The 92 day Frequency was chosen recognizing that cycling the valve could introduce additional seal degradation (beyond that which occurs to a valve that has not been opened). Thus, decreasing the interval (from 184 days) is a prudent measure after a valve has been opened. A purge valve leak rate acceptance criterion of 0.05 L_a has been assigned to these valves. Note that purge valve leakage is a contributor to secondary containment bypass leakage, which has a separate acceptance criterion.

14-164

The SR is modified by a Note stating that the primary containment purge valves are only required to meet leakage rate testing requirements in MODES 1, 2, and 3. If a LOCA inside primary containment occurs in these MODES, purge valve leakage must be minimized to ensure offsite radiological release is within limits. At other times when the purge valves are required to be capable of closing (e.g., during OPDRVs), pressurization concerns are not present and the purge valves are not required to meet any specific leakage criteria.

SR 3.6.1.3.7

Verifying that the full closure isolation time of each MSIV is within the specified limits is required to demonstrate

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.7 (continued)

OPERABILITY. The full closure isolation time test ensures that the MSIV will isolate in a time period that does not exceed the times assumed in the DBA analyses. The Frequency of this SR is in accordance with the ~~Inservice Testing Program~~. Additionally, the MSIVs must meet an average stroke time. This average stroke time shall be calculated using the stroke times of the fastest valve in each main steam line, and this average shall be ≥ 3 seconds.

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

SR 3.6.1.3.8

Automatic PCIVs close on a primary containment isolation signal to prevent leakage of radioactive material from primary containment following a DBA or other accidents. This SR ensures that each automatic PCIV will actuate to its isolation position on a primary containment isolation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.1.5 overlaps this SR to provide complete testing of the safety function. HPCS Injection Valve, 1E22-F004 and HPCS Test Valve to Supr Pool, 1E22-F023 may be tested in any MODE. With exception of 1E22-F004 and 1E22-F023, the 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is based on operating experience, and is consistent with a typical industry refueling cycle.

00-102

00-102

SR 3.6.1.3.9

This SR ensures that the leakage rate of secondary containment bypass leakage paths is less than the specified leakage rate. This provides assurance that the assumptions in the radiological evaluations of Reference 1 are met. The leakage rate of each bypass leakage path is assumed to be the maximum pathway leakage (leakage through the worse of the two isolation valves) unless the penetration is isolated by use of a closed manual valve, a closed and de-activated automatic valve, or a blind flange. In this case, the leakage rate of the isolated bypass leakage path is assumed to be the actual pathway leakage through the isolation

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.1.6.1

Method 2:

The required population of LLS S/RVs tested will be stroked in the relief mode during testing at a qualified offsite facility to verify proper operation of the S/RV. The successful performance of the S/RVs tested provides reasonable assurance that the remaining installed S/RVs will perform in a similar fashion. After the S/RVs are replaced, the power-operated actuator of all 19 S/RVs will be uncoupled from the S/RV stem, and cycled to ensure proper operation of the control circuit and actuator. Following cycling, the power-operated actuator is recoupled and the proper positioning of the stem nut is independently verified. This verifies that each S/RV will properly perform its intended function. If the valve actuator fails to operate due only to the failure of the solenoid but is capable of opening the valve on overpressure, the safety mode of the S/RV is considered OPERABLE.

Delete wording and replace with INSERVICE TESTING PROGRAM

When removing and replacing the S/RVs, Foreign Material Exclusion controls will be in place to minimize the potential for unwanted materials from entering into any S/RV opening or the piping discharge lines.

The STAGGERED TEST BASIS Frequency ensures that both solenoids for each LLS valve power-operated actuator are alternately tested. The 24 Month Frequency of the required power-operated actuator testing is based on the ~~tests required by the ASME Code (Ref. 3) as implemented by the Inservice Testing Program of Specification 5.5.6~~. The testing Frequency required by the ~~Inservice Testing Program~~ is based on operating experience and valve performance. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. CN09-079

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 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

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

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~~.

1CNOG-079

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 initiation signal. Actual spray initiation is not required to meet this SR. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.3.5 overlaps this SR to provide complete testing of the safety function. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is based on

(continued)

99-029

BASES

ACTIONS (continued)

B.1 and B.2

If the MSSVs cannot be restored to OPERABLE status or the Main Steam line(s) cannot be isolated within the required Completion Time of Condition A, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.9.1

The only necessary surveillance requirement is one to ensure the Main Steam Shutoff Valves will stroke closed on a manual demand by the operators. Leak test requirements are not necessary to ensure the assumptions of the dose calculation methodology are met for the main steam lines, since leakage flow characteristics used in the analyses are affected only by the turbulence caused by an open ended pipe (i.e., the Main Steam Shutoff Valves fail to close). The Frequency of this SR is in accordance with the ~~Inservice Testing Program.~~

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

99-029

99-029

99-029

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.2.3.2

Verifying each RHR pump develops a flow rate ≥ 7100 gpm with flow through the associated heat exchanger to the suppression pool, ensures that pump performance has not degraded during the cycle. 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 the results are 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~~.

CN 09-079

REFERENCES

1. USAR, Section 6.2.
2. ASME Code for Operation and Maintenance of Nuclear Power Plants.

CN 09-079

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

BASES

109-047

ACTIONS

B.1 and B.2 (continued)

igniters. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist. The verification may be performed as an administrative check by examining logs or other information to determine the availability of the alternate hydrogen control capabilities. It does not mean to perform the surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control capabilities. If the ability to perform the hydrogen control function is maintained, continued operation is permitted with two combustible gas mixing subsystems inoperable for up to 7 days. Seven days is a reasonable time to allow two combustible gas mixing subsystems to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit.

C.1

If any Required Action and associated Completion Time cannot be met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. The allowed Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.3.3.1

Operating each combustible gas mixing subsystem for ≥ 15 minutes after starting from the control room ensures that each subsystem is OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, compressor failure, or excessive vibration can be detected for corrective action. The 92 day Frequency is consistent with ~~Inservice Testing Program~~ Frequencies, operating experience, the known reliability of the compressor and controls, and the two redundant subsystems available.

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.5.3.3 (continued)

the location of these isolation devices, the Frequency specified as "prior to entering MODE 2 or 3 from MODE 4, if not performed in the previous 92 days," is appropriate because of the inaccessibility of the devices and because these devices are operated under administrative controls and the probability of their misalignment is low. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

EN 08-095

Two Notes are added to this SR. The first Note allows valves and blind flanges located in high radiation areas to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable since access to these areas is typically restricted during MODES 1, 2, and 3. Therefore, the probability of misalignment of these isolation devices, once they have been verified to be in their proper position, is low. A second Note is included to clarify that the drywell isolation valves that are open under administrative controls are not required to meet the SR during the time that the drywell isolation valves are open.

SR 3.6.5.3.4

Verifying that the isolation time of each power operated and each automatic drywell isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the drywell isolation valve will isolate in a time period less than or equal to that assumed in the safety analysis. The isolation time and Frequency of this SR are in accordance with the ~~Inservice Testing Program.~~

SR 3.6.5.3.5

Verifying that each automatic drywell isolation valve closes on a drywell isolation signal is required to prevent bypass leakage from the drywell following a DBA. This SR ensures each automatic drywell isolation valve will actuate to its isolation position on a drywell isolation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.1.5 overlaps this SR to provide complete testing of the safety function. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power, since isolation of penetrations would eliminate cooling water flow

(continued)

Change Inservice Testing Program to INSERVICE TESTING PROGRAM

Alternative Due to Hardship Without a Compensating Increase in Quality and Safety

1.0 DESCRIPTION

The request is to adopt a proposed alternative to the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code by adoption of approved Code Case OMN-20, "Inservice Test Frequency."

2.0 ASSESSMENT

Technical Evaluation of the Proposed Alternative to the OM Code

Section IST of Division 1 of the OM Code, which is incorporated by reference in 10 CFR 50.55a(a), specifies component test frequencies based either on elapsed time periods (for example, quarterly, two years) or on the occurrence of a plant condition or event (for example, cold shutdown, refueling outage).

ASME Code Case OMN-20, "Inservice Test Frequency," has been approved for use by the ASME OM committee as an alternative to the test frequencies for pumps and valves specified in ASME OM Division: 1 Section IST 2009 Edition through OMa-2011 Addenda, and all earlier editions and addenda of ASME OM Code.

Code Case OMN-20 is not referenced in the latest revision of Regulatory Guide 1.192, “Operation and Maintenance Code Case acceptability, ASME OM Code,” (August 2014) as an acceptable OM Code Case to comply with 10 CFR 50.55a(f) requirements as allowed by 10 CFR 50.55a(b)(6). The proposed alternative is to use Code Case OMN-20 to extend or reduce the inservice test (IST) frequency requirements during the fourth 10 year IST interval for Beaver Valley Power Station Unit No.1 (BVPS-1) and Davis-Besse Nuclear Power Station (DBNPS), during the third 10 year IST interval for Beaver Valley Power Station Unit No. 2 (BVPS-2) and Perry Nuclear Power Plant (PNPP), or until OMN-20 is incorporated into the next revision of Regulatory Guide 1.192.

ASME Code Components Affected

The Code Case applies to pumps and valves specified in ASME OM Division: 1 Section IST 2009 Edition through OMa-2011 Addenda and all earlier editions and addenda of ASME OM Code. Frequency extensions may also be applied to accelerated test frequencies (for example, pumps in Alert Range) as specified in OMN-20.

For pumps and valves with test periods of 2 years or less, the test frequency allowed by OMN-20 and the current Technical Specification (TS) Inservice Testing Program (as modified by surveillance requirement [SR] 3.0.2 and Enforcement Guidance Memorandum [EGM] 2012-001) are the same. For pumps and valves with test frequencies greater than two years, OMN-20 allows the test frequency to be extended

by six months. The current TS Inservice Testing Program does not allow extension of test frequencies that are greater than two years.

Applicable Code Edition and Addenda

ASME Code Case OMN-20 applies to ASME OM Division: 1 Section IST 2009 Edition through OMa-2011 Addenda and all earlier editions and addenda of ASME OM Code.

The BVPS-1 Code Edition and Addenda that are applicable to the program interval are ASME OM Code, 2001 Edition, through the 2003 Addenda. The BVPS-1 current (fourth 10-year IST) interval ends September 19, 2017.

The BVPS-2 Code Edition and Addenda that are applicable to the program interval are ASME OM Code, 2001 Edition, through the 2003 Addenda. The BVPS-2 current (third 10-Year IST) interval ends on November 17, 2017.

The DBNPS Code Edition and Addenda that are applicable to the program interval are ASME OM Code, 2004 Edition, through the 2006 Addenda. The DBNPS current (fourth 10-year IST) interval ends on September 20, 2022.

The PNPP Code Edition and Addenda that are applicable to the program interval are ASME OM Code, 2001 Edition, through the 2003 Addenda. The PNPP current (third 10-year IST) interval ends on May 17, 2019.

Applicable Code Requirement

This request is made in accordance with 10 CFR 50.55a(z)(2), and proposes an alternative to the requirements of 10 CFR 50.55a(f), which requires pumps and valves to meet the test requirements set forth in specific documents incorporated by reference in 10 CFR 50.55a(a). ASME Code Case OMN-20 applies to Division 1, Section IST of the ASME OM Code and associated addenda incorporated by reference in 10 CFR 50.55a(a).

Reason for Request

The IST Program controls specified in Section 5.5 of TS provide: a) a table specifying certain IST frequencies; b) an allowance to apply SR 3.0.2 to inservice tests required by the OM Code and with frequencies of two years or less; c) an allowance to apply SR 3.0.3 to inservice tests required by the OM Code; and d) a statement that, "Nothing in the ASME OM Code shall be construed to supersede the requirements of any TS." In Regulatory Issue Summary (RIS) 2012-10, "NRC Staff Position on Applying Surveillance Requirement 3.0.2 and 3.0.3 to Administrative Controls Program Tests," and EGM 2012-001, "Dispositioning Noncompliance with Administrative Controls Technical Specifications Programmatic Requirements that Extend Test Frequencies and Allow Performance of Missed Tests," the Nuclear Regulatory Commission (NRC) stated that items b, c, and d of the TS IST Program were inappropriately added to the TS and may not be applied (although the EGM allows licensees to continue to apply those paragraphs pending a generic resolution of the issue).

In RIS 2012-10 and EGM 2012-001, the NRC stated that the current TS allowance to apply SR 3.0.2 and SR 3.0.3 to the Inservice Testing Program would no longer be permitted. In response, OMN-20, which provides allowances similar to SR 3.0.2, was approved and is proposed to be used as an alternative to the test periods specified in the OM code. The proposed alternative substitutes an approved Code Case for the existing TS requirements that the NRC has determined are not legally acceptable as a TS allowance. This proposed alternative provides an equivalent level of safety as the existing TS allowance, while maintaining consistency with 10 CFR 50.55a and the ASME OM Code.

Proposed Alternative and Basis for Use

The proposed alternative is OMN-20, "Inservice Test Frequency," which addresses testing periods for pumps and valves specified in ASME OM Division 1, Section IST, 2009 Edition through OMa-2011 Addenda, and all earlier editions and addenda of ASME OM Code.

This request is being made in accordance with 10 CFR 50.55a(z)(2), in that the existing requirements are considered a hardship without a compensating increase in quality and safety for the following reasons:

1) For inservice testing periods up to and including two years, Code Case OMN-20 provides an allowance to extend the IST testing periods by up to 25 percent. The period extension is to facilitate test scheduling and considers plant operating conditions that may not be suitable for performance of the required testing (for example, performance of the test would cause an unacceptable increase in the plant risk profile due to transient conditions or other ongoing surveillance, test or maintenance activities). Period extensions are not intended to be used repeatedly merely as an operational convenience to extend test intervals beyond those specified. The test period extension and the statements regarding the appropriate use of the period extension are equivalent to the existing TS SR 3.0.2 allowance and the statements regarding its use in the SR 3.0.2 Bases. Use of the SR 3.0.2 period extension has been a practice in the nuclear industry for many decades and elimination of this allowance would place a hardship on FirstEnergy Nuclear Operating Company when there is no evidence that the period extensions affect component reliability.

2) For inservice testing periods of greater than two years, OMN-20 allows an extension of up to six months. The ASME OM Committee determined that such an extension is appropriate. The six-month extension will have a minimal impact on component reliability considering that the most probable result of performing any inservice test is satisfactory verification of the test acceptance criteria. As such, pumps and valves will continue to be adequately assessed for operational readiness when tested in accordance with the requirements specified in 10 CFR 50.55a(f) with the frequency extensions allowed by Code Case OMN-20.

3) As stated in EGM 2012-001, if an inservice test is not performed within its frequency, SR 3.0.3 will not be applied. The effect of a missed inservice test on the Operability of TS equipment will be assessed under the licensee's Operability Determination Program.

Duration of Proposed Alternative

The proposed alternative is requested for the current 10 year IST interval or until Code Case OMN-20 is incorporated into a future revision of Regulatory Guide 1.192, referenced by a future revision of 10 CFR 50.55a, whichever occurs first.

Precedents

The NRC approved the use of OMN-20 for North Anna on March 27, 2014 (NRC Agencywide Documents Access and Management System Accession Number ML14084A407).