



SOUTHERN CALIFORNIA
EDISON

An EDISON INTERNATIONALSM Company

Dwight E. Nunn
Vice President

December 9, 2002

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: **Docket Nos. 50-361 and 50-362**
Proposed Technical Specification Change Number NPF-10/15-542
Auxiliary Feedwater Pumps Surveillance Frequency
San Onofre Nuclear Generating Station Units 2 and 3

Gentlemen:

Enclosed are Amendment Application Number 218 Facility Operating License NPF-10, and Amendment Application Number 203 Facility Operating License NPF-15, for the San Onofre Nuclear Generating Station, Units 2 and 3, respectively. The Amendment Applications consist of Proposed Technical Specification Change Number (PCN)-542.

PCN-542 is a request to revise Technical Specification (TS) 3.7.5, "Auxiliary Feedwater System," Surveillance Requirement (SR) 3.7.5.2 Frequency. Specifically, the Proposed Change would change the wording of Frequency of SR 3.7.5.2 from "31 days on a Staggered Test Basis" to "In accordance with the Inservice Testing Program." This change is requested to implement recommendations of the Standard Technical Specifications for Combustion Engineering Plants, NUREG 1432, Revision 2. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance.

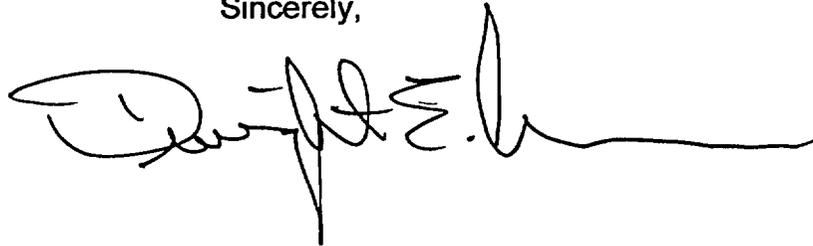
Southern California Edison requests these amendments be issued effective as of the date of issuance, to be implemented within 60 days from the date of issuance.

Aool

PO Box 128
San Clemente, CA 92674-0128
949-368-1480
Fax 949-368-1490

If you have any questions regarding these amendment applications, please contact me or Mr. Jack L. Rainsberry (949) 368-7420.

Sincerely,

A handwritten signature in black ink, appearing to be "D. W. Merschoff", written in a cursive style.

Enclosures:

1. Notarized Affidavit
2. Licensee's Evaluation of the Proposed Change

Attachments:

1. Proposed Technical Specification Changes (mark-up)
2. Proposed Technical Specification pages (retyped)
3. List of Regulatory Commitments
4. Changes to TS Bases pages (mark-up)

cc: E. W. Merschoff, Regional Administrator, NRC Region IV
C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 and 3
B. M. Pham, NRC Project Manager, San Onofre Units 2 and 3
S. Y. Hsu, Department of Health Services, Radiologic Health Branch

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN, CALIFORNIA)
EDISON COMPANY, ET AL. for a class 103) Docket No. 50-361
License to Acquire, Possess, and Use)
a Utilization Facility as Part of) Amendment Application No. 218
Unit No. 2 of the San Onofre Nuclear)
Generating Station)

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10CFR50.90, hereby submit Amendment Application No. 218. This amendment application consists of Proposed Change No. PCN-542 to Facility Operating License NPF-10. PCN-542 is a request to change Technical Specification (TS) 3.7.5, "Auxiliary Feedwater System," SR 3.7.5.2 Frequency from "31 days on a Staggered Test Basis" to "In accordance with the Inservice Testing Program."

State of California
County of San Diego

Subscribed and sworn to (or affirmed) before me this 9th day of
December, 2002.

By: _____

Dwight E. Nunn
Vice President

Mariane Sanchez
Notary Public



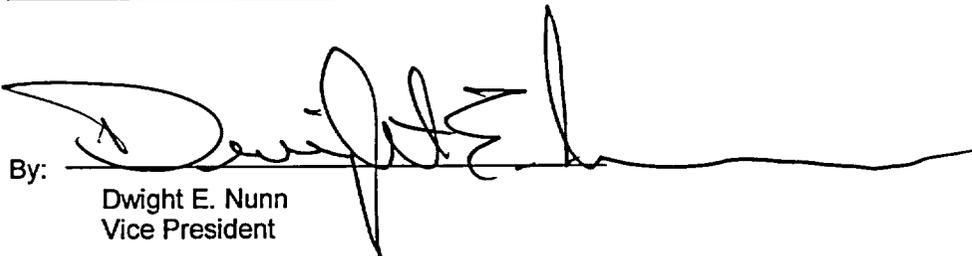
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

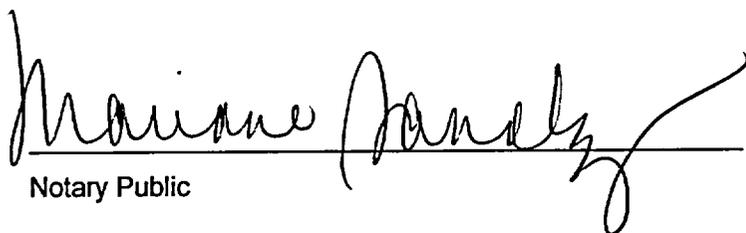
Application of SOUTHERN, CALIFORNIA)
EDISON COMPANY, ET AL. for a class 103) Docket No. 50-362
License to Acquire, Possess, and Use)
a Utilization Facility as Part of) Amendment Application No. 203
Unit No. 3 of the San Onofre Nuclear)
Generating Station)

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10CFR50.90, hereby submit Amendment Application No. 203. This amendment application consists of Proposed Change No. 542 to Facility Operating License NPF-15. PCN-542 is a request to change Technical Specification (TS) 3.7.5, "Auxiliary Feedwater System," SR 3.7.5.2 Frequency from "31 days on a Staggered Test Basis" to "In accordance with the Inservice Testing Program."

State of California
County of San Diego

Subscribed and sworn to (or affirmed) before me this 9th day of
December, 2002.

By: 
Dwight E. Nunn
Vice President


Notary Public



ENCLOSURE 2

**Auxiliary Feedwater Pumps Surveillance Frequency (SR) 3.7.5.2
change from “31 days on a Staggered Test Basis” to
“In accordance with the Inservice Testing Program”**

LICENSEE'S EVALUATION

- 1. Introduction**
- 2. Proposed Change**
- 3. Background**
- 4. Technical analysis**
- 5. Regulatory Safety Analysis**
 - 5.1 No Significant Hazards Consideration**
 - 5.2 Applicable Regulatory Requirements/Criteria**
- 6. Environmental Consideration**
- 7. References**

1.0 INTRODUCTION

This letter is a request to amend Operating License NPF-10, and Operating License NPF-15, for the San Onofre Nuclear Generating Station, Units 2 and 3, respectively.

The proposed change would revise the Operating License to change the Frequency of Surveillance Requirement (SR) 3.7.5.2 from "31 days on a Staggered Test Basis" to "In accordance with the Inservice Testing Program."

The proposed change is consistent with NRC approved NUREG 1432, Revision 2, "Standard Technical Specifications Combustion Engineering Plants," regarding the Frequency of SR 3.7.5.2.

2.0 PROPOSED CHANGE

The purpose of SR 3.7.5.2 is to verify that the Auxiliary Feedwater (AFW) pumps develop sufficient discharge pressure to deliver the required flow at the full open pressure of the Main Steam Safety Valves (MSSVs). Periodically comparing the reference differential pressure to actual readings detects trends that might be indicative of incipient failures. In particular this SR says: "Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head." The Frequency is "31 days on a STAGGERED TEST BASIS."

The proposed change will incorporate the words of NUREG 1432, Revision 2, "Standard Technical Specifications Combustion Engineering Plants," regarding the Frequency of SR 3.7.5.2. In particular, this SR will be performed with a Frequency "In accordance with the Inservice Testing Program."

Changes to the Bases are provided in Attachment 4 for information.

3.0 BACKGROUND

AFW System

The AFW System automatically supplies feedwater to the steam generators to remove decay heat from the Reactor Coolant System upon the loss of normal feedwater supply. The AFW pumps take suction through separate and independent suction lines from the condensate storage tank (CST) (LCO 3.7.6, "Condensate Storage Tank (CST)") and pump to the steam generator secondary side via separate and independent connections to the main feedwater (MFW) piping inside containment. The steam generators function as a heat sink for core decay heat. The heat load is dissipated by releasing steam to the atmosphere from the steam generators via the main steam safety valves (MSSVs) (LCO 3.7.1, "Main Steam

generators via the main steam safety valves (MSSVs) (LCO 3.7.1, "Main Steam Safety Valves (MSSVs)") or atmospheric dump valves (ADVs) (LCO 3.7.4, "Atmospheric Dump Valves (ADVs)"). If the main condenser is available, steam may be released via the steam bypass valves and recirculated to the CST.

The AFW System consists of two motor-driven AFW pumps and one turbine-driven pump configured into three trains. Each motor-driven AFW pump provides 100% of AFW flow capacity; the turbine-driven AFW pump provides 100% of the required capacity to the steam generators as assumed in the accident analysis. The pumps are equipped with independent recirculation lines to prevent pump operation against a closed system.

A description of the AFW system is provided in the Updated Final Safety Analyses Report (UFSAR), Section 10.4.9.2. Inspection and Testing Requirements for the AFW system are described in Section 10.4.9.4.

Inservice Testing

The second ten-year inservice testing program (April 1, 1994 through August 17, 2003), was developed in accordance with the requirements of ASME Boiler and Pressure Vessel Code, Section XI, paragraph IWA-1400(c), 1989 Edition with no Addenda. Paragraph IWA-1400(c) of the 1989 Edition of ASME Section XI states that pump testing shall be performed in accordance with the requirements stated in ASME/ANSI Operations and Maintenance of Nuclear Power Plants (OM), Part 6, Inservice testing of Pumps. Where the code requirements are determined to be impractical, a specific request for relief is written and documented.

A Risk-Informed Inservice Testing Program for determining pump and valve test frequencies in lieu of the test frequencies currently specified by the ASME Code, including Code Case OMN-1, was developed in accordance with the rules and regulations of 10CFR50.55a (a)(3). This Program was submitted as a relief request to the NRC for review, for both Units 2 and 3, in December 1998. NRC approved SONGS 2 and 3 Risk-Informed Inservice Testing Program for pump and valve test frequencies in lieu of the test frequencies currently specified by the ASME Code Section XI, on March 27, 2000.

The auxiliary feedwater pumps were evaluated as "high safety significant" components in concert with the process approved under this relief request. As such they may not be assigned a test frequency other than the frequency mandated in the Code, and would therefore remain at a quarterly test frequency.

Work Scheduling

The foundation of the site's scheduling philosophy is the Quarterly Scheduling Matrix (QSM) which establishes the available safety train concept (i.e., available for work)

the "Protected" train during the other trains rotation, therefore establishing a defense-in-depth posture. The QSM defines a repetitive 12-week rotation of the available safety trains for each unit and systems common to both Units.

The testing of AFW pumps on a 31-day STAGGERED TEST BASES was established to ensure at least one of the three pumps was tested each month, with all being tested at least once per quarter. However, the fact that the AFW system consists of three trains, not two as the majority of safety-related systems, complicates the schedule for AFW testing. Consequently, satisfying various considerations of the "31 days on a Staggered Test Basis," and QSM scheduling has caused these pumps to be tested more frequently than actually required.

4.0 TECHNICAL ANALYSIS

NUREG-1432, Revision 2 Consideration

In June 2001, the NRC issued NUREG 1432, Revision 2, "Standard Technical Specifications Combustion Engineering Plants. This NUREG identifies the Frequency of SR 3.7.5.2 as "In accordance with the Inservice Testing Program." The proposed change is in accordance with NRC approved NUREG 1432, Revision 2.

Site Specific Consideration

Changing the "31-day STAGGERED TEST BASIS" requirement to "In accordance with the Inservice Testing Program" will provide flexibility to better manage AFW SRs. Specifically, the proposed change will permit the Surveillance Frequency of the turbine-driven and motor-driven AFW pumps to be tested on a frequency consistent with the Risk-Informed Inservice Testing Program.

A PRA study was conducted in 2002 to determine the increase in core damage frequency (CDF) and large early release frequency (LERF) due to changing the testing of the auxiliary feedwater pumps Surveillance Requirement from a 31 days on a Staggered Test Basis to a quarterly frequency.

The results of this evaluation show increases in core damage and large, early release frequencies that correspond with "small" increases in risk per NRC Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment In Risk-in Decisions On Plant-Specific Changes to the Licensing Basis." These increases in risk are considered to reflect the bounding impact of the surveillance frequency change.

Thus, this evaluation supports a change in the surveillance frequency of the SONGS Units 2 and 3 AFW pumps from 31-day on a Staggered Test Basis to quarterly.

5.0 REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

Southern California Edison 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.

In June 2001, the Nuclear Regulatory Commission (NRC) issued NUREG 1432, Revision 2, "Standard Technical Specifications Combustion Engineering Plants." For Technical Specification 3.7.5, "Auxiliary Feedwater (AFW) System," Surveillance Requirement (SR) 3.7.5.2 requires verification that each AFW pump's developed head at the flow test point is greater than or equal to the required developed head which ensures that AFW pump performance has not degraded during the cycle. This test confirms one point on the pump design curve and is indicative of overall performance. This proposed change will revise San Onofre Nuclear Generating Station (SONGS) Surveillance Frequency to be consistent with NUREG 1432, Revision 2. This change in and of itself will have no effect on the probability or consequences of an accident previously evaluated.

Once this change to the Technical Specification is approved, changes to the Surveillance Frequency of the AFW pumps would be controlled in accordance with the Risk-Informed Inservice Testing Program.

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

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

Response: No.

The proposed amendment will not change the design, configuration or method of operation of the plant. 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 amendment will change the SR 3.7.5.2 Frequency from "31 days on a Staggered Test Basis" to "In accordance with the Inservice Testing Program." The proposed change does not change the operation or surveillance requirements. It does not change the design function of any of AFW system components. Therefore, the proposed change does not involve a significant reduction in the margin of safety.

Based on the above, Southern California Edison concludes that the proposed amendment present 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.

5.2 Applicable Regulatory Requirements/Criteria

5.2.1 Regulations

General Design Criterion 34, "Residual Heat Removal," requires a system to remove residual heat. The system safety function is to transfer fission product decay heat and other residual heat from the reactor core at a rate such that specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded.

10 CFR 50.36(c)(3) Surveillance Requirements, requires Technical Specifications to test, calibrate, or inspect to assure that the necessary quality of systems and components are maintained.

10 CFR 50.55a (f) Inservice Testing requires pumps and valves which are classified as ASME Code Class 2 and Class 3 be designed and be provided with access to enable the performance of inservice testing of the pumps and valves for assessing operational readiness set forth in section XI of editions of the ASME Boiler and Pressure Vessel Code and Addenda.

In summary, Surveillance Requirement SR 3.7.5.2 and its Frequency address the requirements of General Design Criterion 34, "Residual Heat Removal," 10 CFR 50.36(c)(3), and 10 CFR 50.55a (f). They ensure that AFW pumps are capable of performing their safety function in transferring fission product decay heat and other residual heat from the reactor core at a rate such that specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded.

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

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment 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 amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment 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 amendment.

7.0 REFERENCES

1. NUREG 1432, Revision 2, "Standard Technical Specifications Combustion Engineering Plants."
2. ASME/ANSI OM (Part 6).
3. UFSAR, Section 10.4.9, "Auxiliary Feedwater System," Revision 13.
4. UFSAR, Section 10.4.9.4, "Inspection and Testing Requirements," Revision 15.
5. Code of Federal Regulation 10 CFR 50.55 a (a)(3).
6. PRA Report PRA-02-04, "SONGS 2/3 Auxiliary Feedwater Pump Surveillance Frequency evaluation," San Onofre Nuclear Generating Station, June 26, 2002.
7. Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-in Decisions on Plant-Specific Changes to the Licensing Basis," July 1998.
8. PRA Calculation NSG-96-019, "San Onofre Nuclear Generating Station PRA Components Safety Significance."
9. Code of Federal Regulation, 10 CFR 50, Appendix A, "General Design Criteria."
10. Code of Federal Regulations, 10 CFR 50.36 (c)(3).
11. Code of Federal Regulations, 10 CFR 50.55a (f).
12. SONGS, Units 2 and 3 Technical Specifications.
13. Regulatory Guide 1.175, "An Approach for Plant Specific, Risk-Informed Decisionmaking: Inservice Testing," August 1998.

Attachment 1

**PROPOSED TECHNICAL SPECIFICATION
CHANGES (Mark-Up)
UNIT 2**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1 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.</p>	<p>31 days</p>
<p>SR 3.7.5.2 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 72 hours after reaching 800 psig in the steam generators. ----- Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.</p>	<p>In accordance with the Inservice Testing Program 31 days on a STAGGERED TEST BASIS</p>
<p>SR 3.7.5.3 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 72 hours after reaching 800 psig in the steam generators. ----- Verify each AFW automatic valve actuates to the correct position on an actual or simulated actuation signal, except valves HV-8200 and HV-8201.</p>	<p>24 months</p>

(continued)

Attachment 1

**PROPOSED TECHNICAL SPECIFICATION
CHANGES (Mark-Up)
UNIT 3**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1 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.</p>	<p>31 days</p>
<p>SR 3.7.5.2 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 72 hours after reaching 800 psig in the steam generators. ----- Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.</p>	<p>In accordance with the Inservice Testing Program 31 days on a STAGGERED TEST BASIS</p>
<p>SR 3.7.5.3 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 72 hours after reaching 800 psig in the steam generators. ----- Verify each AFW automatic valve actuates to the correct position on an actual or simulated actuation signal, except valves HV-8200 and HV-8201.</p>	<p>24 months</p>

(continued)

Attachment 2

**PROPOSED TECHNICAL SPECIFICATION
PAGES (retyped)
UNIT 2**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1 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.</p>	<p>31 days</p>
<p>SR 3.7.5.2 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 72 hours after reaching 800 psig in the steam generators. ----- Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.7.5.3 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 72 hours after reaching 800 psig in the steam generators. ----- Verify each AFW automatic valve actuates to the correct position on an actual or simulated actuation signal, except valves HV-8200 and HV-8201.</p>	<p>24 months</p>

(continued)

**PROPOSED TECHNICAL SPECIFICATION
PAGES (retyped)
UNIT 3**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1 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.</p>	<p>31 days</p>
<p>SR 3.7.5.2 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 72 hours after reaching 800 psig in the steam generators. ----- Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.7.5.3 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 72 hours after reaching 800 psig in the steam generators. ----- Verify each AFW automatic valve actuates to the correct position on an actual or simulated actuation signal, except valves HV-8200 and HV-8201.</p>	<p>24 months</p>

(continued)

Attachment 3

LIST OF REGULATORY COMMITMENTS

No commitments were made as a part of this
submittal

Attachment 4

CHANGES TO TS BASES PAGES (mark-up)

UNIT 2

BASES (continued)

ACTIONS
(continued)

H.1

CONDITION H specifies the requirements for any automatic valve in any AFW flow path upon receipt of a Main Steam Isolation Signal (MSIS). ACTION H.1 requires the automatic valve or its block valve be closed when this automatic valve is incapable of closing upon receipt of a MSIS. REQUIRED ACTION H.2 requires entering appropriate ACTIONS if there is a loss of the flow path(s). These ACTIONS specify AFW system OPERABILITY in the different MODES of operation and in the different AFW system configurations.

SURVEILLANCE
REQUIREMENTS

SR 3.7.5.1

Verifying the correct alignment for manual, power operated, and automatic valves in the AFW water and steam supply flow paths provides assurance that the proper flow paths exist for AFW operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulations; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position.

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

This SR verifies that the AFW pumps develop sufficient discharge pressure to deliver the required flow at the full open pressure of the MSSVs. Because it is undesirable to introduce cold AFW into the steam generators while they are operating, this testing is performed on recirculation flow. Periodically comparing the reference differential pressure developed at this reduced flow detects trends that might be indicative of incipient failures. Performance of inservice testing, discussed in NUREG-1366, The ASME/ANSI OM (Part 6) (Ref. 2), ~~on a STAGGERED TEST BASIS,~~ satisfies this requirement.

(continued)

BASES (continued)

SURVEILLANCE
REQUIREMENTSSR 3.7.5.2 (continued)

LCO 3.7.5 permits plant operation in MODE 4 with one motor driven AFW pump and/or the turbine driven AFW pump inoperable. During plant operation in MODE 4, the turbine driven AFW pump does not have to be surveilled because steam generator pressure is less than 800 psig (NOTE for SR 3.7.5.2). During plant operation in MODE 4 with one motor driven AFW pump inoperable, SR 3.7.5.2 does not have to be performed on the inoperable motor driven pump (SR 3.0.1), and n remains at 3, where n is the total number of designated components in the definition of STAGGERED TEST BASIS. Therefore, performance of SR 3.7.5.2 on the OPERABLE motor driven AFW pump is only required every 3 Surveillance Frequency intervals. Discussions with the NRC Technical Specifications Branch on this clarification are documented in Action Request 980601488-1.

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 an insufficient steam pressure to perform the test.

SR 3.7.5.3

This SR ensures that AFW can be delivered to the appropriate steam generator or that the AFW system is isolated, in the event of any accident or transient that generates an EFAS or MSIS signal, respectively, by demonstrating that each automatic valve in the flow path actuates to its correct position on an actual or simulated actuation signal. Although testing of some of the components of this circuit may be accomplished during normal operations, the 24 month Frequency is based on the need to complete this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is acceptable, based on the design reliability and operating experience of the equipment.

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

(continued)

BASES (continued)

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.7.5.4

This SR ensures that the AFW pumps will start in the event of any accident or transient that generates an EFAS signal by demonstrating that each AFW pump starts automatically on an actual or simulated actuation signal. Although testing of some of the components of this circuit may be accomplished during normal operations, the 24 month Frequency is based on the need to complete this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is acceptable, based on the design reliability and operating experience of the equipment.

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

SR 3.7.5.5

This SR ensures that the AFW System is properly aligned by verifying the flow path to each steam generator prior to entering MODE 2 operation, after 30 days in MODE 5 or 6. OPERABILITY of AFW flow paths must be verified before sufficient core heat is generated that would require the operation of the AFW System during a subsequent shutdown. The Frequency is reasonable, based on engineering judgment, and other administrative controls to ensure that flow paths remain OPERABLE. To further ensure AFW System OPERABILITY, the OPERABILITY of the normal flow paths from the CST through the AFW pump to the Steam Generators is verified following extended outages. This SR ensures that the normal paths from the CST to the Steam Generators are OPERABLE by raising Steam Generator level by 2% using AFW flow from the CST.

REFERENCES

1. UFSAR, Section 10.4.9.
 2. ~~NUREG 1366, "Improvements to Technical Specifications Surveillance Requirements, Section 9.1 ASME/ANSI OM (Part 6).~~
-

Attachment 4

**CHANGES TO TS BASES PAGES (mark-up)
UNIT 3**

BASES (continued)

ACTIONS
(continued)

H.1

CONDITION H specifies the requirements for any automatic valve in any AFW flow path upon receipt of a Main Steam Isolation Signal (MSIS). ACTION H.1 requires the automatic valve or its block valve be closed when this automatic valve is incapable of closing upon receipt of a MSIS. REQUIRED ACTION H.2 requires entering appropriate ACTIONS if there is a loss of the flow path(s). These ACTIONS specify AFW system OPERABILITY in the different MODES of operation and in the different AFW system configurations.

SURVEILLANCE
REQUIREMENTS

SR 3.7.5.1

Verifying the correct alignment for manual, power operated, and automatic valves in the AFW water and steam supply flow paths provides assurance that the proper flow paths exist for AFW operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulations; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position.

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

This SR verifies that the AFW pumps develop sufficient discharge pressure to deliver the required flow at the full open pressure of the MSSVs. Because it is undesirable to introduce cold AFW into the steam generators while they are operating, this testing is performed on recirculation flow. Periodically comparing the reference differential pressure developed at this reduced flow detects trends that might be indicative of incipient failures. Performance of inservice testing, discussed in NUREG-1366, the ASME/ANSI OM (Part 6) (Ref. 2), ~~on a STAGGERED TEST BASIS,~~ satisfies this requirement.

(continued)

BASES (continued)

SURVEILLANCE
REQUIREMENTS

SR 3.7.5.2 (continued)

LCO 3.7.5 permits plant operation in MODE 4 with one motor driven AFW pump and/or the turbine driven AFW pump inoperable. During plant operation in MODE 4, the turbine driven AFW pump does not have to be surveilled because steam generator pressure is less than 800 psig (NOTE for SR 3.7.5.2). During plant operation in MODE 4 with one motor driven AFW pump inoperable, SR 3.7.5.2 does not have to be performed on the inoperable motor driven pump (SR 3.0.1), and n remains at 3, where n is the total number of designated components in the definition of STAGGERED TEST BASIS. Therefore, performance of SR 3.7.5.2 on the OPERABLE motor driven AFW pump is only required every 3 Surveillance Frequency intervals. Discussions with the NRC Technical Specifications Branch on this clarification are documented in Action Request 980601488-1.

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 an insufficient steam pressure to perform the test.

SR 3.7.5.3

This SR ensures that AFW can be delivered to the appropriate steam generator or that the AFW system is isolated, in the event of any accident or transient that generates an EFAS or MSIS signal, respectively, by demonstrating that each automatic valve in the flow path actuates to its correct position on an actual or simulated actuation signal. Although testing of some of the components of this circuit may be accomplished during normal operations, the 24 month Frequency is based on the need to complete this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is acceptable, based on the design reliability and operating experience of the equipment.

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

(continued)

BASES (continued)

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.7.5.4

This SR ensures that the AFW pumps will start in the event of any accident or transient that generates an EFAS signal by demonstrating that each AFW pump starts automatically on an actual or simulated actuation signal. Although testing of some of the components of this circuit may be accomplished during normal operations, the 24 month Frequency is based on the need to complete this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 24 month Frequency is acceptable, based on the design reliability and operating experience of the equipment.

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

SR 3.7.5.5

This SR ensures that the AFW System is properly aligned by verifying the flow path to each steam generator prior to entering MODE 2 operation, after 30 days in MODE 5 or 6. OPERABILITY of AFW flow paths must be verified before sufficient core heat is generated that would require the operation of the AFW System during a subsequent shutdown. The Frequency is reasonable, based on engineering judgment, and other administrative controls to ensure that flow paths remain OPERABLE. To further ensure AFW System OPERABILITY, the OPERABILITY of the normal flow paths from the CST through the AFW pump to the Steam Generators is verified following extended outages. This SR ensures that the normal paths from the CST to the Steam Generators are OPERABLE by raising Steam Generator level by 2% using AFW flow from the CST.

REFERENCES

1. UFSAR, Section 10.4.9.
2. ~~NUREG 1366, "Improvements to Technical Specifications Surveillance Requirements, Section 9.1 ASME/ANSI OM (Part 6).~~