November 10, 2003 TSTF-03-08

Dr. William D. Beckner, Director
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: TSTF-409, Revision 2, "Containment Spray System Completion Time Extension (CE NPSD-1045-A)"

Dear Dr. Beckner:

Enclosed for NRC review is Revision 2 to TSTF-409, "Containment Spray System Completion Time Extension (CE NPSD-1045-A)." This revision addresses the NRC's comments of November 15, 2001, regarding the "discovery of failure to meet the LCO" Completion Times. The TSTF has held several meetings and conference calls with your staff to understand their concerns. Based on those discussions, we believe we have addressed the staff's concerns by modifying the justification to explain the changes to these Completion Times and to reference a precedent. The proposed changes were revised to be consistent with Revision 0 of the Traveler.

This Traveler will be incorporated into the proposed Revision 3 of the Improved Technical Specification NUREGs (e.g., NUREG-1430 through -1434).

Should you have any questions, please do not hesitate to contact us.

Steve Wideman (WOG)

Tom Silko (BWROG)

Patricia Furio (CEOG)

Paul Infanger (BWOG)

Enclosure

cc: Drew Holland (NRC)

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Technical Specification Task Force
Improved Standard Technical Specifications Change Traveler

Containment Spray System Completion Time Extension (CE NPSD-1045-A)

NUREGs Affected: ☐ 1430 ☐ 1431 ☑ 1432 ☐ 1433 ☐ 1434

Classification: 1) Technical Change Recommended for CLIIP?: Yes

Correction or Improvement: Improvement

Industry Contact: Patricia Furio, (410) 495-4374, patricia.s.furio@ccnppi.com

1.0 Description

The Completion Time for one containment spray train inoperable is extended from 72 hours to 7 days based on Topical Report CE NPSD-1045-A, "Joint Applications Report, Modifications to the Containment Spray System and The Low Pressure Safety Injection System Technical Specifications," which was approved by the NRC on December 21, 1999. The Topical Report justifies extending the Completion Time for a single inoperable containment spray system from 72 hours to 7 days.

2.0 Proposed Change

The proposed change extends the LCO 3.6.6A Completion Time for one inoperable containment spray system train from 72 hours to 7 days. A Condition is added which addresses the condition of one containment spray system train and one containment cooling system train inoperable. This Condition has a Completion Time of 72 hours.

Condition D is added to be consistent with the supporting analyses, which did not evaluate the concurrent inoperablities of one containment spray and one containment cooling train. Therefore, the current Completion Time of 72 hours is retained in Condition D. Condition D is also consistent with ITS 3.6.6B.

A Reviewer's Note is added explaining that utilization of the 7 day Completion Time is dependent on adopting the Topical Report.

The "discovery of failure to meet the LCO" Completion Times in Conditions A and C are modified from 10 days to 14 days. The "discovery of failure to meet the LCO" Completion Times are an administrative limit intended to prevent plants from successively entering and exiting ACTIONS associated with different systems governed by one LCO without ever meeting the LCO (e.g., "flip flopping") . The "discovery of failure to meet the LCO" Completion Times are generally the sum of the Condition A and C Completion Times. This administrative limit is calculated without regard to the method used to determine the component Completion Times. Therefore, an extension of one of the component Completion Times will result in a corresponding extension of the "discovery of failure to meet the LCO" Completion Time. This portion of the change is consistent with the Staff's approval of Grand Gulf Nuclear Station, Unit 1, Amendment 151, dated July 16, 2002.

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3.0 Background

The longer Completion Time for an inoperable containment spray system train will enhance overall plant safety by avoiding potential unscheduled plant shutdowns and allowing greater availability of safety significant components during shutdown. In addition, this extension provides for increased flexibility in scheduling and performing maintenance and surveillance activities in order to enhance plant safety and operational flexibility during lower modes of operation.

4.0 Technical Analysis

The detailed justification of this change is located in Topical Report CE NPSD-1045-A, "Joint Applications Report, Modifications to the Containment Spray System and The Low Pressure Safety Injection System Technical Specifications."

Effect on Safety Analyses

The plant safety analyses are not assumed to be initiated while in a Technical Specifications Action statement. As this change only extends the time allowed to remain in an existing Action, the safety analyses are not affected.

Effect on Risk Informed Analysis

The containment spray system Completion Time extension will result in very small increases in plant risk. There are processes for scheduling and controlling maintenance activities into which plant risk is incorporated. This compensates for the small risk increases and uncertainties associated with the proposed change.

Compensatory Measures

The NRC's Safety Evaluation for this change requires the licensee's submittals discuss implementation of procedures that prohibit entry into an extended containment spray system Completion Time for scheduled maintenance if external event conditions or warnings are in effect. The procedures will also include compensatory measures and normal plant practices that help avoid potentially high risk configurations during the extended Completion Time.

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5.0 Regulatory Analysis

5.1 No Significant Hazards Consideration

In accordance with the criteria set forth in 10 CFR 50.92, the Industry has evaluated these proposed Improved Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change extends the Completion Time for a containment spray train inoperable from 72 hours to 7 days. Being in an ACTION is not an initiator of any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The consequences of an accident while relying on ACTIONS during the extended Completion Time are no different than the consequences of an accident while relying on the ACTION during the existing 72 hour Completion Time. Therefore, the consequences of an accident previously evaluated are not significantly increased by this change. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed change extends the Completion Time for a containment spray train inoperable from 72 hours to 7 days. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed change extends the Completion Time for a containment spray train inoperable from 72 hours to 7 days. The risk-based evaluations in Topical Report CE NPSD-1045-A, "Joint Applications Report, Modifications to the Containment Spray System and The Low Pressure Safety Injection System Technical Specifications," determined that the effect on plant risk is very small. Therefore, this change does not involve a significant reduction in a margin of safety.

5.2 Applicable Regulatory Requirements/Criteria

The accident scenerios on which the plant safety analyses and licensing bases are based not assumed to be initiated while in a Technical Specifications Action statement. As this change only extends the time allowed to remain in an existing Action, the safety analyses, licensing basis, and regulatory requirements are not affected.

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6.0 Environmental Considerations

A review has determined that 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 effluent 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.

7.0 References

1. CE NPSD-1045-A, "CEOG Joint Applications Report for Modification to the Containment Spray System Technical Specifications," March 2000.

2. Letter from S. A. Richards (NRC) to R.L. Phelps (CEOG), "Acceptance for Referencing of CE NPSD-1045, 'Joint Applications Report, Modifications to the Containment Spray System, and the Low Pressure Safety Injection System Technical Specifications' (TAC No. MA1956)'' dated December 21, 1999.

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Revision History

OG Revision 0 Revision Status: Closed

Revision Proposed by: CEOG

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 11-Jul-00

Owners Group Comments:
Approved with modifications

Owners Group Resolution: Approved Date: 11-Jul-00

TSTF Review Information

TSTF Received Date: 11-Jul-00 Date Distributed for Review:

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

2/14/01 - TSTF comments:
Make SER quality
Change "time zero" Completion Time 14 days instead of 10 days
(CEOG Chairman comment) Make an action for one containment cooling and one containment spray inoperable with a Completion Time of 72 hours (similar to 3.6.6B) for consistency with the analysis.

TSTF Resolution: Superceeded Date: 14-Feb-01

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OG Revision 1 Revision Status: Closed

Revision Proposed by: CEOG

Revision Description:
Added Action D to address the condition of one containment cooling train and one containment spray train inoperable. Revised the "modified time zero" actions from 10 to 14 day Completion Time. Replaced justification to address SE quality requirements.

Owners Group Review Information

Date Originated by OG: 05-Dec-00

Owners Group Comments:
Make editorial changes identified.

Owners Group Resolution: Approved Date: 06-Mar-01

TSTF Review Information

TSTF Received Date: 08-Mar-01 Date Distributed for Review: 06-Apr-01

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 02-May-01

NRC Review Information

NRC Received Date: 24-May-01

NRC Comments: Date of NRC Letter: 15-Nov-01

11/15/01 - NRC letter stating in part, "The staff identified that incremental increases in the 'discovery of failure to meet the LCO' allowances are proposed by adding risk informed times to the deterministic times currently in STS without appropriate analysis. In all cases the deterministic completion times are standards for improved STS and as such these values have wide application throughout the industry. RTSB supports industry efforts to risk inform TS" "The risk analysis needs to encompass the entire outage time contemplated, including the upper limit provided for multiple condition entries."

12/19/01 - RITSTF meeting with NRC - NRC will entertain traveler for eliminating the 'discovery of failure to meet the LCO' Completion Times

9/29/02 - CEOG to submit revision without changing the 10 day "discovery of failure to meet the LCO" Completion Time. TSTF-439 to delete these Completion Times.

Final Resolution: Superceded by Revision Final Resolution Date: 05-Dec-01

TSTF Revision 1 Revision Status: Closed

Revision Proposed by: CEOG

Revision Description:
In a letter dated 11/5/01, the NRC stated, "The staff identified that incremental increases in the 'discovery of failure to meet the LCO' allowances are proposed by adding risk informed times to the deterministic times currently in STS without appropriate analysis. In all cases the deterministic completion times are standards for

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TSTF Revision 1 Revision Status: Closed

improved STS and as such these values have wide application throughout the industry. RTSB supports industry efforts to risk inform TS" "The risk analysis needs to encompass the entire outage time contemplated, including the upper limit provided for multiple condition entries."

This revision changes TSTF-409 by eliminating the proposed increase in the 10 day "discovery of failure to meet the LCO" Completion Time to 14 days. TSTF-439 proposes to delete these Completion Times. The justification was revised to meet the new TSTF format. The content is unchanged.

TSTF Review Information

TSTF Received Date: 30-Sep-02 Date Distributed for Review: 30-Sep-02

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 21-Oct-02

NRC Review Information

NRC Received Date: 25-Oct-02

Final Resolution: Superceded by Revision Final Resolution Date: 10-Oct-03

TSTF Revision 2 Revision Status: Active

Revision Proposed by: CEOG

Revision Description:
In a letter dated 11/5/01, the NRC stated, "The staff identified that incremental increases in the 'discovery of failure to meet the LCO' allowances are proposed by adding risk informed times to the deterministic times currently in STS without appropriate analysis. In all cases the deterministic completion times are standards for improved STS and as such these values have wide application throughout the industry. RTSB supports industry efforts to risk inform TS" "The risk analysis needs to encompass the entire outage time contemplated, including the upper limit provided for multiple condition entries."

The TSTF and the NRC held several discussions on the history and purpose of the "discovery of failure to meet the LCO" Completion Times. The "discovery of failure to meet the LCO" Completion Times are an administrative limit intended to prevent plants from successively entering and exiting ACTIONS associated with different systems governed by one LCO without ever meeting the LCO (e.g., "flip flopping") . The "discovery of failure to meet the LCO" Completion Times are generally the sum of the longest and shortest Completion Times that could be successively entered (in this case, Conditions A and C). This administrative limit is calculated without regard to the method used to determine the component Completion Times. Therefore, an extension of one of the component Completion Times will result in a corresponding extension of the "discovery of failure to meet the LCO" Completion Time. The NRC determined that increasing the "discovery of failure to meet the LCO" Completion Times based on adding a risk-based and deterministic Completion Time was consistent with the Staff's approval of Grand Gulf Nuclear Station, Unit 1, Amendment 151, dated July 16, 2002.

Based on these discussions and the existing precident, TSTF-409 is revised to restore the change to the "discovery

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TSTF Revision 2 Revision Status: Active

of failure to meet the LCO" Completion Times as originally proposed in Revision 0. A justification of the change is added to the Proposed Change section

TSTF Review Information

TSTF Received Date: 15-Oct-03 Date Distributed for Review: 26-Oct-03

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 29-Oct-03

NRC Review Information

NRC Received Date: 31-Oct-03

Affected Technical Specifications

Ref. 3.6.6A	Containment Spray and Cooling Systems (Atmospheric and Dual)
Action 3.6.6A.A	Containment Spray and Cooling Systems (Atmospheric and Dual)
Action 3.6.6A.A Bases	Containment Spray and Cooling Systems (Atmospheric and Dual)
Action 3.6.6A.C	Containment Spray and Cooling Systems (Atmospheric and Dual)
Action 3.6.6A.C Bases	Containment Spray and Cooling Systems (Atmospheric and Dual)
Action 3.6.6A.D	Containment Spray and Cooling Systems (Atmospheric and Dual) Change Description: Relabeled E
Action 3.6.6A.D	Containment Spray and Cooling Systems (Atmospheric and Dual) Change Description: New action
Action 3.6.6A.D Bases	Containment Spray and Cooling Systems (Atmospheric and Dual) Change Description: Relabeled E
Action 3.6.6A.D Bases	Containment Spray and Cooling Systems (Atmospheric and Dual) Change Description: New Action

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Action 3.6.6A.E	Containment Spray and Cooling Systems (Atmospheric and Dual) Change Description: Relabeled F	
Action 3.6.6A.E Bases	Containment Spray and Cooling Systems (Atmospheric and Dual) Change Description: Relabeled F	
Action 3.6.6A.F	Containment Spray and Cooling Systems (Atmospheric and Dual) Change Description: Relabeled G	
Action 3.6.6A.F Bases	Containment Spray and Cooling Systems (Atmospheric and Dual) Change Description: Relabeled G	

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INSERT 1

D.	One containment spray and one containment cooling train inoperable.	D.1	Restore containment spray train to OPERABLE status.	72 hours
		OR		
		D.2	Restore containment cooling train to OPERABLE status.	72 hours

INSERT 2

D.1 and D.2

With one containment spray and one containment cooling train inoperable, one of the required containment cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System, the iodine removal function of the Containment Spray System, and the low probability of a DBA occurring during this period.

INSERT 3

---------- Reviewer's Note ----------
Utilization of the 7 day Completion Time for Required Action A.1 is dependent on the licensee adopting CE NPSD-1045-A (Ref. 6) and meeting the requirements of the Topical Report and the associated Safety Evaluation. Otherwise, a 72 hour Completion Time applies.

INSERT 4

6. CE NPSD-1045-A, "CEOG Joint Applications Report for Modification to the Containment Spray System Technical Specifications," March 2000.

3.6 CONTAINMENT SYSTEMS

3.6.6A Containment Spray and Cooling Systems (Atmospheric and Dual) (Credit taken for iodine removal by the Containment Spray System)

LCO 3.6.6A Two containment spray trains and two containment cooling trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One containment spray train inoperable.	A.1	Restore containment spray train to OPERABLE status.	~~72 hours~~ [7 days] AND ~~10~~ [14] days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 AND B.2	Be in MODE 3. Be in MODE 5.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1	Restore containment cooling train to OPERABLE status.	7 days AND ~~10~~ [14] days from discovery of failure to meet the LCO
~~D~~ E Two containment cooling trains inoperable.	~~D~~ E.1	Restore one containment cooling train to OPERABLE status.	72 hours

Insert 1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~E~~ F. Required Action and associated Completion Time of Condition C ~~or~~ D or E not met.	~~E~~ F.1 Be in MODE 3. AND ~~E~~ F.2 Be in MODE 5.	6 hours 36 hours
~~F~~ G. Two containment spray trains inoperable. OR Any combination of three or more trains inoperable.	~~F~~ G.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.6A.1	Verify each containment spray 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 3.6.6A.2	Operate each containment cooling train fan unit for ≥ 15 minutes.	31 days
SR 3.6.6A.3	Verify each containment cooling train cooling water flow rate is ≥ [2000] gpm to each fan cooler.	31 days
SR 3.6.6A.4	[Verify the containment spray piping is full of water to the [100] ft level in the containment spray header.	31 days]
SR 3.6.6A.5	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

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment and an increase in containment pressure and temperature, requiring the operation of the containment spray trains and containment cooling trains.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Containment Spray and Containment Cooling systems are not required to be OPERABLE in MODES 5 and 6.

ACTIONS

A.1 Insert 3

[7 days]

With one containment spray train inoperable, the inoperable containment spray train must be restored to OPERABLE status within ~~72 hours~~. In this Condition, the remaining OPERABLE spray and cooling trains are adequate to perform the iodine removal and containment cooling functions. The ~~72 hour~~ [7 day] Completion Time takes into account the redundant heat removal capability afforded by the Containment Spray System, reasonable time for repairs, ~~and the low probability of a DBA occurring during this period.~~ and the findings of Ref. 6.

The ~~10~~ [14] day portion of the Completion Time for Required Action A.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, 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 6 hours and to MODE 5 within 84 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows additional time for the restoration of the containment spray train and is reasonable when considering that the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

BASES

ACTIONS (continued)

C.1

With one required containment cooling train inoperable, the inoperable containment cooling train must be restored to OPERABLE status within 7 days. The remaining OPERABLE containment spray and cooling components provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

[14] The 10 day portion of the Completion Time for Required Action C.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

Insert 2

E D.1

With two required containment cooling trains inoperable, one of the required containment cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System, the iodine removal function of the Containment Spray System, and the low probability of a DBA occurring during this period.

F E.1 and E.2

If the Required Actions and associated Completion Times of Condition C, or E of this LCO are not 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 6 hours and to MODE 5 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.

BASES

ACTIONS (continued)

G ~~D~~.1

With two containment spray trains or any combination of three or more Containment Spray System and Containment Cooling System trains inoperable, the unit is in a condition outside the accident analysis. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE REQUIREMENTS

SR 3.6.6A.1

Verifying the correct alignment for manual, power operated, and automatic valves in the containment spray flow path provides assurance that the proper flow paths will exist for Containment Spray System 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 being secured. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This SR does not require any testing or valve manipulation. Rather, it involves verifying, through a system walkdown, that those valves outside containment and capable of potentially being mispositioned are in the correct position.

SR 3.6.6A.2

Operating each containment cooling train fan unit for ≥ 15 minutes ensures that all trains are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected and corrective action taken. The 31 day Frequency of this SR was developed considering the known reliability of the fan units and controls, the two train redundancy available, and the low probability of a significant degradation of the containment cooling train occurring between surveillances and has been shown to be acceptable through operating experience.

SR 3.6.6A.3

Verifying a service water flow rate of ≥ [2000] gpm to each cooling unit provides assurance that the design flow rate assumed in the safety analyses will be achieved (Ref. 2). Also considered in selecting this Frequency were the known reliability of the Cooling Water System, the two train redundancy, and the low probability of a significant degradation of flow occurring between surveillances.

BASES

SURVEILLANCE REQUIREMENTS (continued)

[SR 3.6.6A.4

Verifying that the containment spray header piping is full of water to the [100] ft level minimizes the time required to fill the header. This ensures that spray flow will be admitted to the containment atmosphere within the time frame assumed in the containment analysis. The 31 day Frequency is based on the static nature of the fill header and the low probability of a significant degradation of water level in the piping occurring between surveillances.]

SR 3.6.6A.5

Verifing 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 Section XI of the ASME Code (Ref. ~~6~~ 7). Since the containment spray 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 inspections confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the Inservice Testing Program.

SR 3.6.6A.6 and SR 3.6.6A.7

These SRs verify 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 actuation signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The [18] 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 at power. Operating experience has shown that these components usually pass the Surveillances when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

The surveillance of containment sump isolation valves is also required by SR 3.5.2.5. A single surveillance may be used to satisfy both requirements.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6A.8

This SR verifies that each containment cooling train actuates upon receipt of an actual or simulated actuation signal. The [18] month Frequency is based on engineering judgment and has been shown to be acceptable through operating experience. See SR 3.6.6A.6 and SR 3.6.6A.7, above, for further discussion of the basis for the [18] month Frequency.

SR 3.6.6A.9

With the containment spray inlet valves closed and the spray header drained of any solution, low pressure air or smoke can be blown through test connections. Performance of this SR demonstrates that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. Due to the passive design of the nozzle, a test at [the first refueling and at] 10 year intervals is considered adequate to detect obstruction of the spray nozzles.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 38, GDC 39, GDC 40, GDC 41, GDC 42, and GDC 43.

2. FSAR, Section [ ].

3. FSAR, Section [ ].

4. FSAR, Section [ ].

Insert 4

5. FSAR, Section [ ].

7 ~~6~~. ASME, Boiler and Pressure Vessel Code, Section XI.