



August 29, 2019

Jaime H. McCoy
Site Vice President

WO 19-0033

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

Subject: Docket No. 50-482: License Amendment Request for Revision to
Technical Specification 3.7.5, "Auxiliary Feedwater (AFW) System"

To Whom It May Concern:

Pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Wolf Creek Nuclear Operating Corporation (WCNOC) hereby requests an amendment to Renewed Facility Operating License No. NPF-42 for the Wolf Creek Generating Station (WCGS). The proposed amendment would add additional conditions to the Limiting Conditions for Operation (LCO) for Technical Specification (TS) 3.7.5, "Auxiliary Feedwater (AFW) System," such that one supply of Essential Service Water (ESW) to the turbine driven AFW pump (TDAFW pump) can be inoperable for up to 72 hours while still considering the TDAFW pump train operable.

Attachment I provides a description of the proposed change and supporting technical evaluation. Attachment II provides the existing TS pages marked up to show the proposed change. Attachment III provides revised (clean) TS pages. Attachment IV provides the existing TS Bases pages marked up to show the proposed changes and is for information only. Final TS Bases changes will be implemented pursuant to TS 5.5.14, "Technical Specifications (TS) Bases Control Program," at the time the amendment is implemented.

It has been determined that this amendment application does not involve a significant hazard consideration as determined by 10 CFR 50.92, "Issuance of amendment." The basis for this determination is included in Attachment I. Pursuant to 10 CFR 51.22, "Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review," Section (b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of this amendment.

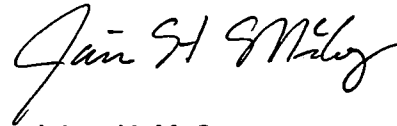
The Plant Safety Review Committee has reviewed this amendment application. In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," a copy of this amendment, with attachments, is being provided to the designated Kansas State official.

ADD
NR

With the current TS and safety analysis, the ESW supply lines to the TDAFW pump cannot be flushed except during planned TDAFW pump train TS outages. Without flushing these lines more frequently, it may become difficult to efficiently control organic growth. Therefore, WCNOG requests review and approval of the proposed amendment by July 1, 2020. Once approved, the amendment shall be implemented within 60 days.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4156, or Ron Benham at (620) 364-4204.

Sincerely,



Jaime H. McCoy

JHM/

Attachments:	I	Evaluation
	II	Proposed Technical Specification Changes (Markup)
	III	Revised Technical Specification Pages
	IV	Proposed Technical Specification Bases Changes (For Information Only)

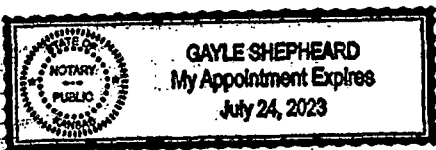
cc: S. A. Morris (NRC), w/a
N. O'Keefe (NRC), w/a
B. K. Singal (NRC), w/a
K. S. Steves (KDHE), w/a
Senior Resident Inspector (NRC), w/a

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Jaime H. McCoy, of lawful age, being first duly sworn upon oath says that he is Site Vice President of Wolf Creek Nuclear Operating Corporation; that he has read the foregoing document and knows the contents thereof; that he has executed the same for and on behalf of said Corporation with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By Jaime H. McCoy
Jaime H. McCoy
Site Vice President

SUBSCRIBED and sworn to before me this 29th day of August, 2019.



Gayle Shepherd
Notary Public

Expiration Date 7/24/2023

EVALUATION

Subject: License Amendment Request to Revise Technical Specification 3.7.5, "Auxiliary Feedwater (AFW) System"

1.0 SUMMARY DESCRIPTION

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

2.2 Current Technical Specification Requirements

2.3 Reason for the Proposed Change

2.4 Description of the Proposed Change

3.0 TECHNICAL EVALUATION

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

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4.4 Conclusion

5.0 ENVIRONMENTAL CONSIDERATION

1.0 SUMMARY DESCRIPTION

This evaluation supports a request to amend Renewed Facility Operating License No. NPF-42 for the Wolf Creek Generating Station (WCGS).

The proposed amendment revises Technical Specification (TS) 3.7.5, "Auxiliary Feedwater (AFW) System," to add additional conditions to the Limiting Conditions for Operation (LCO) which would allow one Essential Service Water (ESW) supply to the turbine driven AFW (TDAFW) pump to be inoperable for up to 72 hours, while still considering the TDAFW pump train to be operable during this time. In addition, the same 10-day completion time after discovery of failure to meet the LCO is included as in the condition for one AFW train inoperable.

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

The AFW system is a safety-related system, the function of which is to remove thermal energy from the reactor coolant system by releasing secondary steam to the atmosphere. The AFW system also provides emergency water following a secondary side line rupture. Removal of heat in this manner prevents the reactor coolant pressure from increasing and causing release of reactor coolant through the pressurizer relief and/or safety valves. The AFW system may also be used following a reactor shutdown in conjunction with the condensate dump valves or atmospheric relief valves, to cool the reactor coolant system.

The AFW system consists of two motor driven AFW (MDAFW) pumps and one TDAFW pump configured into three trains. Each MDAFW pump provides 100 percent of feedwater flow required for removal of decay heat from the reactor. The TDAFW pump provides up to twice the capacity of an MDAFW pump. Each MDAFW pump is powered from an independent Class 1E power supply, and the TDAFW pump receives steam from two main steam lines upstream of the main steam isolation valves. Each of the steam lines will supply 100 percent of the requirements of the TDAFW pump.

The condensate storage tank (CST) is the preferred source of water for the AFW system. However, the CST is nonsafety-related and nonseismic Category I; therefore, the ESW system provides two independent and redundant trains of back-up water supply when the CST is unavailable. Each MDAFW pump can be supplied by one associated train of ESW, while the TDAFW pump has an independent suction line from each train of ESW.

2.2 Current Technical Specification Requirements

WCGS TS 3.7.5 requires three AFW trains to be operable in Modes 1, 2, and 3. With one AFW train inoperable, there is a required action to restore the AFW train to operable status within 72 hours. If this action is not completed, the plant must be in Mode 3 in 6 hours and Mode 4 in 12 hours. There are currently no conditions in the LCO which provide for one ESW supply to the TDAFW pump to be inoperable without declaring the TDAFW pump train inoperable.

Changes to the affected TS Bases pages are provided in Attachment IV for information and will be incorporated in accordance with TS 5.5.14, "Technical Specifications (TS) Bases Control Program," following issuance of the amendment.

2.3 Reason for the Proposed Change

The accident analyses for secondary system pipe breaks described in the Updated Safety Analysis Report (USAR) requires enough flow that either the TDAFW pump or a combination of any two AFW pumps be operable with the worst-case single failure postulated. The ESW system medium is lake water. To control organic growth, a flush of stagnant areas of the ESW system is performed frequently. With the current TS and accident analysis, the ESW supply lines to the TDAFW pump cannot be flushed except during planned TDAFW pump train TS outages. Without flushing these lines more frequently, it may become difficult to efficiently control organic growth. Since a single failure need not be postulated during TS allowed outage time, the new condition will allow one ESW supply path to the TDAFW pump to be inoperable for up to 72 hours while still considering the TDAFW train operable. This will allow more frequent flushing of the ESW supply lines to the TDAFW pump, as well as the ability to perform some maintenance activities outside of planned TDAFW pump train outages.

2.4 Description of the Proposed Change

The following condition will be added to LCO 3.7.5:

One ESW supply to turbine driven AFW pump inoperable.

The required action and completion time will be:

Restore ESW supply to OPERABLE status within 72 hours AND 10 days from discovery of failure to meet the LCO.

3.0 TECHNICAL EVALUATION

In the worst-case secondary side pipe break, the analysis performed for this accident assumes total AFW flow is 700 gallons per minute (gpm) evenly delivered to all four steam generators. The rated capacity of each MDAFW pump is 575 gpm, while the rated capacity of the TDAFW pump is 1,145 gpm. Therefore, the analysis assumes either the TDAFW pump or both MDAFW pumps are available.

The preferred source of water for the AFW system, when available, is the CST. However, the seismic design commitment to Regulatory Guide (RG) 1.29, "Seismic Design Classification," described in USAR Table 3.2-3 requires that all plant items needed to cope with a secondary side pipe break inside containment be designed to withstand the effects of the safe shutdown earthquake (SSE) and remain functional. Further, the secondary systems break criteria discussed in USAR Table 3.6-4 (Table Note D.4) states that no nonsafety-related equipment is required for safe shutdown after a secondary side pipe break. Since the CST is not specifically designed for the SSE and it has no safety design basis, it cannot be assumed to mitigate this pipe break. If the CST suction source is non-mechanistically assumed to be unavailable due to these licensing requirements, then both ESW trains must be available to satisfy single failure criteria in support of AFW functional requirements in the mitigation of a secondary side pipe break. Wolf Creek Nuclear Operating Corporation (WCNOC) considers the CST unavailability in this scenario to be non-mechanistic since, as discussed in USAR Section 10.4.9.3 (Safety Evaluation Two), breaks in seismic Category I piping (e.g., secondary side pipe breaks inside containment) are not postulated during a seismic event. As such, WCNOC would not declare the TDAFW pump inoperable due to the failure of one ESW supply path since the other ESW train and the CST source are available after a secondary side break, absent a seismic event.

The same logic can be used in the event that the TDAFW pump and one MDAFW pump have an associated ESW train inoperable. The TDAFW pump would still be operable since the other ESW train and the CST are both available; however, the affected MDAFW pump would be declared inoperable and the associated condition and required action statement would be entered. Even though the inoperability of one ESW train to the TDAFW pump would not actually render the pump inoperable, since the other ESW suction path and the CST source are available after a secondary side pipe break absent a seismic event, a clarification of the existing condition and required action statement is needed to ensure consistency with the 72-hour allowed outage time for the ESW system. Since a single failure does not have to be postulated during a TS allowed outage time, the additional condition does not adversely affect the TDAFW pump's ability to perform as designed. Therefore, the loss of one train of ESW would result in the declaration of only one AFW train inoperable, and that one would be due to the inoperable train's loss of ESW supply to the associated MDAFW pump.

For the purposes of the new condition to LCO 3.7.5, the respective ESW supply flow paths to the TDAFW pump begin at the point where that train of ESW piping branches into two lines, one supplying the associated MDAFW pump and one supplying the TDAFW pump. The ESW supply flow paths to the TDAFW pump end at the suction of the TDAFW pump. Therefore, with one ESW train inoperable, the associated MDAFW train is considered inoperable; and one TDAFW pump supply line is considered inoperable. However, the TDAFW pump will remain operable for up to 72 hours based on the remaining operable ESW supply line.

The 72-hour completion time for the new condition is reasonable due to the redundant, operable ESW supply to the TDAFW pump, the availability of redundant operable MDAFW pumps and the low probability of an event occurring that requires that flow path of water to the TDAFW pump. In addition, with one AFW train inoperable for reasons other than loss of one of two steam supplies to the TDAFW pump, the required action completion time is also 72 hours. TS 3.7.8 Condition A states when one ESW train is inoperable, the required action is to restore the ESW train to operable status within 72 hours. Therefore, adding the additional condition to TS 3.7.5 with a completion time of 72 hours provides a comparable level of plant protection.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include Technical Specifications (TS) as part of the operating license. The TS ensures the operational capability of structures, systems, and components that are required to protect the health and safety of the public. The U.S. Nuclear Regulatory Commission's (NRC) requirements related to the content of the TS are contained in Section 50.36 of Title 10 of the Code of Federal Regulations (10 CFR 50.36) which requires that the TS include items in the following specific categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements per 10 CFR 50.36(c)(3); (4) design features; and (5) administrative controls.

4.2 Precedent

The proposed change to TS 3.7.5 in this license amendment request is similar to the request submitted March 6, 1990, from Union Electric Company for the Callaway Plant. This request was approved as Amendment No. 55 to Facility Operating License No. NPF-30 (ADAMS Accession No. ML021650571). This request for Callaway was submitted before the adoption of Improved TS, but the substance of the change and justification is the same as this request for Wolf Creek Generating Station (WCGS).

4.3 No Significant Hazards Consideration Determination

The proposed amendment revises TS 3.7.5, "Auxiliary Feedwater (AFW) System," to add an additional condition to the Limiting Conditions for Operation (LCO) which would allow one Essential Service Water (ESW) supply to the turbine driven AFW pump (TDAFW pump) to be inoperable for up to 72 hours, while still considering the TDAFW pump to be operable during this time.

Wolf Creek Nuclear Operating Corporation (WCNOC) has evaluated the proposed change and determined that the change does not involve a significant hazards consideration for WCGS based on the three standards set forth in 10 CFR 50.92(c) as discussed below.

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

Response: No

The proposed change allows the TDAFW pump to remain operable for up to 72 hours with one ESW supply isolated. This is consistent with the allowed outage time for one AFW train being inoperable, and for one train of ESW being inoperable. These systems are not accident initiators (i.e., their malfunction cannot initiate an accident or transient). As there are no modifications to the plant or change in plant control systems, this change would not significantly increase accident probability. Since the change is consistent with existing allowed outage times of either one AFW train or one ESW train, the consequences of a secondary system pipe break accident are bounded by the current analyses as documented in the Updated Safety Analysis Report (USAR). As a result, the proposed change does not alter assumptions relative to the mitigation of an accident or transient event.

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

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

Response: No

The proposed change allows the TDAFW pump to remain operable for up to 72 hours with one ESW supply isolated. This is consistent with the allowed outage time for one AFW train being inoperable, and for one train of ESW being inoperable. With respect to any new or different kind of accident, there are no proposed design changes nor are there any changes in the method by which any safety-related plant structures, systems, or components performs their specified safety function. The proposed change will not affect the normal method of plant operation or change any operating parameters. No new accident scenarios, transient precursors, failure

mechanisms, or limiting single failures will be introduced as a result of this amendment.

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

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

Response: No

The proposed change allows the TDAFW pump to remain operable for up to 72 hours with one ESW supply isolated. This is consistent with the allowed outage time for AFW train being inoperable, and for one train of ESW being inoperable. The proposed change does not adversely affect any current plant safety margins, or the reliability of the equipment assumed in the safety analysis. Therefore, there are no changes being made to any safety analysis assumptions, safety limits or limiting safety system settings that would adversely affect plant safety as a result of the proposed change.

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

Based on the above evaluation, WCNOG concludes that the proposed amendment does not involve a 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.

4.4 Conclusions

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 operating 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.

5.0 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.

ATTACHMENT II
PROPOSED TECHNICAL SPECIFICATION CHANGES
(MARKUP)

3.7 PLANT SYSTEMS

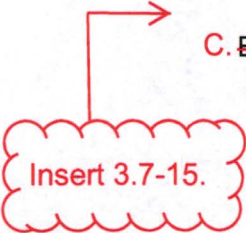

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Three AFW trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
LCO 3.0.4b. is not applicable when entering MODE 1.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven AFW pump inoperable.	A.1 Restore steam supply to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
 C. B. One AFW train inoperable for reasons other than Condition A. 	B.1 C.1 Restore AFW train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. C. Required Action and associated Completion Time for Condition A or B not met.</p> <p><u>OR</u> A, B, or C not met.</p> <p>Two AFW trains inoperable.</p>	<p>C.1 D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>C.2 D.2 Be in MODE 4.</p>	<p>6 hours</p> <p>12 hours</p>
<p>E. D. Three AFW trains inoperable.</p>	<p>D.1 E.1 -----NOTE----- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. ----- Initiate action to restore one AFW train to OPERABLE status.</p>	<p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1 -----NOTE----- Not required to be performed for the AFW flow control valves until the system is placed in standby or THERMAL POWER is > 10% RTP. ----- 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>

(continued)

INSERT 3.7-15

B. One ESW supply to turbine driven AFW pump inoperable.	B.1 Restore ESW supply to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
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ATTACHMENT III
REVISED TECHNICAL SPECIFICATION CHANGES

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Three AFW trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
LCO 3.0.4b. is not applicable when entering MODE 1.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven AFW pump inoperable.	A.1 Restore steam supply to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
B. One ESW supply to turbine driven AFW pump inoperable.	B.1 Restore ESW supply to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
C. One AFW train inoperable for reasons other than Condition A or B.	C.1 Restore AFW train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time for Condition A, B, or C not met.</p> <p><u>OR</u></p> <p>Two AFW trains inoperable.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p>	6 hours
	<p>D.2 Be in MODE 4.</p>	12 hours
<p>E. Three AFW trains inoperable.</p>	<p>E.1</p> <p>-----NOTE----- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. -----</p> <p>Initiate action to restore one AFW train to OPERABLE status.</p>	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1</p> <p>-----NOTE----- Not required to be performed for the AFW flow control valves until the system is placed in standby or THERMAL POWER is > 10% RTP. -----</p> <p>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>	31 days

(continued)

ATTACHMENT IV

**PROPOSED TECHNICAL SPECIFICATION BASES CHANGES
(FOR INFORMATION ONLY)**

BASES

ACTIONS (continued)

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 7 days and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met

Insert B 3.7.5-6

~~B.1~~ C.1

A or B,

With one of the required AFW trains (pump or flow path) inoperable for reasons other than Condition ~~A~~, action must be taken to restore OPERABLE status within 72 hours. This Condition includes the loss of two steam supply lines to the turbine driven AFW pump. The 72 hour Completion Time is reasonable, based on redundant capabilities afforded by the AFW System, time needed for repairs, and the low probability of a DBA occurring during this time period.

C.1

The second Completion Time for Required Action ~~B.1~~ establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions ~~A and B~~ are entered concurrently. The AND connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

A and C; or B and C

~~C.1 and C.2~~ D.1 and D.2

A.1, B.1, or C.1

When Required Action ~~A.1 or B.1~~ cannot be completed within the required Completion Time, or if two AFW trains are inoperable, 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.

BASES

ACTIONS
(continued)

~~D.1~~ E.1

If all three AFW trains are inoperable, the unit is in a seriously degraded condition with no safety related means for conducting a cooldown, and only limited means for conducting a cooldown with nonsafety related equipment. In such a condition, the unit should not be perturbed by any action, including a power change, that might result in a trip. The seriousness of this condition requires that action be started immediately to restore one AFW train to OPERABLE status.



Required Action ~~D.1~~ is modified by a Note indicating that all required MODE changes or power reductions are suspended until one AFW train is restored to OPERABLE status. In this case, LCO 3.0.3 is not applicable because it could force the unit into a less safe condition.

SURVEILLANCE
REQUIREMENTS

SR 3.7.5.1

Verifying the correct alignment for manual, power operated, and automatic valves in the AFW System water and steam supply flow paths provides assurance that the proper flow paths will exist for AFW operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to manual vent/drain valves, and to valves that cannot 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 31 day Frequency, based on engineering judgment, is consistent with procedural controls governing valve operation, and ensures correct valve positions.

This SR is modified by a Note indicating that the SR is not required to be performed for the AFW flow control valves until the AFW System is placed in standby or THERMAL POWER is above 10% RTP.

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 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 performed on recirculation flow. This test confirms one point

INSERT B 3.7.5-6

B.1

If one of the two ESW supplies to the turbine driven AFW train is inoperable, action must be taken to restore the inoperable ESW supply to OPERABLE status within 72 hours. The 72-hour Completion Time is reasonable, based on the following reasons:

- a. The redundant OPERABLE ESW supply to the turbine driven AFW pump;
- b. The availability of redundant OPERABLE motor driven AFW pumps; and
- c. The low probability of an event occurring that requires the inoperable ESW supply to the turbine driven AFW pump.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.