

TABLE 3.3-5

ENGINEERED SAFETY FEATURES RESPONSE TIMES

<u>INITIATING SIGNAL AND FUNCTION</u>	<u>RESPONSE TIME IN SECONDS</u>
1. <u>Manual Initiation</u>	
a. Safety Injection (ECCS)	N.A.
b. Containment Spray	N.A.
c. Phase "A" Isolation	N.A.
d. Phase "B" Isolation	N.A.
e. Containment Purge Isolation	N.A.
f. Steam Line Isolation	N.A.
g. Feedwater Isolation	N.A.
h. Auxiliary Feedwater	N.A.
i. Essential Service Water	N.A.
j. Containment Cooling	N.A.
k. Control Room Isolation	N.A.
l. Reactor Trip	N.A.
m. Emergency Diesel Generators	N.A.
n. Component Cooling Water	N.A.
o. Turbine Trip	N.A.
2. <u>Containment Pressure-High-1</u>	
a. Safety Injection (ECCS)	$\leq 29^{(1)}/12^{(4)}$
1) Reactor Trip	≤ 2
2) Feedwater Isolation	$\leq 7-2^{(5)}$
3) Phase "A" Isolation	$\leq 1.5^{(5)}$
4) Auxiliary Feedwater	≤ 60
5) Essential Service Water	$\leq 60^{(1)}$
6) Containment Cooling	$\leq 60^{(1)}$
7) Component Cooling Water	N.A.
8) Emergency Diesel Generators	$\leq 14^{(6)}$
9) Turbine Trip	N.A.

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TABLE 3.3-5 (Continued)

ENGINEERED SAFETY FEATURES RESPONSE TIMES

INITIATING SIGNAL AND FUNCTION	RESPONSE TIME IN SECONDS
3. <u>Pressurizer Pressure-Low</u>	
a. Safety Injection (ECCS)	$\leq 29^{(1)}/12^{(4)}$
1) Reactor Trip	≤ 2
2) Feedwater Isolation	$\leq 7.2^{(5)}$
3) Phase "A" Isolation	$\leq 2^{(5)}$
4) Auxiliary Feedwater	≤ 60
5) Essential Service Water	$\leq 60^{(1)}$
6) Containment Cooling	$\leq 60^{(1)}$
7) Component Cooling Water	N.A.
8) Emergency Diesel Generators	$\leq 14^{(6)}$
9) Turbine Trip	N.A.
4. <u>Steam Line Pressure-Low</u>	
a. Safety Injection (ECCS)	$\leq 24^{(3)}/12^{(4)}$
1) Reactor Trip	≤ 2
2) Feedwater Isolation	$\leq 7.2^{(5)}$
3) Phase "A" Isolation	$\leq 2^{(5)}$
4) Auxiliary Feedwater	≤ 60
5) Essential Service Water	$\leq 60^{(1)}$
6) Containment Cooling	$\leq 60^{(1)}$
7) Component Cooling Water	N.A.
8) Emergency Diesel Generators	$\leq 14^{(6)}$
9) Turbine Trip	N.A.
b. Steam Line Isolation	$\leq 7.2^{(5)}$

TABLE 3.3-5 (Continued)
ENGINEERED SAFETY FEATURES RESPONSE TIMES

<u>INITIATING SIGNAL AND FUNCTION</u>	<u>RESPONSE TIME IN SECONDS</u>
5. <u>Containment Pressure-High-3</u>	
a. Containment Spray	$\leq 32^{(1)}/20^{(2)}$
b. Phase "B" Isolation	≤ 31.5
6. <u>Containment Pressure-High-2</u>	
Steam Line Isolation	$\leq 7.2^{(5)}$
7. <u>Steam Line Pressure-Negative Rate-High</u>	
Steam Line Isolation	$\leq 7.2^{(5)}$
8. <u>Steam Generator Water Level-High-High</u>	
a. Feedwater Isolation	$\leq 7.2^{(5)}$
b. Turbine Trip	≤ 2.5
9. <u>Steam Generator Water Level-Low-Low</u>	
a. Start Motor-Driven Auxiliary Feedwater Pumps	≤ 60
b. Start Turbine-Driven Auxiliary Feedwater Pump	≤ 60
10. <u>Loss-of-Offsite Power</u>	
Start Turbine-Driven Auxiliary Feedwater Pump	N.A.
11. <u>Trip of All Main Feedwater Pumps</u>	
Start Motor-Driven Auxiliary Feedwater Pumps	N.A.

TABLE 3.3-5 (Continued)

ENGINEERED SAFETY FEATURES RESPONSE TIMES

<u>INITIATING SIGNAL AND FUNCTION</u>	<u>RESPONSE TIME IN SECONDS</u>
12. <u>Auxiliary Feedwater Pump Suction Pressure-Low</u> Transfer to Essential Service Water	N.A.
13. <u>RWST Level-Low-Low Coincident with Safety Injection</u> Automatic Switchover to Containment Sump	≤ 60
14. <u>Loss of Power</u> a. 4 kV Bus Undervoltage-Loss of Voltage b. 4 kV Bus Undervoltage-Grid Degraded Voltage	≤ 14 ≤ 144
15. <u>Phase "A" Isolation</u> a. Control Room Isolation b. Containment Purge Isolation	N.A. ≤ 2 ⁽⁵⁾

TABLE NOTATIONS

- (1) Diesel generator starting and sequence loading delays included.
- (2) Diesel generator starting delay not included. Offsite power available.
- (3) Diesel generator starting and sequence loading delay included. RHR pumps not included.
- (4) Diesel generator starting and sequence loading delays not included. Offsite power available. RHR pumps not included.
- (5) Does not include valve closure time.
- (6) Includes time for diesel to reach full speed.

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

<u>PENETRATIONS</u>	<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>TYPE LEAK TEST REQUIRED</u>	<u>MAXIMUM ISOLATION TIME (Seconds)</u>
8. Hand-Operated and Check Valves - (Continued)				
P-98	KB V-002	Breathing Air Supply to Rx Bldg.	C	N.A.
P-67	KC V-478	Fire Protection Supply to RX Bldg	C	N.A.
P-57	SJ V-111	Liquid Sample from PASS to RCDT	A,C	N.A.
9. Other Automatic Valves				
P-1	AB-HV-11***	Mn. Stm. Isol.	A	\$ N.A.
P-2	AB-HV-14***	Mn. Stm. Isol.	A	\$ N.A.
P-3	AB-HV-17***	Mn. Stm. Isol.	A	\$ N.A.
P-4	AB-HV-20***	Mn. Stm. Isol.	A	\$ N.A.
P-5	AE-FV-42***	Mn. FW Isol.	A	\$ N.A.
P-6	AE-FV-39***	Mn. FW Isol.	A	\$ N.A.
P-7	AE-FV-40***	Mn. FW Isol.	A	\$ N.A.
P-8	AE-FV-41***	Mn. FW Isol.	A	\$ N.A.
P-9	BM-HV-4**	SG Blowdn. Isol.	A	10
P-10	BM-HV-1**	SG Blowdn. Isol.	A	10
P-11	BM-HV-2**	SG Blowdn. Isol.	A	10
P-12	BM-HV-3**	SG Blowdn. Isol.	A	10

**The provisions of Specification 3.0.4 are not applicable.

*** These valves are included only for table completeness. The requirements of Specification 3.6.3 do not apply; instead, the requirements of Specification 3.7.1.5 and 3.7.1.7 apply to the Main Steam Isolation Valves and Main Feedwater Isolation Valves, respectively.

PLANT SYSTEMS

MAIN FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.7 Each main feedwater isolation valve (MFIV) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

MODES 1 and 2 With one MFIV inoperable but open, operation may continue provided the inoperable valve is restored to OPERABLE status within 4 hours; otherwise be in HOT STANDBY within the next 6 hours.

MODES 3: With one MFIV inoperable, subsequent operation in Mode 3 may proceed provided the isolation valve is maintained closed. Otherwise, be in HOT SHUTDOWN within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.7 Each MFIV shall be demonstrated OPERABLE by verifying full closure within 5 seconds when tested pursuant to Specification 4.0.5. The provisions of specification 4.0.4 are not applicable for entry into MODE 3.

BASES

3/4.7.1.7 FEEDWATER ISOLATION VALVES

The OPERABILITY of the feedwater isolation valves functions to: 1) provide a pressure boundary to permit auxiliary feedwater addition in the event of a main steam or feedwater line break inside containment; and 2) ensure that no more than one steam generator will blow down in the event of a steam line rupture which a) minimizes the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and b) limits the pressure rise within containment. The MSIV's and FWIV's are not considered to be containment isolation valves. The containment boundary is the steam generator secondary side and tubes. The OPERABILITY of the feedwater isolation valves within the closure times of the Surveillance Requirements are consistent with the assumptions used in the safety analysis.

SAFETY EVALUATION

This amendment request revises Technical Specification Tables 3.3-5 and 3.6-1 and adds Technical Specification 3/4.7.1.7 in accordance with the annotated pages provided in Enclosure 2. These revisions and their respective safety evaluations are discussed hereinafter.

1. The changes to Table 3.3-5, Engineered Safety Features Response Times, revise the response times for steam line isolation and feedwater isolation from 7 seconds to 2 seconds. This is to clarify that the response time for the sensor, associated electronics and actuation relays is 2 seconds. In addition a footnote has been added to indicate that valve closure times are not included in this table. With this change, valve closure times are now given in Specification 3/4.7.1.5 and proposed Specification 3/4.7.1.7 for the Main Steam Isolation Valves (MSIV's) and the Main Feedwater Isolation Valves (MFIV's), respectively.

It should be noted that this does not change the response times associated with either the valves or actuating electronics, therefore all original design criteria are met.

2. Isolation time requirements for the MSIV's and MFIV's are deleted from Table 3.6-1. Justification for the deletion is provided in FSAR Figure 6.2.4-1, pages 1-8. These valves are not required to meet containment isolation criteria since the containment barrier integrity is maintained by the steam generator tubes, the shell of the secondary side of the steam generator, and the lines emanating from the steam generator secondary shells. The MSIV's and MFIV's are required to function to provide main steam and main feedwater isolation. Therefore, the isolation time requirements for the valves are more appropriately specified in Technical Specifications 3/4.7.1.5 and proposed Specification 3/4.7.1.7.

The vendor recommends that the MSIV's and MFIV's be tested under operating conditions (i.e., Modes 1, 2, or 3). Based on this vendor recommendation and the fact that these valves are not necessary for containment isolation, the mode applicability should be consistent with the main steam isolation requirements as currently specified in Technical Specification Table 3.3-3 and Specification 3/4.7.1.5. These specify the applicable modes as Modes 1, 2, and 3.

It should be noted that this change request is similar to Table 3.6-1 of NUREG -1104 (Appendix A to NPF-32, Technical Specifications for Wolf Creek Generating Station).

3. The addition of Specification 3/4.7.1.7 and corresponding Bases provides specific actions to be taken when MFIV's are inoperable and specifies the valve closure time is 5 seconds when tested pursuant to Specification 4.0.5 (the Callaway Inservice Pump & Valve Program). The mode applicability is consistent with the mode requirements specified for main steam isolation as discussed in Section 2, above.

NOTE: This proposed specification is numbered 3/4.7.1.7 because a previous amendment request (Ref: ULNRC 1238 dated 1/14/85) requested an additional specification for Main Steam Line Atmospheric Relief Valves which was numbered 3/4.7.1.6.

In summary, this amendment request provides clarification and restructures the Technical Specifications associated with the MSIV's and MFIV's. No changes are being made to the valves or their response times, therefore the original design bases are met. Therefore, 1) the probability and consequences of an accident or malfunction of equipment important to safety is not increased, 2) a new accident from those described in the FSAR is not created, and 3) the margin of safety as described in the bases of the Technical Specifications is not decreased.

Pursuant to the above information, this amendment request does not adversely affect or endanger the health or safety of the general public and does not involve an unreviewed safety question.

SIGNIFICANT HAZARD EVALUATION

This amendment request consists of three categories of changes to Table 3.3-5, Table 3.6-1 and proposed Specification 3/4.7.1.7 as discussed in the Safety Evaluation (Enclosure 3). The following discussions address these changes and their corresponding significant hazard evaluations in the same order as discussed in the Safety Evaluation.

1. The changes to Table 3.3-5, Engineered Safety Features Response Times, involve a change to include only the sensor and associated electronic loop response time in this table and specify the valve closure times in Specifications 3/4.7.1.5 and 3/4.7.1.7. The Commission has provided guidance concerning the application of the standards in 10CFR50.92 by providing certain examples (48FR14870). This change request is similar to the example of a change involving no significant hazards consideration which relates to a change that is administrative in nature. The change provides consistency between the Technical Specifications and FSAR.
2. The change to Table 3.6-1 deletes the MSIV and MFIV isolation time requirement and references Specifications 3/4.7.1.5 and 3/4.7.1.7 for these valve closure times. The Commission has provided guidance concerning the application of the standards in 10CFR50.92 by providing certain examples (48FR14870). This change request is similar to the example of an action involving no significant hazard consideration which relates to a change that is administrative in nature. The change provides consistency between the Technical Specifications and FSAR as to the purpose for valve closure and the closure time requirement.
3. The addition of Specification 3/4.7.1.7 provides specific actions to be taken when MFIV's are inoperable. The Commission has provided guidance concerning the application of the standards in 10CFR50.92 by providing certain examples (48FR14870). This change request is similar to the example of a change that constitutes an additional limitation restriction or control not presently included in the technical specifications.

Based on the above discussions, the amendment request does not involve a significant increase in the probability or consequences of an accident previously evaluated; nor create the possibility of a new or different kind of accident from any accident previously evaluated; nor involve a reduction in the required margin of safety. Based on the foregoing, the requested amendment does not present a significant hazard.