

## INSTRUMENTATION

### 3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.2 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and bypasses shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.

APPLICABILITY: As shown in Table 3.3-3.\*

#### ACTION:

- a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

#### SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.2 The logic for the bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The total bypass function shall be demonstrated OPERABLE at least once per refueling interval for each channel affected by bypass operation. The provisions of Technical Specification 4.0.2 are not applicable.

4.3.2.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.

\*See Special Test Exception 3.10.5

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
11. FUEL HANDLING ISOLATION (FHIS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Airborne Radiation				
i. Gaseous	S	R	M	*
ii. Particulate/Iodine	S	R	M	*
c. Automatic Actuation Logic	N.A.	N.A.	R(3)	*
12. CONTAINMENT PURGE ISOLATION (CPIS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Airborne Radiation				
i. Gaseous	S	R	M	1,2,3,4,6
ii. Particulate	W	R	M	1,2,3,4,6
iii. Iodine	W	R	M	6
c. Containment Area Radiation (Gamma)	S	R	M	1,2,3,4,6
d. Automatic Actuation Logic	N.A.	N.A.	R (3)	1,2,3,4,6

TABLE NOTATION

- (1) Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS.
  - (2) Deleted.
  - (3) Testing of Automatic Actuation Logic shall include energization/de-energization of each initiation relay and verification of the OPERABILITY of each initiation relay.
  - (4) A subgroup relay test shall be performed which shall include the energization/de-energization of each subgroup relay and verification of the OPERABILITY of each subgroup relay. Relays exempt from testing during plant operation shall be limited to only those relays associated with plant equipment which cannot be operated during plant operation. Relays not testable during plant operation shall be tested during each COLD SHUTDOWN exceeding 24 hours unless tested during the previous 6 months.
  - (5) Actuated equipment only; does not result in CIAS.
- \* With irradiated fuel in the storage pool.

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ATTACHMENT "C"  
EXISTING TECHNICAL SPECIFICATIONS  
UNITS 3

## INSTRUMENTATION

### 3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

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3.3.2 The Engineered Safety Features Actuation System (ESFAS) instrumentation channels and bypasses shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.\*

APPLICABILITY: As shown in Table 3.3-3.

#### ACTION:

- a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

#### SURVEILLANCE REQUIREMENTS

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4.3.2.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.2 The logic for the bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The total bypass function shall be demonstrated OPERABLE at least once per refueling interval for each channel affected by bypass operation. The provisions of Technical Specification 4.0.2 are not applicable.

4.3.2.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.

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\*Continuous monitoring and sampling of the containment purge exhaust directly from the purge stack shall be provided for the low and high volume (8-inch and 42-inch) containment purge prior to startup following the first refueling outage. Containment airborne monitor 3RT-7804-1 or 3RT-7807-2 and associated sampling media shall perform these functions prior to initial criticality. From initial criticality to the startup following the first refueling outage containment airborne monitor 3RT-7804-1 and associated sampling media shall perform the above required functions.

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
11. FUEL HANDLING ISOLATION (FHIS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Airborne Radiation				
i. Gaseous	S	R	M	*
ii. Particulate/Iodine	S	R	M	*
c. Automatic Actuation Logic	N.A.	N.A.	R(3)	*
12. CONTAINMENT PURGE ISOLATION (CPIS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Airborne Radiation				
i. Gaseous	S	R	M	1,2,3,4,6
ii. Particulate	W	R	M	1,2,3,4,6
iii. Iodine	W	R	M	6
c. Containment Area Radiation (Gamma)	S	R	M	1,3,3,4,6
d. Automatic Actuation Logic	N.A.	N.A.	R (3)	1,2,3,4,6

TABLE NOTATION

- (1) Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS.
  - (2) Deleted.
  - (3) Testing of Automatic Actuation Logic shall include energization/de-energization of each initiation relay and verification of the OPERABILITY of each initiation relay.
  - (4) A subgroup relay test shall be performed which shall include the energization/de-energization of each subgroup relay and verification of the OPERABILITY of each subgroup relay. Relays exempt from testing during plant operation shall be limited to only those relays associated with plant equipment which cannot be operated during plant operation. Relays not testable during plant operation shall be tested during each COLD SHUTDOWN exceeding 24 hours unless tested during the previous 6 months.
  - (5) Actuated equipment only; does not result in CIAS.
- \* With irradiated fuel in the storage pool.

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ATTACHMENT "D"  
PROPOSED TECHNICAL SPECIFICATIONS  
UNITS 2

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
11. FUEL HANDLING ISOLATION (FHIS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Airborne Radiation				
i. Gaseous	S	R	M	*
ii. Particulate/Iodine	S	R	M	*
c. Automatic Actuation Logic	N.A.	N.A.	R(3)	*
12. CONTAINMENT PURGE ISOLATION (CPIS)				
a. Manual (Trip Buttons)	N.A.	N.A.	(R) (6)	N.A.
b. Airborne Radiation				
i. Gaseous	S	(R) (6)	M	1,2,3,4,6
ii. Particulate	W	(R) (6)	M	1,2,3,4,6
iii. Iodine	W	(R) (6)	M	6
c. Containment Area Radiation (Gamma)	S	R	M	1,2,3,4,6
d. Automatic Actuation Logic	N.A.	N.A.	(R) (3), (6)	1,2,3,4,6

TABLE NOTATION

- (1) Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) Deleted.
- (3) Testing of Automatic Actuation Logic shall include energization/de-energization of each initiation relay and verification of the OPERABILITY of each initiation relay.
- (4) A subgroup relay test shall be performed which shall include the energization/de-energization of each subgroup relay and verification of the OPERABILITY of each subgroup relay. Relays exempt from testing during plant operation shall be limited to only those relays associated with plant equipment which cannot be operated during plant operation. Relays not testable during plant operation shall be tested during each COLD SHUTDOWN exceeding 24 hours unless tested during the previous 6 months.
- (5) Actuated equipment only; does not result in CIAS.
- \* With irradiated fuel in the storage pool.

(6) At least once per refueling interval.

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ATTACHMENT "E"  
PROPOSED TECHNICAL SPECIFICATIONS  
UNITS 3



TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
11. FUEL HANDLING ISOLATION (FHIS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Airborne Radiation				
i. Gaseous	S	R	M	*
ii. Particulate/Iodine	S	R	M	*
c. Automatic Actuation Logic	N.A.	N.A.	R(3)	*
12. CONTAINMENT PURGE ISOLATION (CPIS)				
a. Manual (Trip Buttons)	N.A.	N.A.	$\textcircled{R}^e(6)$	N.A.
b. Airborne Radiation				
i. Gaseous	S	$\textcircled{R}^e(6)$	M	1,2,3,4,6
ii. Particulate	W	$\textcircled{R}^e(6)$	M	1,2,3,4,6
iii. Iodine	W	$\textcircled{R}^e(6)$	M	6
c. Containment Area Radiation (Gamma)	S	R	$\textcircled{M}^e$	1,3,3,4,6
d. Automatic Actuation Logic	N.A.	N.A.	$\textcircled{R}^e(3), (6)$	1,2,3,4,6

TABLE NOTATION

- (1) Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) Deleted.
- (3) Testing of Automatic Actuation Logic shall include energization/de-energization of each initiation relay and verification of the OPERABILITY of each initiation relay.
- (4) A subgroup relay test shall be performed which shall include the energization/de-energization of each subgroup relay and verification of the OPERABILITY of each subgroup relay. Relays exempt from testing during plant operation shall be limited to only those relays associated with plant equipment which cannot be operated during plant operation. Relays not testable during plant operation shall be tested during each COLD SHUTDOWN exceeding 24 hours unless tested during the previous 6 months.
- (5) Actuated equipment only; does not result in CIAS.  
 \* With irradiated fuel in the storage pool.

(6) At least once per refueling interval.

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