

TABLE 1.2

FREQUENCY NOTATION

<u>NOTATION</u>	<u>FREQUENCY</u>
S	At least once per 12 hours.
D	At least once per 24 hours.
W	At least once per 7 days.
M	At least once per 31 days.
Q	At least once per 92 days.
SA	At least once per 6 months. *
A	At least once per 12 months. *
E	At least once per 18 months. *
R	At least once per 24 months. *
S/U	Prior to each reactor startup.
N/A	Not applicable.

\*In these Technical Specifications, 6 months is defined to be 184 days, 12 months is defined to be 366 days, 18 months is defined to be 550 days, and 24 months is defined to be 730 days.

## INSTRUMENTATION

### 3/4.3.2 SAFETY SYSTEM INSTRUMENTATION

#### SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

##### LIMITING CONDITION FOR OPERATION

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3.3.2.1 The Safety Features Actuation System (SFAS) functional units shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the Allowable Value column of Table 3.3-4.

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

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

##### SURVEILLANCE REQUIREMENTS

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4.3.2.1.1 Each SFAS functional unit shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST during the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.1.2 The logic for the RCS pressure operating bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of functional units affected by the RCS pressure operating bypass operation. This RCS pressure operating bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each functional unit affected by the RCS pressure operating bypass operation.

4.3.2.1.3 The SAFETY FEATURES RESPONSE TIME<sup>\*</sup> of each SFAS function shall be demonstrated to be within the limit at least once per REFUELING INTERVAL. Each test shall include at least one functional unit per function such that all functional units are tested at least once every N times the REFUELING INTERVAL where N is the total number of redundant functional units in a specific SFAS function as shown in the "Total No. of Units" Column of Table 3.3-3.

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\* The response times (except for manual initiation) include diesel generator starting and sequence loading delays, when applicable. The response time limit (except for manual initiation) includes movement of valves and attainment of pump or blower discharge pressure.

TABLE 3.3-3 (Continued)

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF UNITS</u>	<u>UNITS TO TRIP</u>	<u>MINIMUM UNITS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
3. MANUAL ACTUATION					
a. SFAS (except Containment Spray and Emergency Sump Recirculation)	2	2	2	1,2,3,4	12
b. Containment Spray	2	2	2	1,2,3,4	12
4. SEQUENCE LOGIC CHANNELS					
a. Sequencer	4	2/BUS	2/BUS	1,2,3,4	15#
b. Essential Bus Feeder Breaker Trip Degraded Voltage Relay (DVR)	4*****	2/BUS	2/BUS	1,2,3,4	15#
c. Diesel Generator Start, Load Shed on Essential Bus Loss of Voltage Relay (LVR)	4	2/BUS	2/BUS	1,2,3,4	15#
5. INTERLOCK CHANNELS					
a. Decay Heat Isolation Valve	1	1	1	1,2,3	13#
b. Pressurizer Heaters	2	2	2	3*****	14

TABLE 3.3-4

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION ALLOWABLE VALUES

<u>FUNCTIONAL UNIT</u>	<u>ALLOWABLE VALUES##</u>
<b>INSTRUMENT STRINGS</b>	
a. DELETED	DELETED
b. Containment Pressure – High	≤ 19.38 psia
c. Containment Pressure - High-High	≤ 41.65 psia
d. RCS Pressure – Low	≥ 1576.2 psig
e. RCS Pressure - Low-Low	≥ 441.42 psig
f. BWST Level	≥ 101.6 and ≤ 115.4 in. H <sub>2</sub> O
<b>SEQUENCE LOGIC CHANNELS</b>	
a. Essential Bus Feeder Breaker Trip Degraded Voltage Relay (DVR)	≥ 3712 volts (dropout) and ≤ 3771 volts (pickup) with a time delay of ≥ 6.4 and ≤ 7.9 sec
b. Diesel Generator Start, Load Shed on Essential Bus Loss of Voltage Relay (LVR)	≥ 2071 volts (dropout) and ≤ 2492 volts (pickup) with a time delay of ≥ 0.42 and ≤ 0.58 sec
<b>INTERLOCK CHANNELS</b>	
a. Decay Heat Isolation Valve and Pressurizer Heater	< 328 psig *

\* Referenced to the RCS Pressure instrumentation tap.

\*\* Allowable Values for CHANNEL FUNCTIONAL TEST

DAVIS-BESSE, UNIT 1

3/4 3-13

Amendment No. ~~7, 28, 36, 58, 190, 218, 221, 241,~~  
243, 275

TABLE 4.3-2

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 IN WHICH SURVEILLANCE REQUIRED</u>
1. INSTRUMENT STRINGS				
a. DELETED	DELETED	DELETED	DELETED	DELETED
b. Containment Pressure - High	S	E	M(2)	1, 2, 3
c. Containment Pressure - High-High	S	E	M(2)	1, 2, 3
d. RCS Pressure - Low	S	R	M	1, 2, 3
e. RCS Pressure - Low-Low	S	R	M	1, 2, 3
f. BWST Level - Low-Low	S	E	M	1, 2, 3
2. OUTPUT LOGIC				
a. Incident Level #1: Containment Isolation	S	E	M	1, 2, 3, 4
b. Incident Level #2: High Pressure Injection and Starting Diesel Generators	S	E	M	1, 2, 3, 4
c. Incident Level #3: Low Pressure Injection	S	E	M	1, 2, 3, 4
d. Incident Level #4: Containment Spray	S	E	M	1, 2, 3, 4
e. Incident Level #5: Containment Sump Recirculation Permissive	S	E	M	1, 2, 3, 4
3. MANUAL ACTUATION				
a. SFAS (Except Containment Spray and Emergency Sump Recirculation)	NA	NA	M(1)	1, 2, 3, 4
b. Containment Spray	NA	NA	M(1)	1, 2, 3

DAVIS-BESSE, UNIT 1

3/4-3-21

Amendment No. 37-40-48-135-218-221, 275

TABLE 4.3-2 (Continued)

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 IN WHICH SURVEILLANCE REQUIRED</u>
<b>4. SEQUENCE LOGIC CHANNELS</b>				
a. Sequencer	S	NA	M	1, 2, 3, 4
b. Essential Bus Feeder Breaker Trip, Degraded Voltage Relay (DVR)	S	A(3)	M(3)	1, 2, 3, 4
c. Diesel Generator Start, Load Shed on Essential Bus, Loss of Voltage Relay (LVR)	S	A(3)	M(3)	1, 2, 3, 4
<b>5. INTERLOCK CHANNELS</b>				
a. Decay Heat Isolation Valve	S	R	**	1, 2, 3
b. Pressurizer Heater	S	R	**	3 ##

TABLE NOTATION

- (1) Manual actuation switches shall be tested at least once per REFUELING INTERVAL. All other circuitry associated with manual safeguards actuation shall receive a CHANNEL FUNCTIONAL TEST at least once per 31 days.
- (2) The CHANNEL FUNCTIONAL TEST shall include exercising the transmitter by applying either vacuum or pressure to the appropriate side of the transmitter.
- (3) The as-left instrument setting shall be returned to a setting within the tolerance band of the trip setpoint established to protect the safety limit.
- \*\* See Specification 4.5.2.d.1
- ## When either Decay Heat Isolation Valve is open.