TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. TO CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
Four Loops Operating	1 pressure/ loop	2 pressures any loops	1 pressure any 3 loops		14*
Three Loops Operating	1 pressure/ operating loop	1### pressure in any operating loop	1 pressure in any 2 operating loops		15
5. TURBINE TRIP & FEEDWATER ISOLATION					
a. Steam Generator Water level-- High-High	3/loop	2/loop in any operating loop	2/loop in each operating loop	1, 2, 3	14*
6. SAFEGUARDS EQUIPMENT CONTROL SYSTEM (SEC)	3	2	3	1, 2, 3, 4	13
~~7. UNDERVOLTAGE, VITAL BUS~~	~~3~~	~~2~~	~~3~~	~~1, 2, 3~~	~~14*~~
a. Loss of Voltage	3	2	3	1, 2, 3	14*
b. Sustained Degraded Voltage	3	2	3	1, 2, 3	14*

delete

add

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
5. TURBINE TRIP AND FEEDWATER ISOLATION		
a. Steam Generator Water Level--High-High	< 67% of narrow range instrument span each steam generator	< 68% of narrow range instrument span each steam generator
6. UNDERVOLTAGE, VITAL BUS	~~≥ 70% of bus voltage~~	~~≥ 65% of bus voltage~~ delete
a. Loss of Voltage	≥ 70% of bus voltage	≥ 65% of bus voltage
b. Sustained Degraded Voltage	≥ 91% of bus voltage for ≤ 13 seconds	≥ 90% of bus voltage for ≤ 15 seconds

add

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
4. STEAM LINE ISOLATION				
a. Manual	N.A.	N.A.	R	1, 2, 3
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3
c. Containment Pressure--High-High	S	R	M(3)	1, 2, 3
d. Steam Flow in Two Steam Lines--High Coincident with T_{avg} -- Low or Steam Line Pressure--Low	S	R	M	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION				
a. Steam Generator Water Level--High-High	S	R	M	1, 2, 3
6. SAFEGUARDS EQUIPMENT CONTROL SYSTEM (SEC) LOGIC				
a. Inputs	N.A.	N.A.	M	1, 2, 3, 4
b. Logic, Timing and Outputs	N.A.	N.A.	M(1)	1, 2, 3, 4
7. UNDERVOLTAGE, VITAL BUS	~~S~~	~~R~~	~~M~~	~~1, 2, 3~~ delete
add { a. Loss of Voltage	S	R	M	1, 2, 3
b. Sustained Degraded Voltage	S	R	M	1, 2, 3

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
Four Loops Operating	1 pressure/ loop	1 pressure any 2 loops	1 pressure any 3 loops		14*
Three Loops Operating	1 pressure/ operating loop	1### pressure in any operating loop	1 pressure in any 2 operating loops		15
5. TURBINE TRIP & FEEDWATER ISOLATION					
a. Steam Generator Water level-- High-High	3/loop	2/loop in any operating loop	2/loop in each operating loop	1, 2, 3	14*
6. SAFEGUARDS EQUIPMENT CONTROL SYSTEM (SEC)	3	2	3	1, 2, 3, 4	13
7. UNDERVOLTAGE, VITAL BUS					
a. Loss of Voltage	3	2	3	1, 2, 3	14*
b. Sustained Degraded Voltage	3	2	3	1, 2, 3	14*

add {

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
5. TURBINE TRIP AND FEEDWATER ISOLATION		
a. Steam Generator Water Level--High-High	< 67% of narrow range instrument span each steam generator	< 68% of narrow range instrument span each steam generator
6. SAFEGUARDS EQUIPMENT CONTROL SYSTEM (SEC)	Not Applicable	Not Applicable
7. UNDERVOLTAGE, VITAL BUS		
a. Loss of Voltage	≥ 70% of bus voltage	≥ 65% of bus voltage
b. Sustained Degraded Voltage	≥91% of bus voltage for ≤13 seconds	≥9[illegible]% of bus voltage for ≤15 seconds
8. AUXILIARY FEEDWATER		
a. Steam Generator Water Level-low-low	> 17% of narrow range instrument span each steam generator	> 16% of narrow range instrument span each steam generator
b. Undervoltage - RCP	≥ 70% RCP bus voltage	≥ 65% RCP bus voltage

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
4. STEAM LINE ISOLATION				
a. Manual	N.A.	N.A.	R	1, 2, 3
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3
c. Containment Pressure--High-High	S	R	M(3)	1, 2, 3
d. Steam Flow in Two Steam Lines--High Coincident with T_{avg} -- Low or Steam Line Pressure--Low	S	R	M	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION				
a. Steam Generator Water Level--High-High	S	R	M	1, 2, 3
6. SAFEGUARDS EQUIPMENT CONTROL SYSTEM (SEC) LOGIC				
a. Inputs	N.A.	N.A.	M	1, 2, 3, 4
b. Logic, Timing and Outputs	N.A.	N.A.	M(1)	1, 2, 3, 4
7. UNDERVOLTAGE, VITAL BUS	~~S~~	~~R~~	~~M~~	~~1, 2, 3~~ delete
add { a. Loss of Voltage	S	R	M	1, 2, 3
add { b. Sustained Degraded Voltage	S	R	M	1, 2, 3