

IndLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

SUSQUEHANNA - UNIT 1

3/4 3-29

Amendment No. 44

<u>TRIP FUNCTION</u>		<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>	
4. <u>AUTOMATIC DEPRESSURIZATION SYSTEM</u>					
a. Reactor Vessel Water Level - Low Low Low, Level 1		2(f)	1, 2, 3	30	
b. Drywell Pressure - High		2(f)	1, 2, 3	30	
c. ADS Timer		1(f)	1, 2, 3	31	
d. Core Spray Pump Discharge Pressure - High (Permissive)		2(d)(f)	1, 2, 3	31	
e. RHR LPCI Mode Pump Discharge Pressure - High (Permissive)		2(d)(e)(f)	1, 2, 3	31	
f. Reactor Vessel Water Level - Low, Level 3 (Permissive)		1(f)	1, 2, 3	31	
g. ADS Drywell Pressure Bypass Timer		2(f)	1, 2, 3	31	
h. Manual Inhibit		1	1, 2, 3	33	
i. Manual Initiation		1/valve	1, 2, 3	33	
	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>
5. <u>LOSS OF POWER</u>					
a. 4.16 kv ESS Bus Under-voltage (Loss of Voltage, <20%)	1/bus	1/bus	1/bus	1, 2, 3, 4**, 5**	35
b. 4.16 kv ESS Bus Under-voltage (Degraded Voltage, <65%)	2/bus	2/bus	2/bus (g)	1, 2, 3, 4**, 5**	36
c. 4.16 kv ESS Bus Under-voltage (Degraded Voltage <84%)	2/bus	2/bus	2/bus (g)	1, 2, 3, 4**, 5**	36

See footnotes on next page.

8704130254 870406
PDR ADCK 05000387
P PDR

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

- (a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.
- (b) One trip system. Provides signal to HPCI pump suction valves only.
- (c) Two out of two logic.
- (d) Either 4d or 4e must be satisfied. The ACTION is required to be taken only if neither is satisfied. A channel is not OPERABLE unless its associated pump is OPERABLE per Specification 3.5.1.
- (e) Within an ADS Trip System there are two logic subsystems, each of which contains an overall pump permissive. At least one channel associated with each of these overall pump permissives shall be OPERABLE.
- (f) A channel may be placed in an inoperable status for up to 2 hours for required surveillance testing provided that all channels in the other trip system are OPERABLE.
 - * When the system is required to be OPERABLE per Specification 3.5.2.
 - # Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.
 - ** Required when ESF equipment is required to be OPERABLE.
 - ## Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.

~~(g) All channels of Degraded Voltage Protection (both <65% and <84%) for a single bus may be placed in an inoperable status for up to 2 hours for required surveillance testing provided that Loss of Voltage Protection (<20%) is OPERABLE (Table 3.3.3-1, Item 5.a).~~

SUSQUEHANNA - UNIT 1

3/4 3-29a

Amendment No. 44

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

ACTION STATEMENTS

- ACTION 30 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement:
- a. For one trip system, place the inoperable trip system in the tripped condition within 1 hour* or declare the associated ECCS inoperable.
 - b. For both trip systems, declare the associated ECCS inoperable.
- ACTION 31 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, declare the associated ECCS inoperable.
- ACTION 32 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within 1 hour:
- ACTION 33 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, restore the inoperable channel to OPERABLE status within 8 hours or declare the associated ECCS inoperable.
- ACTION 34 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place at least one inoperable channel in the tripped condition within 1 hour* or declare the HPCI system inoperable.
- ACTION 35 - With the number of OPERABLE channels less than the Total Number of Channels, declare the associated emergency diesel generator inoperable and take the ACTION required by Specification 3.8.1.1 or 3.8.1.2, as appropriate.
- ACTION 36 - a) With the number of OPERABLE channels one less than the Total Number of Channels, place the inoperable channel in the tripped condition within 1 hour;* operation may then continue until performance of the next required CHANNEL FUNCTIONAL TEST.
- b) With both channels inoperable, declare the associated 4.16 kv ESS bus inoperable, and take the ACTION required by Specification 3.8.3.1 or 3.8.3.2 as appropriate.

*The provisions of Specification 3.0.4 are not applicable.

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>		
4. AUTOMATIC DEPRESSURIZATION SYSTEM^{##}					
a. Reactor Vessel Water Level - Low Low Low, Level 1	2(f)	1, 2, 3	30		
b. Drywell Pressure - High	2(f)	1, 2, 3	30		
c. ADS Timer	1(f)	1, 2, 3	31		
d. Core Spray Pump Discharge Pressure - High (Permissive).	2(d)(f)	1, 2, 3	31		
e. RHR LPCI Mode Pump Discharge Pressure - High (Permissive)	2(d)(e)(f)	1, 2, 3	31		
f. Reactor Vessel Water Level - Low, Level 3 (Permissive)	1(f)	1, 2, 3	31		
g. ADS Drywell Pressure Bypass Timer	2(f)	1, 2, 3	31		
h. Manual Inhibit	1	1, 2, 3	33		
i. Manual Initiation	1/valve	1, 2, 3	33		
	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>
5. LOSS OF POWER					
a. 4.16 kv ESS Bus Under-voltage (Loss of Voltage, <20%)	1/bus	1/bus	1/bus	1, 2, 3, 4**, 5**	35
b. 4.16 kv ESS Bus Under-voltage (Degraded Voltage, <65%)	2/bus	2/bus	2/bus (f)	1, 2, 3, 4**, 5**	36
c. 4.16 kv ESS Bus Under-voltage (Degraded Voltage <84%)	2/bus	2/bus	2/bus (f)	1, 2, 3, 4**, 5**	36

See footnotes on next page.

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

- (a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.
- (b) One trip system. Provides signal to HPCI pump suction valves only.
- (c) Two out of two logic.
- (d) Either 4d or 4e must be satisfied. The ACTION is required to be taken only if neither is satisfied. A channel is not OPERABLE unless its associated pump is OPERABLE per Specification 3.5.1.
- (e) Within an ADS Trip System there are two logic subsystems, each of which contains an overall pump permissive. At least one channel associated with each of these overall pump permissives shall be OPERABLE.
- (f) A channel may be placed in an inoperable status for up to 2 hours for required surveillance testing provided that all channels in the other trip system are OPERABLE.
 - * When the system is required to be OPERABLE per Specification 3.5.2.
 - # Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.
 - ** Required when ESF equipment is required to be OPERABLE.
 - ## Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.

~~(g) All channels of Degraded Voltage Protection (both 265% and 284%) for a single bus may be placed in an operable status for up to 2 hours for required surveillance testing provided that Loss of Voltage Protection (220%) is OPERABLE (Table 3.3.3-1, Item 5.a).~~

SUSQUEHANNA - UNIT 2

3/4 3-29a

Amendment No. 11

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

ACTION STATEMENTS

- ACTION 30 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement:
- For one trip system, place the inoperable trip system in the tripped condition within 1 hour* or declare the associated ECCS inoperable.
 - For both trip systems, declare the associated ECCS inoperable.
- ACTION 31 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, declare the associated ECCS inoperable.
- ACTION 32 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within 1 hour.
- ACTION 33 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channel to OPERABLE status within 8 hours or declare the associated ECCS inoperable.
- ACTION 34 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place at least one inoperable channel in the tripped condition within 1 hour* or declare the HPCI system inoperable.
- ACTION 35 - With the number of OPERABLE channels less than the Total Number of Channels, declare the associated emergency diesel generator inoperable and take the ACTION required by Specification 3.8.1.1 or 3.8.1.2, as appropriate.
- ACTION 36 - a) With the number of OPERABLE channels one less than the Total Number of Channels, place the inoperable channel in the tripped condition within 1 hour;* operation may then continue until performance of the next required CHANNEL FUNCTIONAL TEST.
b) With both channels inoperable, declare the associated 4.16kv ESS bus inoperable, and take the ACTION required by Specification 3.8.3.1 or 3.8.3.2 as appropriate.

*The provisions of Specification 3.0.4 are not applicable.



4
3
2
1

