

TABLE 3.3-5

SAFETY FEATURES SYSTEM RESPONSE TIMESINITIATING SIGNAL AND FUNCTIONRESPONSE TIME IN SECONDS

1. Manual		
a. Fans		
1. Emergency Vent Fan	NA	
2. Containment Cooler Fan	NA	
b. HV & AC Isolation Valves		
1. ECCS Room	NA	
2. Emergency Ventilation	NA	
3. <del>Containment Air Sample</del>	<del>NA</del>	DELETE
4. Containment Purge	NA	
5. Penetration Room Purge	NA	
c. Control Room HV & AC Units	NA	
d. High Pressure Injection		
1. High Pressure Injection Pumps	NA	
2. High Pressure Injection Valves	NA	
e. Component Cooling Water		
1. Component Cooling Water Pumps	NA	
2. Component Cooling Aux. Equip. Inlet Valves	NA	
3. Component Cooling to Air Compressor Valves	NA	
f. Service Water System		
1. Service Water Pumps	NA	
2. Service Water From Component Cooling Heat Exchanger Isolation Valves	NA	
g. Containment Spray Isolation Valves	NA	
h. Emergency Diesel Generator	NA	
i. Containment Isolation Valves		
1. Vacuum Relief	NA	
2. Normal Sump	NA	
3. RCS Letdown Delay Coil Outlet	NA	
4. RCS Letdown High Temperature	NA	

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TABLE 3.3-5 (Continued)

SAFETY FEATURES SYSTEM RESPONSE TIMES

<u>INITIATING SIGNAL AND FUNCTION</u>	<u>RESPONSE TIME IN SECONDS</u>
n. Steam and Feedwater Isolation Valves (continued)	
2. Main Feedwater Stop	NA
3. Main Steam Warmup	NA
2. Containment Pressure - High	
a. Fans	
1. Emergency Vent Fans	< 25*
2. Containment Cooler Fans	< 45*
b. HV & AC Isolation Valves	
1. ECCS Room	< 75*
2. Emergency Ventilation	< 75*
<del>3. Containment Air Sample</del>	<del>&lt; 30*</del>
4. Containment Purge	< 15*
5. Penetration Room Purge	< 75*
c. Control Room HV & AC Units	< 10*
d. High Pressure Injection	
1. High Pressure Injection Pumps	< 30*
2. High Pressure Injection Valves	< 30*
e. Component Cooling Water	
1. Component Cooling Water Pumps	< 180*
2. Component Cooling Aux. Equip. Inlet Valves	< 180*
3. Component Cooling to Air Compressor Valves	< 180*
f. Service Water System	
1. Service Water Pumps	< 45*
2. Service Water From Component Cooling Heat Exchanger Isolation Valves	< NA*
g. Containment Spray Isolation Valves	< 80*
h. Emergency Diesel Generator	< 15*

DELETE

TABLE 3.3-5 (Continued)

## SAFETY FEATURES SYSTEM RESPONSE TIMES

INITIATING SIGNAL AND FUNCTION	RESPONSE TIME IN SECONDS
b. Component Cooling Isolation Valves (Continued)	
3. Inlet to CRDM's	< 35*
4. CRDM Booster Pump Suction	< 35*
5. Component Cooling from Decay Heat Cooler	< NA*
c. Steam and Feedwater Isolation Valves	
1. Main Steam Line	< 10*
2. Main Feedwater Stop	< 30*
3. Main Steam Warmup	< 15*
4. RCS Pressure-Low	
a. Fans	
1. Emergency Vent Fans	< 25*
2. Containment Cooler Fans	< 45*
b. HV & AC Isolation Valves	
1. ECCS Room	< 75*
2. Emergency Ventilation	< 75*
<del>3. Containment Air Sample</del>	<del>&lt; 30*</del>
4. Containment Purge	< 15*
5. Penetration Room Purge	< 75*
c. Control Room HV & AC Units	< 10*
d. High Pressure Injection	
1. High Pressure Injection Pumps	< 30*
2. High Pressure Injection Valves	< 30*
e. Component Cooling Water	
1. Component Cooling Water Pumps	< 180*
2. Component Cooling Aux. Equipment Inlet Valves	< 180*
3. Component Cooling to Air Compressor Valves	< 180*
f. Service Water System	
1. Service Water Pumps	< 45*
2. Service Water from Component Cooling Heat Exchanger Isolation Valves	< NA*
g. Containment Spray Isolation Valves	< 80*
h. Emergency Diesel Generator	< 15*

DELETE

TABLE 3.3-5 (Continued)

SAFETY FEATURES SYSTEM RESPONSE TIMES

<u>INITIATING SIGNAL AND FUNCTION</u>	<u>RESPONSE TIME IN SECONDS</u>
6. Containment Radiation - High	
a. Emergency Vent Fans	≤ 25*
b. HV & AC Isolation Valves	
1. ECCS Room	≤ 75*
2. Emergency Ventilation	≤ 75*
<del>3. Containment Air Sample</del>	<del>≤ 30*</del>
4. Containment Purge	≤ 15*
5. Penetration Room Purge	≤ 75*
c. Control Room HV & AC Units	≤ 10*

DELETE

TABLE NOTATION

- \* Diesel generator starting and sequence loading delays included when applicable. Response time limit includes movement of valves and attainment of pump or blower discharge pressure.

TABLE 3.6-2

## CONTAINMENT ISOLATION VALVES (Continued)

<u>PENETRATION</u> <u>NUMBER</u>	<u>VALVE</u> <u>NUMBER</u>	<u>FUNCTION</u>	<u>ISOLATION</u> <u>TIME</u> (seconds)
41	RC232	Pressurizer Quench Tank Circulating Inlet Line	10
42A	SA2010	Service Air Supply Line	10
<del>42B</del>	<del>CV5010E</del>	<del>Containment Vessel Air Sample Return</del>	<del>15</del> <i>DELETE</i>
43A	IA2011	Instrument Air Supply Line	10
<del>43B</del>	<del>CV5011E</del>	<del>Containment Vessel Air Sample Return</del>	<del>15</del> <i>DELETE</i>
44A	CF1541	Core Flood Tank Fill and N2 Supply Line	10
44B	NN236	Pressurizer Quench Tank N2 Supply Line	10
47A	CV1545	Core Flood Tank Sample Line	10
47B	CV1542	Core Flood Tank Vent Line	10
48	RC229A	Pressurizer Quench Tank Circulating Outlet Line	10
48	RC229B	Pressurizer Quench Tank Circulating Outlet Line	10
50 #	HP2C	High Pressure Injection Line	15
51	CV5037	Hydrogen Purge System Exhaust Line	60
51	CV5038	Hydrogen Purge System Exhaust Line	60
52	MU66A	Reactor Coolant Pump Seal Supply	12
53	MU66B	Reactor Coolant Pump Seal Supply	12
54	MU66C	Reactor Coolant Pump Seal Supply	12
55	MU66D	Reactor Coolant Pump Seal Supply	12
56	MU38	Reactor Coolant Pump Seal Return	12
56	MU59A	Reactor Coolant Pump Seal Return	30
56	MU59B	Reactor Coolant Pump Seal Return	30
56	MU59C	Reactor Coolant Pump Seal Return	30
56	MU59D	Reactor Coolant Pump Seal Return	30

TABLE 3.6-2

## CONTAINMENT ISOLATION VALVES (Continued)

<u>PENETRATION VALVE NUMBER</u>	<u>NUMBER</u>	<u>FUNCTION</u>	<u>ISOLATION TIME (seconds)</u>
67	CV5090	Hydrogen Dilution System Supply	60
68A	SS235A	Pressurizer Quench Tank Sample	30
68A	SS235B	Pressurizer Quench Tank Sample	30
<del>68B</del>	<del>CV5010B</del>	<del>Containment Air Sample</del>	<del>15</del>
<del>68B</del>	<del>CV5011B</del>	<del>Containment Air Sample</del>	<del>15</del>
69	CV5065	Hydrogen Dilution System Supply	60
<del>71B</del>	<del>CV5010A</del>	<del>Containment Air Sample</del>	<del>15</del>
<del>71B</del>	<del>CV5011A</del>	<del>Containment Air Sample</del>	<del>15</del>
71C	CV1544	Core Flood Tank N2 Fill	10
<del>73B</del>	<del>CV5010C</del>	<del>Containment Air Sample</del>	<del>15</del>
<del>73B</del>	<del>CV5011C</del>	<del>Containment Air Sample</del>	<del>15</del>
<del>74B</del>	<del>CV5011D</del>	<del>Containment Air Sample</del>	<del>15</del>
<del>74B</del>	<del>CV5011D</del>	<del>Containment Air Sample</del>	<del>15</del>

## B. CONTAINMENT PURGE AND EXHAUST ISOLATION

33 ##	CV5005	Containment Vessel Purge Inlet Line	10
33 ##	CV5006	Containment Vessel Purge Inlet Line	10
34 ##	CV5007	Containment Vessel Purge Outlet Line	10
34 ##	CV5008	Containment Vessel Purge Outlet Line	10

## C. OTHER

5 #	SW1366	Containment Air Cooling Units SW Inlet Line	N/A
6 #	SW1368	Containment Air Cooling Units SW Inlet Line	N/A
7 #	SW1367	Containment Air Cooling Units SW Inlet Line	N/A
9 #	SW1356	Containment Air Cooling Units SW Outlet Line	N/A

ADDITIONAL CHANGES PREVIOUSLY  
PROPOSED BY LETTER  
Serial No. 979 Date 8/18/83

ADD TO

TABLE 3.6-2

CONTAINMENT ISOLATION VALVES (Continued)

<u>PENETRATION NUMBER</u>	<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>ISOLATION TIME (seconds)</u>
C. OTHER			
42B	CV5010E	Containment Vessel Air Sample Return	N/A
43B	CV5011E	Containment Vessel Air Sample Return	N/A
68B	CV5010B	Containment Air Sample	N/A
68B	CV5011B	Containment Air Sample	N/A
71B	CV5010A	Containment Air Sample	N/A
71B	CV5011A	Containment Air Sample	N/A
73B	CV5010C	Containment Air Sample	N/A
73B	CV5011C	Containment Air Sample	N/A
74B	CV5010D	Containment Air Sample	N/A
74B	CV5011D	Containment Air Sample	N/A

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