Attachment 3

Mark-up of Affected Technical Specification Pages

PCOL-91/17

CORE ALTERATION

1.7 CORE ALTERATION shall be the addition, removal, relocation or movement of fuel, sources, incore instruments or reactivity controls within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Normal movement of the SRMs, IRMs, LPRMs, TIPs, or special movable detectors is not considered to be CORE ALTERATION. Suspension of CORE ALTERATIONS shall not preclude completion of the movement of a component to a safe conservative position.

CRITICAL POWER RATIO

1.8 The CRITICAL POWER RATIO (CPR) shall be the ratio of that power in the assembly which is calculated by application of the ANFB correlation to cause some point in the assembly to experience boiling transition, divided by the actual assembly operating power.

DOSE EQUIVALENT I-131

1.9 DOSE EQUIVALENT I-131 shall be that concentration of I-131, microcuries per gram, which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

DRYWELL INTEGRITY

1.10 DRYWELL INTEGRITY shall exist when:

a. All drywell penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an OPERABLE drywell automatic isolation system, or

2. Closed by at least one manual valve, blind flange, or deactivated automatic valve secured in its closed position, except ~~as provided in Table 3.6.4-1 of~~ Specification 3.6.4.

Insert

b. The drywell equipment hatch is closed and sealed.

c. The drywell airlock is in compliance with the requirements of Specification 3.6.2.3.

d. The drywell leakage rates are within the limits of Specification 3.6.2.2.

e. The suppression pool is in compliance with the requirements of Specification 3.6.3.1.

f. The sealing mechanism associated with each drywell penetration; e.g., welds, bellows or O-rings, is OPERABLE.

INSERT

for valves that are opened under administrative control as permitted by

Insert for TS page 1-2

PRIMARY CONTAINMENT INTEGRITY

1.31 PRIMARY CONTAINMENT INTEGRITY shall exist when:

a. All containment penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an OPERABLE containment automatic isolation system, or

2. Closed by at least one manual valve, blind flange, or deactivated automatic valve secured in its closed position, except ~~as provided in Table 3.6.4-1 of~~ Specification 3.6.4.

b. The containment equipment hatch is closed and sealed.

c. Each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

d. The containment leakage rates are within the limits of Specification 3.6.1.2.

e. The suppression pool is in compliance with the requirements of Specification 3.6.3.1.

f. The sealing mechanism associated with each primary containment penetration; e.g., welds, bellows or O-rings, is OPERABLE.

PROCESS CONTROL PROGRAM (PCP)

1.32 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, test, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61, and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

PURGE - PURGING

1.33 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

RATED THERMAL POWER

1.34 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3833 MWT.

INSERT 1

for valves that are opened under administrative control as permitted by

Insert for TS page 1-6

REACTOR PROTECTION SYSTEM RESPONSE TIME

1.35 REACTOR PROTECTION SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

REPORTABLE EVENT

1.36 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

ROD DENSITY

1.37 ROD DENSITY shall be the number of control rod notches inserted as a fraction of the total number of control rod notches. All rods fully inserted is equivalent to 100% ROD DENSITY.

SECONDARY CONTAINMENT INTEGRITY

1.38 SECONDARY CONTAINMENT INTEGRITY shall exist when:

a. All Auxiliary Building and Enclosure Building penetrations required to be closed during accident conditions are either:

   1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or

   2. Closed by at least one manual valve, blind flange, rupture disc or deactivated automatic valve or damper, as applicable, secured in its closed position, ~~except as provided in Table 3.6.6.2-1 of Specification 3.6.6.2.~~

b. All Auxiliary Building and Enclosure Building equipment hatches and blowout panels are closed and sealed.

c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.6.3.

d. The door in each access to the Auxiliary Building and Enclosure Building is closed, except for normal entry and exit.

e. The sealing mechanism associated with each Auxiliary Building and Enclosure Building penetration, e.g., welds, bellows or O-rings, is OPERABLE.

TABLE 3.3.2-1

ISOLATION ACTUATION INSTRUMENTATION

| TRIP FUNCTION | VALVE GROUPS OPERATED BY SIGNAL (a) | MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (g) (a) | APPLICABLE OPERATIONAL CONDITION | ACTION |
|---|---|---|---|---|
| 1. PRIMARY CONTAINMENT ISOLATION | | | | |
| a. Reactor Vessel Water Level-Low Low, Level 2 | 6A, 7, 8, 10(c)(d) | 2 | 1, 2, 3 and # | 20 |
| b. Reactor Vessel Water Level-Low Low Level 2 (ECCS - Division 3) | 6B | 4 | 1, 2, 3 and # | 29 |
| c. Reactor Vessel Water Level-Low Low Low, Level 1 (ECCS - Division 1 and Division 2) | 5(n)(d) | 2 | 1, 2, 3 and # | 29 |
| d. Drywell Pressure - High*** | 6A, 7(e)(d) | 2 | 1, 2, 3 | 20 |
| e. Drywell Pressure High (ECCS - Division 1 and Division 2) | 5(n)(o) | 2 | 1, 2, 3 | 29 |
| f. Drywell Pressure-High (ECCS - Division 3) | 6B | 4 | 1, 2, 3 | 29 |
| g. Containment and Drywell Ventilation Exhaust Radiation - High High | 7 | 2(g) (b) | 1, 2, 3 and * | 21 |
| h. Manual Initiation | 6A, 7, 8, 10(c)(d) | 2 | 1, 2, 3 and *# | 22 |
| 2. MAIN STEAM LINE ISOLATION | | | | |
| a. Reactor Vessel Water Level-Low Low Low, Level 1 | 1 | 2 | 1, 2, 3 | 20 |
| b. Main Steam Line Radiation - High*** | 1, 10(f) | 2 | 1, 2, 3 | 23 |
| c. Main Steam Line Pressure - Low | 1 | 2 | 1 | 24 |
| d. Main Steam Line Flow - High | 1 | 8 | 1, 2, 3 | 23 |
| e. Condenser Vacuum - Low | 1 | 2 | 1, 2,** 3** | 23 |

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

| TRIP FUNCTION | VALVE GROUPS OPERATED BY SIGNAL (a) | MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b) (a) | APPLICABLE OPERATIONAL CONDITION | ACTION |
|---|---|---|---|---|
| 2. MAIN STEAM LINE ISOLATION (Continued) | | | | |
| f. Main Steam Line Tunnel Temperature - High | 1 | 2 | 1, 2, 3 | 23 |
| g. Main Steam Line Tunnel Δ Temp.- High | 1 | 2 | 1, 2, 3 | 23 |
| h. Manual Initiation | 1, 16 | 2 | 1, 2, 3 | 22 |
| 3. SECONDARY CONTAINMENT ISOLATION | | | | |
| a. Reactor Vessel Water Level-Low Low, Level 2 | N.A. (c)(d)(h) | 2 | 1, 2, 3, and # | 25 |
| b. Drywell Pressure - High*** | N.A. (c)(d)(h) | 2 | 1, 2, 3 | 25 |
| c. Fuel Handling Area Ventilation Exhaust Radiation - High High | N.A. (j) | 2 | 1, 2, 3, and * | 25 |
| d. Fuel Handling Area Pool Sweep Exhaust Radiation - High High | N.A. (j) | 2 | 1, 2, 3, and * | 25 |
| e. Manual Initiation | N.A. (c)(d)(h) | 2 | 1, 2, 3 | 26 |
| | N.A. (c)(d)(h) | 2 | * | 25 |
| 4. REACTOR WATER CLEANUP SYSTEM ISOLATION | | | | |
| a. Δ Flow - High | 8 | 1 | 1, 2, 3 | 27 |
| b. Δ Flow Timer | 8 | 1 | 1, 2, 3 | 27 |
| c. Equipment Area Temperature - High | 8 | 1/room | 1, 2, 3 | 27 |
| d. Equipment Area Δ Temp. - High | 8 | 1/room | 1, 2, 3 | 27 |
| e. Reactor Vessel Water Level - Low Low, Level 2 | 8 | 2 | 1, 2, 3 | 27 |

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

| TRIP FUNCTION | VALVE GROUPS OPERATED BY SIGNAL (a) | MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b) (a) | APPLICABLE OPERATIONAL CONDITION | ACTION |
|---|---|---|---|---|
| 4. REACTOR WATER CLEANUP SYSTEM ISOLATION (Continued) | | | | |
| f. Main Steam Line Tunnel Ambient Temperature - High | 8 | 1 | 1, 2, 3 | 27 |
| g. Main Steam Line Tunnel Δ Temp. - High | 8 | 1 | 1, 2, 3 | 27 |
| h. SLCS Initiation | 8 (i) | 1 | 1, 2, 5## | 30 |
| i. Manual Initiation | 8 | 2 | 1, 2, 3 | 26 |
| 5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION | | | | |
| a. RCIC Steam Line Flow - High | | | | |
| 1. Pressure | 4 | 1 | 1, 2, 3 | 27 |
| 2. Time Delay | 4 | 1 | 1, 2, 3 | 27 |
| b. RCIC Steam Supply Pressure - Low | 4, 9 (j) | 1 | 1, 2, 3 | 27 |
| c. RCIC Turbine Exhaust Diaphragm Pressure - High | 4 | 2 | 1, 2, 3 | 27 |
| d. RCIC Equipment Room Ambient Temperature - High | 4 | 1 | 1, 2, 3 | 27 |
| e. RCIC Equipment Room Δ Temp. - High | 4 | 1 | 1, 2, 3 | 27 |
| f. Main Steam Line Tunnel Ambient Temperature - High | 4 | 1 | 1, 2, 3 | 27 |
| g. Main Steam Line Tunnel Δ Temp. - High | 4 | 1 | 1, 2, 3 | 27 |
| h. Main Steam Line Tunnel Temperature Timer | 4 | 1 | 1, 2, 3 | 27 |

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

| TRIP FUNCTION | VALVE GROUPS OPERATED BY SIGNAL (a) | MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b) | APPLICABLE OPERATIONAL CONDITION | ACTION |
|---|---|---|---|---|
| 5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION | | (a) | | |
| i. RHR Equipment Room Ambient Temperature - High | 4 | 1/room | 1, 2, 3 | 27 |
| j. RHR Equipment Room Δ Temp. - High | 4 | 1/room | 1, 2, 3 | 27 |
| k. RHR/RCIC Steam Line Flow - High | 4 | 1 | 1, 2, 3 | 27 |
| l. Manual Initiation | 4(k) | 1 | 1, 2, 3 | 26 |
| m. Drywell Pressure-High (ECCS-Division 1 and Division 2) | 9(m) | 1 | 1, 2, 3 | 27 |
| 6. RHR SYSTEM ISOLATION | | | | |
| a. RHR Equipment Room Ambient Temperature - High | 3 | 1/room | 1, 2, 3 | 28 |
| b. RHR Equipment Room Δ Temp. - High | 3 | 1/room | 1, 2, 3 | 28 |
| c. Reactor Vessel Water Level - Low, Level 3*** | 3 | 2 (c) | 1, 2, 3 | 28 |
| | 3(p) | 2(p) (c) | 4, 5 | 31 |
| d. Reactor Vessel (RHR Cut-in Permissive) Pressure - High*** | 3(l) | 2 | 1, 2, 3 | 28 |
| e. Drywell Pressure - High*** | 3(l) | 2 | 1, 2, 3 | 28 |
| f. Manual Initiation | 3 | 2 | 1, 2, 3 | 26 |

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

ACTION

ACTION 20 - Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

ACTION 21 - Close the affected system isolation valve(s) within one hour or:
a. In OPERATIONAL CONDITION 1, 2, or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
b. In OPERATIONAL CONDITION *, suspend CORE ALTERATIONS, handling of irradiated fuel in the primary containment and operations with a potential for draining the reactor vessel.

ACTION 22 - Restore the manual initiation function to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION 23 - Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

ACTION 24 - Be in at least STARTUP within 6 hours.

ACTION 25 - Establish SECONDARY CONTAINMENT INTEGRITY with the standby gas treatment system operating within one hour.

ACTION 26 - Restore the manual initiation function to OPERABLE status within 8 hours or close the affected system isolation valves within the next hour and declare the affected system inoperable.

ACTION 27 - Close the affected system isolation valves within one hour and declare the affected system inoperable.

ACTION 28 - Within one hour lock the affected system isolation valves closed, or verify, by remote indication, that the valve is closed and electrically disarmed, or isolate the penetration(s) and declare the affected system inoperable.

ACTION 29 - Close the affected system isolation valves within one hour and declare the affected system or component inoperable or:
a. In OPERATIONAL CONDITION 1, 2 or 3 be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
b. In OPERATIONAL CONDITION # suspend CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

ACTION 30 - Declare the affected SLCS pump inoperable.

ACTION 31 - Isolate the shutdown cooling common suction line within one hour if it is not needed for shutdown cooling or initiate action within one hour to establish SECONDARY CONTAINMENT INTEGRITY.

NOTES

* When handling irradiated fuel in the primary or secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

** The low condenser vacuum MSIV closure may be manually bypassed during reactor SHUTDOWN or for reactor STARTUP when condenser vacuum is below the trip setpoint to allow opening of the MCIVs. The manual bypass shall be removed when condenser vacuum exceeds the trip setpoint.

*** Trip function commom to RPS Instrumentation.

\# During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

\#\# With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

~~(a) See Specification 3.6.4, Table 3.6.4-1 for valves in each valve group.~~ R

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

NOTES (Continued)

(a) (k) A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

~~(c) Also actuates the standby gas treatment system~~

~~(d) Also actuates the control room emergency filtration system in the isolation mode of operation.~~

(b) (k) Two upscale-Hi Hi, one upscale-Hi Hi and one downscale, or two downscale signals from the same trip system actuate the trip system and initiate isolation of the associated containment and drywell isolation valves.

(f) Also trips and isolates the mechanical vacuum pumps.
(g) Deleted.
(h) Also actuates secondary containment ventilation isolation dampers and valves per Table 3.6.6.2-1.
(i) Closes only RWCU system isolation valves G33-F001, G33-F004, and G33-F251.
(j) Actuates the Standby Gas Treatment System and isolates Auxiliary Building penetration of the ventilation systems within the Auxiliary Building.
(k) Closes only RCIC outboard valves. A concurrent RCIC initiation signal is required for isolation to occur.
(l) Valves E12-F037A and E12-F037B are closed by high drywell pressure. All other Group 3 valves are closed by high reactor pressure.
(m) Valve Group 9 requires concurrent drywell high pressure and RCIC Steam Supply Pressure-Low signals to isolate.
(n) Valves E12-F042A and E12-F042B are closed by Containment Spray System initiation signals.
(o) Also isolates valves E61-F009, E61-F010, E61-F056, and E61-F057 from Valve Group 7.

(c) (k) Only required to isolate RHR system isolation valves E12-F008 and E12-F009. One trip system and/or isolation valve may be inoperable for up to 14 days without placing the trip system in the tripped condition provided the diesel generator associated with the OPERABLE isolation valve is OPERABLE.

INSTRUMENTATION

TABLE 3.3.2-3 (Continued)

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

| TRIP FUNCTION | RESPONSE TIME (Seconds)# |
|---|---|
| 5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION | |
| a. RCIC Steam Line Flow - High | $\leq 10^{(a)}$### |
| b. RCIC Steam Supply Pressure - Low | $\leq 10^{(a)}$ |
| c. RCIC Turbine Exhaust Diaphragm Pressure - High | NA |
| d. RCIC Equipment Room Ambient Temperature - High | NA |
| e. RCIC Equipment Room Δ Temp. - High | NA |
| f. Main Steam Line Tunnel Ambient Temp. - High | NA |
| g. Main Steam Line Tunnel Δ Temp. - High | NA |
| h. Main Steam Line Tunnel Temperature Timer | NA |
| i. RHR Equipment Room Ambient Temperature - High | NA |
| j. RHR Equipment Room Δ Temp. - High | NA |
| k. RHR/RCIC Steam Line Flow - High | NA |
| l. Manual Initiation | NA |
| m. Drywell Pressure - Hi (ECCS Division 1 and Division 2) | $\leq 10^{(a)}$ |
| 6. RHR SYSTEM ISOLATION | |
| a. RHR Equipment Room Ambient Temperature - High | NA |
| b. RHR Equipment Room Δ Temp. - High | NA |
| c. Reactor Vessel Water Level - Low, Level 3 | $\leq 10^{(a)}$ |
| d. Reactor Vessel (RHR Cut-in Permissive) Pressure - High | NA |
| e. Drywell Pressure - High | NA |
| f. Manual Initiation | NA |

(a) The isolation system instrumentation response time shall be measured and recorded as a part of the ISOLATION SYSTEM RESPONSE TIME. Isolation system instrumentation response time specified includes the delay for diesel generator starting assumed in the accident analysis.

(b) Radiation detectors are exempt from response time testing. Response time shall be measured from detector output or the input of the first electronic component in the channel.

*Isolation system instrumentation response time for MSIVs only. No diesel generator delays assumed.

**Isolation system instrumentation response time for associated valves except MSIVs.

***Isolation system instrumentation response time for air operated dampers. No diesel generator delays assumed.

#Isolation system instrumentation response time specified for the Trip Function actuating each valve ~~group~~ shall be added to the valve's required isolation time ~~shown in Tables 3.6.4-1 and 3.6.6.2-1 for valves in each valve group~~ to obtain the valve's ISOLATION SYSTEM RESPONSE TIME ~~for each valve~~.

###Includes time delay of 3 to 7 seconds.

## 3/4.6 CONTAINMENT SYSTEMS

## 3/4.6.1 PRIMARY CONTAINMENT

### PRIMARY CONTAINMENT INTEGRITY

### LIMITING CONDITION FOR OPERATION

3.6.1.1 PRIMARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

Without PRIMARY CONTAINMENT INTEGRITY, restore PRIMARY CONTAINMENT INTEGRITY within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

### SURVEILLANCE REQUIREMENTS

4.6.1.1 PRIMARY CONTAINMENT INTEGRITY shall be demonstrated:

a. After each closing of each penetration subject to Type B testing, except the containment air locks, if opened following Type A or B test, by leak rate testing the seals with gas at $P_a$, 11.5 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Surveillance Requirement 4.6.1.2.d for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 La.

b. At least once per 31 days by verifying that all containment penetrations** not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in position, except ~~as provided in Table 3.6.4-1 of~~ Specification 3.6.4. (Insert)

c. By verifying each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

d. By verifying the suppression pool is in compliance with the requirements of Specification 3.6.3.1.

*See Special Test Exception 3.10.1

**Except valves, blind flanges, and deactivated automatic valves which are located inside the containment, steam tunnel or drywell and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except such verification need not be performed more often than once per 92 days.

INSERT

for valves that are opened under administrative control as permitted by

Insert for TS page 3/4 6-1

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

a. An overall integrated leakage rate of less than or equal to $L_a$, 0.437 percent by weight of the containment air per 24 hours at $P_a$, 11.5 psig.

b. A combined leakage rate of less than or equal to 0.60 $L_a$ for all penetrations and all valves# subject to Type B and C tests when pressurized to $P_a$, 11.5 psig.

c. Less than or equal to 100 scf per hour for all four main steam lines through the isolation valves when tested at $P_a$, 11.5 psig.

d. A combined leakage rate of less than or equal to 1 gpm times the total number of containment isolation valves in hydrostatically tested lines which penetrate the primary containment, when tested at 1.10 $P_a$, 12.65 psig.

APPLICABILITY: When PRIMARY CONTAINMENT INTEGRITY is required per Specification 3.6.1.1.

ACTION:

With:

a. The measured overall integrated containment leakage rate exceeding 0.75 $L_a$, or

b. The measured combined leakage rate for all penetrations and all valves# subject to Type B and C tests exceeding 0.60 $L_a$, or

c. The measured leakage rate exceeding 100 scf per hour for all four main steam lines through the isolation valves, or

d. The measured combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment exceeding 1 gpm times the total number of such valves,

restore:

a. The overall integrated leakage rate(s) to less than or equal to 0.75 $L_a$, and

---

#~~Includes all valves listed in Table 3.6.4-1,~~ except for those that are hydrostatically leak tested.

CONTAINMENT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

b. The combined leakage rate for all penetrations and all valves# subject to Type B and C tests to less than or equal to 0.60 $L_a$, and

c. The leakage rate to less than 100 scf per hour for all four main steam lines through the isolation valves, and

d. The combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment to less than or equal to 1 gpm times the total number of such valves,

prior to increasing reactor coolant system temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4 - 1972:

a. Three Type A Overall Integrated Containment Leakage Rate tests shall be conducted at 40 ± 10 month intervals* during shutdown at $P_a$, 11.5 psig, during each 10-year service period.

b. If any periodic Type A test fails to meet 0.75 $L_a$, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet 0.75 $L_a$, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 $L_a$, at which time the above test schedule may be resumed.

c. The accuracy of each Type A test shall be verified by a supplemental test which:

1. Confirms the accuracy of the test by verifying that the containment leakage rate, $L'_v$, calculated in accordance with ANSI N-45.4-1972, Appendix C, is within 25 percent of the containment leakage rate, $L_v$, measured prior to the introduction of the superimposed leak.

2. Has duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.

3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be between 0.75 $L_a$ and 1.25 $L_a$.

---

#~~Includes all valves listed in Table 3.6.4-1,~~ except for those that are hydrostatically leak tested.

*The third Type A test within the first 10-year service period shall be conducted prior to startup following the sixth refueling outage. This is an exemption from 10 CFR Part 50, Appendix J Requirements.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

d. Type B and C tests shall be conducted with gas at $P_a$, 11.5 psig,* at intervals no greater than 24 months except for tests involving:

1. Air locks,
2. Main steam line isolation valves,
3. Penetrations using continuous leakage monitoring systems,
4. Valves pressurized with fluid from a seal system,
5. Containment isolation valves in hydrostatically tested lines which penetrate the primary containment, and
6. Purge supply and exhaust isolation valves with resilient material seals.

e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.

f. Main steam line isolation valves shall be leak tested at least once per 18 months.

g. Type B tests for penetrations employing a continuous leakage monitoring system shall be conducted at $P_a$, 11.5 psig, at intervals no greater than once per 3 years.

h. Leakage from isolation valves that are sealed with fluid from a seal system may be excluded, subject to the provisions of Appendix J, Section III.C.3, when determining the combined leakage rate provided the seal system and valves are pressurized to at least 1.10 $P_a$, 12.65 psig, and the seal system capacity is adequate to maintain system pressure for at least 30 days.

i. Containment isolation valves in hydrostatically tested lines which penetrate the primary containment shall be leak tested at least once per 18 months.

j. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.9.2.

k. The provisions of Specification 4.0.2 are not applicable to Specifications 4.6.1.2.a, 4.6.1.2.b, 4.6.1.2.c, 4.6.1.2.d, 4.6.1.2.e, and 4.6.1.2.g.

*Unless a hydrostatic test is required ~~per Table 3.6.4-1.~~

CONTAINMENT SYSTEMS

3/4.6.2 DRYWELL

DRYWELL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.2.1 DRYWELL INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

Without DRYWELL INTEGRITY, restore DRYWELL INTEGRITY within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 DRYWELL INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all drywell penetrations** not capable of being closed by OPERABLE drywell automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in position, except ~~as provided in Table 3.6.4-1 of~~ Specification 3.6.4. * Insert

b. By verifying the drywell air lock is in compliance with the requirements of Specification 3.6.2.3.

c. By verifying the suppression pool is in compliance with the requirements of Specification 3.6.3.1.

---

* See Special Test Exception 3.10.1.

** Except valves, blind flanges, and deactivated automatic valves which are located inside the drywell or containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except such verification need not be performed more often than once per 92 days.

INSERT

for valves that are opened under administrative control as permitted by

Insert for TS page 3/4 6-13

CONTAINMENT SYSTEMS

3/4.6.4 CONTAINMENT AND DRYWELL ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.4 ~~The~~ Each containment and drywell isolation valves ~~shown in Table 3.6.4-1~~ shall be OPERABLE ~~with isolation times less than or equal to those shown in Table 3.6.4-1.~~

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and #.

ACTION:

With one or more of the containment or drywell isolation valves ~~shown in Table 3.6.4-1~~ inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 4 hours either:

a. Restore the inoperable valve(s) to OPERABLE status, or

b. Isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolated position,* or

c. Isolate each affected penetration by use of at least one closed manual valve or blind flange*.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.**

*Isolation valves, except MSIVs, closed to satisfy these requirements may be reopened on an intermittent basis under administrative controls. OPERATIONAL CONDITION changes, as provided by Specification 3.0.4, are not allowed while isolation valves are open under these administrative controls.

#Isolation valves ~~shown in Table 3.6.4-1~~ are also required to be OPERABLE when their associated actuation instrumentation is required to be OPERABLE per Table 3.3.2-1.

**Except for E12-F008 and E12-F009 in OPERATIONAL CONDITIONS 4 and 5 take action per Specification 3.3.2, Table 3.3.2-1, Trip Function 6.c.

Insert

INSERT

***Normally closed or locked closed manual valves may be opened on an intermittent basis under administrative control.

Insert for TS page 3/4 6-28

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each containment or drywell isolation valve ~~shown in Table 3.6.4-1~~ shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by cycling the valve through at least one complete cycle of full travel and verifying the ~~specified~~ applicable isolation time.

4.6.4.2 Each automatic containment or drywell isolation valve ~~shown in Table 3.6.4-1~~ shall be demonstrated OPERABLE during COLD SHUTDOWN or REFUELING at least once per 18 months by verifying that on an isolation test signal each automatic isolation valve actuates to its isolation position.

4.6.4.3 The isolation time of each power operated or automatic containment or drywell isolation valve ~~shown in Table 3.6.4-1~~ shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.4.4 [DELETED]

Insert

INSERT

## The provisions of Specification 4.0.4 are not applicable to automatic main steam line valves for entry into OPERATIONAL CONDITIONS 2 or 3, provided the surveillance is performed within 12 hours after reaching a reactor steam pressure of 600 psig and prior to entry into OPERATIONAL CONDITION 1.

Insert for TS page 3/4 6-29

Pages 3/4 6-30 through 3/4 6-45 have been Intentionally Deleted.

Deleted

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER | VALVE GROUP(a) | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|---|---|---|
| 1. Automatic Isolation Valves# | | | | |
| a. Containment | | | | |
| Main Steam Lines | B21-F028A | 5(O)* | 1 | 5 |
| Main Steam Lines | B21-F022A | 5(I)* | 1 | 5 |
| Main Steam Lines | B21-F067A-A | 5(O)* | 1 | 9 |
| Main Steam Lines | B21-F028B | 6(O)* | 1 | 5 |
| Main Steam Lines | B21-F022B | 6(I)* | 1 | 5 |
| Main Steam Lines | B21-F067B-A | 6(O)* | 1 | 9 |
| Main Steam Lines | B21-F028C | 7(O)* | 1 | 5 |
| Main Steam Lines | B21-F022C | 7(I)* | 1 | 5 |
| Main Steam Lines | B21-F067C-A | 7(O)* | 1 | 9 |
| Main Steam Lines | B21-F028D | 8(O)* | 1 | 5 |
| Main Steam Lines | B21-F022D | 8(I)* | 1 | 5 |
| Main Steam Lines | B21-F067D-A | 8(O)* | 1 | 9 |
| RHR Reactor Shutdown Cooling Suction | E12-F008-A | 14(O) | 3 | 40 |
| RHR Reactor Shutdown Cooling Suction | E12-F009-B | 14(I) | 3 | 40 |
| Steam Supply to RHR and RCIC Turbine | E51-F063-B | 17(I) | 4 | 20 |
| Steam Supply to RHR and RCIC Turbine | E51-F064-A | 17(O) | 4 | 20 |
| Steam Supply to RHR and RCIC Turbine | E51-F076-B | 17(I) | 4 | 20 |
| RHR to Head Spray | E12-F023-A | 18(O) | 3 | 94 |
| RHR to Head Spray | E12-F394-B | 18(I) | 3 | 43 |

(a) See Specification 3.3.2, Table 3.3.2-1, for isolation signal(s) that operates each valve group.
(b) Deleted
(c) Hydrostatically tested with water to 1.10 $P_a$, 12.65 psig.
(d) Hydrostatically tested by pressurizing system to 1.10 $P_a$, 12.65 psig.
(e) Hydrostatically tested during system functional tests.
(f) Deleted
(g) Normally closed or locked closed manual valves may be opened on an intermittent basis under administrative control.

*The provisions of Specification 4.0.4 are not applicable for entry into OPERATIONAL CONDITIONS 2 or 3 provided the surveillance is performed within 12 hours after reaching a reactor steam pressure of 600 psig and prior to entry into OPERATIONAL CONDITION 1.

#The "-A, -B, -C, -(A), -(B), -(C)" designators on the valve numbers indicate associated electrical divisions.

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER | VALVE GROUP[a] | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|---|---|---|
| Containment (Continued) | | | | |
| Main Steam Line Drains | B21-F019-A | 19(O) | 1 | 20 |
| Main Steam Line Drains | B21-F016-B | 19(I) | | 20 |
| RHR Heat Exchanger "A" to CTMT SPR Sparger INL | E12-F028A-A | 20(I) | 5 | 90 |
| RHR Heat Exchanger "A" to CTMT Pool | E12-F037A-A | 20(I) | 3 | 74 |
| RHR Heat Exchanger "B" to CTMT SPR Sparger INL | E12-F028B-B | 21(I) | 5 | 90 |
| RHR Heat Exchanger "B" to CTMT Pool | E12-F037B-B | 21(I) | 3 | 74 |
| RHR "A" Test Line to Supp. Pool | E12-F024A-A | 23(O)[d] | 5 | 90 |
| RHR "A" Test Line to Supp. Pool | E12-F011A-A | 23(O)[d] | 5 | 36 |
| RHR "C" Test Line to Supp. Pool | E12-F021-B | 24(O)[d] | 5 | 144 |
| HPCS Test Line | E22-F023-C | 27(O)[d] | 5B | 75 |
| RCIC Pump Suction | E51-F031-A | 28(O)[d] | 4 | 56 |
| RCIC Turbine Exhaust | E51-F077-A | 29(O)[c] | 9 | 26 |
| LPCS Test Line | E21-F012-A | 32(O)[d] | 5 | 144 |
| Cont. Purge and Vent Air Supply | M41-F011-(A) | 34(O) | 7 | 4 |
| Cont. Purge and Vent Air Supply | M41-F012-(B) | 34(I) | 7 | 4 |
| Cont. Purge and Vent Air Exh. | M41-F034-(B) | 35(I) | 7 | 4 |
| Cont. Purge and Vent Air Exh. | M41-F035-(A) | 35(O) | 7 | 4 |
| Drywell Chilled Water Return | P72-F123-B | 36(I) | 6A | 33 |
| Drywell Chilled Water Return | P72-F122-A | 36(O) | 6A | 33 |
| Drywell Chilled Water Supply | P72-F121-A | 37(O) | 6A | 33 |
| Chilled Water Supply | P71-F150-(A) | 38(O) | 6A | 12 |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER | VALVE GROUP(a) | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|---|---|---|
| Containment (Continued) | | | | |
| Chilled Water Return | P71-F148-(A) | 39(O) | 6A | 12 |
| Chilled Water Return | P71-F149-(B) | 39(I) | 6A | 12 |
| Service Air Supply | P52-F105-(A) | 41(O) | 6A | 6 |
| Inst. Air Supply | P53-F0 1-(A) | 42(O) | 6A | 6 |
| RWCU to Main Condenser | G33-F034-A | 43(O) | B | 35 |
| RWCU to Main Condenser | G33-F028-B | 43(I) | 8 | 35 |
| RWCU Backwash to C/U Phase Sep. Tank | G36-F106-(B) | 49(I) | 6A | 11 |
| RWCU Backwash to C/U Phase Sep. Tank | G36-F101-(A) | 49(O) | 6A | 11 |
| Drywell & Cont. Equip. Drain Sump Disch. | P45-F067-(B) | 50(I) | 6A | 7 |
| Drywell & Cont. Equip. Drain Sump Disch. | P45-F068-(A) | 50(O) | 6A | 7 |
| Drywell & Cont. Floor Drain Sump Disch. | P45-F061-(B) | 51(I) | 6A | 7 |
| Drywell & Cont. Floor Drain Sump Disch. | P45-F062-(A) | 51(O) | 6A | 7 |
| Condensate Supply | P11-F075-(A) | 56(O) | 6A | 10 |
| FPC & CU to Upper Cont. Pool | G41-F028-A | 57(O) | 6A | 51 |
| Upper Cont. Pool to Fuel Pool Drain Tank | G41-F029-A | 58(O) | 6A | 51 |
| Upper Cont. Pool to Fuel Pool Drain Tank | G41-F044-B | 58(I) | 6A | 40 |
| Aux. Bldg. Flr. and Equip. Drn. Tks. to Supp. Pool | P45-F273-A | 60(O) | 6A | 32 |
| Aux. Bldg. Flr. and Equip. Drn. Tks. to Supp. Pool | P45-F274-B | 60(O) | 6A | 32 |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER | VALVE GROUP[a] | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|---|---|---|
| Containment (Continued) | | | | |
| Comb. Gas Control Cont. Purge (Outside Air Supply) | E61-F009-(A) | 65(O) | 7 | 4 |
| Comb. Gas Control Cont. Purge (Outside Air Supply) | E61-F010-(B) | 65(I) | 7 | 4 |
| Purge Filter Train Isolation | E61-F056-(B) | 66(I) | 7 | 4 |
| Purge Filter Train Isolation | E61-F057-(A) | 66(O) | 7 | 4 |
| RHR "B" Test Line To Suppr. Pool | E12-F024B-B | 67(O)[d] | 5 | 90 |
| RHR "B" Test Line To Suppr. Pool | E12-F011B-B | 67(O)[d] | 5 | 36 |
| Refueling Water Transf. Pump Suction | P11-F130-(A) | 69(O)[c] | 6A | 8 |
| Refueling Water Transf. Pump Suction | P11-F131-(B) | 69(O)[c] | 6A | 8 |
| Instr. Air to ADS | P53-F003-A | 70(O) | 6A | 4 |
| RCIC Turbine Exh. Vacuum Breaker | E51-F078-B | 75(O) | 9 | 10 |
| RWCU to Feedwater | G33-F040-B | 83(I) | 8 | 35 |
| RWCU to Feedwater | G33-F039-A | 83(O) | 8 | 35 |
| Chemical Waste Sump Discharge | P45-F098-(B) | 84(I) | 6A | 8 |
| Chemical Waste Sump Discharge | P45-F099-(A) | 84(O) | 6A | 8 |
| Supp. Pool Clean-up Return | P60-F009-A | 85(O) | 6A | 8 |
| Supp. Pool Clean-up Return | P60-F010-B | 85(O) | 6A | 8 |
| Demin. Water Supply to Cont. | P21-F017-A | 86(O) | 6A | 19 |
| Demin. Water Supply to Cont. | P21-F018-B | 86(I) | 6A | 19 |
| RWCU Pump Suction | G33-F001-B | 87(I) | 8 | 35 |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER | VALVE GROUP(a) | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|---|---|---|
| Containment (Continued) | | | | |
| RWCU Pump Suction | G33-F252-B | 87(I) | 8 | 35 |
| RWCU Pump Suction | G33-F004-A | 87(0) | 8 | 35 |
| RWCU Pump Disch. | G33-F053-B | 88(I) | 8 | 35 |
| RWCU Pump Disch. | G33-F054-A | 88(0) | 8 | 35 |
| b. Drywell | | | | |
| Instrument Air | P53-F007-B | 335(0) | 6A | 7 |
| Drywell Chilled Water Return | P72-F125-A | 331(I) | 6A | 32 |
| Drywell Chilled Water Return | P72-F126-B | 331(0) | 6A | 32 |
| Drywell Chilled Water Return | P72-F124-B | 332(0) | 6A | 32 |
| RWCU Pump Suction | G33-F250-A | 337(I) | 8 | 35 |
| RWCU Pump Suction | G33-F251-B | 337(0) | 8 | 35 |
| Combustible Gas Con. | E61-F005B-B | 338(0) | 5 | 84 |
| Combustible Gas Con. | E61-F003A-A | 339(0) | 5 | 84 |
| Combustible Gas Con. | E61-F005A-A | 340(0) | 5 | 84 |
| Combustible Gas Con. | E61-F005B-B | 340(0) | 5 | 84 |
| Combustible Gas Con. | E61-F007-(A) | 341(0) | 5 | 9 |
| Combustible Gas Con. | E61-F020-(B) | 341(0) | 5 | 18 |
| Drywell Air Purge Supply | M41-F012-(A) | 345(I) | 7 | 4 |
| Drywell Air Purge Supply | M41-F013-(B) | 345(0) | 7 | 4 |
| Drywell Air Purge Exhaust | M41-F016-(A) | 347(I) | 7 | 4 |
| Drywell Air Purge Exhaust | M41-F017-(B) | 347(0) | 7 | 4 |
| Equipment Drains | P45-F009-(A) | 348(I) | 6A | 6 |
| Equipment Drains | P45-F010-(B) | 348(0) | 6A | 6 |
| Floor Drain | P45-F003-(A) | 349(I) | 6A | 6 |
| Floor Drains | P45-F004-(B) | 349(0) | 6A | 6 |
| Service Air | P52-F195-B | 363(0) | 6A | 16 |
| Chemical Sump Disch. | P45-F096-A | 364(I) | 6A | 9 |
| Chemical Sump Disch. | P45-F097-B | 364(0) | 6A | 9 |
| RWCU to Heat Exch. | G33-F253-A | 366(0) | 8 | 35 |
| Reactor Water Sample Line | B33-F019-B | 465(I) | 10 | 36 |
| Reactor Water Sample Line | B33-F020-A | 465(0) | 10 | 36 |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| 2. Manual Isolation Valves(g)# | | |
| a. Containment | | |
| Main Steam Lines | E32-F001A-A | 5(0) |
| Main Steam Lines | E32-F001E-A | 6(0) |
| Main Steam Lines | E32-F001J-A | 7(0) |
| Main Steam Lines | E32-F001N-A | 8(0) |
| Feedwater Inlet | B21-F065A-A | 9(0) |
| Feedwater Inlet | B21-F065B-A | 10(0) |
| RHR Pump "A" Suction | E12-F004A-A | 11(0)(d) |
| RHR Pump "B" Suction | E12-F004B-B | 12(0)(d) |
| RHR Pump "C" Suction | E12-F004C-B | 13(0)(d) |
| RHR Heat Exchanger "A" to LPCI | E12-F042A-A | 20(I) |
| RHR Heat Ex. "A" to LPCI | E12-F027A-A | 20(0) |
| RHR Heat Exchanger "B" to LPCI | E12-F042B-B | 21(I) |
| RHR Heat Ex. "B" to LPCI | E12-F027B-B | 21(0) |
| RHR Pump "C" to LPCI | E12-F042C-B | 22(0) |
| RHR "A" Test Line To Suppr. Pool | E12-F064A-A | 23(0)(d) |
| RHR "C" Test Line To Suppr. Pool | E12-F064C-B | 24(0)(d) |
| HPCS Suction | E22-F015-C | 25(0)(d) |
| HPCS Discharge | E22-F004-C | 26(0) |
| HPCS Test Line | E22-F012-C | 27(0)(d) |
| RCIC Turbine Exh. | E51-F068-A | 29(0)(c) |
| LPCS Pump Suction | E21-F001-A | 30(0)(d) |
| LPCS Pump Discharge | E21-F005-A | 31(0) |
| LPCS Min. Flow | E21-F011-A | 32(0)(d) |
| CRD Pump Discharge | C11-F083-A | 38(0) |
| CCW Supply | P42-F066-A | 44(0) |
| CCW Return | P42-F067-A | 45(0) |
| CCW Return | P42-F068-B | 45(I) |
| RCIC Pump Discharge Min. Flow | E51-F019-A | 46(0)(d) |
| Reactor Recirc. Post Accident Sampling | B33-F128-B | 47(I) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| Containment (Continued) | | |
| Reactor Recirc. Post Accident Sampling | B33-F127-A | 47(O) |
| Vent Header to Supp. Pool | E12-F073B-B | 48(O)(d) |
| RHR Pump "B" Test Line | E12-F064B-B | 67(O)(d) |
| RHR "C" Relief Vlv. Vent Hdr. to Suppr. Pool & Post-Acc. Sample Ret. | E12-F346-B | 71B(O)(c) |
| RHR Heat Ex. "A" Relief | E12-F073A-A | 77(O)(d) |
| Reactor Recirc. Accident Sampling | B33-F126-B | 81(I) |
| Reactor Recirc. Accident Sampling | B33-F125-A | 81(O) |
| SSW Supply "A" | P41-F159A-A | 89(O)(c) |
| SSW Return "A" | P41-F188A-A | 90(I)(c) |
| SSW Return "A" | P41-F160A-A | 90(O)(c) |
| SSW Return "B" | P41-F188B-B | 91(I)(c) |
| SSW Return "B" | P41-F160B-B | 91(O)(c) |
| SSW Supply "B" | P41-F159B-B | 92(O)(c) |
| Drywell Press. Inst. | M71-F593-A | 101C(O) |
| Drywell Press. Inst. | M71-F591A-A | 101F(O) |
| Drywell Press. Inst. | M71-F591B-B | 102D(O) |
| Ctmt. Press. Inst. | M71-F592A-A | 103D(O) |
| Ctmt. Press. Inst. | M71-F592B-B | 104B(O) |
| Drywell $H_2$ Analyzer Sample | E61-F595C-(A) | 106A(O) |
| Drywell $H_2$ Analyzer Sample | E61-F595D-(B) | 106A(I) |
| Drywell $H_2$ Analyzer Sample Ret. | E61-F597C-(A) | 106B(O) |
| Drywell $H_2$ Analyzer Sample Ret. | E61-F597D-(B) | 106B(I) |
| Ctmt. $H_2$ Analyzer Sample | E61-F596C-(A) | 105A(O) |
| Ctmt. $H_2$ Analyzer Sample | E61-F596D-(B) | 105A(I) |
| Ctmt. $H_2$ Analyzer Sample Ret. | E61-F598C-(A) | 106E(O) |
| Ctmt. $H_2$ Analyzer Sample Ret. | E61-F598D-(B) | 106E(I) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| Containment (Continued) | | |
| Ctmt $H_2$ Analyzer Sample | E61-F596A-(A) | 108A(O) |
| Ctmt. $H_2$ Analyzer Sample | E61-F596B-(B) | 108A(I) |
| Ctmt. $H_2$ Analyzer Sample Ret. | E61-F598A-(A) | 107B(O) |
| Ctmt. $H_2$ Analyzer Sample Ret. | E61-F598B-(B) | 107B(I) |
| Drywell $H_2$ Analyzer Sample | E61-F595A-(A) | 107D(O) |
| Drywell $H_2$ Analyzer Sample | E61-F595B-(B) | 107D(I) |
| Drywell $H_2$ Analyzer Sample Ret. | E61-F597A-(A) | 107E(O) |
| Drywell $H_2$ Analyzer Sample Ret. | E61-F597B-(B) | 107E(I) |
| Drywell Fiss. Prod. Monitor Sample | D23-F592-A | 109A(O) |
| Drywell Fiss. Prod. Monitor Sample | D23-F591-B | 109A(I) |
| Drywell Fiss. Prod. Mon. Sampl. Ret. | D23-F594-A | 109B(O) |
| Drywell Fiss. Prod. Mon. Sampl. Ret. | D23-F593-B | 109B(I) |
| Ctmt. Press. Inst. (Post Acc. Sampl.) | M71-F594-B | 109D(O) |
| Ctmt. Press. Inst. (Post Acc. Sampl.) | M71-F595-A | 109D(I) |
| Suppr. Pool Level Inst. | E30-F593A-A | 113(O)[c] |
| Suppr. Pool Level Inst. | E30-F592A-A | 114(O) |
| Suppr. Pool Level Inst. | E30-F594A-A | 115(O)[c] |
| Suppr. Pool Level Inst. | E30-F591A-A | 116(O) |
| Suppr. Pool Level Inst. | E30-F593B-B | 117(O)[c] |
| Suppr. Pool Level Inst. | E30-F592B-B | 118(O) |
| Suppr. Pool Level Inst. | E30-F594B-B | 119(O)[c] |
| Suppr. Pool Level Inst. | E30-F591B-B | 120(O) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| b. Drywell | | |
| Cont. Cooling Water Inlet | P42-F114-B | 329(O) |
| Cont. Cooling Water Outlet | P42-F116-A | 330(I) |
| Cont. Cooling Water Outlet | P42-F117-B | 330(O) |
| 3. Other Isolation Valves(g)# | | |
| a. Containment | | |
| Fuel Transfer Tube | F11-E015 | 4(I) |
| Feedwater Inlet | B21-F010A | 9(I) |
| Feedwater Inlet | B21-F032A | 9(O) |
| Feedwater Inlet | B21-F010B | 10(I) |
| Feedwater Inlet | B21-F032B | 10(O) |
| RHR "A" Suction | E12-F017A | 11(O)(d) |
| RHR "B" Suction | E12-F017B | 12(O)(d) |
| RHR "C" Suction | E12-F017C | 13(O)(d) |
| RHR Shutdown Cooling Suction | E12-F308 | 14(I) |
| RHR Heat Ex. "A" to LPCI | E12-F044A | 20(I) |
| RHR Heat Ex. "A" to LPCI | E12-F028A | 20(I) |
| RHR Heat Ex. "A" to LPCI | E12-F107A | 20(I) |
| RHR Heat Ex. "B" to LPCI | E12-F028B | 21(I) |
| RHR Heat Ex. "B" to LPCI | E12-F044B | 21(I) |
| RHR Heat Ex. "B" to LPCI | E12-F107B | 21(I) |
| RHR Heat Ex. "C" to LPCI | E12-F234 | 22(O) |
| RHR Pump "C" to LPCI | E12-F041C-B | 22(I) |
| RHR Pump "A" Test Line to Suppr. Pool | E12-F259 | 23(O)(e) |
| RHR Pump "A" Test Line to Suppr. Pool | E12-F261 | 23(O)(e) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| Containment (Continued) | | |
| RHR Pump "A" Test Line to Suppr. Pool | E12-F227 | 23(O)(e) |
| RHR Pump "A" Test Line to Suppr. Pool | E12-F262 | 23(O)(e) |
| RHR Pump "A" Test Line to Suppr. Pool | E12-F228 | 23(O)(e) |
| RHR "A" Test Line to Supp. Pool | E12-F290A-A | 23(O)(d) |
| RHR Pump "A" Test Line to Suppr. Pool | E12-F338 | 23(O)(c) |
| RHR Pump "A" Test Line to Suppr. Pool | E12-F339 | 23(O)(c) |
| RHR Pump "A" Test Line to Suppr. Pool | E12-F260 | 23(O)(e) |
| RHR Pump "C" Test Line to Suppr. Pool | E12-F280 | 24(O)(c) |
| RHR Pump "C" Test Line to Suppr. Pool | E12-F281 | 24(O)(d) |
| HPCS Suction | E22-F014 | 25(O)(d) |
| HPCS Discharge | E22-F005-(C) | 26(I) |
| HPCS Discharge | E22-F218 | 26(I) |
| HPCS Discharge | E22-F201 | 26(I) |
| HPCS Test Line | E22-F035 | 27(O)(d) |
| HPCS Test Line | E22-F302 | 27(O)(e) |
| HPCS Test Line | E22-F301 | 27(O)(e) |
| LPCS Pump Suction | E21-F031 | 30(O)(d) |
| LPCS Discharge | E21-F006-(A) | 31(I) |
| LPCS Discharge | E21-F200 | 31(I) |
| LPCS Discharge | E21-F207 | 31(I) |
| LPCS Test Line | E21-F217 | 32(O)(d) |
| LPCS Test Line | E21-F218 | 32(O)(d) |
| CRD Pump Discharge | C11-F122 | 33(I) |
| DCW Supply | P72-F165 | 37(I) |
| Plant Chilled Water Supply | P71-F151 | 38(I) |
| Service Air Supply | P52-F122 | 41(I) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| Containment (Continued) | | |
| Instr. Air Supply | P53-F002 | 42(I) |
| CCW Supply | P42-F035 | 44(I) |
| RCIC Disch. Min. Flow | E51-F251 | 46(O)(c) |
| RCIC Disch. Min. Flow | E51-F252 | 45(O)(c) |
| RHR Heat Ex. "B" Relief Vent Header | E12-F055B | 48(O)(d) |
| RHR Heat Ex. "B" Relief Vent Header | E12-F103B | 48(O)(d) |
| RHR Heat Ex. "B" Relief Vent Header | E12-F104B | 48(O)(d) |
| Refueling Wtr. Stg. Tk. to Upper Ctmt. Pool | G41-F053 | 54(O) |
| Refueling Wtr. Stg. Tk. to Upper Ctmt. Pool | G41-F201 | 54(I) |
| Condensate Supply | P11-F004 | 56(I) |
| FPC & CU to Upper Cont. Pool | G41-F040 | 57(I) |
| Stby. Liquid Control Sys. Mix. Tk. (future use) | C41-F151 | 61(I) |
| Stby. Liquid Control Sys. Mix. Tk. (future use) | C41-F150 | 61(O) |
| RHR Pump "B" Test Line | E12-F276 | 67(O)(e) |
| RHR Pump "B" Test Line | E12-F277 | 67(O)(e) |
| RHR Pump "B" Test Line | E12-F212 | 67(O)(e) |
| RHR Pump "B" Test Line | E12-F213 | 67(O)(e) |
| RHR Pump "B" Test Line | E12-F249 | 67(O)(e) |
| RHR Pump "B" Test Line | E12-F250 | 67(O)(e) |
| RHR Pump "B" Test Line | E12-F334 | 67(O)(e) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| Containment (Continued) | | |
| RHR Pump "B" Test Line | E12-F335 | 67(O)(c) |
| RHR "B" Test Line To Suppr. Pool | E12-F2908-B | 67(O)(d) |
| Inst. Air to ADS | P53-F006 | 70(I) |
| LPCS Relief Valve Vent Header | E21-F018 | 71A(O)(d) |
| RHR Pump "C" Relief Valve Vent Header | E12-F025C | 71B(O)(d) |
| RHR "C" Relief Valve Vent Hdr. to Suppr. Pool & Post-Acc. Sample Return | E12-F406 | 71B(I)(c) |
| RHR Shutdown Vent Header | E12-F036 | 73(O) |
| RHR Shutdown Suction Relief Valve Disch. | E12-F006 | 76B(O) |
| RHR Heat Ex. "A" Relief Vent Header | E12-F055A | 77(O)(d) |
| RHR Heat Ex. "A" Relief Vent Header | E12-F103A | 77(O)(d) |
| RHR Heat Ex. "A" Relief Vent Header | E12-F104A | 77(O)(d) |
| SSW "A" Supply | P41-F169A | 89(I)(c) |
| SSW "B" Supply | P41-F169B | 92(I)(c) |
| Ctmt. Leak Rate Test Inst. | M61-F015 | 110A(I) |
| Ctmt. Leak Rate Test Inst. | M61-F014 | 110A(O) |
| Ctmt. Leak Rate Test Inst. | M61-F019 | 110C(I) |
| Ctmt. Leak Rate Test Inst. | M61-F018 | 110C(O) |
| Ctmt. Leak Rate Test Inst. | M61-F017 | 110F(I) |
| Ctmt. Leak Rate Test Inst. | M61-F016 | 110F(O) |
| b. Drywell | | |
| LPCI "A" | E12-F041A | 313(I) |
| LPCI "B" | E12-F041B | 314(I) |
| LPCI "B" | E12-F236 | 314(O) |
| CRD to Recirc. Pump A Seals | B33-F013A | 326(I) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| Drywell (Continued) | | |
| CRD to Recirc. Pump A Seals | B33-F017A | 326(O) |
| Instrument Air | P53-F008 | 335(I) |
| Standby Liquid Control | C41-F007 | 328(I) |
| Standby Liquid Control | C41-F006 | 328(O) |
| Standby Liquid Control-Drain | C41-F218 | 328(I) |
| Cont. Cooling Water Supply | P42-F115 | 329(I) |
| Drywell Chilled Water Supply | P72-F147 | 332(I) |
| Condensate Flush Conn. | B33-F204 | 333(I) |
| Condensate Flush Conn. | B33-F205 | 333(O) |
| Combustible Gas Control | E61-F002A | 339(O) |
| Combustible Gas Control | E61-F002B | 338(O) |
| Combustible Gas Control | E61-F004A | 340(O) |
| Combustible Gas Control | E61-F004B | 340(O) |
| Upper Containment Pool Drain | G41-F265 | 342(O) |
| CRD to Recirc. Pump B Seals | B33-F013B | 346(I) |
| CRD to Recirc. Pump B Seals | B33-F017B | 346(O) |
| Service Air | P52-F196 | 363(I) |
| Cont. Leak Rate Test Inst. | M61-F021 | 438A(I) |
| Cont. Leak Rate Sys. | M61-F020 | 438A(O) |
| BLIND FLANGES | | |
| Cont. Leak Rate Sys. | NA | 40(I)(O) |
| Cont. Leak Rate Sys. | NA | 82(I)(O) |
| Containment Leak Rate System | NA | 343(I)(O) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| 4. Test Connections(G) | | |
| a. Containment | | |
| Main Steam T/C | B21-F025A | 5(O) |
| Main Steam T/C | B21-F025B | 6(O) |
| Main Steam T/C | B21-F025C | 7(O) |
| Main Steam T/C | B21-F025D | 8(O) |
| Feedwater T/C | B21-F030A | 9(O) |
| Feedwater T/C | B21-F063A | 9(O) |
| Feedwater T/C | B21-F063B | 10(O) |
| Feedwater T/C | B21-F030B | 10(O) |
| RHR Shutdown Cool. Suction T/C | E12-F002 | 14(O) |
| RCIC Steam Line T/C | E51-F072 | 17(O) |
| RHR to Head Spray T/C | E12-F342 | 18(O) |
| RHR to Head Spray T/C | E12-F061 | 18(O) |
| LPCI "C" T/C | E12-F056C | 22(O) |
| RHR "A" Pump Test Line T/C | E12-F322 | 23(O)(c) |
| RHR "A" Pump Test Line T/C | E12-F336 | 23(O)(c) |
| RHR "A" Pump Test Line T/C | E12-F349 | 23(O)(c) |
| RHR "A" Pump Test Line T/C | E12-F302 | 23(O)(c) |
| RHR "A" Pump Test Line T/C | E12-F310 | 23(O)(c) |
| RHR "A" Pump Test Line T/C | E12-F348 | 23(O)(c) |
| RHR "C" Pump Test Line T/C | E12-F311 | 24(O)(c) |
| RHR "C" Pump Test Line T/C | E12-F304 | 24(O)(c) |
| HPCS Discharge T/C | E22-F021 | 25(O) |
| HPCS Test Line T/C | E22-F303 | 27(O)(c) |
| HPCS Test Line T/C | E22-F304 | 27(O)(c) |
| RCIC Turbine Exhaust T/C | E51-F258 | 29(O)(c) |
| RCIC Turbine Exhaust T/C | E51-F257 | 29(O)(c) |
| LPCS T/C | E21-F013 | 31(O) |
| LPCS Test Line T/C | E21-F222 | 32(O)(c) |
| LPCS Test Line T/C | E21-F221 | 32(O)(c) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| Containment (Continued) | | |
| CRD T/C | C11-F128 | 33(O) |
| Cont. Purge Supply T/C | M41-F042 | 34(O) |
| Cont. Purge Exhaust T/C | M41-F051 | 35(O) |
| DCW Supply T/C | P72-F167 | 37(O) |
| Plant Chilled Water T/C | P71-F232 | 38(O) |
| Plant Chilled Water T/C | P71-F246 | 39(O) |
| Cont. Leak Rate T/C | M61-F009 | 40(I) |
| Service Air T/C | P52-F258 | 41(O) |
| Inst. Air T/C | P53-F036 | 42(O) |
| RWCU T/C | G33-F070 | 43(O) |
| CCW Supply T/C | P42-F161 | 44(O) |
| CCW Return T/C | P42-F162 | 45(I) |
| Condensate Supply T/C | P11-F095 | 56(O) |
| FPC & CU To Upper Cont. Pool T/C | G41-F340 | 57(I) |
| Aux. Bldg. Flr. & Equip. Drain Tk. to Suppr. Pool T/C | P45-F275 | 60(O) |
| Aux. Bldg. Flr. & Equip. Drain Tk. to Suppr. Pool T/C | P45-F290 | 60(O) |
| Stby. Liquid Control Sys. Mix. Tk. T/C (future use) | C61-F152 | 61(O) |
| Combustible Gas Control T/C | E61-F017 | 65(O) |
| Purge Radiation Detector T/C | M41-F054 | 66(O) |
| RHR "B" Test Line T/C | E12-F321 | 67(O)(c) |
| RHR "B" Test Line T/C | E12-F351 | 67(O)(c) |
| RHR "B" Test Line T/C | E12-F331 | 67(O)(c) |

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

| SYSTEM AND VALVE NUMBER | | PENETRATION NUMBER |
|---|---|---|
| Containment (Continued) | | |
| RHR "B" Test Line T/C | E12-F350 | 67(O)(c) |
| RHR "B" Test Line T/C | E12-F312 | 67(O)(c) |
| RHR "B" Test Line T/C | E12-F305 | 67(O)(c) |
| Refueling Water Transf. Pump Suction T/C | P11-F425 | 69(O)(c) |
| Refueling Water Transf. Pump Suction T/C | P11-F132 | 69(O)(c) |
| Inst. Air to ADS T/C | P53-F043 | 70(O) |
| Post Acc. Sample Return and RHR "C" Relief Valve Vent Hdr. to Suppr. Pool T/C | E12-F409 | 71B(I)(c) |
| Post Acc. Sample Return and RHR "C" Relief Valve Vent Hdr. to Suppr. Pool T/C | E12-F408 | 71B(O)(c) |
| Cont. Leak Rate T/C | M61-F010 | 82(I) |
| RWCU To Feedwater T/C | G33-F055 | 83(O) |
| Suppr. Pool Cleanup T/C | P60-F011 | 85(O) |
| Suppr. Pool Cleanup T/C | P60-F034 | 85(O) |
| RWCU Pump Suction T/C | G33-F002 | 87(O) |
| RWCU Pump Discharge T/C | G33-F061 | 88(O) |
| SSW T/C | P41-F163A | 89(O)(c) |
| SSW T/C | P41-F163B | 92(O)(c) |
| b. Drywell | | |
| LPCI "A" T/C | E12-F056A | 313(O) |
| LPCI "B" T/C | E12-F056B | 314(O) |
| Instrument Air T/C | P53-F493 | 335(O) |
| SLCS T/C | C41-F026 | 328(O) |
| Service Air T/C | P52-F476 | 363(O) |
| RWCU T/C | G33-F120 | 366(I) |
| Reactor Sample T/C | B33-F021 | 465(O) |

SECONDARY CONTAINMENT AUTOMATIC ISOLATION DAMPERS/VALVES

LIMITING CONDITION FOR OPERATION

3.6.6.2 ~~The~~ Each secondary containment ventilation system automatic isolation ~~damper/valves shown in Table 3.6.6.2-1~~ shall be OPERABLE ~~with isolation times less than or equal to the times shown in Table 3.6.6.2-1~~.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3 and *.

ACTION:

With one or more of the secondary containment ventilation system automatic isolation dampers/valves ~~shown in Table 3.6.6.2-1~~ inoperable, maintain at least one isolation damper/valve OPERABLE in each affected penetration that is open, and within 8 hours either:

a. Restore the inoperable damper/valve(s) to OPERABLE status, or

b. Isolate each affected penetration by use of at least one deactivated automatic damper/valve secured in the isolation position, or

c. Isolate each affected penetration by use of at least one closed manual valve or blind flange.

Otherwise, in OPERATIONAL CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Otherwise, in Operational Condition *, suspend handling of irradiated fuel in the primary or secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.6.2 Each secondary containment ventilation system automatic isolation damper/valve ~~shown in Table 3.6.6.2-1~~ shall be demonstrated OPERABLE:

a. Prior to returning the damper/valve to service after maintenance, repair or replacement work is performed on the damper/valve or its associated actuator, control or power circuit by cycling the damper/valve through at least one complete cycle of full travel and verifying the ~~specified~~ isolation time.

b. During COLD SHUTDOWN or REFUELING at least once per 18 months by verifying that on a containment isolation test signal each isolation damper/valve actuates to its isolation position.

c. By verifying the isolation time to be within its limit when tested pursuant to Specification 4.0.5.

*When irradiated fuel is being handled in the primary or secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

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TABLE 3.6.6.2-1

SECONDARY CONTAINMENT VENTILATION SYSTEM AUTOMATIC ISOLATION DAMPERS/VALVES

| DAMPER/VALVE FUNCTION[#] | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|
| a. Dampers | |
| Auxiliary Building Ventilation Supply Damper (Q1T41F006)-(B) | 4 |
| Auxiliary Building Ventilation Supply Damper (Q1T41F007)-(A) | 4 |
| Fuel Handling Area Ventilation Exhaust Damper (Q1T42F003)-(B) | 4 |
| Fuel Handling Area Ventilation Exhaust Damper (Q1T42F004)-(A) | 4 |
| Fuel Handling Area Ventilation Supply Damper (Q1T42F011)-(A) | 4 |
| Fuel Handling Area Ventilation Supply Damper (Q1T42F012)-(B) | 4 |
| Fuel Pool Sweep Ventilation Supply Damper (Q1T42F019)-(A) | 4 |
| Fuel Pool Sweep Ventilation Supply Damper (Q1T42F020)-(B) | 4 |
| Containment & Drywell Area Ventilation Supply Damper (Q1M41F007)-(B) | 4 |
| Containment & Drywell Area Ventilation Supply Damper (Q1M41F008)-(A) | 4 |
| Containment & Drywell Area Ventilation Exhaust Damper (Q1M41F036)-(A) | 4 |
| Containment & Drywell Area Ventilation Exhaust Damper (Q1M41F037)-(B) | 4 |

[#]The "-(A) and -(B)" designators on the valve/damper numbers indicate associated electrical divisions.

 Amendment No. ___

TABLE 3.6.2-1 (Continued)

SECONDARY CONTAINMENT VENTILATION SYSTEM AUTOMATIC ISOLATION DAMPERS/VALVES

| VALVE FUNCTION | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|
| b. Valves | |
| Plant Chilled Water System Aux. Bldg. Isol. Valve (P71-F306)-(A) | 30 |
| Plant Chilled Water System Aux. Bldg. Isol. Valve (P71-F304)-(A) | 30 |
| Plant Chilled Water System Aux. Bldg. Isol. Valve (P71-F302)-(A) | 4 |
| Plant Chilled Water System Aux. Bldg. Isol. Valve (P71-F300)-(A) | 4 |
| Plant Chilled Water System Aux. Bldg. Isol. Valve (P71-F307)-(B) | 30 |
| Plant Chilled Water System Aux. Bldg. Isol. Valve (P71-F305)-(B) | 30 |
| Plant Chilled Water System Aux. Bldg. Isol. Valve (P71-F303)-(B) | 4 |
| Plant Chilled Water System Aux. Bldg. Isol. Valve (P71-F301)-(B) | 4 |
| Service Air System Aux. Bldg. Isol. Valve (P52-F221A)-(A) | 4 |
| Service Air System Aux. Bldg. Isol. Valve (P52-F160A)-(A) | 4 |
| Service Air System Aux. Bldg. Isol. Valve (P52-F221B)-(B) | 4 |
| Service Air System Aux. Bldg. Isol. Valve (P52-F160B)-(B) | 4 |
| Instrument Air System Aux. Bldg. Isol. Valve (P53-F026A)-(A) | 4 |
| Instrument Air System Aux. Bldg. Isol. Valve (P53-F026B)-(B) | 4 |
| FPCC Filt-Demin System Backwash Aux. Bldg. Isol. Valve (G46-F253)-(A&B) | 30 |

TABLE 3.6.6.2-1 (Continued)

SECONDARY CONTAINMENT VENTILATION SYSTEM AUTOMATIC ISOLATION DAMPERS/VALVES

| VALVE FUNCTION | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|
| Valves (Continued) | |
| RWCU Backwash RCVG Tk. Aux. Bldg. Isol. Valve (G36-F108)-(A) | 30 |
| RWCU Backwash RCVG Tk. Aux. Bldg. Isol. Valve (G36-F109)-(B) | 30 |
| Nuclear Boiler System Aux. Bldg. Isol. Valve (B21-F113)-(A) | 30 |
| Nuclear Boiler System Aux. Bldg. Isol. Valve (B21-F114)-(B) | 30 |
| RWCU Aux. Bldg. Isol. Valve (G33-F235)-(A) | 30 |
| RWCU Aux. Bldg. Isol. Valve (G33-F234)-(B) | 30 |
| SPCU Aux. Bldg. Isol. Valve (P60-F003)-(A) | 30 |
| SPCU Aux. Bldg. Isol. Valve (P60-F004)-(B) | 30 |
| SPCU Aux. Bldg. Isol. Valve (P60-F007)-(B) | 30 |
| SPCU Aux. Bldg. Isol. Valve (P60-F008)-(A) | 30 |
| Fire Protection System Aux. Bldg. Isol. Valve (P64-F282A)-(A) | 4 |
| Fire Protection System Aux. Bldg. Isol. Valve (P64-F283A)-(A) | 4 |
| Fire Protection System Aux. Bldg. Isol. Valve (P64-F332A)-(A) | 4 |
| Fire Protection System Aux. Bldg. Isol. Valve (P64-F282B)-(B) | 4 |
| Fire Protection System Aux. Bldg. Isol. Valve (P64-F283B)-(B) | 4 |
| Fire Protection System Aux. Bldg. Isol. Valve (P64-F332B)-(B) | 4 |
| Cond. & Refuel Water Transfer Aux. Bldg. Isol. Valve (P11-F062)-(A) | 9 |

TABLE 3.6.6.2-1 (Continued)

SECONDARY CONTAINMENT VENTILATION SYSTEM AUTOMATIC ISOLATION DAMPERS/VALVES

| VALVE FUNCTION | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|
| Valves (Continued) | |
| Cond. & Refuel Water Transfer Aux. Bldg. Isol. Valve (P11-F064)-(A) | 4 |
| Cond. & Refuel Water Transfer Aux. Bldg. Isol. Valve (P11-F060)-(A) | 4 |
| Cond. & Refuel Water Transfer Aux. Bldg. Isol. Valve (P11-F047)-(A) | 4 |
| Cond. & Refuel Water Transfer Aux. Bldg. Isol. Valve (P11-F063)-(B) | 4 |
| Cond. & Refuel Water Transfer Aux. Bldg. Isol. Valve (P11-F065)-(B) | 4 |
| Cond. & Refuel Water Transfer Aux. Bldg. Isol. Valve (P11-F067)-(B) | 4 |
| Cond. & Refuel Water Transfer Aux. Bldg. Isol. Valve (P11-F061)-(B) | 4 |
| Floor and Equipment Drains System Aux. Bldg. Isol. Valve (P45-F158)-(A) | 9 |
| Floor and Equipment Drains System Aux. Bldg. Isol. Valve (P45-F160)-(A) | 9 |
| Floor and Equipment Drains System Aux. Bldg. Isol. Valve (P45-F163)-(A&B) | 9 |
| Floor and Equipment Drains System Aux. Bldg. Isol. Valve (P45-F159)-(B) | 9 |
| Floor and Equipment Drains System Aux. Bldg. Isol. Valve (P45-F161)-(B) | 9 |
| Makeup Water Treatment Sys. Aux. Bldg. Isol. Valve (P21-F024)-(A&B) | 30 |
| Domestic Water System Aux. Bldg. Isol. Valve (P66-F029A)-(A&B) | 4 |
| PSW Aux. Bldg. Isol. Valve (P44-F121)-(A) | 100 |

TABLE 3.6.6.2-1 (Continued)

SECONDARY CONTAINMENT VENTILATION SYSTEM AUTOMATIC ISOLATION DAMPERS/VALVES

| VALVE FUNCTION | MAXIMUM ISOLATION TIME (Seconds) |
|---|---|
| Valves (Continued) | |
| PSW Aux. Bldg. Isol. Valve (P44-F122)-(A) | 100 |
| PSW Aux. Bldg. Isol. Valve (P44-F117)-(A) | 100 |
| PSW Aux. Bldg. Isol. Valve (P44-F118)-(A) | 100 |
| PSW Aux. Bldg. Isol. Valve (P44-F120)-(B) | 100 |
| PSW Aux. Bldg. Isol. Valve (P44-F123)-(B) | 100 |
| PSW Aux. Bldg. Isol. Valve (P44-F116)-(B) | 100 |
| PSW Aux. Bldg. Isol. Valve (P44-F119)-(B) | 100 |
| RHR Discharge To Liquid Radwaste Valve (E12-F203)-(A&B) | 30 |

ELECTRICAL POWER SYSTEMS

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.1 ~~All~~ primary and backup containment penetration conductor overcurrent protective devices ~~shown in Table 3.8.4.1-1~~ shall be OPERABLE. (Insert 1) (Insert 2)

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one or more of the primary or backup containment penetration conductor overcurrent protective devices ~~shown in Table 3.8.4.1-1~~ inoperable, declare the affected system or component inoperable and apply the appropriate ACTION statement for the affected system, and:

1. For 6.9 kV circuit breakers, de-energize the 6.9 kV circuit(s) by tripping the associated redundant circuit breaker(s) within 72 hours and verify the redundant circuit breaker to be tripped at least once per 7 days thereafter.

2. For 480 volt circuit breakers, remove the inoperable circuit breaker(s) from service by racking out the breaker within 72 hours and verify the inoperable breaker(s) to be racked out at least once per 7 days thereafter.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.8.4.1 Each of the primary and backup containment penetration conductor overcurrent protective devices ~~shown in Table 3.8.4.1-1~~ shall be demonstrated OPERABLE:

a. At least once per 18 months:

1. By verifying that the medium voltage 6.9 kV circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers and performing:

a) A CHANNEL CALIBRATION of the associated protective relays, and

b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and overcurrent control circuits function as designed ~~and as specified in Table 3.8.4.1-1~~.

INSERT 1

(i.e., circuit breakers) associated with each primary containment electrical penetration circuit

INSERT 2

The scope of these protective circuit breakers excludes those circuits for which credible fault currents would not exceed the electrical penetration design rating.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

2. By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. ~~For the lower voltage circuit breakers the nominal trip setpoint and short circuit response times are listed in Table 3.8.4.1-1.~~ Testing of these circuit breakers shall consist of injecting a current in excess of 120% of the breakers nominal setpoint and measuring the response time. The measured response time will be compared to the manufacturer's data to insure that it is less than or equal to a value specified by the manufacturer. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation of the affected equipment. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

Pages 3/4 8-21 through 3/4 8-45 have been Intentionally Deleted.

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TABLE 3.8.4.1-1

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

| DEVICE NUMBER AND LOCATION | TRIP SETPOINT (Amperes) | RESPONSE TIME (Cycles) | SYSTEM/ COMPONENT AFFECTED |
|---|---|---|---|
| a. 6.9 KV Circuit Breakers | | | |
| 252-1103-B | 7200/45/± 10%# | 60 | Reactor Recir. Pump B33C001A |
| 252-1103-C | 7200/45/± 10%# | 60 | |
| 252-1205-B | 7200/45/± 10%# | 60 | Reactor Recir. Pump B33C001B |
| 252-1205-C | 7200/45/± 10%# | 60 | |
| b. 480 VAC Circuit Breakers | | | |
| Stored Energy Type K600S with SS3G3 Tripping Device | | | |
| 52-12202 | 1200 | 0.07 | CONTAINMENT COOLING FILTER TRAIN HEATERS (N1M41D002B-N) |
| 52-12209 | 2000 | 0.07 | CNTMT POLAR CRANE (Q1F13E001-N) |
| 52-11502 | 1200 | 0.07 | CNTMT CLG. FILTER TRAIN HEATER (N1M41D002A-N) |
| 52-15105 | 2000 | 0.07 | DRYWELL PURGE COMPRESS. (Q1E61C001A-A) |
| 52-16204 | 2000 | 0.07 | DRYWELL PURGE COMPRESS. (Q1E61C001B-B) |
| 52-16404 | 1200 | 0.07 | HYDROGEN RECOMBINER (Q1E61C003B-B) |
| 52-15205 | 1200 | 0.07 | HYDROGEN RECOMBINER (Q1E61C003A-A) |

# Primary current/setpoint.

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1112-01 | 500 | 0.100 | NEUTRON MON SYS DRIVE MECHANISM (1C51-J001A) |
| 52-1112-02 | 500 | 0.100 | NEUTRON MON SYS DRIVE MECHANISM (1C51-J001B) |
| 52-1112-03 | 500 | 0.100 | NEUTRON MON SYS DRIVE MECHANISM (1C51-J001C) |
| 52-1112-04 | 500 | 0.100 | NEUTRON MON SYS DRIVE MECHANISM (1C51-J001D) |
| 52-1112-05 | 175 | 0.100 | STEAM TUNNEL CLR INSIDE CTMT FAN (N1M41C004A-N) |
| 52-1112-06 | 500 | 0.100 | NEUTRON MON SYS DRIVE MECHANISM (1C51-J001E) |
| 52-1112-07 | 1200 | 0.100 | LIGHTING XFMR 1X105 (N1R18S105-D) |
| 52-1112-10 | 1200 | 0.100 | LIGHTING XFMR 1X109 (N1R18S109-D) |
| 52-1112-14 | 500 | 0.100 | REAC WATER SAMPLE STA FILTER TRAIN HEATER (N1M41-D006-N) |
| 52-1112-15 | 320 | 0.100 | RWCU BACKWASH TRANSFER PUMP (N1G36C004-N) |
| 52-1112-18 | 24 | 0.100 | PRECOAT TANK AGITATOR (N1G36D019-N) |

TABLE 3.5.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type KZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1112-20 | 90 | 0.100 | RWCU FILTER DEMIN HOLDING PUMP (N1G36C001A-N) |
| 52-1112-21 | 800 | 0.100 | 480 V RECEPTACLE |
| 52-1112-22 | 5 | 0.100 | MOV-STM TUNNEL COOLER INLET (N1P72F150A-N) |
| 52-1112-24 | 32 | 0.100 | MOV CLEANUP LINE RECIRC LOOP A (Q1G33F100-N) |
| 52-1112-27 | 24 | 0.100 | RESIN TANK AGITATOR (N1G36D020-N) |
| 52-1112-28 | 38 | 0.100 | MOV RWCU HEAT EXCHANGER BYPASS (N1G33F104-N) |
| 52-1112-31 | 38 | 0.100 | MOV RWCU HEAT EXCHANGER BYPASS (N1G33F044-N) |
| 52-1112-36 | 800 | 0.100 | REAC. RECIRC. PUMP SPACE HEATER (TR1B33C001A) |
| 52-1112-37 | 800 | 0.100 | 480 V RECEPTACLE |
| 52-1112-38 | 44 | 0.100 | REAC WATER SAMPLE STA FILTER TRAIN FAN (N1M41-0006-N) |
| 52-1112-41 | 6 | 0.100 | REAC RECIRC SAMPLE PANEL ISOL MOV (N1B33F129) |
| 52-1113-07 | 125 | 0.100 | CNTMT FLOOR DRAIN SUMP PUMP (N1P45C0198-N) |



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TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1113-21 | 60 | 0.100 | DRYWELL EQUIP DRAIN SUMP PUMP (N1P43C002B-N) |
| 52-1113-30 | 28 | 0.100 | MOV RWCU HOX OUTL ISOL VLV (N1G33F2S[illegible]N) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1113-44 | 800 | 0.100 | 480 V RECEPTACLE |
| 52-1113-47 | 500 | 0.100 | SPARE |
| 52-1151-06 | 240 | 0.100 | CNTMT COOLING FILTER TRAIN FAN (N1M410002A-N) |
| 52-1151-07 | 17.5 | 0.100 | REAC. RECIRC. MPU OIL PUMP FAN (N1B33D003A3-N) |
| 52-1151-10 | 600 | 0.100 | REAC. RECIRC. MPU OIL PUMP (N1B33D003A1-N) |
| 52-1151-12 | 75 | 0.100 | MOV - RECIRC PUMP SUCTION (Q1B33F023A-N) |
| 52-1151-19 | 75 | 0.100 | MOV RECIRC PUMP DISCHARGE (Q2B33F067A-N) |
| 52-1151-20 | 600 | 0.100 | REAC. RECIRC. MPU OIL PUMP (N1B33D003A2-N) |
| 52-1151-21 | 17.5 | 0.100 | REAC. RECIRC. MPU OIL PUMP FAN (N1B33D003A4-N) |
| 52-1151-22 | 60 | 0.100 | DRYWELL CHEMICAL WASTE SUMP PUMP (N1P45C029-N) |
| 52-1151-27 | 60 | 0.100 | DRYWELL EQPT. DR. SUMP PUMP (N1P45C002A-N) |
| 52-1151-28 | 125 | 0.100 | CNTMT FLOOR DR. SUMP PUMP (N1P45C019A-N) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1222-04 | 800 | 0.100 | CNTMT CLR FAN COIL UNIT FAN (N1M41B0018-N) |
| 52-1222-05 | 240 | 0.100 | CNTMT COOLING SYS CHAR TRAIN FAN (N1M41D0028-N) |
| 52-1222-09 | 1200 | 0.100 | LIGHTING XFMR 1X104 (N1U1B1204-E) |
| 52-1222-11 | 800 | 0.100 | 480 V RECEPTACLES |
| 52-1222-18 | 500 | 0.100 | REAC. RECIRC. PUMP SPACE HEATER (TB1833C0018) |
| 52-1222-19 | 75 | 0.100 | MOV - RWCU RETURN TO REACTOR (N1G33F042-N) |
| 52-1222-20 | 225 | 0.100 | MOV - VESSEL DRAIN LINE RECIRC. (Q1G33F101-N) |
| 52-1222-21 | 75 | 0.100 | MOV - CLEANUP LINE SUCT. IN DRYWELL (Q1G33F102-N) |
| 52-1222-22 | 225 | 0.100 | MOV - CLEANUP LINE RECIRC LOOP B (Q1G33F100-N) |
| 52-1251-01 | 175 | 0.100 | STEAM TUNNEL CLR. INSIDE CNTMT (N1M41C0040B-N) |
| 52-1251-07 | 60 | 0.100 | CNTMT CHEM WASTE SUMP PUMP (N1P45C0027A-N) |



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TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1251-13 | 800 | 0.100 | CNTMT CLR FAN COIL UNIT FAN (N1M41B001C-N) |
| 52-1251-15 | 32 | 0.100 | MOV - RWCS HX INL ISOL VLV (N1G33F256-N) |
| 52-1251-18 | 38 | 0.100 | MOV - REGEN HEAT EXCHANGER BYPASS (Q1G33F107-N) |
| 52-1251-19 | 38 | 0.100 | MOV - RWCU DRAIN FLOW ORIFICE BYP (N1G33F031-N) |
| 52-1251-20 | 120 | 0.100 | CNTMT EQUIP DRAIN PUMP (N1P45C0048-N) |
| 52-1251-22 | 32 | 0.100 | MOV - RWCU TO FLT "S" ISOL VLV (N1G33F258-N) |
| 52-1251-26 | 1200 | 0.100 | LIGHTING XFMR 1X112 (N1R18S112-0) |
| 52-1251-28 | 5 | 0.100 | MOV - STM TUNNEL COOLER INLET (N1P72F150B-N) |
| 52-1252-23 | 60 | 0.100 | DRYWELL FLOOR DRAIN SUMP PUMP (N1P45C0010-N) |
| 52-1252-27 | 500 | 0.100 | FUEL TRANSFER SYS MN CONSOLE (N1F11B015-MC) |
| 52-1411-01 | 38 | 0.100 | MOV - VESSEL HEAD VENTILATION (Q1B21F002-N) |



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TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1412-01 | 17.5 | 0.100 | REAC RECIRC HPU OIL PUMP FAN (N1B33D00383-N) |
| 52-1412-02 | 60 | 0.100 | CNTMT CHEM WASTE SUMP PUMP (N1P45C027B-N) |
| 52-1412-03 | 60 | 0.100 | DRYWELL FLOOR DRAIN SUMP PUMP (N1P45C001A-N) |
| 52-1412-05 | 12.5 | 0.100 | MOV CRD COOLWTR PRESS CONTROL (N1C11F003-N) |
| 52-1412-08 | 105 | 0.100 | MOV REAC RECIRC PUMP B SUCTION (Q1B33F023B-N) |
| 52-1412-09 | 175 | 0.100 | RWCU DEMIN PRECOAT PUMP (N1G36C002-N) |
| 52-1412-12 | 90 | 0.100 | RWCU DEMIN HOLDING PUMP (N1G36C001B-N) |
| 52-1412-15 | 600 | 0.100 | REAC RECIRC HPU OIL PUMP (N1B33D00381-N) |
| 52-1412-17 | 320 | 0.100 | CNTMT EQUIP DRAIN SUMP PUMP (N1P45C004A-N) |
| 52-1412-20 | 800 | 0.100 | 480 V RECEPTACLE |
| 52-1412-23 | 600 | 0.100 | REAC RECIRC HPU OIL PUMP (N1B33D00382-N) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1412-25 | 17.5 | 0.100 | REAC RECIRC HPU OIL PUMP FAN (N1B33D00384-N) |
| 52-1412-26 | 38 | 0.100 | MOV REACTOR VESSEL HEAD VENT (Q1B21F001-N) |
| 52-1412-28 | 38 | 0.100 | MOV REACTOR VESSEL HEAD VENT (Q1B21F005-N) |
| 52-1412-32 | 800 | 0.100 | CNTMT CLR FAN COIL UNIT FAN (N1M41B001A-N) |
| 52-1412-33 | 105 | 0.100 | MOV - REAC RECIRC PUMP A DISCHARGE (Q1B33F067B-N) |
| 52-1412-35 | 500 | 0.100 | CRD REMOVAL HOIST (N1M31E003-N) |
| 52-1412-39 | 1200 | 0.100 | DRYWELL VALVE HOIST (Q1M31E002-N) |
| 52-1412-41 | 32 | 0.100 | CNTMT AIRLOCK AIR SHOWER FAN (N1M41C005-N) |
| 52-1511-07 | 50 | 0.100 | MOV - RWCU INL INB ISOL VLV (Q1G33F250-A) |
| 52-1511-24 | 50 | 0.100 | MOV - RWCU INL OUT ISOL VLV (Q1G33F253-A) |
| 52-1511-44 | 12.5 | 0.100 | MOV - DRYWELL CLG WATER ISOL (Q1P42F116-A) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR
OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1511-54 | 24 | 0.100 | Spare |
| 52-1521-02 | 6 | 0.100 | MOV COMBUSTIBLE GAS CONTROL SYS (Q1E61F003A-A) |
| 52-1521-03 | 6 | 0.100 | MOV COMBUSTIBLE GAS CONTROL SYS (Q1E61F005A-A) |
| 52-1521-07 | 32 | 0.100 | MOV SUPPR. POOL MAKE-UP VALVE (Q1E30F002A-A) |
| 52-1521-14 | 600 | 0.100 | SCL SYSTEM PUMP (Q1C41C001A-A) |
| 52-1521-15 | 5 | 0.100 | STORAGE TANK OUTLET VALVE (Q1C41F001A-A) |
| 52-1521-28 | 12.5 | 0.100 | MOV INST LINE ISOL VALVE (Q1M71F595-A) |
| 52-1521-44 | 32 | 0.100 | MOV - SUPPR POOL MAKE-UP VALVE (Q1E30F001A-A) |
| 52-1531-24 | 12.5 | 0.100 | MOV - DRYWELL COOLER ISOLATION (Q1P72F125-A) |
| 52-1531-25 | 8 | 0.100 | MOV - REACTOR WATER SAMPLE (Q1B33F020-A) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1531-36 | 320 | 0.100 | MOV - LPCI A INJECTION ISOL (Q1E12F042A-A) |
| 52-1531-44 | 125 | 0.100 | MOV - RHR A UPPER CNT POOL SPRAY (Q1E12F037A-A) |
| 52-1531-49 | 32 | 0.100 | MOV - DRYWELL CHEM WASTE ISOL (Q1P45F096-A) |
| 52-1531-50 | 100 | 0.100 | MOV - RHR A CONTAINMENT SPRAY (Q1E12F028A-A) |
| 52-1541-32 | 32 | 0.100 | MOV - COMB GAS CONT COMP A OUT (Q1P41F168A-A) |
| 52-1542-05 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B001A-A) |
| 52-1542-06 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B002A-A) |
| 52-1542-07 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B003A-A) |
| 52-1542-08 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B004A-A) |
| 52-1542-09 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B005A-A) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1542-10 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B006A-A) |
| 52-1542-14 | 5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F145-A) |
| 52-1542-15 | 5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F116-A) |
| 52-1542-16 | 5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F135-A) |
| 52-1542-17 | 5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F111-A) |
| 52-1542-18 | 5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F101-A) |
| 52-1542-19 | 5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F134-A) |
| 52-1542-21 | 800 | 0.100 | SLCS OPERATING HEATER (N1C41D002) |
| 52-1542-22 | 24 | 0.100 | DRWL PURGE COMP AUX OIL PUMP (Q1E61C001A-A) |
| 52-1542-23 | 500 | 0.100 | REFUELING PLATFORM ASSY (Q1F15E003-A) |
| 52-1542-26 | 175 | 0.100 | DRYWELL RECIRC FAN (N1M61C001-A) |



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TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1542-29 | 1200 | 0.100 | STBY LIQ CONTROL SYS MIXING HEATER (Q1C41D003) |
| 52-1611-10 | 12.5 | 0.100 | MOV - DRYWELL COLL TK OUTLET ISOLATION (Q1G41F046-S) |
| 52-1611-15 | 12.5 | 0.100 | MOV - DCW CTMT STM TNL CLR ISOL (Q1P72F123-S) |
| 52-1611-16 | 50 | 0.100 | MOV-RHR RX MO SPR INBD ISOL (Q1E12F394-S) |
| 52-1611-25 | 12.5 | 0.100 | MOV - DRYWELL CLG WTR ISOL (Q1P42F117-S) |
| 52-1611-31 | 12.5 | 0.100 | MOV - DRYWELL CLG WTR INL ISOL (Q1P42F114-S) |
| 52-1611-[illegible] | 32 | 0.100 | MOV - CTMT CLG WTR ISOLATION (Q1P42F068-S) |
| 52-1611-42 | 12.5 | 0.100 | MOV DCW STEAM TUNNEL CLR ISOL (Q1P72F124-S) |
| 52-1611-43 | 12.5 | 0.100 | MOV DCW STEAM TUNNEL CLR ISOL (Q1P72F126-S) |
| 52-1611-44 | 38 | 0.100 | MOV - SERVICE AIR DRYWELL ISOLATION (Q1P52F198-S) |



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TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1621-03 | 7 | 0.100 | MOV - DRWL HYDR INST LINE ISO (Q1E61F595B-B) |
| 52-1621-04 | 7 | 0.100 | MOV - DRWL HYDR INST LINE ISO (Q1E61F597B-B) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1621-05 | 7 | 0.100 | MOV - DRWL HYDR INST LINE ISO (Q1E61F595D-B) |
| 52-1621-06 | 7 | 0.100 | MOV - DRWL HYDR INST LINE ISO (Q1E61F597D-B) |
| 52-1621-07 | 7 | 0.100 | MOV CTMT HYDR INST LINE ISOL (Q1E61F596B-B) |
| 52-1621-08 | 7 | 0.100 | MOV CTMT HYDR INST LINE ISOL (Q1E61F598B-B) |
| 52-1621-09 | 7 | 0.100 | MOV CTMT HYDR INST LINE ISO (Q1E61F596D-B) |
| 52-1621-10 | 7 | 0.100 | MOV CTMT HYDR INST LINE ISO (Q1E61F598D-B) |
| 52-1621-16 | 10 | 0.100 | CONTAINMENT ISOL VALVE (Q1B33F128-B) |
| 52-1621-17 | 6 | 0.100 | MOV - DRWL PURGE INLET (Q1E61F0038-B) |
| 52-1621-18 | 6 | 0.100 | MOV - DRWL PURGE VACUUM RELIEF (Q1E61F0058-B) |
| 52-1621-19 | 24 | 0.100 | SPARE |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1621-40 | 32 | 0.100 | MOV - COMB GAS CONT COMP B OUT (Q1P41F1688-B) |
| 52-1631-06 | 125 | 0.100 | MOV - RHR B UPPER CTMT POOL SPRAY (Q1E12F037B-B) |
| 52-1631-13 | 320 | 0.100 | MOV - RHR B LPCI (Q1E12F042B-B) |
| 52-1631-15 | 105 | 0.100 | MOV-SSW TO RHR SYSTEM (Q1E12F096B) |
| 52-1631-20 | 12.5 | 0.100 | MOV - MAIN STEAM LINE DRAIN INBD (Q1B21F016-B) |
| 52-1631-29 | 600 | 0.100 | STANDBY LIQUID CONTROL PUMP (Q1C41C001B-B) |
| 52-1631-33 | 105 | 0.100 | MOV - RHR B TO CONTAINMENT SPRAY (Q1E12F028B-B) |
| 52-1631-34 | 105 | 0.100 | MOV - RCIC STEAM SUPPLY LINE ISOL (Q1E51F063-B) |
| 52-1631-35 | 5 | 0.100 | STORAGE TANK OUTLET VALVE (Q1C41F001B-B) |
| 52-1631-37 | 240 | 0.100 | MOV - RHR A SHT DN CLG INBD ISO (Q1E12F009-B) |
| 52-1631-38 | 32 | 0.100 | MOV - RCIC STEAM WARMUP LINE ISOL (Q1E51F076-B) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1631-41 | 8 | 0.100 | MOV - REACTOR WATER SAMPLE (Q1B33F019-B) |
| 52-1631-47 | 50 | 0.100 | MOV - INST AIR DRWL OUTBD ISOL (Q1P53F007-B) |
| 52-1631-50 | 32 | 0.100 | MOV - RWCU OUTLET TO MAIN CONDENSER (Q1G33F028-B) |
| 52-1631-51 | 32 | 0.100 | MOV RWCU SYS ISOLATIN VALVE (Q1G33F053-B) |
| 52-1631-52 | 50 | 0.100 | MOV - RWCU SYS ISOLATION (Q1G33F040-B) |
| 52-1631-53 | 50 | 0.100 | MOV - RWCU SYS ISOLATION (Q1G33F001-B) |
| 52-1641-06 | 32 | 0.100 | MOV - MAKE UP WATER CNTMT ISOL (Q1P21F018-B) |
| 52-1641-07 | 50 | 0.100 | MOV - RWCU INL OUT ISOL VLV (Q1G33F251-B) |
| 52-1641-08 | 50 | 0.100 | MOV - RWCU OUT IMB ISOL VLV (Q1G33F252-B) |
| 52-1641-16 | 7 | 0.100 | MOV INSTRUMENT LINE INBOARD ISO (Q1D23F591-B) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1641-18 | 7 | 0.100 | MOV - INSTRUMENT LINE INBOARD ISO (Q1D23F593-B) |
| 52-1641-24 | 7 | 0.100 | CONTAINMENT ISOL VALVE (Q1B33F126-B) |
| 52-1641-26 | 32 | 0.100 | MOV - DRYWELL CHEM WASTE ISOL (Q1P45F097-B) |
| 52-1641-35 | 32 | 0.100 | MOV - SUPPR POOL MAKE UP VALVE (Q1E30F001B-B) |
| 52-1641-36 | 32 | 0.100 | MOV - SUPPR POOL MAKE UP VALVE (Q1E30F002B-B) |
| 52-1642-05 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B001B-B) |
| 52-1642-06 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B002B-B) |
| 52-1642-07 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B003B-B) |
| 52-1642-08 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B004B-B) |
| 52-1642-09 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B005B-B) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

c. 480 VAC Circuit Breakers (Continued)

Molded Case, Type NZM

| BREAKER NUMBER | TRIP SETPOINT (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1642-10 | 320 | 0.100 | DRYWELL COOLER FAN COIL UNIT (N1M51B0068-B) |
| 52-1642-14 | 12.5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F146-B) |
| 52-1642-15 | 12.5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F117-B) |
| 52-1642-16 | 12.5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F140-B) |
| 52-1642-17 | 12.5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F112-B) |
| 52-1642-18 | 12.5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F102-B) |
| 52-1642-19 | 12.5 | 0.100 | MOV - DRYWELL COOLER INLET (N1P72F135-B) |
| 52-1642-21 | 24 | 0.100 | DRWL PURGE COMP AUX OIL PUMP (Q1E61C0018-B) |
| 52-1642-29 | 175 | 0.100 | DRWL RECIRC FAN (N1M61C0028) |



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TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

(d) 125 VDC Circuit Breakers
GE Type THED

| BREAKER NUMBER | TIME O.C. PICKUP (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 72-11A-23 | 30 | 5.0 | AUTOMATIC DEPRESSURIZATION SYSTEM VALVES |
| 72-11A-28 | 15 | 5.0 | REMOTE SHUTDOWN PANEL/AUTOMATIC DEPRESSURIZATION SYSTEM VALVES |
| 72-11A-30 | 15 | 5.0 | REACTOR PROTECTION SYSTEM/BACKUP SCRAM VALVE |
| 72-11A-33 | 15 | 5.0 | CONTAINMENT & DRYWELL ISOLATION SYSTEM ANNUNCIATION |
| 72-11A-38 | 15 | 5.0 | RESIDUAL HEAT REMOVAL SYSTEM VALVES |
| 72-11B-14 | 50 | 5.0 | RESIDUAL HEAT REMOVAL SYSTEM |
| 72-11B-28 | 15 | 5.0 | REMOTE SHUTDOWN PANEL/ADS VALVES |
| 72-11B-30 | 15 | 5.0 | REACTOR PROTECTION SYSTEM/ BACKUP SCRAM VALVE |
| 72-11B-34 | 30 | 5.0 | AUTOMATIC DEPRESSURIZATION SYSTEM VALVES |
| 72-11B-37 | 15 | 5.0 | CONTAINMENT & DRYWELL ISOLATION SYSTEM |



Amendment No. —

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

(d) 125 VDC Circuit Breakers (Continued)
GE Type THED

| BREAKER NUMBER | TIME O.C. PICKUP (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 72-11D-39 | 15 | 5.0 | FEEDWATER CONTROL SYSTEM |
| 72-11D-71 | 15 | 5.0 | CHARCOAL FILTER TRAIN N1M41D002A-N ALARMS |
| 72-11D-72 | 15 | 5.0 | FLOOR & EQUIPMENT DRAIN SYSTEM |
| 72-11D-73 | 15 | 5.0 | CONDENSATE AND REFUELING WATER STORAGE AND TRANSFER SYSTEM |
| 72-11D-79 | 15 | 5.0 | FILTER DEMIN. CONT. VB G36-P002 |
| 72-11E-36 | 15 | 5.0 | FIRE PROTECTION PANEL |
| 72-11E-69 | 15 | 5.0 | FLOOR & EQUIPMENT DRAIN SYSTEM |
| 72-11E-73 | 15 | 5.0 | CHARCOAL FILTER TRAIN N1M41D002B-N ALARM |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

(e) 208/120 VAC Circuit Breakers
GE Type THQB

| BREAKER NUMBER | TIME O.C. PICKUP (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1P112-12 | 40 | 4.0 | RWCU REACTOR SAMPLE STATION (CONSTANT TEMP. BATH) |
| 52-1P112-13 | 35 | 4.0 | RWCU SYSTEM FILTER DEMIN. CONT. |
| 52-1P112-14 | 15 | 4.0 | CONT. POWER SUPPLY NSSSS (1G33TSN008) |
| 52-1P112-17 | 20 | 4.0 | RWCU REACTOR SAMPLE STATION (INST. POWER) |
| 52-1P112-20 | 15 | 4.0 | RWCU SYS. DUSTER COLLECTOR TANK (N1G36D016) |
| 52-1P112-22 | 15 | 4.0 | RWCU SYS. RESIN PUMP (N1G. 3-N) |
| 52-1P112-23 | 15 | 4.0 | AREA [illegible]. MONIT. SYSTEM CTMT. BLDG. ALARMS |
| 52-1P151-20 | 15 | 4.0 | MOTOR SPACE HEATER FOR REACTOR RECIRC. SYSTEM (N1B33D003A1-N) |
| 52-1P151-22 | 15 | 4.0 | MOTOR SPACE HEATER FOR REACTOR RECIRC. SYSTEM (N1B33D003A2-N) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

(e) 208/120 VAC Circuit Breakers (Continued)
GE type THQB

| BREAKER NUMBER | TIME O.C. PICKUP (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1P151-23 | 15 | 4.0 | CTMT. CLG. SYSTEM CHARCOAL FLTR. TRAIN HEATER (N1M61D002A-N) |
| 52-1P151-24 | 15 | 4.0 | MOTOR SPACE HEATER FOR REACTOR RECIRC. SYS. (N1B33D003A3-N) |
| 52-1P151-25 | 15 | 4.0 | MAIN STEAM PIPING AREA DRWL. COOLER SERVICE WATER CONT. TRANSMITTER (TT-N041) |
| 52-1P151-26 | 15 | 4.0 | MOTOR SPACE HEATER FOR REACTOR RECIRC. SYSTEM (N1B33D003A4-N) |
| 52-1P151-37 | 15* | 4.0 | DRWL. PERSONNEL LOCK (120'-10" ELEV) |
| 52-1P151-38 | 15* | 4.0 | CTMT. PERSONNEL LOCK (LOWER) |
| 52-1P222-17 | 15 | 4.0 | CTMT. CLG. SYSTEM CHARCOAL FLTR. TRAIN HTR. (N1M61D002B-N) |
| 52-1P222-36 | 15 | 4.0 | CTMT. & DRWL. PERSONNEL AIR LOCK MONITORING SYSTEM IN CONT. ROOM |



Amendment No.—

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

(e) 208/120 VAC Circuit Breakers (Continued)

GE Type THQB

| BREAKER NUMBER | TIME O.C. PICKUP (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1P222-27 | 15 | 4.0 | DRWL. COOLERS SERVICE WATER CONT. TRANSMITTER (TT - N044) |
| 52-1P251-13 | 15 | 4.0 | PUMP VALVE SOLENOID CONT. CKT. & TEMPERATURE FOR REACTOR WATER CLEAN UP SYS. |
| 52-1P252-37 | 15* | 4.0 | CONTAINMENT EQUIP. HATCH (Q1M23Y007-1) |
| 52-1P252-38 | 15* | 4.0 | CONTAINMENT EQUIP. HATCH (Q1M23Y007-2) |
| 52-1P411-19 | 15 | 4.0 | DRYWELL CHILLED WATER SYS. CONTROL VALVE INDICATION (1P72ZLR018) |
| 52-1P412-22 | 15 | 4.0 | MOTOR SPACE HEATER FOR REACTOR RECIRC. SYSTEM (N1B33D0038I-N) |
| 52-1P412-23 | 20 | 4.0 | UTILITY POWER FOR REMOTE SIGNAL CONDITIONING PANEL |
| 52-1P412-24 | 15 | 4.0 | MOTOR SPACE HEATER FOR REACTOR RECIRC. SYSTEM (N1B33D0038Z-N) |
| 52-1P412-25 | 20 | 4.0 | UTILITY POWER FOR REMOTE SIGNAL CONDITIONING PANEL |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

(e) 208/120 VAC Circuit Breakers (Continued)
GE Type THQB

| BREAKER NUMBER | TIME O.C. PICKUP (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1P412-26 | 15 | 4.0 | MOTOR SPACE HEATER FOR REACTOR RECIRC. SYSTEM (N1B33D003B3-N) |
| 52-1P412-28 | 15 | 4.0 | MOTOR SPACE HEATER FOR REACTOR RECIRC. SYSTEM (N1B33D003B4-N) |
| 52-1P511-10 | 15 | 4.0 | MOTOR SPACE HEATER FOR DRYWL. PURGE COMPRESSOR (Q1E61C001A-A) |
| 52-1P521-21 | 15 | 4.0 | MOTOR SPACE HEATER FOR SLCS (Q1C41C001A-A) |
| 52-1P531-19 | 40 | 4.0 | HYDROGEN IGNITOR CONTROL |
| 52-1P531-21 | 40 | 4.0 | HYDROGEN IGNITOR CONTROL |
| 52-1P621-25 | 15 | 4.0 | MOTOR SPACE HEATER FOR DRWL. PURGE COMPRESSOR (Q1E61C001B-B) |
| 52-1P631-15 | 40 | 4.0 | HYDROGEN IGNITOR CONTROL |
| 52-1P631-17 | 40 | 4.0 | HYDROGEN IGNITOR CONTROL |
| 52-1P631-21 | 15 | 4.0 | MOTOR SPACE HEATER FOR SLCS (Q1C41C001B-B) |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

(e) 208/120 VAC Circuit Breakers (Continued)
GE Type THQL

| BREAKER NUMBER | TIME O.C. PICKUP (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 52-1DP641-07 | 15 | 4.0 | CTMT. CLG. SMOKE DETECTOR POWER SUPPLY |
| 1H22-P391A-2 | 20 | 4.0 | POST ACCIDENT SAMPLE LINES HEAT TRACE N1R63T986A |
| 1H22-P391B-2 | 20 | 4.0 | CTNT & DRYWELL MONITOR HEAT TRACE N1R63T986B |

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

(e) 208/120 VAC Circuit Breakers (Continued)
Westinghouse BA

| BREAKER NUMBER | TIME O.C. PICKUP (Amperes) | RESPONSE TIME (Seconds) | SYSTEM/COMPONENT AFFECTED |
|---|---|---|---|
| 1H22-P110A-1 | 15 | 4.0 | HEAT TRACE FOR SLCS N1R63T321A |
| 1H22-P110A-4 | 15 | 4.0 | HEAT TRACE FOR SLCS N1R63T322A |
| 1H22-P110A-5 | 15 | 4.0 | HEAT TRACE FOR SLCS N1R63T323A |
| 1H22-P110A-8 | 15 | 4.0 | HEAT TRACE FOR SLCS N1R63T324A |
| 1H22-P110B-1 | 15 | 4.0 | HEAT TRACE FOR SLCS N1R63T321B |
| 1H22-P110B-4 | 15 | 4.0 | HEAT TRACE FOR SLCS N1R63T322B |
| 1H22-P110B-5 | 15 | 4.0 | HEAT TRACE FOR SLCS N1R63T323B |
| 1H22-P110B-8 | 15 | 4.0 | HEAT TRACE FOR SLCS N1R63T324B |

*3 Pole Breaker

ELECTRICAL POWER SYSTEMS

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION (whose motor operator performs a safety function)

LIMITING CONDITION FOR OPERATION

3.8.4.2 The thermal overload protection of each valve ~~shown in Table 3.8.4.2-1~~ shall be OPERABLE or shall be bypassed either continuously or only under accident conditions, as ~~indicated~~ (applicable), by an OPERABLE bypass device.

APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.

ACTION: (applicable)

With the thermal overload protection for one or more of the above required valves not OPERABLE or not bypassed either continuously or only under accident conditions, as ~~indicated in Table 3.8.4.2-1~~, bypass the thermal overload within 8 hours or declare the affected valve(s) inoperable and apply the appropriate ACTION statement(s) for the affected system(s).

SURVEILLANCE REQUIREMENTS

4.8.4.2.1 The thermal overload protection which is bypassed either continuously or only under accident conditions for the above required valves shall be verified to be bypassed continuously or only under accident conditions, as applicable, by an OPERABLE bypass device (1) by the performance of a CHANNEL FUNCTIONAL TEST of the bypass circuitry for those thermal overloads which are normally in force during plant operation and bypassed under accident conditions and (2) by verifying that the thermal overload protection is bypassed for those thermal overloads which are continuously bypassed and temporarily placed in force only when the valve motors are undergoing periodic or maintenance testing:

a. For those thermal overloads which are normally in force during plant operation and bypassed under accident conditions:

   1. At least once per 92 days for the individual valve bypass circuitry.

   2. At least once per 18 months for the ECCS portion of the channel.

b. At least once per 18 months for those thermal overloads which are continuously bypassed and temporarily placed in force only when the valve motors are undergoing periodic or maintenance testing.

c. Following maintenance on the motor starter.

4.8.4.2.2 The thermal overload protection which is not bypassed for the above required valves shall be demonstrated OPERABLE at least once per 18 months by the performance of a CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overloads for the above required valves.

4.8.4.2.3 The thermal overload protection for the above required valves which is continuously bypassed and temporarily placed in force only when the valve motor is undergoing periodic or maintenance testing shall be verified to be bypassed following periodic or maintenance testing during which the thermal overload protection was temporarily placed in force.

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## TABLE 3.8.4.2-1

## MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

| VALVE NUMBER | BYPASS DEVICE (CONTINUOUS) (ACCIDENT CONDITIONS) (NO) | SYSTEM(S) AFFECTED |
|---|---|---|
| Q1E51F010 | Continuous | RCIC System |
| Q1E51F013 | Continuous | RCIC System |
| Q1E51F019 | Continuous | RCIC System |
| Q1E51F022 | Continuous | RCIC System |
| Q1E51F031 | Continuous | RCIC System |
| Q1E51F045 | Continuous | RCIC System |
| Q1E51F046 | Continuous | RCIC System |
| Q1E51F059 | Continuous | RCIC System |
| Q1E51F068 | Continuous | RCIC System |
| RCIC Trip and Throttle Valve on Turbine Q1E51C002 | Continuous | RCIC System |
| Q1E51F095 | Continuous | RCIC System |
| Q1B21F065A | No | Reactor Coolant System |
| Q1B21F065B | No | Reactor Coolant System |
| Q1B21F098A | No | Reactor Coolant System |
| Q1B21F098B | No | Reactor Coolant System |
| Q1B21F098C | No | Reactor Coolant System |
| Q1B21F098D | No | Reactor Coolant System |
| Q1B21F019 | Continuous | Reactor Coolant System |
| Q1B21F067A | Continuous | Reactor Coolant System |
| Q1B21F067B | Continuous | Reactor Coolant System |
| Q1B21F067C | Continuous | Reactor Coolant System |
| Q1B21F067D | Continuous | Reactor Coolant System |
| Q1B21F016 | Continuous | Reactor Coolant System |
| Q1B21F147A | Continuous | MSL Drain Post LOCA Leakage Control |
| Q1B21F147B | Continuous | MSL Drain Post LOCA Leakage Control |
| Q1B33F019 | Continuous | Recirculation System |
| Q1B33F020 | Continuous | Recirculation System |
| Q1B33F125 | Continuous | Recirculation System |
| Q1B33F126 | Continuous | Recirculation System |
| Q1B33F127 | Continuous | Recirculation System |
| Q1B33F128 | Continuous | Recirculation System |
| Q1D23F591 | * | Drywell Monitoring System |
| Q1D23F592 | * | Drywell Monitoring System |
| Q1D23F593 | * | Drywell Monitoring System |
| Q1D23F594 | * | Drywell Monitoring System |
| Q1E12F040 | Continuous | RHR System |
| Q1E12F023 | Continuous | RHR System |
| Q1E12F006A | Continuous | RHR System |
| Q1E12F052A | Continuous | RHR System |
| Q1E12F008 | Continuous | RHR System |
| Q1E12F394 | Continuous | RHR System |

TABLE 3.8.4.2-1 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

| VALVE NUMBER | BYPASS DEVICE (CONTINUOUS) (ACCIDENT CONDITIONS) (NO) | SYSTEM(S) AFFECTED |
|---|---|---|
| Q1E12F074A | Continuous | RHR System |
| Q1E12F026A | Continuous | RHR System |
| Q1E12F082A | No | RHR System |
| Q1E12F082B | No | RHR System |
| Q1E12F290A | Continuous | RHR System |
| Q1E12F047A | Continuous | RHR System |
| Q1E12F027A | Continuous | RHR System |
| Q1E12F073A | Continuous | RHR System |
| Q1E12F348 | Continuous | RHR System |
| Q1E12F024A | Continuous | RHR System |
| Q1E12F087A | Continuous | RHR System |
| Q1E12F048A | Continuous | RHR System |
| Q1E12F042A | Continuous | RHR System |
| Q1E12F004A | Continuous | RHR System |
| Q1E12F003A | Continuous | RHR System |
| Q1E12F011A | Continuous | RHR System |
| Q1E12F053A | Continuous | RHR System |
| Q1E12F037A | Continuous | RHR System |
| Q1E12F028A | Continuous | RHR System |
| Q1E12F064A | Continuous | RHR System |
| Q1E12F066A | Continuous | RHR System |
| Q1E12F290B | Continuous | RHR System |
| Q1E12F004C | Continuous | RHR System |
| Q1E12F021 | Continuous | RHR System |
| Q1E12F064C | Continuous | RHR System |
| Q1E12F042C | Continuous | RHR System |
| Q1E12F048B | Continuous | RHR System |
| Q1E12F049 | Continuous | RHR System |
| Q1E12F037B | Continuous | RHR System |
| Q1E12F053B | Continuous | RHR System |
| Q1E12F074B | Continuous | RHR System |
| Q1E12F042B | Continuous | RHR System |
| Q1E12F064B | Continuous | RHR System |
| Q1E12F096 | Continuous | RHR System |
| Q1E12F094 | Continuous | RHR System |
| Q1E12F006B | Continuous | RHR System |
| Q1E12F011B | Continuous | RHR System |
| Q1E12F053B | Continuous | RHR System |
| Q1E12F047B | Continuous | RHR System |
| Q1E12F027B | Continuous | RHR System |
| Q1E12F004B | Continuous | RHR System |
| Q1E12F087B | Continuous | RHR System |
| Q1E12F003B | Continuous | RHR System |
| Q1E12F026B | Continuous | RHR System |
| Q1E12F024B | Continuous | RHR System |
| Q1E12F028B | Continuous | RHR System |
| Q1E12F009 | Continuous | RHR System |
| Q1E12F073B | Continuous | RHR System |
| Q1E12F066B | Continuous | RHR System |

TABLE 3.8.4.2-1 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

| VALVE NUMBER | BYPASS DEVICE (CONTINUOUS) (ACCIDENT CONDITIONS) (NO) | SYSTEM(S) AFFECTED |
|---|---|---|
| Q1C11F083 | No | CRD Hydraulic System |
| Q1C11F122 | Continuous | CRD Hydraulic System |
| Q1C41F001A | Continuous | Standby Liquid Control |
| Q1C41F001B | Continuous | Standby Liquid Control |
| Q1E21F001 | Continuous | LPCS System |
| Q1E21F011 | Continuous | LPCS System |
| Q1E21F012 | Continuous | LPCS System |
| Q1E21F005 | Continuous | LPCS System |
| Q1E30F002A | Continuous | Suppression Pool Makeup System |
| Q1E30F591A | * | Suppression Pool Makeup System |
| Q1E30F592A | * | Suppression Pool Makeup System |
| Q1E30F593A | * | Suppression Pool Makeup System |
| Q1E30F594A | * | Suppression Pool Makeup System |
| Q1E30F001A | Continuous | Suppression Pool Makeup System |
| Q1E30F001B | Continuous | Suppression Pool Makeup System |
| Q1E30F002B | Continuous | Suppression Pool Makeup System |
| Q1E30F591B | * | Suppression Pool Makeup System |
| Q1E30F592B | * | Suppression Pool Makeup System |
| Q1E30F593B | * | Suppression Pool Makeup System |
| Q1E30F594B | * | Suppression Pool Makeup System |
| Q1E31F100A | Continuous | Fuel Pool Cooling and Cleanup System |
| Q1E31F100B | Continuous | Fuel Pool Cooling and Cleanup System |
| Q1E32F001A | Continuous | MSIV - LCS |
| Q1E32F001E | Continuous | MSIV - LCS |
| Q1E32F003A | Continuous | MSIV - LCS |
| Q1E32F003E | Continuous | MSIV - LCS |
| Q1E32F003J | Continuous | MSIV - LCS |
| Q1E32F003N | Continuous | MSIV - LCS |
| Q1E32F001J | Continuous | MSIV - LCS |
| Q1E32F001N | Continuous | MSIV - LCS |
| Q1E32F002A | Continuous | MSIV - LCS |
| Q1E32F002E | Continuous | MSIV - LCS |
| Q1E32F002J | Continuous | MSIV - LCS |
| Q1E32F002N | Continuous | MSIV - LCS |
| Q1E32F006 | Continuous | MSIV - LCS |
| Q1E32F007 | Continuous | MSIV - LCS |
| Q1E32F008 | Continuous | MSIV - LCS |
| Q1E32F009 | Continuous | MSIV - LCS |
| Q1E38F001A | Continuous | Feedwater LCS |
| Q1E38F001B | Continuous | Feedwater LCS |

TABLE 3.8.4.2-1 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

| VALVE NUMBER | BYPASS DEVICE (CONTINUOUS) (ACCIDENT CONDITIONS) (NO) | SYSTEM(S) AFFECTED |
|---|---|---|
| Q1E51F064 | Continuous | RCIC System |
| Q1E51F063 | Continuous | RCIC System |
| Q1E51F076 | Continuous | RCIC System |
| Q1E51F077 | Continuous | RCIC System |
| Q1E51F078 | Continuous | RCIC System |
| Q1E22F001 | Continuous | HPCS System |
| Q1E22F004 | Continuous | HPCS System |
| Q1E22F010 | Continuous | HPCS System |
| Q1E22F011 | Continuous | HPCS System |
| Q1E22F012 | Continuous | HPCS System |
| Q1E22F015 | Continuous | HPCS System |
| Q1E22F023 | Continuous | HPCS System |
| Q1E61F595A | * | Combustible Gas Control System |
| Q1E61F596A | * | Combustible Gas Control System |
| Q1E61F597A | * | Combustible Gas Control System |
| Q1E61F598A | * | Combustible Gas Control System |
| Q1E61F595C | * | Combustible Gas Control System |
| Q1E61F596C | * | Combustible Gas Control System |
| Q1E61F597C | * | Combustible Gas Control System |
| Q1E61F598C | * | Combustible Gas Control System |
| Q1E61F595B | * | Combustible Gas Control System |
| Q1E61F596B | * | Combustible Gas Control System |
| Q1E61F597B | * | Combustible Gas Control System |
| Q1E61F598B | * | Combustible Gas Control System |
| Q1E61F595D | * | Combustible Gas Control System |
| Q1E61F596D | * | Combustible Gas Control System |
| Q1E61F597D | * | Combustible Gas Control System |
| Q1E61F598D | * | Combustible Gas Control System |
| Q1E61F003A | Continuous | Combustible Gas Control System |
| Q1E61F005A | Continuous | Combustible Gas Control System |
| Q1E61F003B | Continuous | Combustible Gas Control System |
| Q1E61F005B | Continuous | Combustible Gas Control System |
| Q1G33F251 | Continuous | RWCU System |
| Q1G33F253 | Continuous | RWCU System |
| Q1G33F004 | Continuous | RWCU System |
| Q1G33F039 | Continuous | RWCU System |
| Q1G33F034 | Continuous | RWCU System |
| Q1G33F054 | Continuous | RWCU System |
| Q1G33F028 | Continuous | RWCU System |
| Q1G33F053 | Continuous | RWCU System |
| Q1G33F040 | Continuous | RWCU System |
| Q1G33F001 | Continuous | RWCU System |
| Q1G33F250 | Continuous | RWCU System |
| Q1G33F252 | Continuous | RWCU System |

TABLE 3.8.4.2-1 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

| VALVE NUMBER | BYPASS DEVICE (CONTINUOUS) (ACCIDENT CONDITIONS) (NO) | SYSTEM(S) AFFECTED |
|---|---|---|
| Q1G41F028 | Continuous | Spent Fuel Pool Cooling and Cleanup System |
| Q1G41F029 | Continuous | Spent Fuel Pool Cooling and Cleanup System |
| Q1G41F044 | Continuous | Spent Fuel Pool Cooling and Cleanup System |
| Q1G41F021 | No | Spent Fuel Pool Cooling and Cleanup System |
| Q1G41F043 | No | Spent Fuel Pool Cooling and Cleanup System |
| Q1M71F591A | * | Containment/Drywell I&C |
| Q1M71F593 | * | Containment/Drywell I&C |
| Q1M71F592B | * | Containment/Drywell I&C |
| Q1M71F595 | * | Containment/Drywell I&C |
| Q1M71F591B | * | Containment/Drywell I&C |
| Q1M71F592A | * | Containment/Drywell I&C |
| Q1M71F594 | * | Containment/Drywell I&C |
| Q1P21F017 | Continuous | Makeup Water Treatment System |
| Q1P21F018 | Continuous | Makeup Water Treatment System |
| Q1P41F237 | Continuous | SSW System |
| Q1P41F018A | Continuous | SSW System |
| Q1P41F241 | Continuous | SSW System |
| Q1P41F238 | Continuous | SSW System |
| QSP41F081A | Continuous | SSW System |
| QSP41F064A | Continuous | SSW System |
| Q1P41F068A | Continuous | SSW System |
| Q1P41F014A | Continuous | SSW System |
| Q1P41F159A | Continuous | SSW System |
| Q1P41F160A | Continuous | SSW System |
| Q1P41F113 | Continuous | SSW System |
| Q1P41F168A | Continuous | SSW System |
| Q1P41F001A | Continuous | SSW System |
| Q1P41F016A | Continuous | SSW System |
| Q1P41F015A | Continuous | SSW System |
| Q1P41F006A | Continuous | SSW System |
| Q1P41F005A | Continuous | SSW System |
| Q1P41F007A | Continuous | SSW System |
| QSP41F074A | Continuous | SSW System |
| QSP41F066A | Continuous | SSW System |
| QSP41F125 | Continuous | SSW System |
| Q1P41F018B | Continuous | SSW System |
| Q1P41F160B | Continuous | SSW System |
| Q1P41F159B | Continuous | SSW System |
| Q1P41F168B | Continuous | SSW System |
| QSP41F154 | Accident Conditions | SSW System |

TABLE 3.8.4.2-1 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

| VALVE NUMBER | BYPASS DEVICE (CONTINUOUS) (ACCIDENT CONDITIONS) (NO) | SYSTEM(S) AFFECTED |
|---|---|---|
| QSP41F155A | Accident Conditions | SSW System |
| Q1P41F068B | Continuous | SSW System |
| QSP41F155B | Accident Conditions | SSW System |
| Q1P41F014B | Continuous | SSW System |
| QSP41F064B | Continuous | SSW System |
| QSP41F081B | Continuous | SSW System |
| Q1P41F006B | Continuous | SSW System |
| Q1P41F007B | Continuous | SSW System |
| Q1P41F001B | Continuous | SSW System |
| Q1P41F016B | Continuous | SSW System |
| Q1P41F005B | Continuous | SSW System |
| Q1P41F015B | Continuous | SSW System |
| QSP41F066B | Continuous | SSW System |
| QSP41F074B | Continuous | SSW System |
| QSP41F189 | Continuous | SSW System |
| Q1P41F011 | Continuous | SSW System |
| Q1P41F119A | Continuous | SSW System |
| Q1P41F119B | No | SSW System |
| Q1P41F121A | No | SSW System |
| Q1P41F121B | No | SSW System |
| Q1P41F122A | No | SSW System |
| Q1P41F122B | No | SSW System |
| | No | SSW System |
| QSZ51F007 | Continuous | Control Room HVAC |
| QSZ51F008 | Continuous | Control Room HVAC |
| QSZ51F014 | Continuous | Control Room HVAC |
| QSZ51F016 | Continuous | Control Room HVAC |
| Q1P42F067 | Continuous | CCW System |
| Q1P42F116 | Continuous | CCW System |
| Q1P42F028A | Continuous | CCW System |
| Q1P42F032A | Continuous | CCW System |
| Q1P42F201A | Continuous | CCW System |
| Q1P42F204 | Continuous | CCW System |
| Q1P42F205 | Continuous | CCW System |
| Q1P42F108 | Continuous | CCW System |
| Q1P42F200A | Continuous | CCW System |
| Q1P42F203 | Continuous | CCW System |
| Q1P42F117 | Continuous | CCW System |
| Q1P42F118 | Continuous | CCW System |
| Q1P42F058 | Continuous | CCW System |
| Q1P42F200B | Continuous | CCW System |
| Q1P42F028B | Continuous | CCW System |
| Q1P42F201B | Continuous | CCW System |
| Q1P42F032B | Continuous | CCW System |
| Q1P42F066 | Continuous | CCW System |

*Manual bypass of thermal overload protection of manually controlled valve.

TABLE 3.8.4.2-1 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

| VALVE NUMBER | BYPASS DEVICE (CONTINUOUS) (ACCIDENT CONDITIONS) (MO) | SYSTEM(S) AFFECTED |
|---|---|---|
| Q1P72F121 | Continuous | Drywell CW System |
| Q1P72F122 | Continuous | Drywell CW System |
| Q1P72F125 | Continuous | Drywell CW System |
| Q1P72F123 | Continuous | Drywell CW System |
| Q1P72F124 | Continuous | Drywell CW System |
| Q1P72F126 | Continuous | Drywell CW System |
| Q1P44F042 | Continuous | Drywell CW System |
| Q1P44F054 | Continuous | Plant SW System |
| Q1P44F067 | Continuous | Plant SW System |
| | Continuous | Plant SW System |
| Q1P45F096 | Continuous | Floor & Eqmt. Drain System |
| Q1P45F097 | Continuous | Floor & Eqmt. Drain System |
| Q1P52F135 | Continuous | Service Air System |
| Q1P53F003 | Continuous | Instrument Air System |
| Q1P53F007 | Continuous | Instrument Air System |
| Q1T48F005 | Continuous | SGTS |
| Q1T48F006 | Continuous | SGTS |
| Q1T48F024 | Continuous | SGTS |
| Q1T48F026 | Continuous | SGTS |
| Q1T48F023 | Continuous | SGTS |
| Q1T48F025 | Continuous | SGTS |
| Q1P45F273 | Continuous | Floor & Eqmt. Drain System |
| Q1P45F274 | Continuous | Floor & Eqmt. Drain System |



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## 3/4.6.4 CONTAINMENT AND DRYWELL ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The operability of the drywell isolation valves ensures that the drywell atmosphere will be directed to the suppression pool for the full spectrum of pipe breaks inside the drywell. Since the allowable value of drywell leakage is so large, individual drywell penetration leakage is not measured. By checking valve operability on any penetration which could contribute a large fraction of the design leakage, the total leakage is maintained at less than the design value.

Insert

~~Table 3.6.4-1 lists the Containment and Drywell Isolation Valves in four sections. Section 1 contains the Automatic Isolation Valves which are those valves that receive an automatic isolation signal from Table 3.3.2-1 instrumentation and are located on the Containment or Drywell penetrations. The valves included in Section 2 are Manual Isolation Valves which receive a remote manual signal from a handswitch and are located on the Containment or Drywell Penetrations. Some of the valves in Section 2 may receive automatic signals, but not automatic isolation signals from instrumentation in Table 3.3.2-1. The valves included in Section 3 are those which do not receive isolation signals from instrumentation listed in Table 3.3.2-1 and do not utilize a remote manual handswitch. Section 3 includes check valves, local manual operated valves and power operated valves that do not utilize a handswitch. Section 4 of Table 3.6.4-1 contains test connection valves.~~

The maximum isolation times for containment and drywell automatic isolation valves are the times used in the FSAR accident analysis for valves with analytical closing times. For automatic isolation valves not having analytical closing times, closing times are derived by applying margins to previous valve closing test data obtained by using ASME Section XI criteria. Maximum closing times for these valves was determined by using a factor of two times the allowable (from previous test closure to next test closure) ASME Section XI margin and adding this to the previous test closure time.

## 3/4.6.5 DRYWELL VACUUM RELIEF

The safety-related functions of the four drywell vacuum relief subsystems are drywell isolation, proper operation of the drywell purge compressors, and OPERABILITY in a large-break LOCA to control weir wall overflow drag and impact loads. The drywell isolation and drywell purge OPERABILITY functions are discussed in Bases 3/4.6.4 and 3/4.6.7, respectively. Drywell vacuum relief is not required for hydrogen dilution or to protect drywell structural integrity in a design-basis accident.

INSERT

All required Containment and Drywell Isolation Valves and their maximum isolation times are listed in the applicable plant procedures. The opening of locked or sealed closed (i.e., manual) containment isolation valves that results in an open penetration under administrative control includes the following considerations: (1) stationing an individual, who is in constant communication with the control room, at the valve controls, (2) instructing this individual to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

Insert for TS page B 3/4 6-7

SECONDARY CONTAINMENT (Continued)

analytical closing times, closing times are derived by applying margins to previous valve closing test data obtained by using ASME Section XI criteria. Maximum closing times for these valves was determined by using a factor of two times the allowable (from previous test closure to next test closure) ASME Section XI margin and adding this to the previous test closure time.

Insert

Establishing and maintaining a vacuum in the Auxiliary Building and Enclosure Building with the standby gas treatment system once per 18 months, along with the surveillance of the doors, latches, dampers, valves, blind flanges, and rupture discs is adequate to ensure that there are no violations of the integrity of the secondary containment.

The OPERABILITY of the standby gas treatment systems ensures that sufficient iodine removal capability will be available in the event of a LOCA. The reduction in containment iodine inventory reduces the resulting site boundary radiation doses associated with containment leakage. The operation of this system and resultant iodine removal capacity are consistent with the assumptions used in the LOCA analyses. Continuous operation of the system with the heaters OPERABLE for 10 hours over a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters.

INSERT

All required Secondary Containment Isolation Valves/Dampers and their maximum isolation times are listed in applicable plant procedures.

Insert for TS page B 3/4 6-8a

## 3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

Primary containment electrical penetrations and penetration conductors are protected by either de-energizing circuits not required during reactor operation or demonstrating the OPERABILITY of primary and backup overcurrent protection circuit breakers by periodic surveillance.

Insert 1

The surveillance requirements applicable to lower voltage circuit breakers provide assurance of breaker reliability by testing at least one representative sample of each manufacturer's brand of circuit breaker. Each manufacturer's molded case and metal case circuit breakers are grouped into representative samples which are then tested on a rotating basis to ensure that all breakers are tested. If a wide variety exists within any manufacturer's brand of circuit breakers, it is necessary to divide that manufacturer's breakers into groups and treat each group as a separate type of breaker for surveillance purposes.

The OPERABILITY or bypassing of the motor operated valve thermal overload protection continuously or under accident conditions by integral bypass devices ensures that the thermal overload protection during accident conditions will not prevent safety-related valves from performing their function. The surveillance requirements for demonstrating the OPERABILITY or bypassing of the thermal overload protection continuously and or during accident conditions are in accordance with Regulatory Guide 1.106, "Thermal Overload Protection for Electric Motors on Motor Operated Valves," Revision 1, March 1977.

Insert 2

The reactor protection system (RPS) electric power monitoring assemblies provide redundant protection to the RPS and other systems which receive power from the RPS buses by acting to disconnect the RPS from the power source circuits in the presence of an electrical fault in the power supply. The BASES for the functional requirements of the RPS are discussed in the BASES for Specification 3/4.3.1.

INSERT 1

A list of required circuit breakers and their required response times and trip setpoints is contained in the applicable plant procedures.

INSERT 2

A list of required thermal overloads is contained in the applicable plant procedures.

Insert for TS page B 3/4 8-3

Attachment 4

Sample Proposed Technical Specification Pages

PCOL-91/17

CORE ALTERATION

1.7 CORE ALTERATION shall be the addition, removal, relocation or movement of fuel, sources, incore instruments or reactivity controls within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Normal movement of the SRMs, IRMs, LPRMs, TIPs, or special movable detectors is not considered to be CORE ALTERATION. Suspension of CORE ALTERATIONS shall not preclude completion of the movement of a component to a safe conservative position.

CRITICAL POWER RATIO

1.8 The CRITICAL POWER RATIO (CPR) shall be the ratio of that power in the assembly which is calculated by application of the ANFB correlation to cause some point in the assembly to experience boiling transition, divided by the actual assembly operating power.

DOSE EQUIVALENT I-131

1.9 DOSE EQUIVALENT I-131 shall be that concentration of I-131, microcuries per gram, which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

DRYWELL INTEGRITY

1.10 DRYWELL INTEGRITY shall exist when:

a. All drywell penetrations required to be closed during accident conditions are either:

   1. Capable of being closed by an OPERABLE drywell automatic isolation system, or

   2. Closed by at least one manual valve, blind flange, or deactivated automatic valve secured in its closed position, except for valves that are opened under administrative control as permitted by Specification 3.6.4.

b. The drywell equipment hatch is closed and sealed.

c. The drywell airlock is in compliance with the requirements of Specification 3.6.2.3.

d. The drywell leakage rates are within the limits of Specification 3.6.2.2.

e. The suppression pool is in compliance with the requirements of Specification 3.6.3.1.

f. The sealing mechanism associated with each drywell penetration; e.g., welds, bellows or O-rings, is OPERABLE.

PRIMARY CONTAINMENT INTEGRITY

1.31 PRIMARY CONTAINMENT INTEGRITY shall exist when:

a. All containment penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an OPERABLE containment automatic isolation system, or

2. Closed by at least one manual valve, blind flange, or deactivated automatic valve secured in its closed position, except for valves that are opened under administrative control as permitted by Specification 3.6.4.

b. The containment equipment hatch is closed and sealed.

c. Each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

d. The containment leakage rates are within the limits of Specification 3.6.1.2.

e. The suppression pool is in compliance with the requirements of Specification 3.6.3.1.

f. The sealing mechanism associated with each primary containment penetration; e.g., welds, bellows or O-rings, is OPERABLE.

PROCESS CONTROL PROGRAM (PCP)

1.32 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, test, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61, and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

PURGE - PURGING

1.33 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

RATED THERMAL POWER

1.34 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3833 MWT.

REACTOR PROTECTION SYSTEM RESPONSE TIME

1.35 REACTOR PROTECTION SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

REPORTABLE EVENT

1.36 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

ROD DENSITY

1.37 ROD DENSITY shall be the number of control rod notches inserted as a fraction of the total number of control rod notches. All rods fully inserted is equivalent to 100% ROD DENSITY.

SECONDARY CONTAINMENT INTEGRITY

1.38 SECONDARY CONTAINMENT INTEGRITY shall exist when:

a. All Auxiliary Building and Enclosure Building penetrations required to be closed during accident conditions are either:

   1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or

   2. Closed by at least one manual valve, blind flange, rupture disc or deactivated automatic valve or damper, as applicable, secured in its closed position.

b. All Auxiliary Building and Enclosure Building equipment hatches and blowout panels are closed and sealed.

c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.6.3.

d. The door in each access to the Auxiliary Building and Enclosure Building is closed, except for normal entry and exit.

e. The sealing mechanism associated with each Auxiliary Building and Enclosure Building penetration, e.g., welds, bellows or O-rings, is OPERABLE.

TABLE 3.3.2-1
ISOLATION ACTUATION INSTRUMENTATION

| TRIP FUNCTION | MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM(a) | APPLICABLE OPERATIONAL CONDITION | ACTION |
|---|---|---|---|
| 1. PRIMARY CONTAINMENT ISOLATION | | | |
| a. Reactor Vessel Water Level-Low Low, Level 2 | 2 | 1, 2, 3 and # | 20 |
| b. Reactor Vessel Water Level-Low Low Level 2 (ECCS - Division 3) | 4 | 1, 2, 3 and # | 29 |
| c. Reactor Vessel Water Level-Low Low Low, Level 1 (ECCS - Division 1 and Division 2) | 2 | 1, 2, 3 and # | 29 |
| d. Drywell Pressure - High*** | 2 | 1, 2, 3 | 20 |
| e. Drywell Pressure-High (ECCS - Division 1 and Division 2) | 2 | 1, 2, 3 | 29 |
| f. Drywell Pressure-High (ECCS - Division 3) | 4 | 1, 2, 3 | 29 |
| g. Containment and Drywell Ventilation Exhaust Radiation - High High | 2(b) | 1, 2, 3 and * | 21 |
| h. Manual Initiation | 2 | 1, 2, 3 and *# | 22 |
| 2. MAIN STEAM LINE ISOLATION | | | |
| a. Reactor Vessel Water Level-Low Low Low, Level 1 | 2 | 1, 2, 3 | 20 |
| b. Main Steam Line Radiation - High*** | 2 | 1, 2, 3 | 23 |
| c. Main Steam Line Pressure - Low | 2 | 1 | 24 |
| d. Main Steam Line Flow - High | 8 | 1, 2, 3 | 23 |
| e. Condenser Vacuum - Low | 2 | 1, 2,** 3** | 23 |

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

| TRIP FUNCTION | MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a) | APPLICABLE OPERATIONAL CONDITION | ACTION |
|---|---|---|---|
| 2. MAIN STEAM LINE ISOLATION (Continued) | | | |
| f. Main Steam Line Tunnel Temperature - High | 2 | 1, 2, 3 | 23 |
| g. Main Steam Line Tunnel Temp.- High | 2 | 1, 2, 3 | 23 |
| h. Manual Initiation | 2 | 1, 2, 3 | 22 |
| 3. SECONDARY CONTAINMENT ISOLATION | | | |
| a. Reactor Vessel Water Level-Low Low, Level 2 | 2 | 1, 2, 3, and # | 25 |
| b. Drywell Pressure - High*** | 2 | 1, 2, 3 | 25 |
| c. Fuel Handling Area Ventilation Exhaust Radiation - High High | 2 | 1, 2, 3, and * | 25 |
| d. Fuel Handling Area Pool Sweep Exhaust Radiation - High High | 2 | 1, 2, 3, and * | 25 |
| e. Manual Initiation | 2 | 1, 2, 3 | 26 |
| | 2 | * | 25 |
| 4. REACTOR WATER CLEANUP SYSTEM ISOLATION | | | |
| a. ΔFlow - High | | 1, 2, 3 | 27 |
| b. ΔFlow Timer | 1 | 1, 2, 3 | 27 |
| c. Equipment Area Temperature - High | 1/room | 1, 2, 3 | 27 |
| d. Equipment Area ΔTemp. - High | 1/room | 1, 2, 3 | 27 |
| e. Reactor Vessel Water Level - Low Low, Level 2 | 2 | 1, 2, 3 | 27 |

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

| TRIP FUNCTION | MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a) | APPLICABLE OPERATIONAL CONDITION | ACTION |
|---|---|---|---|
| 4. REACTOR WATER CLEANUP SYSTEM ISOLATION (Continued) | | | |
| f. Main Steam Line Tunnel Ambient Temperature - High | 1 | 1, 2, 3 | 27 |
| g. Main Steam Line Tunnel Δ Temp. - High | 1 | 1, 2, 3 | 27 |
| h. SLCS Initiation | 1 | 1, 2, 5## | 30 |
| i. Manual Initiation | 2 | 1, 2, 3 | 26 |
| 5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION | | | |
| a. RCIC Steam Line Flow - High | | | |
| 1. Pressure | 1 | 1, 2, 3 | 27 |
| 2. Time Delay | 1 | 1, 2, 3 | 27 |
| b. RCIC Steam Supply Pressure - Low | 1 | 1, 2, 3 | 27 |
| c. RCIC Turbine Exhaust Diaphragm Pressure - High | 2 | 1, 2, 3 | 27 |
| d. RCIC Equipment Room Ambient Temperature - High | 1 | 1, 2, 3 | 27 |
| e. RCIC Equipment Room Δ Temp. - High | 1 | 1, 2, 3 | 27 |
| f. Main Steam Line Tunnel Ambient Temperature - High | 1 | 1, 2, 3 | 27 |
| g. Main Steam Line Tunnel Δ Temp. - High | 1 | 1, 2, 3 | 27 |
| h. Main Steam Line Tunnel Temperature Timer | 1 | 1, 2, 3 | 27 |

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

| TRIP FUNCTION | MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a) | APPLICABLE OPERATIONAL CONDITION | ACTION |
|---|---|---|---|
| 5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION | | | |
| i. RHR Equipment Room Ambient Temperature - High | 1/room | 1, 2, 3 | 27 |
| j. RHR Equipment Room Δ Temp. - High | 1/room | 1, 2, 3 | 27 |
| k. RHR/RCIC Steam Line Flow - High | 1 | 1, 2, 3 | 27 |
| l. Manual Initiation | 1 | 1, 2, 3 | 26 |
| m. Drywell Pressure-High (ECCS-Division 1 and Division 2) | 1 | 1, 2, 3 | 27 |
| 6. RHR SYSTEM ISOLATION | | | |
| a. RHR Equipment Room Ambient Temperature - High | 1/room | 1, 2, 3 | 28 |
| b. RHR Equipment Room Δ Temp. - High | 1/room | 1, 2, 3 | 28 |
| c. Reactor Vessel Water Level - Low, Level 3*** | 2 | 3 | 28 |
| | 2(c) | | 31 |
| d. Reactor Vessel (RHR Cut-in Permissive) Pressure - High*** | 2 | 1, 2, 3 | 28 |
| e. Drywell Pressure - High*** | 2 | 1, 2, 3 | 29 |
| f. Manual Initiation | 2 | 1, 2, 3 | 26 |

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION
ACTION

ACTION 20 - Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

ACTION 21 - Close the affected system isolation valve(s) within one hour or:
a. In OPERATIONAL CONDITION 1, 2, or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
b. In OPERATIONAL CONDITION *, suspend CORE ALTERATIONS, handling of irradiated fuel in the primary containment and operations with a potential for draining the reactor vessel.

ACTION 22 - Restore the manual initiation function to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION 23 - Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

ACTION 24 - Be in at least STARTUP within 6 hours.

ACTION 25 - Establish SECONDARY CONTAINMENT INTEGRITY with the standby gas treatment system operating within one hour.

ACTION 26 - Restore the manual initiation function to OPERABLE status within 8 hours or close the affected system isolation valves within the next hour and declare the affected system in operable.

ACTION 27 - Close the affected system isolation valves within one hour and declare the affected system inoperable.

ACTION 28 - Within one hour lock the affected system isolation valves closed, or verify, by remote indication, that the valve is closed and electrically disarmed, or isolate the penetration(s) and declare the affected system inoperable.

ACTION 29 - Close the affected system isolation valves within one hour and declare the affected system or component inoperable.
a. In OPERATIONAL CONDITION 1, 2 or 3 be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
b. In OPERATIONAL CONDITION # suspend CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

ACTION 30 - Declare the affected SLCS pump inoperable.

ACTION 31 - Isolate the shutdown cooling common suction line within one hour if it is not needed for shutdown cooling or initiate action within one hour to establish SECONDARY CONTAINMENT INTEGRITY.

NOTES

* When handling irradiated fuel in the primary or secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

** The low condenser vacuum MSIV closure may be manually bypassed during reactor SHUTDOWN or for reactor STARTUP when condenser vacuum is below the trip setpoint to allow opening of the MSIVs. The manual bypass shall be removed when condenser vacuum exceeds the trip setpoint.

*** Trip function common to RPS Instrumentation.

\# During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

## With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

NOTES (Continued)

(a) A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

(b) Two upscale-Hi Hi, one upscale-Hi Hi and one downscale, or two downscale signals from the same trip system actuate the trip system and initiate isolation of the associated containment and drywell isolation valves.

(c) Only required to isolate RHR system isolation valves E12-F008 and E12-F009. One trip system and/or isolation valve may be inoperable for up to 14 days without placing the trip system in the tripped condition provided the diesel generator associated with the OPERABLE isolation valve is OPERABLE.

TABLE 3.3.2-3 (Continued)

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

| TRIP FUNCTION | RESPONSE TIME (Seconds)# |
|---|---|
| 5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION | |
| a. RCIC Steam Line Flow - High | ≤10(a)### |
| b. RCIC Steam Supply Pressure - Low | ≤10(a) |
| c. RCIC Turbine Exhaust Diaphragm Pressure - High | NA |
| d. RCIC Equipment Room Ambient Temperature - High | NA |
| e. RCIC Equipment Room Δ Temp. - High | NA |
| f. Main Steam Line Tunnel Ambient Temp. - High | NA |
| g. Main Steam Line Tunnel Δ Temp. - High | NA |
| h. Main Steam Line Tunnel Temperature Timer | NA |
| i. RHR Equipment Room Ambient Temperature - High | NA |
| j. RHR Equipment Room Δ Temp. - High | NA |
| k. RHR/RCIC Steam Line Flow - High | NA |
| l. Manual Initiation | NA |
| m. Drywell Pressure - High (ECCS Division 1 and Division 2) | ≤10(a) |
| 6. RHR SYSTEM ISOLATION | |
| a. RHR Equipment Room Ambient Temperature - High | NA |
| b. RHR Equipment Room Δ Temp. - High | NA |
| c. Reactor Vessel Water Level - Low, Level 3 | ≤10(a) |
| d. Reactor Vessel (RHR Cut-in Permissive) Pressure - High | NA |
| e. Drywell Pressure - High | NA |
| f. Manual Initiation | NA |

(a) The isolation system instrumentation response time shall be measured and recorded as a part of the ISOLATION SYSTEM RESPONSE TIME. Isolation system instrumentation response time specified includes the delay for diesel generator starting assumed in the accident analysis.

(b) Radiation detectors are exempt from response time testing. Response time shall be measured from detector output or the input of the first electronic component in the channel.

* Isolation system instrumentation response time for MSIVs only. No diesel generator delays assumed.

** Isolation system instrumentation response time for associated valves except MSIVs.

*** Isolation system instrumentation response time for air operated dampers. No diesel generator delays assumed.

\# Isolation system instrumentation response time specified for the Trip Function actuating each valve shall be added to the valve's required isolation time to obtain the valve's ISOLATION SYSTEM RESPONSE TIME.

### Includes time delay of 3 to 7 seconds.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

PRIMARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 PRIMARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

Without PRIMARY CONTAINMENT INTEGRITY, restore PRIMARY CONTAINMENT INTEGRITY within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 PRIMARY CONTAINMENT INTEGRITY shall be demonstrated:

a. After each closing of each penetration subject to Type B testing, except the containment air locks, if opened following Type A or B test, by leak rate testing the seals with gas at $P_a$, 11.5 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Surveillance Requirement 4.6.1.2.d for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 $L_a$.

b. At least once per 31 days by verifying that all containment penetrations** not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in position, except for valves that are opened under administrative control as permitted by Specification 3.6.4.

c. By verifying each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

d. By verifying the suppression pool is in compliance with the requirements of Specification 3.6.3.1.

* See Special Test Exception 3.10.1

** Except valves, blind flanges, and deactivated automatic valves which are located inside the containment, steam tunnel or drywell and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except such verification need not be performed more often than once per 92 days.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

a. An overall integrated leakage rate of less than or equal to $L_a$, 0.437 percent by weight of the containment air per 24 hours at $P_a$, 11.5 psig.

b. A combined leakage rate of less than or equal to 0.60 La for all penetrations and all valves# subject to Type B and C tests when pressurized to $P_a$, 11.5 psig.

c. Less than or equal to 100 scf per hour for all four main steam lines through the isolation valves when tested at $P_a$, 11.5 psig.

d. A combined leakage rate of less than or equal to 1 gpm times the total number of containment isolation valves in hydrostatically tested lines which penetrate the primary containment, when tested at 1.10 $P_a$, 12.65 psig.

APPLICABILITY: When PRIMARY CONTAINMENT INTEGRITY is required per Specification 3.6.1.1.

ACTION:

With:

a. The measured overall integrated containment leakage rate exceeding 0.75 $L_a$, or

b. The measured combined leakage rate for all penetrations and all valves# subject to Type B and C tests exceeding 0.60 $L_a$, or

c. The measured leakage rate exceeding 100 scf per hour for all four main steam lines through the isolation valves, or

d. The measured combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment exceeding 1 gpm times the total number of such valves,

restore:

a. The overall integrated leakage rate(s) to less than or equal to 0.75 $L_a$, and

#Except for those that are hydrostatically leak tested.

CONTAINMENT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

b. The combined leakage rate for all penetrations and all valves# subject to Type B and C tests to less than or equal to 0.60 $L_a$, and

c. The leakage rate to less than 100 scf per hour for all four main steam lines through the isolation valves, and

d. The combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment to less than or equal to 1 gpm times the total number of such valves, prior to increasing reactor coolant system temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4 -1972:

a. Three Type A Overall Integrated Containment Leakage Rate tests shall be conducted at 40 ± 10 month intervals* during shutdown at $P_a$, 11.5 psig, during each 10-year service period.

b. If any periodic Type A test fails to meet 0.75 $L_a$, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet 0.75 $L_a$, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 $L_a$, at which time the above test schedule may be resumed.

c. The accuracy of each Type A test shall be verified by a supplemental test which:

   1. Confirms the accuracy of the test by verifying that the containment leakage rate, $L'_v$, calculated in accordance with ANSI N-45.4-1972, Appendix C, is within 25 percent of the containment leakage rate, $L_v$, measured prior to the introduction of the superimposed leak.

   2. Has duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.

   3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be between 0.75 $L_a$ and 1.25 $L_a$.

#Except for those that are hydrostatically leak tested.
*The third Type A test within the first 10-year service period shall be conducted prior to startup following the sixth refueling outage. This is an exemption from 10 CFR Part 50, Appendix J Requirements.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

d. Type B and C tests shall be conducted with gas at $P_a$, 11.5 psig,* at intervals no greater than 24 months except for tests involving:

   1. Air locks,

   2. Main steam line isolation valves,

   3. Penetrations using continuous leakage monitoring systems,

   4. Valves pressurized with fluid from a seal system,

   5. Containment isolation valves in hydrostatically tested lines which penetrate the primary containment, and

   6. Purge supply and exhaust isolation valves with resilient material seals.

e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.

f. Main steam line isolation valves shall be leak tested at least once per 18 months.

g. Type B tests for penetrations employing a continuous leakage monitoring system shall be conducted at $P_a$, 11.5 psig, at intervals no greater than once per 3 years.

h. Leakage from isolation valves that are sealed with fluid from a seal system may be excluded, subject to the provisions of Appendix J, Section III.C.3, when determining the combined leakage rate provided the seal system and valves are pressurized to at least 1.10 $P_a$, 12.65 psig, and the seal system capacity is adequate to maintain system pressure for at least 30 days.

i. Containment isolation valves in hydrostatically tested lines which penetrate the primary containment shall be leak tested at least once per 18 months.

j. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.9.2.

k. The provisions of Specification 4.0.2 are not applicable to Specifications 4.6.1.2.a, 4.6.1.2.b, 4.6 1.2.c, 4.6.1.2.d, 4.6.1.2.e, and 4.6.1.2.g.

*Unless a hydrostatic test is required.

CONTAINMENT SYSTEMS

3/4.6.2 DRYWELL

DRYWELL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.2.1 DRYWELL INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

Without DRYWELL INTEGRITY, restore DRYWELL INTEGRITY within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 DRYWELL INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all drywell penetrations** not capable of being closed by OPERABLE drywell automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in position, except for valves that are opened under administrative control as permitted by Specification 3.6.4.

b. By verifying the drywell air lock is in compliance with the requirements of Specification 3.6.2.3.

c. By verifying the suppression pool is in compliance with the requirements of Specification 3.6.3.1.

* See Special Test Exception 3.10.1.
** Except valves, blind flanges, and deactivated automatic valves which are located inside the drywell or containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except such verification need not be performed more often than once per 92 days.

CONTAINMENT SYSTEMS

3/4.6.4 CONTAINMENT AND DRYWELL ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.4 Each containment and drywell isolation valve shall be OPERABLE***.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and #.

ACTION:

With one or more of the containment or drywell isolation valves inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 4 hours either:

a. Restore the inoperable valve(s) to OPERABLE status, or

b. Isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolated position,* or

c. Isolate each affected penetration by use of at least one closed manual valve or blind flange*.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.**

*Isolation valves, except MSIVs, closed to satisfy these requirements may be reopened on an intermittent basis under administrative controls. OPERATIONAL CONDITION changes, as provided by Specification 3.0.4, are not allowed while isolation valves are open under these administrative controls.

#Isolation valves are also required to be OPERABLE when their associated actuation instrumentation is required to be OPERABLE per Table 3.3.2-1.

**Except for E12-F008 and E12-F009 in OPERATIONAL CONDITIONS 4 and 5 take action per Specification 3.3.2, Table 3.3.2-1, Trip Function 6.c.

***Normally closed or locked closed manual valves may be opened on an intermittent basis under administrative control.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each containment or drywell isolation valve## shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by cycling the valve through at least one complete cycle of full travel and verifying the applicable isolation time.

4.6.4.2 Each automatic containment or drywell isolation valve## shall be demonstrated OPERABLE during COLD SHUTDOWN or REFUELING at least once per 18 months by verifying that on an isolation test signal each automatic isolation valve actuates to its isolation position.

4.6.4.3 The isolation time of each power operated or automatic containment or drywell isolation valve## shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.4.4 [DELETED]

##The provisions of Specification 4.0.4 are not applicable to automatic main steam line valves for entry into OPERATIONAL CONDITIONS 2 or 3 provided the surveillance is performed within 12 hours after reaching a reactor steam pressure of 600 psig and prior to entry into OPERATIONAL CONDITION 1.

Pages 3/4 6-30 through 3/4 6-45 have been Intentionally Deleted.

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT ISOLATION DAMPER/VALVES

LIMITING CONDITION FOR OPERATION

3.6.6.2 Each secondary containment ventilation system automatic isolation damper/valve shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3 and *.
ACTION:
With one or more of the secondary containment ventilation system automatic isolation dampers/valves inoperable, maintain at least one isolation damper/valve OPERABLE in each affected penetration that is open, and within 8 hours either:

a. Restore the inoperable damper/valve(s) to OPERABLE status, or
b. Isolate each affected penetration by use of at least one deactivated automatic damper/valve secured in the isolation position, or
c. Isolate each affected penetration by use of at least one closed manual valve or blind flange.

Otherwise, in OPERATIONAL CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Otherwise, in Operational Condition *, suspend handling of irradiated fuel in the primary or secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.6.2 Each secondary containment ventilation system automatic isolation damper/valve shall be demonstrated OPERABLE:

a. Prior to returning the damper/valve to service after maintenance, repair or replacement work is performed on the damper/valve or its associated actuator, control or power circuit by cycling the damper/valve through at least one complete cycle of full travel and verifying the applicable isolation time.
b. During COLD SHUTDOWN or REFUELING at least once per 18 months by verifying that on a containment isolation test signal each isolation damper/valve actuates to its isolation position.
c. By verifying the isolation time to be within its limit when tested pursuant to Specification 4.0.5.

*When irradiated fuel is being handled in the primary or secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.
#This exception is applicable until startup from the third refueling outage.

Pages 3/4 6-50 through 3/4 6-54 have been Intentionally Deleted.

ELECTRICAL POWER SYSTEMS

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.1 Primary and backup containment penetration conductor overcurrent protective devices (i.e., circuit breakers) associated with each primary containment electrical penetration circuit shall be OPERABLE. The scope of these protective circuit breakers excludes those circuits for which credible fault currents would not exceed the electrical penetration design rating.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one or more of the primary or backup containment penetration conductor overcurrent protective devices inoperable, declare the affected system or component inoperable and apply the appropriate ACTION statement for the affected system, and:

   1. For 6.9 kV circuit breakers, de-energize the 6.9 kV circuit(s) by tripping the associated redundant circuit breaker(s) within 72 hours and verify the redundant circuit breaker to be tripped at least once per 7 days thereafter.

   2. For 480 volt circuit breakers, remove the inoperable circuit breaker(s) from service by racking out the breaker within 72 hours and verify the inoperable breaker(s) to be racked out at least once per 7 days thereafter.

   Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.8.4.1 Each of the primary or backup containment penetration conductor overcurrent protective devices shall be demonstrated OPERABLE:

   a. At least once per 18 months:

      1. By verifying that the medium voltage 6.9 kV circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers and performing:
         a) A CHANNEL CALIBRATION of the associated protective relays, and

         b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and overcurrent control circuits function as designed.

SURVEILLANCE REQUIREMENTS (Continued)

c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

2. By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. Testing of these circuit breakers shall consist of injecting a current in excess of 120% of the breakers nominal setpoint and measuring the response time. The measured response time will be compared to the manufacturer's data to insure that it is less than or equal to a value specified by the manufacturer. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation of the affected equipment. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

Pages 3/4 8-21 through 3/4 8-45 have been Intentionally Deleted.

ELECTRICAL POWER SYSTEMS

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

LIMITING CONDITION FOR OPERATION

3.8.4.2 The thermal overload protection of each valve whose motor operator performs a safety function shall be OPERABLE or shall be bypassed either continuously or only under accident conditions, as applicable, by an OPERABLE bypass device.

APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.

ACTION:

With the thermal overload protection for one or more of the above required valves not OPERABLE or not bypassed either continuously or only under accident conditions, as applicable, bypass the thermal overload within 8 hours or declare the affected valve(s) inoperable and apply the appropriate ACTION statement(s) for the affected system(s).

SURVEILLANCE REQUIREMENTS

4.8.4.2.1 The thermal overload protection which is bypassed either continuously or only under accident conditions for the above required valves shall be verified to be bypassed continuously or only under accident conditions, as applicable, by an OPERABLE bypass device (1) by the performance of a CHANNEL FUNCTIONAL TEST of the bypass circuitry for those thermal overloads which are normally in force during plant operation and bypassed under accident conditions and (2) by verifying that the thermal overload protection is bypassed for those thermal overloads which are continuously bypassed and temporarily placed in force only when the valve motors are undergoing periodic or maintenance testing:

a. For those thermal overloads which are normally in force during plant operation and bypassed under accident conditions:

   1. At least once per 92 days for the individual valve bypass circuitry.

   2. At least once per 18 months for the ECCS portion of the channel.

b. At least once per 18 months for those thermal overloads which are continuously bypassed and temporarily placed in force only when the valve motors are undergoing periodic or maintenance testing.

c. Following maintenance on the motor starter.

4.8.4.2.2 The thermal overload protection which is not bypassed for the above required valves shall be demonstrated OPERABLE at least once per 18 months by the performance of a CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overloads for the above required valves.

4.8.4.2.3 The thermal overload protection for the above required valves which is continuously bypassed and temporarily placed in force only when the valve motor is undergoing periodic or maintenance testing shall be verified to be bypassed following periodic or maintenance testing during which the thermal overload protection was temporarily placed in force.

Pages 3/4 8-47 through 3/4 8-53 have been Intentionally Deleted.

## 3/4.6.4 CONTAINMENT AND DRYWELL ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The operability of the drywell isolation valves ensures that the drywell atmosphere will be directed to the suppression pool for the full spectrum of pipe breaks inside the drywell. Since the allowable value of drywell leakage is so large, individual drywell penetration leakage is not measured. By checking valve operability on any penetration which could contribute a large fraction of the design leakage, the total leakage is maintained at less than the design value.

All required Containment and Drywell Isolation Valves and their maximum isolation times are listed in the applicable plant procedures. The opening of locked or sealed closed (i.e., manual) containment isolation valves that results in an open penetration under administrative control includes the following considerations: (1) stationing an individual, who is in constant communication with the control room, at the valve controls, (2) instructing this individual to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

The maximum isolation times for containment and drywell automatic isolation valves are the times used in the FSAR accident analysis for valves with analytical closing times. For automatic isolation valves not having analytical closing times, closing times are derived by applying margins to previous valve closing test data obtained by using ASME Section XI criteria. Maximum closing times for these valves was determined by using a factor of two times the allowable (from previous test closure to next test closure) ASME Section XI margin and adding this to the previous test closure time.

## 3/4.6.5 DRYWELL VACUUM RELIEF

The safety-related functions of the four drywell vacuum relief subsystems are drywell isolation, proper operation of the drywell purge compressors, and OPERABILITY in a large-break LOCA to control weir wall overflow drag and impact loads. The drywell isolation and drywell purge OPERABILITY functions are discussed in Bases 3/4.6.4 and 3/4.6.7, respectively. Drywell vacuum relief is not required for hydrogen dilution or to protect drywell structural integrity in a design-basis accident.

SECONDARY CONTAINMENT (Continued)

analytical closing times, closing times are derived by applying margins to previous valve closing test data obtained by using ASME Section XI criteria. Maximum closing times for these valves was determined by using a factor of two times the allowable (from previous test closure to next test closure) ASME Section XI margin and adding this to the previous test closure time. All required Secondary Containment Isolation Valves/Dampers and their maximum isolation times are listed in the applicable plant procedures.

Establishing and maintaining a vacuum in the Auxiliary Building and Enclosure Building with the standby gas treatment system once per 18 months, along with the surveillance of the doors, latches, dampers, valves, blind flanges, and rupture discs is adequate to ensure that there are no violations of the integrity of the secondary containment.

The OPERABILITY of the standby gas treatment systems ensures that sufficient iodine removal capability will be available in the event of a LOCA. The reduction in containment iodine inventory reduces the resulting site boundary radiation doses associated with containment leakage. The operation of this system and resultant iodine removal capacity are consistent with the assumptions used in the LOCA analyses. Continuous operation of the system with the heaters OPERABLE for 10 hours over a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters.

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

Primary containment electrical penetrations and penetration conductors are protected by either de-energizing circuits not required during reactor operation or demonstrating the OPERABILITY of primary and backup overcurrent protection circuit breakers by periodic surveillance. A list of required circuit breakers and their required response times and trip setpoints is contained in the applicable plant procedures.

The surveillance requirements applicable to lower voltage circuit breakers provide assurance of breaker reliability by testing at least one representative sample of each manufacturer's brand of circuit breaker. Each manufacturer's molded case and metal case circuit breakers are grouped into representative samples which are then tested on a rotating basis to ensure that all breakers are tested. If a wide variety exists within any manufacturer's brand of circuit breakers, it is necessary to divide that manufacturer's breakers into groups and treat each group as a separate type of breaker for surveillance purposes.

The OPERABILITY or bypassing of the motor operated valve thermal overload protection continuously or under accident conditions by integral bypass devices ensures that the thermal overload protection during accident conditions will not prevent safety-related valves from performing their function. The surveillance requirements for demonstrating the OPERABILITY or bypassing of the thermal overload protection continuously and or during accident conditions are in accordance with Regulatory Guide 1.106, "Thermal Overload Protection for Electric Motors on Motor Operated Valves," Revision 1, March 1977. A list of required thermal overloads is contained in the applicable plant procedures.

The reactor protection system (RPS) electric power monitoring assemblies provide redundant protection to the RPS and other systems which receive power from the RPS buses by acting to disconnect the RPS from the power source circuits in the presence of an electrical fault in the power supply. The BASES for the functional requirements of the RPS are discussed in the BASES for Specification 3/4.3.1.