UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Dear Houston, DC.

MAY 13 1985

MEMORANDUM FOR: Dennis M. Crutchfield, Assistant Director
Division of Licensing

FROM: Robert Bosnak, Acting Assistant Director
for Components and Structures Engineering
Division of Engineering

No comments

SUBJECT: FINAL DRAFT OF THE RIVER BEND UNIT 1 TECHNICAL SPECIFICATION

As requested in your memo dated April 19, 1985, on above subject, we have reviewed the River Bend Technical Specification 3.3.7.2 on Seismic Instrumentation and 3.7.10 on Structural Settlement. We find these Technical Specifications, as written, are acceptable and no changes are required. A copy of these Technical Specifications is attached.

R. Bosnak

Robert Bosnak, Acting Assistant Director
for Components and Structures Engineering
Division of Engineering

Enclosure: As stated

cc: J. Knight
G. Lear
L. Heller
P. Kuo
H. Polk
J. Chen
R. Houston

INSTRUMENTATION

SEISMIC MONITORING INSTRUMENTATION

FINAL DRAFT

LIMITING CONDITION FOR OPERATION

3.3.7.2 The seismic monitoring instrumentation shown in Table 3.3.7.2-1 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With one or more of the above required seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.2.1 Each of the above required seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.7.2-1.

4.3.7.2.2 Each of the above required seismic monitoring instruments actuated during a seismic event greater than or equal to 0.01g shall be restored to OPERABLE status within 24 hours and a CHANNEL CALIBRATION performed within 5 days following the seismic event. Data shall be retrieved from actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 10 days describing the magnitude, frequency spectrum and resultant effect upon unit features important to safety.

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TABLE 3.3.7.2-1

SEISMIC MONITORING INSTRUMENTATION

INSTRUMENTS AND SENSOR LOCATIONS	MEASUREMENT RANGE	MINIMUM INSTRUMENTS OPERABLE
1. Triaxial Time-History Accelerographs		
a. Reactor Bldg Mat EL 70'0"	0 ± 1.0 g	1
b. Reactor Bldg Ext Shield Wall EL 232'0"	0 ± 1.0 g	1
c. Reactor Bldg Drywell EL 151'0"	0 ± 1.0 g	1
d. Free Field - Grade Level	0 ± 1.0 g	1
2. Triaxial Peak Accelerographs		
a. Reactor Bldg SLCS Storage Tank	0 ± 10.0 g	1
b. Reactor Bldg - RHR Inj. Piping	0 ± 10.0 g	1
c. Aux. Bldg Service Water Piping	0 ± 10.0 g	1
3. Triaxial Seismic Switches		
a. Reactor Bldg Mat El 70'0"	0.025 to 0.25 g	1(a)
4. Triaxial Response-Spectrum Recorders		
a. Reactor Bldg Mat EL 70'0"	0 ± 2 g	1(a)
b. Reactor Bldg Floor EL 141'0"	0 ± 2 g	1
c. Auxiliary Bldg Mat EL 70'0"	0 ± 2 g	1
d. Auxiliary Bldg Floor EL 141'0"	0 ± 2 g	1

(a) With reactor control room indication and annunciation.

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TABLE 4.3.7.2-1

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENTS AND SENSOR LOCATIONS	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
1. Triaxial Time-History Accelerographs			
a. Reactor Bldg. Mat EL 70'0"	M	SA	R
b. Reactor Bldg. Exit Shield Wall EL 232'0"	M	SA	R
c. Reactor Bldg. Drywell EL 151'0"	M	SA	R
d. Free Field-Grade Level	M	SA	R
2. Triaxial Peak Accelerographs			
a. Reactor Bldg. SLCS Storage Tank	NA	NA	R
b. Reactor Bldg. - RHR Inj. Piping	NA	NA	R
c. Aux. Bldg. Service Water Piping	NA	NA	R
3. Triaxial Seismic Switches			
a. Reactor Bldg. Mat EL 70'0"	M(a)	SA	R
4. Triaxial Response-Spectrum Recorders			
a. Reactor Bldg. Mat EL 70'0'	M	SA	R
b. Reactor Bldg. Floor EL 141'0"	NA	SA	R
c. Auxiliary Bldg. Mat EL 70'0"	NA	NA	R
d. Auxiliary Bldg. Floor EL 141.0"	NA	NA	R

(a) Except seismic trigger.

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3/4.7.10 STRUCTURAL SETTLEMENT

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LIMITING CONDITION FOR OPERATION

3.7.10 Structural settlement of the following structures shall be within the predicted values as shown in Table 3.7.10-1.

a. Reactor Building
b. Auxiliary Building
c. Fuel Building
d. Control Building
e. Diesel Generator Building
f. Standby Cooling Tower, Basin and Pump House

APPLICABILITY: At all times.

ACTION:

With the measured structual settlement of any of the above required structures outside of the predicted settlement, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days providing a record of the settlement measurements and the predicted settlement, an analysis to demonstrate the continued structural integrity of the affected structure(s) and plans to monitor the settlement of the affected structure(s) in the future.

SURVEILLANCE REQUIREMENTS

4.7.10 The structural settlement of the above required structures shall be demonstrated to be within the predicted settlement values:

a. At least once per 92 days, using at least three markers per structure, until there is essentially no movement during those 92 days.

b. At least once per 24 months, using at least one marker per structure, for at least 10 years.

c. Following any seismic event equal to or greater than an Operational Basis Earthquake (OBE), using at least three markers per structure.

OK
8.c.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CSB

May 13, 1985

MEMORANDUM FOR: Dennis M. Crutchfield, Assistant Director
for Safety Assessment, DL

FROM: R. Wayne Houston, Assistant Director
for Reactor Safety, DSI

Problems + Comments remaining.

SUBJECT: REVIEW OF THE TECHNICAL SPECIFICATIONS FOR THE RIVER BEND GENERATING STATION

The Containment Systems Branch (CSB) has completed its review of those portions of the River Bend Generating Station Technical Specifications that fall within its review responsibility. Enclosed is a marked-up copy of the affected Technical Specifications (T.S.).

The bulk of the suggested changes are either editorial in nature or clarifications. A few, however, are more substantive and are summarized below.

Item 3.6.1.9 and 3.6.2.7:

These T.S. are interim criteria for the first cycle. The applicant has committed to an information gathering program during the first cycle to develop a basis for future usage of the containment and drywell purge system and to propose consistent T.S. for any changes. As written, the interim criteria will end 3 months after completion of the first refueling outage. A 1000 hour limitation will become effective after this time if no T.S. changes are proposed.

Item 3.6.2.7:

Since the applicant has not provided assurance that the drywell purge valves will close under accident conditions, the valves should be locked closed until the valves are properly qualified. This qualification program is currently unscheduled by the applicant.

CONTACT: F. Eltawila, CSB: DSI
x29488

It should be noted that this T.S. restriction may cause undue hardship during the initial heat-up test period due to the potential release of ammonia from drywell insulation. The staff will work closely with the applicant to seek resolution of this difficulty.

R. Wayne Houston, Assistant Director
for Reactor Safety, DSI

cc w/o enclosure:
R. Bernero
H. Thompson
T. Novak
W. Butler
S. Stern
E. Butcher

cc w/ enclosure:
D. Houston

PRESSURE BOUNDARY LEAKAGE

1.30 PRESSURE BOUNDARY LEAKAGE shall be leakage through a non-isolable fault in a reactor coolant system component body, pipe wall or vessel wall.

PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING

1.31 PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING shall exist when:

a. All containment penetrations required to be closed during accident conditions are closed by at least one manual valve, blind flange, or deactivated automatic valve secured in its closed position.

b. All containment hatches are closed.

c. Each containment air lock is in compliance with the requirements of Specification 3.6.1.4.

PRIMARY CONTAINMENT INTEGRITY - OPERATING (~~MODES~~ OPERATIONAL CONDITIONS 1, 2 and 3)

1.32 PRIMARY CONTAINMENT INTEGRITY - OPERATING 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 Specification 3.6.4.

b. All containment equipment hatches are closed and sealed.

c. Each containment air lock is in compliance with the requirements of Specification 3.6.1.4.

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)

1.33 The PROCESS CONTROL PROGRAM shall contain the current formula, sampling, analyses, tests, and determinations to be made to ensure that the 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 Part 20, 10 CFR Part 61, 10 CFR Part 71 and

Federal and State regulations and other requirements governing the disposal of the radioactive waste.

RATED THERMAL POWER

1.34 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 2894 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 10 CFR 50.73.

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 - FUEL BUILDING

1.38 SECONDARY CONTAINMENT INTEGRITY - FUEL BUILDING shall exist when:

a. All Fuel Building penetrations required to be closed during accident conditions are closed by valves, blind flanges, or dampers secured in position.

b. All Fuel Building equipment hatch covers are installed.

c. The Fuel Building Charcoal Filtration System is in compliance with the requirements of Specification 3/4.6.5.6.

d. At least one door in each access to the Fuel Building is closed, except for routine entry and exit of personnel and equipment.

e. The pressure within the Fuel Building is maintained in compliance with the requirements of Specification 4.6.5.1.2.a.

NO SECONDARY CONTAINMENT INTEGRITY - OPERATING (OPERATIONAL CONDITIONS ~~MODES~~ 1, 2 and 3)

1.39 SECONDARY CONTAINMENT INTEGRITY - OPERATING shall exist when:

a. All Auxiliary Building penetrations, Fuel Building penetrations and Shield Building annulus penetrations required to be closed during accident conditions are either:

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CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING

LIMITING CONDITION FOR OPERATION

3.6.1.2 PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING (*) shall be maintained.

APPLICABILITY: OPERATIONAL CONDITION*
<Lower case letters>

ACTION:

Without PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING, suspend handling of irradiated fuel in the primary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

SURVEILLANCE REQUIREMENTS

OK

4.6.1.2 PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING (*) shall be demonstrated:

a. Within 24 hours prior to ~~entering OPERATIONAL Condition~~ and at least once per 24 hours during ~~shift in~~ <Lower case letters> OPERATIONAL CONDITION* by verifying that all primary containment penetrations ~~shown in Table 3.6.4-1~~ required to be closed during accident conditions are closed by hatches, valves, blind flanges, or deactivated automatic valves secured in position.

b. By verifying each containment air lock is in compliance with the requirements of Specification 3.6.1.4.

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

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PRIMARY CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.3 Primary containment leakage rates shall be limited to:

a. An overall integrated leakage rate of less than or equal to La, 0.26 percent by weight of the primary containment air per 24 hours at Pa, 7.6 psig.

b. A combined leakage rate of less than 0.60 La for all penetrations and all valves subject to Type B and C tests when pressurized in accordance with Table 3.6.4-1 of Specification 3.6.4.

c. A leakage rate of less than 340 scfh for each of the valve groups identified below when tested in accordance with the surveillance requirements of 4.6.1.3.f.

1. Division I MS-PLCS Valves and Division I PVLCS Valves

2. Division II MS-PLCS Valves and Division II PVLCS Valves

3. Division I $\overline{MSP}_{A}$LCS Valves and all first outboard PVLCS Valves

d. A combined leakage rate of less than or equal to 13,500 cc/hr for all penetrations shown in Table 3.6.1.3-1 as annulus bypass leakage paths when pressurized to Pa, 7.6 psig.

e. A combined leakage rate of less than or equal to 170,000 cc/hr, for all valves shown in Table 3.6.4-1 to be equipped with PVLCS, when pressurized to Pa, 7.6 psig. (Secondary containment bypass leakage path, and

f. A combined leakage rate of less than or equal to 1 gpm times the total number of containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 which penetrate the primary containment, when tested at Pa, ~~7.6~~ 8.36 (1.1) psig.

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

ACTION:

With:

a. The measured overall integrated primary containment leakage rate equaling or exceeding 0.75 La or,

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

c. The measured leakage rate greater than or equal to 340 scfh for each valve grouping identified in 3.6.1.3.c.1, 3.6.1.3.c.2 or 3.6.1.3.c.3, or

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LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

d. The combined leakage rate for all penetrations shown in Table 3.6.1.3-1 as annulus bypass leakage paths exceeding 13,500 cc/hr,

e. The combined leakage rate, for all valves shown in Table 3.6.4-1 to be equipped with PVLCS, exceeding 170,000 cc/hr, or

f. The measured combined leakage rate for all containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 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 0.75 La as applicable, and

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 La, and

c. The measured leakage rate to less than 340 scfh for each of the valve groupings identified in 3.6.1.3.c.1, 3.6.1.3.c.2, and 3.6.1.3.c.3 and

d. The combined leakage rate for all penetrations shown in Table 3.6.1.3-1 as annulus bypass leakage paths to less than or equal to 13,500 cc/hr and

e. The combined leakage rate, for all valves shown in Table 3.6.4-1 to be equipped with PVLCS, to less than or equal to 170,000 cc/hr, and

f. The combined leakage rate for all per Table 3.6.4-1 containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 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

4.6.1.3 The primary 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 Pa, 7.6 psig, during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.

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SURVEILLANCE REQUIREMENTS (Continued)

b. If any periodic Type A test fails to meet 0.75 La, 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 La, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 La, 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 difference between the supplemental test data and the Type A test data is within $0.25\ L_a \cdot [L_c \pm (L_{am} + L_o) \leq 0.25\ L_a]$ where L_c = supplemental test results; L_c = superimposed leakage; L_{am} = measured Type A leakage.

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 primary containment or bled from the primary containment during the supplemental test to be between 0.75 La and 1.25 La.

d. Type B and C tests shall be conducted with gas at Pa, 7.6 psig*, at intervals no greater than 24 months except for tests involving:

1. Air locks,

2. Main steam positive leakage control system (MS-PLCS) valves and PVLCS valves,

3. Penetrations using continuous leakage monitoring systems,

4. Primary containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 which penetrate the primary containment, and

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

e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.4.

f. Total sealing air leakage into the primary containment at a test pressure of 11.5 psid for main steam isolation valves and ~~43~~ 33 psid for penetration leakage control system sealed valves shall be tested at least once per 18 months.

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

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SURVEILLANCE REQUIREMENTS (Continued)

~~g. Type B periodic tests are not required for penetrations continuously monitored by the Primary Containment Penetration Pressurization System, provided the system is OPERABLE per Specification 3.6.1.9.~~

g K. Type B tests for electrical penetrations employing a continuous leakage monitoring system shall be conducted at Pa, 7.6 psig, at intervals no greater than once per 3 years.

h Y. Leakage from isolation valves that are sealed with the PVLCS shall be tested once per 24 months may be excluded when determining the combined leakage rate ~~provided, the seal system and~~ valves ~~are~~ pressurized to at least ~~1.10~~ Pa, ~~8.36~~ psig, ~~and the seal system capacity is adequate to maintain system pressure for at least 30 days.~~ This leakage with , 0.6 La.

Yes ?

i Y. Primary containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 which penetrate the primary containment shall be leak tested at least once per 18 months.

j K. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.9.3.

k. Y. The provisions of Specification 4.0.2 are not applicable to Specifications 4.6.1.3.a, 4.6.1.3.b, 4.6.1.3.d, 4.6.1.3.e and 4.6.1.3.K.

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TABLE 3.6.1.3-1

ANNULUS BYPASS LEAKAGE PATHS

1. LEAKAGE PATHS TO THE FUEL BUILDING

PENETRATION	VALVE NO. (DIV. 1)	VALVE NO. (DIV. 2)
Containment air lock 1JRB*DRA2	--	--

2. LEAKAGE PATHS TO THE AUXILIARY BUILDING

PENETRATION	VALVE NO. (DIV. 1)	VALVE NO. (DIV. 2)
1KJB*Z31	1HVR*AOV165	1HVR*AOV123
1KJB*605E	1CMS*SOV31A	1CMS*SOV35C
1KJB*605F	1CMS*SOV31C	1CMS*SOV35A
1KJB*601B	1SSR*SOV131	1SSR*SOV130
Containment air lock	1JRB*DRA 1	
CRD removal hatch	--	

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PRIMARY CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.4 Each primary containment air lock shall be OPERABLE with:

a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and

b. An overall air lock leakage rate in compliance with the limits of Specification 3.6.1.3.d when pressurized to Pa, 7.6 psig, and

c. The inflatable seal system air flask pressure $\geq$ ~~100~~ 90 psig.

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

ACTION:

a. With one primary containment air lock door inoperable:

1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed.

2. Operation may then continue until performance of the next required overall air lock leakage test provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.

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

4. Otherwise in Operational Condition # INSERT A

5 #. The provisions of Specification 3.0.4 are not applicable.

b. With a primary containment air lock inoperable, except as a result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

1. In OPERATIONAL CONDITION 1.

2. In Operational Condition # INSERT A

c. With one primary containment air lock door inflatable seal system air flask pressure instrumentation channel inoperable, restore the inoperable channel to OPERABLE status within 7 days or verify air flask pressures to be $\geq$ ~~100~~ 90 psig at least once per 12 hours.

*See Special Test Exception 3.10.1.

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

~~The requirements for the airlock leakage rates are not applicable.~~

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INSERT A (to PAGE 3/4 6-8)

suspend all operations involving handling of irradiated fuel in the containment, CORE ALTERATIONS, and operations with a potential for draining the reactor vessel.

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SURVEILLANCE REQUIREMENTS

4.6.1.4 Each primary containment air lock shall be demonstrated OPERABLE:

a. Within 72 hours following each closing, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying seal leakage rate is in compliance with the limits in Specification 3.6.1.3.d when the gap between the door seals is pressurized to Pa, 7.6 psig.

b. By conducting an overall air lock leakage test at Pa, 7.6 psig, and verifying that the overall air lock leakage rate is within its limit:

1. At least once per 6 months,*

2. Prior to establishing PRIMARY CONTAINMENT INTEGRITY - OPERATING when maintenance has been performed on the air lock that could affect the air lock sealing capability# when the air lock has been opened and

c. At least once per 6 months by verifying that only one door in each air lock can be opened at a time.

d. By verifying the door inflatable seal system OPERABLE by:

1. At least once per 7 days, verifying seal air flask pressure to be greater than or equal to ~~80~~ 90 psig.

2. At least once per 18 months, conducting a seal pneumatic system leak test and verifying that system pressure does not decay more than ~~1.56~~ 1.28 psig from ~~100~~ 90 psig within 24 hours.

*The provisions of Specification 4.0.2 are not applicable.

~~#Exemption to Appendix J of 10 CFR 50~~.

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CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT INTERNAL PRESSURE

FINAL DRAFT

LIMITING CONDITION FOR OPERATION

3.6.1.7 Primary containment internal pressure shall be maintained between -0.3 and +0.3 psig.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

With the primary containment ~~secondary containment differential~~ internal pressure outside of the specified limits, restore the ~~differential~~ pressure to within the limits 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

4.6.1.7 The primary containment internal pressure shall be determined to be within the limits at least once per 12 hours.

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PRIMARY CONTAINMENT AVERAGE AIR TEMPERATURE

FINAL DRAFT

LIMITING CONDITION FOR OPERATION

3.6.1.8 Primary containment average air temperature shall not exceed ~~100~~ 90°F.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

With the primary containment average air temperature greater than ~~100~~ 90°F, reduce the average air temperature to within the limit within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.8 The primary containment average air temperature shall be the arithmetical average of the temperatures at the following locations and shall be determined to be within the limit at least once per 24 hours:

	Elevation	Azimuth*
a.	~167'	~ 72°
b.	~167'	~108°
c.	~167'	~ 37°
d.	~122'	~170°
e.	~119'	~ 15°
f.	~119'	~ 270°
g.	~119'	~ 66°
h.	~119'	~117°
i.	~119'	~219°
j.	~119'	~322°

*At least one reading from each elevation is required for an average calculation. However, if all instrumentation is OPERABLE, all readings should be used in the calculation.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT PURGE SYSTEM

FINAL DRAFT

LIMITING CONDITION FOR OPERATION

3.6.1.9 The primary containment purge 36 inch supply and exhaust isolation valves shall be OPERABLE and closed except:

a. Each 36 inch purge valve may be open for purge system operation with such operation limited to 2000* hours per 365 days for reducing airborne activity and pressure control, and

b. If the SGTS is in the purge flow path then both trains of the SGTS must be OPERABLE, but only one train of SGTS may be operating in the purge flow path.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

a. With a 36 inch primary containment purge supply and/or exhaust isolation valve(s) open for more than 2000* hours per 365 days, close and/or seal the 36 inch valve(s) or otherwise isolate the penetration within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With both SGTS trains in operation in the purge flow path and/or without both SGTS OPERABLE with one SGTS in the purge flow path, discontinue 36 inch purge system operation and close the open 36 inch valve(s) or otherwise isolate the penetration(s) within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With a primary containment purge supply and/or exhaust isolation valve(s) with resilient material seals having a measured leakage rate exceeding the limit of Surveillance Requirement 4.6.1.9.3, restore the inoperable valve(s) to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.9.1 Each 36 inch primary containment purge supply and exhaust isolation valve shall be verified to be sealed closed at least once per 31 days.

4.6.1.9.2 The cumulative time that the 36 inch primary containment purge supply and/or exhaust isolation valves have been open during the past 365 days shall be determined at least once per 7 days.

* Applicable for the period from initial criticality to 3 months after the completion of the 1st refueling outage, otherwise, 1000 hours for 365 days limit is imposed.

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PENETRATION VALVE LEAKAGE CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.10 Two independent penetration valve leakage control system (PVLCS) divisions shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

With one PVLCS division inoperable, restore the inoperable division to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.10 Each PVLCS division shall be demonstrated OPERABLE:

a. At least once per 24 hours by verifying division PVLCS accumulator pressure greater than or equal to 101 psig.

b. During each COLD SHUTDOWN, if not performed within the previous 92 days, by cycling each remote, manual and automatic motor operated valve through at least one complete cycle of full travel.

c. At least once per 18 months by:

~~1.~~ Performance of a functional test which includes simulated actuation of the system throughout its operating sequence, and verifying that each automatic valve actuates to its correct position and that a sealing pressure greater than or equal to ~~21~~ 22 psig is established in each sealing valve, and

~~2. Leakage from valves equipped with the PVLCS will be included in computation of 0.6 La.~~

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SURVEILLANCE REQUIREMENTS (Continued)

e. By verifying the personnel door inflatable seal system OPERABLE by:

1. At least once per 7 days verifying seal air flask pressure to be greater than or equa' to ~~100~~ 90 psig.

2. At least once per 18 months conducting a seal pneumatic system leak test and verifying that system pressure does not decay more than ~~1.16~~ 0.83 psig from ~~100~~ 90 psig within 24 hours.

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LIMITING CONDITION FOR OPERATION

3.6.2.3 The drywell air lock shall be OPERABLE with:

a. Both doors closed except when the air lock is being used for normal transit entry and exit through the drywell, then at least one air lock door shall be closed, and

b. An overall air lock leakage rate of less than or equal to 11.85 scf per hour at 3.0 psid, and

c. The inflatable seal system air flask pressure ≥ ~~100~~ 90 psig.

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

ACTION:

a. With one drywell air lock door inoperable:

1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed.

2. Operation may then continue provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.

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

4. The provisions of Specification 3.0.4 are not applicable.

b. With the drywell air lock inoperable, except as a result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

With one inoperable drywell air lock door inflatable seal system air flask pressure instrumentation channel, restore the inoperable channel to OPERABLE status within 7 days or verify air flask pressure to be ≥ ~~100~~ 90 psig at least once per 12 hours.

*See Special Test Exception 3.10.1.

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4.6.2.3 The drywell air lock shall be demonstrated OPERABLE:

a. Within 72 hours following each closing, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying seal leakage rate less than or equal to 4.05 scf per hour when the gap between the door seals is pressurized to 3.0 psid.

b. By pressurizing the air lock to 19.2 psig* and ~~and~~ conducting an overall air lock leakage test at 3.0 psid and verifying that the overall air lock leakage rate is within its limit:

1. At least once per 6 months*.

2. Prior to establishing DRYWELL INTEGRITY when maintenance has been performed on the air lock that could affect the air lock sealing capability.

c. By verifying that only one door in the air lock can be opened at a time. prior to drywell entry if not performed within the past six months.

d. By verifying the door inflatable seal system OPERABLE by:

1. At least once per 7 days verifying seal air flask pressure to be greater than or equal to ~~100~~ 90 psig.

2. At least once per 18 months conducting a seal pneumatic system leak test and verifying that system pressure does not decay more than ~~1.10~~ 0.83 psig from ~~100~~ 90 psig within 24 hours.

~~* The provisions of Specification 4.0.2 are not applicable.~~

* The requirement to pressurize the air lock to 19.2 psig need only be conducted at a frequency of at least once per 18 months.

CONTAINMENT SYSTEMS

DRYWELL VENT AND PURGE

FINAL DRAFT

LIMITING CONDITION FOR OPERATION

3.6.2.7 Whenever the 36 inch containment purge system supply or exhaust valves are open, the drywell vent and purge system supply and exhaust valves shall be closed except, while in OPERATIONAL CONDITION 3, the drywell vent and purge system 24 inch valves may be open during operation of the drywell vent and purge mode of the containment cooling system for up to 90* hours per 365 days for the purpose of reducing drywell airborne radioactivity levels prior to and during personnel entries or for controlling drywell pressure. The drywell may be vented for up to 5* hours per 365 days in OPERATIONAL CONDITIONS 1 and 2, for controlling drywell pressure by opening the 24 inch drywell purge supply or exhaust valves; however, only one line may be open at a time.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.#

ACTION:

a. With the drywell vent and purge system supply or exhaust valves open in OPERATIONAL CONDITIONS 1 ~~and~~ 2 or and the 36 inch primary containment purge system supply or exhaust valves open, immediately close the drywell vent and purge system valves or be in at least HOT SHUTDOWN within the next 12 hours.

b. With the drywell vent and purge system supply or exhaust valves open during OPERATIONAL CONDITIONS 1 ~~and~~ 2 or for more than 5 hours per 365 days, immediately close the drywell vent valves or be in at least HOT SHUTDOWN within the next 12 hours.

c. With both the drywell purge supply and exhaust valves open at the same time in OPERATIONAL CONDITIONS 1 ~~and~~ 2, immediately isolate either the supply or exhaust line; otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

d. With the drywell vent or purge mode of the containment cooling system in operation, during OPERATIONAL CONDITION 3, for more than 90 hours per 365 days, immediately close the drywell vent and purge 24 inch valves or be in at least COLD SHUTDOWN within the next 24 hours.

* Applicable for the period from initial criticality to 3 months after the completion of the 1st refueling outage, otherwise these valves should be locked closed

These valves shall be sealed closed (and verified to be sealed closed) until the qualification of 24" valve as approved by NRC.

SURVEILLANCE REQUIREMENTS

4.6.2.7 At least once per 7 days, determine the cumulative time that:

1. The drywell vent and purge system supply ~~or~~ and exhaust valves have been open during OPERATIONAL CONDITIONS 1 and 2 during the ~~past~~ 365 days, and

2. The drywell vent and purge mode of the containment ~~cooling~~ purge system has been in operation during OPERATIONAL CONDITION 3 within the past 365 days.

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LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

2. With the suppression pool average water temperature greater than:

   a) 95°F for more than 24 hours and THERMAL POWER greater than 1% of RATED THERMAL POWER, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

   b) 110°F, place the reactor mode switch in the Shutdown position and operate at least one residual heat removal loop in the suppression pool cooling mode.

3. With the suppression pool average water temperature greater than 120°F, depressurize the reactor pressure vessel to less than 200 psig within 12 hours.

c. With only one suppression chamber water level indicator OPERABLE and/or with fewer than eight suppression pool water temperature indicators, one in each of eight locations, OPERABLE, restore the inoperable indicator(s) to OPERABLE status whithin 7 days or verify suppression chamber water level and/or temperature to be within the limits at least once per 12 hours.

d. With no suppression chamber water level indicators OPERABLE and/or with fewer than seven suppression pool water temperature indicators, covering at least seven locations, OPERABLE, restore at least one water level indicator and at least six water temperature indicators 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.

SURVEILLANCE REQUIREMENTS

4.6.3.1 The suppression pool shall be demonstrated OPERABLE:

a. By verifying the suppression pool water volume to be within the limits at least once per 24 hours.

b. At least once per 24 hours, in OPERATIONAL CONDITION 1 or 2, by verifying the suppression pool average water temperature to be less than or equal to 95°F, except:

   1. At least once per 5 minutes, during testing which adds heat to the suppression pool, by verifying the suppression pool average water temperature less than or equal to 105°F.

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3/4.6.4 PRIMARY CONTAINMENT AND DRYWELL ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.4 The primary containment and drywell isolation valves 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, and 3

ACTION:

With one or more of the primary 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:

1. Restore the inoperable valve(s) to OPERABLE status, or
2. Isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolated position,* or
3. Isolate each affected penetration by use of at least one closed manual valve or blind flange.*

Insert

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

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each 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 isolation time.

4.6.4.2 Each automatic 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 valve shown in Table 3.6.4-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

*Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative controls.

The provisions of specification 3.0.4 are not applicable provided that the affected penetration is isolated in accordance with ACTION 2 and 3 above, and provided that the associated system, if applicable, is declared inoperable and the appropriate ACTION statements for that system are performed

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TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	VALVE GROUP	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH~~(f)~~ (Yes/No)
a. Automatic Isolation Valves				
1. Primary Containment[a] (Continued)				
1G33*MOVF028	1KJB*Z4	~~7~~ 15	20.9	Yes[f]
1G33*MOVF040	1KJB*Z6	~~7~~ 15	24.2	No
1G33*MOVF001[b]~~(j)~~	1KJB*Z7	~~7~~ 16	19.8	No
1G33*MOVF053	1KJB*Z129	~~7~~ 15	5.5	No
1G33*MOVF034~~(h)~~	1KJB*Z4	~~7~~ 15	20.9	Yes[f]
1G33*MOVF039~~(h)~~	1KJB*Z6	~~7~~ 15	24.2	No
1G33*MOVF004~~(h)(j)~~	1KJB*Z7	7	6.6	No
1G33*MOVF054~~(h)~~	1KJB*Z129	~~7~~ 15	5.5	No
1WCS*MOV178	1KJB*Z5	1	12.1	Yes[f]
1WCS*MOV172	1KJB*Z5	1	12.6	Yes[f]
1E22*MOVF023[j]	1KJB*Z11	1	50	No
1E12*MOVF024A[j]	1KJB*Z24A	10	63.8	No
1E12*MOVF011A[j]	1KJB*Z24A	10	34.1	No
1E21*MOVF012[j]	1KJB*Z24A	10	57.2	No
1E12*MOVF024B[j]	1KJB*Z24B	10	63.8	No
1E12*MOVF011B[j]	1KJB*Z24B	10	30.8	No
1E12*MOVF021[j]	1KJB*Z24C	10	97.9	No
1SFC*MOV119	~~1KJBZ26~~ 1KJB*Z26	1	68	No
1SFC*MOV120	~~1KJBZ27~~ 1KJB*Z27	1	62.7	No
1SFC*MOV122	1KJB*Z27	1	63.8	No
1SFC*MOV139	~~1KJBZ28~~ 1KJB*Z28	1	39.6	No
1SFC*MOV121	~~1KJBZ28~~ 1KJB*Z28	1	39.6	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	VALVE GROUP	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH~~(f)~~ (Yes/No)
a. Automatic Isolation Valves				
1. Primary Containment[a] (Continued)				
1DFR*AOV102[b]	1KJB*Z35, 1DRB*Z36	1	N/A	No
1DFR ~~1DRF~~*AOV101[b]	1KJB*Z35, 1DRB*Z36	1	N/A	No
1DER*AOV127[b]	1KJB*Z38, 1DRB*Z39	1	N/A	No
1DER*AOV126[b]	1KJB*Z38, 1DRB*Z39	1	N/A	No
1FPW*MOV121	1KJB*Z41	1	34.1	Yes[f]
1SAS*MOV102	1KJB*Z44	1	22.0	Yes[f]
1IAS*MOV106	1KJB*Z46	1	18.7	Yes[f]
1CCP*MOV138	1KJB*Z48	1	22.0	No
1CCP*MOV158	1KJB*Z49	1	23.1	No
1CCP*MOV159	1KJB*Z49	1	24.2	No
1SWP*MOV5A	1KJB*Z53A	1	50.6	No
1SWP*MOV5B	1KJB*Z53B	1	53.9	No
1HVN*MOV102	1KJB*Z131	1	31.9	Yes[f]
1HVN*MOV128	1KJB*Z131	1	28.6	Yes[f]
1HVN*MOV127	1KJB*Z132	1	27.5	Yes[f]
1CNS*MOV125	1KJB*Z134	1	22.0	Yes[f]

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TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	VALVE GROUP	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH ~~(f)~~ (Yes/No)
a. Automatic Isolation Valves				
1. Primary Containment[a] (Continued)				
1E51*MOVF063[b]	1KJB*Z15	2	9.9	No
1E51*MOVF076[b]	1KJB*Z15	2	13.4	No
1E51*MOVF064	1KJB*Z15	2	9.9	No
1E51*MOVF031[d]	1KJB*Z16	2	30.5	No
1E51*MOVF077	1KJB*Z17	3	14.2	No
1E51*MOVF078	1KJB*Z18B,C	3	16.5	No
1HVR*AOV165	1KJB*Z31	8	3	No
1HVR*AOV123	1KJB*Z31	8	3	No
1HVR*AOV128	1KJB*Z33	8	3	No
1HVR*AOV166	1KJB*Z33	8	3	No
1SSR*SOV130	1KJB*Z601B	~~10~~ 1	3	No
1SSR*SOV131	1KJB*Z601B	~~10~~ 1	3	No

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TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	VALVE GROUP	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH~~(f)~~ (Yes/No)
a. Automatic Isolation Valves				
2. Drywell[k] (Continued)				
1CPM*MOV2A	1DRB*Z57A	~~10~~ 1	33	No
1CPM*MOV4A	1DRB*Z57A	~~10~~ 1	33	No
1CPM*MOV2B	1DRB*Z57B	~~10~~ 1	33	No
1CPM*MOV4B	1DRB*Z57B	~~10~~ 1	33	No
1CPM*MOV3A	1DRB*Z58A	~~10~~ 1	33	No
1CPM*MOV1A	1DRB*Z58A	~~10~~ 1	33	No
1CPM*MOV3B	1DRB*Z58B	~~10~~ 1	33	No
1CPM*MOV1B	1DRB*Z58B	~~10~~ 1	33	No
1B33*AOVF019	1DRB*Z449	9	5	No
1B33*AOVF020	1DRB*Z449	9	5	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH~~(f)~~ (Yes/No)
b. Manual Isolation Valves		
1. Primary Containment(a)		
1E12*F099A	1KJB*Z21A	No
1E12*F099B	1KJB*Z21B	No
1HVR*V8	1KJB*Z602A	No
1HVR*V10	1KJB*Z602B	No
1LSV*V64	1KJB*Z602D	No
1HVR*V12	1KJB*Z602F	No
1LMS*V14	1KJB*Z603A	No
1LMS*V12	1KJB*Z603A	No
1LMS*V7	1KJB*Z603C	No
1LMS*V16	1KJB*Z603C	No
1CMS*V2	1KJB*Z605A	No
1CMS*V3	1KJB*Z605B	No
1HVR*V14	1KJB*Z606A	No
1HVR*V16	1KJB*Z606B	No
1CMS*V16	1KJB*Z606C	No
1CMS*V15	1KJB*Z606D	No
1LSV*V65	1KJB*Z606E	No
1HVR*V18	1KJB*Z606F	No
1E12*VF044A	1KJB*Z21A	No
1E12*VF044B	1KJB*Z21B	No
1SWP*SOV552A(e)	1KJB*Z53A	No
1SWP*SOV552B(e)	1KJB*Z53B	No
1SWP*SOV552C(e)	1KJB*Z53A	No
1SWP*SOV552D(e)	1KJB*Z53B	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH(f) (Yes/No)
b. Manual Isolation Valves		
1. Primary Containment(a) (Continued)		
1FWS*MOV7A(e)	1KJB*Z3A	Yes(f)
1FWS*MOV7B(e)	1KJB*Z3B	Yes(f)
1E22*MOVF015(e)(J)	1KJB*Z8	No
1E22*MOVF004(b)(e)	1KJB*Z9, 1DRB*Z10	No
1E22*MOVF012(e)(J)	1KJB*Z11	No
1E21*MOVF001(e)(J)	1KJB*Z12	No
1E21*MOVF005(b)(e)	1KJB*Z13, 1DRB*Z14	No
1E51*MOVF068(e)	1KJB*Z17	No
1E51*MOVF019(e)(J)	1KJB*Z18A	No
1E51*MOVF013(b)(e)	1KJB*Z119, 1DRB*Z130	No
1E12*MOVF027A(e)	1KJB*Z21A	No
1E12*MOVF042A(e)	1KJB*Z21A	No
1E12*MOVF027B(e)	1KJB*Z21B	No
1E12*MOVF042B(e)	1KJB*Z21B	No
1E12*MOVF042C(e)	1KJB*Z21C	No
1E12*MOVF073A(e)(J)	1KJB*Z23A	No
1E12*MOVF073B(e)(J)	1KJB*Z23B	No
1E12*MOVF064A(e)(J)	1KJB*Z24A	No
1E21*MOVF011(e)(J)	1KJB*Z24A	No
1SSR*SOV139(e)	~~1KJB*Z25B~~ 1KJB*Z23B	No
1E12*MOVF064B(e)(J)	1KJB*Z24B	No
1E12*MOVF064C(e)(J)	1KJB*Z24C	No
1E12*MOVF004A(e)(J)	1KJB*Z25A	No
1E12*MOVF004B(e)(J)	1KJB*Z25B	No
1E12*MOVF105(e)(J)	1KJB*Z25C	No
1DFR*MOV146(e)(J)	1KJB*Z11	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH(f) (Yes/No)
b. Manual Isolation Valves		
1. Primary Containment(a) (Continued)		
1C11*MOVF083(e)	1KJB*Z29	No
1CPP*MOV104(e)	1KJB*Z33	No
1CPP*MOV105(e)	1KJB*Z33	No
1SWP*MOV507A(e)	1KJB*Z52A	No
1SWP*MOV507B(e)	1KJB*Z52B	No
1SWP*MOV81A(e)	1KJB*Z53A	No
1SWP*MOV81B(e)	1KJB*Z53B	No
1SWP*MOV503A(e)	1KJB*Z53A	No
1SWP*MOV503B(e)	1KJB*Z53B	No
1SVV*MOV1B(e)	1KJB*Z102	No
1SVV*MOV1A(e)	1KJB*Z103	No
1CPP*SOV140(e)	1KJB*Z31	No
1CMS*SOV35D(e)	1KJB*Z601E	No
1CMS*SOV31B(e)	1KJB*Z601E	No
1CMS*SOV35B(e)	1KJB*Z601F	No
1CMS*SOV31D(e)	1KJB*Z601F	No
1CMS*SOV35C(e)	1KJB*Z605E	No
1CMS*SOV31A(e)	1KJB*Z605E	No
1CMS*SOV35A(e)	1KJB*Z605F	No
1CMS*SOV31C(e)	1KJB*Z605F	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH(f) (Yes/No)
b. Manual Isolation Valves		
2. Drywell(k)		
1SAS*V489	1DRB*Z45	No
1IAS*V79	1DRB*Z47	No
1HVN*V542	1DRB*Z54	No
1SWP*V205	1DRB*Z54	No
1SWP*V206	1DRB*Z55	No
1SVV*V53	1DRB*Z112	No
1RCS*V132	1DRB*Z152	No
1RCS*V131	1DRB*Z153	No
1RCS*V162	1DRB*Z154	No
1RCS*V156	1DRB*Z155	No
1RCS*V187	1DRB*Z156	No
1RCS*V186	1DRB*Z157	No
1RCS*V217	1DRB*Z158	No
1RCS*V211	1DRB*Z159	No
1CMS*SOV34A(e)	1DRB*Z500	No
1CMS*SOV34B(e)	1DRB*Z430	No
1CMS*SOV34C(e)	1DRB*Z499	No
1CMS*SOV34D(e)	1DRB*Z428	No
~~1CMS*SOV34A~~ 1CMS*SOV32A(e)	1DRB*Z333	No
1CMS*SOV32B(e)	1DRB*Z335	No
1SVV*V50	1DRB*Z107	No

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TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH~~(f)~~ (Yes/No)
c. Other Isolation Valves		
1. Primary Containment(a)		
1B21*AOVF032A(c)	1KJB*Z3A	Yes (f)
~~1B21*AOVF011A~~(b)	1KJB*Z3A	Yes (f)
1B21*AOVF022B 1B21*AOVF032B(c)	1KJB*Z3B	Yes (f)
1B21*AOVF010B(b)	1KJB*Z3B	Yes (f)
1E22*AOVF005(b)(c)	1KJB*Z9, 1DRB*Z10	No
1E22*RVF014(h)	1KJB*Z11	No
1E22*RVF035(h)	1KJB*Z11	No
1E22*RVF039(h)	1KJB*Z11	No
1E21*AOVF006(b)(c)	1KJB*Z13, 1DRB*Z14	No
1E51*AOVF065(b)(c)	1KJB*Z19, 1DRB*Z130	No
1E51*AOVF066(b)(c)	1KJB*Z19, 1DRB*Z130	No
~~1E12*RVF036~~ 1RHS*V240	1KJB*Z20	No
1E12*AOVF041C(b)(c)	1KJB*Z21C, 1DRB*Z22C	No
1RHS*RV3A(h)	1KJB*Z23A	No
1E12*RVF055A(h)	1KJB*Z23A	No
1E12*RVF025A(h)	1KJB*Z23A	No
1E12*RVF017A(h)	1KJB*Z23A	No
1E12*RVF005 (h)	1KJB*Z23A	No
1E21*RVF018 (h)	1KJB*Z23A	No
1E21*RVF031 (h)	1KJB*Z23A	No
1E12*RVF036 (h)	1KJB*Z23A	No
1RHS*RV3B (h)	~~1KJB*Z23A~~ 1KJB*Z23B	No
1E12*RVF055B(h)	1KJB*Z23B	No
1E12*RVF025C(h)	1KJB*Z23B	No
1WCS*RV144	1KJB*Z4	Yes (f)
1WCS*RV154	1KJB*Z5	Yes (f)

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TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH(f) (Yes/No)
c. Other Isolation Valves		
1. Primary Containment(a) (Continued)		
1E12*RVF025B(h)	1KJB*Z23B	No
1E12*RVF030(h)	1KJB*Z23B	No
1E12*RVF101(h)	1KJB*Z23B	No
1E12*RVF017B(h)	1KJB*Z23B	No
1SFC*V101	1KJB*Z26	No
1SFC*V350	1KJB*Z27	No
1SFC*V351	1KJB*Z28	No
1C11*VF122	1KJB*Z29	No
1DER*V4	1KJB*Z38	No
1DFR*V180	1KJB*Z35	No
1FPW*V263	1KJB*Z41	Yes(f)
1SAS*V486	1KJB*Z44	Yes(f)
1IAS*V80	1KJB*Z46	Yes(f)
1CCP*V118	1KJB*Z48	No
1CCP*V160	1KJB*Z49	No
1SWP*V174	1KJB*Z52A	No
1SWP*V175	1KJB*Z52B	No
1SVV*V9	1KJB*Z102	No
1SVV*V31	1KJB*Z103	No
1HVN*V1316	1KJB*Z131	Yes(f)
1HVN*V541	1KJB*Z132	Yes ~~No~~(f)
1CNS*V86	1KJB*Z134	Yes(f)

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TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH(f) (Yes/No)
c. Other Isolation Valves		
2. Drywell[k]		
1B21*RVF047A	1DRB*Z136	No
1B21*RVF041A	1DRB*Z137	No
1B21*RVF051G	1DRB*Z138	No
1B21*RVF041L	1DRB*Z139	No
1B21*RVF047C	1DRB*Z140	No
1B21*RVF041G	1DRB*Z141	No
1B21*RVF051C	1DRB*Z142	No
1B21*RVF041C	1DRB*Z143	No
1B21*RVF047B	1DRB*Z144	No
1B21*RVF041B	1DRB*Z145	No
1B21*RVF051B	1DRB*Z146	No
1B21*RVF041F	1DRB*Z147	No
1B21*RVF047F	1DRB*Z148	No
1B21*RVF041D	1DRB*Z149	No
1B21*RVF047D	1DRB*Z150	No
1B21*RVF051D	1DRB*Z151	No
1E12*AOVF041A[c]	1DRB*Z222A	No
1E12*AOVF041B[c]	1DRB*Z222B	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH(f) (Yes/No)
c. Other Isolation Valves		
2. Drywell[k] (Continued)		
1DFR*V4	1DRB*Z37A	No
1DFR*V3	1DRB*Z37A	No
1DFR*V1	1DRB*Z37B	No
1DFR*V2	1DRB*Z37B	No
1DER*V14	1DRB*Z40A	No
1DER*V15	1DRB*Z40A	No
1DER*V16	1DRB*Z40B	No
1DER*V17	1DRB*Z40B	No
1SAS*V487	1DRB*Z45	No
1IAS*V78	1DRB*Z47	No
1CCP*V119	1DRB*Z50	No
1SWP*RV119	1DRB*Z54	No
1C41*VERXF004A	1DRB*Z56	No
1C41*VERXF004B	1DRB*Z56	No
1C41*VF006	1DRB*Z56	No
1C41*VF007	1DRB*Z56	No
1CCP*V133	1DRB*Z51	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH(f) (Yes/No)
c. Other Isolation Valves		
2. Drywell[k] (Continued)		
1B21*VF036A	1DRB*Z107	No
1B21*VF036F	1DRB*Z107	No
1B21*VF036G	1DRB*Z107	No
1B21*VF036P	1DRB*Z107	No
1B21*VF039C	1DRB*Z107	No
1B21*VF039H	1DRB*Z107	No
1B21*VF039K	1DRB*Z107	No
1B21*VF039S	1DRB*Z107	No
1B21*VF036J	1DRB*Z112	No
1B21*VF036L	1DRB*Z112	No
1B21*VF036M	1DRB*Z112	No
1B21*VF036N	1DRB*Z112	No
1B21*VF036R	1DRB*Z112	No
1B21*VF039B	1DRB*Z112	No
1B21*VF039D	1DRB*Z112	No
1B21*VF039E	1DRB*Z112	No
1B33*VF013A	1DRB*Z133	No
1B33*VF017A	1DRB*Z133	No
1B33*VF013B	1DRB*Z135	No
1B33*VF017B	1DRB*Z135	No
1CMS*V41	1DRB*Z427	No
1CMS*V40	1DRB*Z501	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

NOTES

(a) Subject to test pressure of 7.6 psig.

(b) Also isolates the drywell.

(c) Testable check valve.

(d) Opens on isolation signal.

(e) Receives a remote manual isolation signal.

(f) This line is sealed by the penetration valve leakage control system, (PVLCS).

(g) This valve sealed by the main steam positive leakage control system (MS-PLCS).

(h) Not subject to Type C leakage tests. Valve(s) will be indicated w the type A test ~~Also isolates on high nonregencrative heat exchanger outlet temperature (RWCU).~~

(j) Valve is hydrostatically leak tested. ~~Valves G33*MOVF001 & F004 are the only valves from group 7 that isolate on the standby liquid control system initiation signal.~~

(k) Test pressure not applicable to these valves.

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SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months:

1. Verifying that one standby gas treatment subsystem will draw down the Shield Building Annulus and the Auxiliary Building to greater than or equal to ~~0.5~~ and 0.25 inches of vacuum water gauge in less than or equal to ~~103~~ 173 and ~~101~~ 81 seconds respectively, and,

2. Operating one standby gas treatment subsystem at a flow rate of 12500 ± 10% cfm for one hour and maintaining the Shield Building annulus and the Auxiliary Building greater than or equal to ~~0.5~~ 3.0 and 0.25 inches of vacuum water gauge ~~at a~~ flow rate not exceeding 2000 and 5000 cfm, respectively. and verify inleakage

3. Verifying that one Fuel Building ventilation subsystem will draw down the Fuel Building to greater than 0.25 inches of vacuum water gauge in less than or equal to 26 seconds, and

4. Operating one Fuel Building ventilation subsystem at a flowrate of 10,000 ± 10% cfm for one hour and maintaining greater than or equal to 0.25 inches of vacuum water gauge in the Fuel Building ~~at a~~ flow rate not exceeding 5000 cfm. and verify inleakage

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3/4.6.5 SECONDARY CONTAINMENT

SECONDARY CONTAINMENT INTEGRITY - FUEL BUILDING

LIMITING CONDITION FOR OPERATION

3.6.5.2 SECONDARY CONTAINMENT INTEGRITY - FUEL BUILDING shall be maintained.

APPLICABILITY: ~~OPERATIONAL CONDITIONS~~ Operational Condition *

ACTION:

Without SECONDARY CONTAINMENT INTEGRITY - FUEL BUILDING suspend handling of irradiated fuel in the Fuel Building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.2 SECONDARY CONTAINMENT INTEGRITY - FUEL BUILDING shall be demonstrated within 24 hours prior to and at least once per 7 days during handling of irradiated fuel in the Fuel Building by verifying that:

a. The pressure within the Fuel Building is less than or equal to 0.25 inches of vacuum water gauge.

b. All Fuel Building equipment hatch covers are installed.

c. At least one door in each access to the Fuel Building is closed except for routine entry and exit.

d. All Fuel Building penetrations, except the Fuel Building Ventilation System charcoal filtration system penetrations, required to be closed during Fuel Handling accident conditions are closed by valves, blind flanges, or dampers secured in position.

*When irradiated fuel is being handled in the Fuel Building.

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CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT AUTOMATIC ISOLATION DAMPERS

LIMITING CONDITION FOR OPERATION

3.6.5.3 The secondary containment ventilation system automatic isolation dampers shown in Table 3.6.5.3-1 shall be OPERABLE with isolation times less than or equal to the times shown in Table 3.6.5.3-1.

APPLICABILITY: As shown in Table 3.6.5.3-1.

ACTION:

With one or more of the secondary containment ventilation system automatic isolation dampers shown in Table 3.6.5.3-1 inoperable, maintain at least one isolation damper OPERABLE in each affected penetration that is open, and within 8 hours either:

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

b. Isolate each affected penetration by use of at least one deactivated automatic damper 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 ~~secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel.~~ Fuel Building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.3 Each secondary containment ventilation system automatic isolation damper shown in Table 3.6.5.3-1 shall be demonstrated OPERABLE:

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

*When irradiated fuel is being handled in the ~~secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel~~ Fuel Building. The provisions of specification 3.0.4 are not applicable provided that the affected penetration is isolated in accordance with ACTION c above, and provided that the associated system, if applicable, is declared inoperable and the applicable ACTION statement(s) for that system are performed.

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STANDBY GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.4 Two independent standby gas treatment subsystems shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

With one standby gas treatment subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or ~~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.

SURVEILLANCE REQUIREMENTS

4.6.5.4 Each standby gas treatment subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 10 hours with the heaters OPERABLE.

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FUEL BUILDING VENTILATION

LIMITING CONDITION FOR OPERATION

3.6.5.6 Two independent Fuel Building Ventilation Charcoal Filtration subsystems shall be OPERABLE, and in OPERATIONAL CONDITION * (* lower case), one operating in the emergency mode.

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

ACTION:

a. With one Fuel Building Ventilation Charcoal Filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days, or:

1. 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.

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

b. With both Fuel Building Ventilation Charcoal Filtration subsystems inoperable or with one not operating in the emergency mode in Operational Condition *, suspend handling of irradiated fuel in the ~~secondary containment, CORE ALTERATIONS or operations with a potential for draining the reactor vessel~~ Fuel Building. The provisions of Specification 3.0.3. are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.6 Each Fuel Building Ventilation Charcoal Filtration subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours in OPERATIONAL CONDITION * (* lower case), by verifying one Fuel Building Ventilation Charcoal Filtration System operation.

b. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 10 hours with the heaters OPERABLE.

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

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c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings or (2) following painting, fire or chemical release in any ventilation zone communicating with the subsystem by:

1. Verifying that the subsystem satisfies the in-place penetration and bypass leakage testing acceptance criterion of less than 0.05%, using the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and a system flow rate of 10,000 cfm ± 10%.

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175%; and

3. Verifying a subsystem flow rate of 10,000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1975.

d. After every 720 hours of charcoal adsorber operation, by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175%.

e. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence for the:

a) LOCA, and

b) ~~Annulus~~ Fuel Building ventilation exhaust high radiation signal.

2. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 8 inches water gauge while the filter train is operating at a flow rate of 10,000 cfm ± 10%.

3. Verifying that the subsystem starts and isolation dampers actuate to isolate the normal flow path and to divert flow through the charcoal filters on each of the following test signals:

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CONTAINMENT SYSTEMS

3/4.6.6 ATMOSPHERE CONTROL

PRIMARY CONTAINMENT HYDROGEN RECOMBINER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent primary containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With one primary containment hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each primary containment hydrogen recombiner system shall be demonstrated OPERABLE:

a. At least once per 6 months by verifying, during a recombiner system functional test that the minimum heater sheath temperature increases to greater than or equal to 700°F within 90 minutes and maintained for 2 hours

b. At least once per 18 months by:

1. Performing a CHANNEL CALIBRATION of all control room recombiner indication instrumentation and control circuits.

2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure; i.e., loose wiring or structural connections, deposits of foreign materials, etc.

3. Verifying the integrity of all heater electrical circuits by performing a resistance-to-ground test within 30 minutes following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.

4. Verifying, during a recombiner system functional test, that the heater sheath temperature increases to greater than or equal to 1215°F within 5 hours and maintained for 4 hours.

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TABLE 3.6.6.3-1

HYDROGEN IGNITERS AND LOCATIONS

IGNITER*	DIVISION	ELEVATION	AZIMUTH	DIST. FROM CENTERLINE OF REACTOR
NORMALLY ACCESSIBLE				
Open Areas				
Containment				
1A	I	EL 255-0	0.0	20.0'
1B	II	EL 255-0	90.0	20.0'
2A	I	EL 255-0	180.0	20.0'
2B	II	EL 255-0	270.0	20.0'
3A	I	EL 250-0	337.5	38.0'
3B	II	EL 250-0	22.5	38.0'
4A	I	EL 250-0	67.5	38.0'
4B	II	EL 250-0	112.5	38.0'
5A	I	EL 250-0	157.5	38.0'
5B	II	EL 250-0	202.5	38.0'
6A	I	EL 250-0	247.5	38.0'
6B	II	EL 250-0	292.5	38.0'
7A	I	EL 239-0	315.0	56.0'
7B	II	EL 239-0	0.0	56.0'
8A	I	EL 239-0	45.0	56.0'
8B	II	EL 239-0	90.0	56.0'
9A	I	EL 239-0	135.0	56.0'
9B	II	EL 239-0	180.0	56.0'
10A	I	EL 239-0	225.0	56.0'
10B	II	EL 239-0	270.0	56.0'
11B	II	EL 173-0	27.0	48.3'
12A	I	EL 173-6 ?	64.0	~~48.0~~ 57.0' X
12B	II	EL ~~173-6~~ 176-6	88.9	53.0'
14A	I	EL ~~172-9~~ 173-0	~~117.8~~ 115.0	~~49.9~~ 60.0'
14B	II	EL 169-9	153.9	52.3'
15A	I	EL 183-6	238.0	56.6'
15B	II	EL 183-6	~~213.7~~ 212.0	~~54.1~~ 56.6'
20A	I	EL ~~172-6~~ 168-0	293.9	54.1'
20B	II	EL 170-0	319.0	~~50.9~~ 50.8'
22A	I	EL 150-0	~~25.1~~ 21.7	~~52.7~~ 51.4'
22B	II	EL 154-0	63.0	60.0'
23A	I	EL 159-6	84.0	60.0'
23B	II	EL 152-0	~~118.2~~ 115.0	~~50.3~~ 60.0'
24A	I	EL ~~155-0~~ 154-0	153.0	~~55.8~~ 60.0'
24B	II	EL 128-0	~~145.0~~ 155.0	51.1'
16A	I	EL 173-0	249.3	53.5
16B	II	EL 172-0	290.9	53.0

*Prefix is 1HCS*IGN~~01A-~~ for all igniters.

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TABLE 3.6.6.3-1 (Continued)

HYDROGEN IGNITERS AND LOCATIONS

IGNITER*	DIVISION	ELEVATION	AZIMUTH	DIST. FROM CENTERLINE OF REACTOR
NORMALLY ACCESSIBLE (Continued)				
Open Areas				
Containment (Continued)				
25A	I	EL 159-6	210.0	50.0'
25B	II	EL 151-0	238.0	~~59.0~~ 60.0'
27A	I	EL ~~151-0~~ 153-4	321.1	46.2'
27B	II	EL 152-7	294.8	52.3'
32A	I	EL ~~126-0~~ 130-0	~~65.0~~ 69.0	60.0'
32B	II	EL 126-0	30.0	~~53.4~~ 60.0
33A	I	EL ~~126-0~~ 124-0	~~116.0~~ 115.0	60.0'
33B	II	EL 126-0	90.0	60.0'
34A	I	EL 126-0	180.0	47.0'
34B	II	EL 139-4	209.0	54.2'
~~35A~~	~~I~~	~~EL 136-0~~	~~155.1~~	~~46.6'~~
~~35B~~	~~II~~	~~EL 136-0~~	~~170.7~~	~~45.0'~~
38A	I	EL 139-4	240.5	54.0'
38B	II	EL 126-0	270.0	60.0'
39A	I	EL 126-6	~~297.0~~ 298.5	60.0'
39B	II	EL 130-0	~~325.0~~ 328.0	~~51.3~~ 55.4'
~~43A~~ 43A	I	EL ~~110-0~~ 108-9	~~333.0~~ 330.0	~~49.8~~ 39.5'
~~43B~~ 43B	II	EL ~~110-0~~ 108-0	5.0	~~49.8~~ 39.5'
44A	I	EL ~~112-4~~ 112-5	39.0	~~49.8~~ 44.5'
44B	II	EL ~~111-3~~ 109-0	~~60.0~~ 65.0	~~49.8~~ 39.5'
45A	I	EL ~~111-4~~ 110-0	~~90.0~~ 95.0	~~49.8~~ 39.5'
45B	II	EL 112-5	~~121.5~~ 117.0	~~49.8~~ 42.2'
46A	I	EL ~~110-0~~ 112-5	~~159.0~~ 155.0	~~49.8~~ 44.5'
46B	II	EL 112-5	~~186.0~~ 176.0	~~49.8~~ 41.5'
47A	I	EL 112-5	~~207.0~~ 204.0	~~49.8~~ 41.5'
47B	II	EL 112-5	~~243.0~~ 244.0	~~49.8~~ 43.0'
48A	I	EL ~~111-4~~ 109-6	~~270.0~~ 268.0	~~49.8~~ 39.5'
48B	II	EL ~~111-4~~ 109-6	~~299.0~~ 297.0	~~49.8~~ 39.5'

*Prefix is 1HCS*IGN~~01A-~~ for all igniters.

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TABLE 3.6.6.3-1 (Continued)

HYDROGEN IGNITERS AND LOCATIONS

IGNITER*	DIVISION	ELEVATION	AZIMUTH	DIST. FROM CENTERLINE OF REACTOR
NORMALLY INACCESSIBLE				
Open Areas				
Drywell				
28A	I	EL 156-0	0.0	24.8'
28B	II	EL 156-0	~~58.5~~ 38.0	~~23.0~~ 33.9'
29A	I	EL 156-0	125.0	21.5'
29B	II	EL 156-0	180.0	25.0'
30A	I	EL 156-0	233.0	22.0'
30B	II	EL 156-0	306.0	21.0'
40A	I	EL 138-8	293.3	25.0'
40B	II	EL 133-1	359.2	18.8'
41A	I	EL 139-10	60.4	21.6'
41B	II	EL 133-5	129.9	21.8'
42A	I	EL 138-11	179.0	23.0'
42B	II	EL 135-10	240.0	22.0'
49A	I	EL 116-8	354.5	26.0'
49B	II	EL 116-6	66.8	20.9'
50A	I	EL 116-7	113.4	21.2'
50B	II	EL 116-7	180.0	21.0'
51A	I	EL 115-2	247.3	20.8'
51B	II	EL 116-6	292.9	21.2'
Enclosed Areas				
RWCU Heat Exchanger Room				
11A	I	EL 166-6	20.8	50.5'
21A	I	EL ~~165-0~~ 167-4	~~330.7~~ 338.1	~~49.4~~ 48.0'
21B	II	EL ~~165-0~~ 167-6	~~0.7~~ 4.0	~~43.3~~ 43.4'
Contaminated Equip. Store Room				
13A	I	EL 167-3	52.1	29.2'
13B	II	EL 167-3	123.6	32.4'

*Prefix is 1HCS*IGN~~01A~~ for all igniters.

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TABLE 3.6.6.3-1 (Continued)

HYDROGEN IGNITERS AND LOCATIONS

IGNITER*	DIVISION	ELEVATION	AZIMUTH	DIST. FROM CENTERLINE OF REACTOR
NORMALLY INACCESSIBLE (Continued)				
Enclosed Areas (Continued)				
~~RWCU Control Area~~				
~~16A~~	~~I~~	~~El 173-0~~	~~259.9~~	~~50.8'~~
~~16B~~	~~II~~	~~El 172-0~~	~~290.9~~	~~53.0'~~
RWCU Valve Nest and Pump Room				
17A	I	170-6	298.4	40.0
17B	II	El ~~172-0~~	~~296.3~~	~~42.9'~~
		El ~~173-0~~	~~242.9~~	~~41.6'~~
RWCU Filter Demin A Room		172-0	240.5	38.5'
18A	I	EL 173-0	235.3	31.6'
18B	II	EL 173-0	260.1	23.3'
RWCU Filter Demin B Room				
19A	I	EL 175-6	~~303.9~~	~~31.3'~~
19B	II	EL 174-6	~~286.1~~ 282.3	~~27.1'~~ 23.5'
RWCU Backwash Room				
26A	I	157-6		
26B	II	EL ~~155-8~~	247.5	49.6'
		EL 150-0	276.1	46.8'
Main Steam Tunnel				
31A	I	EL 126-0	341.9	51.5'
31B	II	EL 126-0	17.4	53.5'
SFC Piping and Valve Area				
36A	I	EL 136-0	~~166.2~~ 166.3	56.4'
36B	II	EL 136-0	185.6	57.3'
Drywell Hatch Area				
35A	I	EL 136-0	155.1	46.6'
35B	II	EL 136-0	178.7	45.0'

*Prefix is 1HCS*IGN~~01A~~ for all igniters.

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TABLE 3.6.6.3-1 (Continued)

HYDROGEN IGNITERS AND LOCATIONS

IGNITER*	DIVISION	ELEVATION	AZIMUTH	DIST. FROM CENTERLINE OF REACTOR
NORMALLY INACCESSIBLE (Continued)				
Enclosed Areas (Continued)				
Fuel Transfer Tube Area				
37A	I	EL 135-0	202.1	39.9'
37B	II	EL 134-0	201.3	49.4'
Upper Fuel Pool Valve Room				
52A	I	EL 179-3	80.5	30.3'
52B	II	EL 179-3	138.8	33.2'

*Prefix is 1HCS*IGN~~01A-~~ for all igniters.

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TABLE 3.6.6.3-2

HYDROGEN IGNITERS AND ASSOCIATED CIRCUITS##

DIVISION I(a)

CIRCUIT 1	CIRCUIT 2	CIRCUIT 3	CIRCUIT 4	CIRCUIT 5
8A	9A	49A#	51A#	44A
7A	10A	50A#	42A#	32A
3A	6A	41A#	40A#	33A
4A	5A	29A#	30A#	22A
1A	2A	28A#		11A#
				13A#

CIRCUIT 6	CIRCUIT 7	CIRCUIT 8	CIRCUIT 9	CIRCUIT 10
46A	36A#	37A#	47A	43A
35A#	34A	48A	38A	31A#
45A	25A	39A	18A#	27A
23A	26A#	17A#	20A	21A#
12A	24A	16A#	15A	19A#
14A				
52A#				

#Igniters in inaccessible areas

##Prefix is 1HCS*IG~~01A~~ for all igniters.

(a)A minimum of 48 igniters shall be OPERABLE.

FINAL DRAF

TABLE 3.6.6.3-2 (Continued)

HYDROGEN IGNITERS AND ASSOCIATED CIRCUITS## (Continued)

DIVISION II(a)

CIRCUIT 1	CIRCUIT 2	CIRCUIT 3	CIRCUIT 4	CIRCUIT 5
7B	9B	49B#	51B#	43B
8B	10B	50B#	42B#	31B#
3B	5B	41B#	29B#	32B
4B	6B	40B#	30B#	21B#
1B	2B	28B#		11B
				52B#

CIRCUIT 6	CIRCUIT 7	CIRCUIT 8	CIRCUIT 9	CIRCUIT 10
44B	35B#	46B	37B#	47B
45B	36B#	25B	48B	39B
33B	34B	17B#	38B	26B#
23B	24B	18B#	19B#	27B
22B	13B#	15B	16B	20B
12B	14B			

#Igniters in inaccessible areas

##Prefix is 1HCS*IGN~~01A-~~ for all igniters.

(a)A minimum of 48 igniters shall be OPERABLE.

FINAL DRAFT

3/4.6.1 CONTAINMENT

3/4.6.1.1 and 3/4.6.1.2 PRIMARY CONTAINMENT INTEGRITY

PRIMARY CONTAINMENT INTEGRITY (OPERATING and FUEL HANDLING) ensures that the release of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the site boundary radiation doses to within the limits of 10 CFR Part 100 during accident conditions.

3/4.6.1.3 PRIMARY CONTAINMENT LEAKAGE

The limitations on primary containment leakage rates ensure that the total primary containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure of 7.6 psig, Pa. As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to 0.75 La during performance of the periodic tests to account for possible degradation of the primary containment leakage barriers between leakage tests.

Operating experience with the main steam line isolation valves has indicated that degradation has occasionally occurred in the leak tightness of the valves; therefore the special requirement for testing these valves.

The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J to 10 CFR 50 ~~with the exception of exemption(s) granted for main steam isolation valve leak testing~~.

3/4.6.1.4 PRIMARY CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the primary containment air locks are required to meet the restrictions on PRIMARY CONTAINMENT INTEGRITY-OPERATING and the primary containment leakage rate given in Specifications 3.6.1.1 and 3.6.1.3. The specification makes allowances for the fact that there may be long periods of time when the air locks will be in a closed and secured position during reactor operation. Only one closed door in each air lock is required to maintain the integrity of the primary containment.