

ENCLOSURE 2

Marked-Up Technical Specification Pages for the

Proposed Amendment

for the Implementation of

10 CFR 50, Appendix J, Option B

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1.0 DEFINITIONS

CHANNEL FUNCTIONAL TEST

1.6 A CHANNEL FUNCTIONAL TEST shall be:

- a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions.
- b. Bistable channels - the injection of a simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions.
- c. Digital computer channels - the exercising of the digital computer hardware using diagnostic programs and the injection of simulated process data into the channel to verify OPERABILITY including alarm and/or trip functions.
- d. Radiological effluent process monitoring channels - the CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps such that the entire channel is functionally tested.

The CHANNEL FUNCTIONAL TEST shall include adjustment, as necessary, of the alarm, interlock and/or trip setpoints such that the setpoints are within the required range and accuracy.

CONTAINMENT INTEGRITY

1.7 CONTAINMENT INTEGRITY shall exist when:

- a. All penetrations required to be closed during accident conditions are either:
 1. Capable of being closed by an OPERABLE containment automatic isolation valve system, or
 2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.
- b. All equipment hatches are closed and sealed,
- c. Each 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, and the Containment Leakage Rate Testing Program, and
- e. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CONTROLLED LEAKAGE

1.8 Not Applicable.

CORE ALTERATION

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that all 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 their positions except for valves that are open under administrative control as permitted by Specification 3.6.3.
- b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.
- c. After each closing of each penetration subject to Type B testing, except containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at P_{49.5} psig and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2b, for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 L. in accordance with the Containment Leakage Rate Testing Program.

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



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CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to: in accordance with the Containment Leakage Rate Testing Program.

a. ~~An overall integrated leakage rate of:~~

- ~~1. Less than or equal to L_o , 0.10% by weight of the containment air per 24 hours at P_o , 49.5 psig, or~~
- ~~2. Less than or equal to L_i , 0.05% by weight of the containment air per 24 hours at a reduced pressure of P_i , 24.8 psig.~~

b. ~~A combined leakage rate of less than or equal to 0.60 L_o for all penetrations and valves subject to Type B and C tests, when pressurized to P_o .~~

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION: With containment leakage rates not within limits, restore containment leakage rates to within limits within 1 hour, or be in at least HOT STANDBY within the next 6 hours. With either (a) the measured overall integrated containment leakage rate exceeding 0.75 L_o or 0.75 L_i , as applicable, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding 0.60 L_o , restore the overall integrated leakage rate to less than or equal to 0.75 L_o or less than or equal to 0.75 L_i , as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than or equal to 0.60 L_o prior to increasing the Reactor Coolant System temperature above 210°F.

6 hours, And at least COLD SHUTDOWN within the following 30 hours.

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 Part 50 using the methods and provisions of ANSI N45.4 - 1972: determined in accordance with the Containment Leakage Rate Testing Program. The provisions of Specification 4.0.2 ARE NOT APPLICABLE.

- ~~(a) Type A (Overall Integrated Containment Leakage Rate) testing shall be conducted in accordance with the requirements specified in Appendix J to 10 CFR 50, as modified by approved exemptions.~~

FOR INFORMATION ONLY

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- ~~b. Type B and C tests shall be conducted with gas at P_a , 49.5 psig, at intervals no greater than 24 months except for tests involving:
 - ~~1. Air locks,~~
 - ~~2. Purge supply and exhaust isolation valves with resilient material seals.~~~~
- ~~c. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Specifications 4.6.1.7.2 and 4.6.1.7.3.~~
- ~~d. Air locks shall be tested and demonstrated OPERABLE per Specification 4.6.1.3.~~
- ~~e. The provisions of Specification 4.0.2 are not applicable.~~

FOR INFORMATION ONLY

CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each 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 of less than or equal to $0.05 L_a$ at P_a , 49.5 psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one 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. 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, or
 2. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 3. The provisions of Specification 3.0.4 are not applicable.
- b. With the containment air lock inoperable, except as the 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 STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each 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 to be less than or equal to $0.01 L$ when determined with the volume between the door seals pressurized to greater than or equal to 14.5 ± 0.5 psig for at least 15 minutes.~~
And at periodic intervals in accordance with the leakage criteria and frequency specified in the Containment Leakage Rate Testing Program. The provisions of Specification 4.0.2 are not applicable to the overall air lock leakage tests.

*Except during entry to repair an inoperable inner door, for a cumulative time not to exceed 1 hour per year.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- ~~b. By conducting overall air lock leakage tests at not less than P_a , 49.5 psig, and verifying the overall air lock leakage rate is within its limit:~~
- ~~1. At least once per 6 months#, and~~
 - ~~2. Prior to establishing CONTAINMENT INTEGRITY when maintenance has been performed on the air lock that could affect the air lock sealing capability*.~~
- b-e: At least once per 6 months by verifying that only one door in each air lock can be opened at a time.

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

~~*This constitutes an exemption to Appendix J of 10 CFR Part 50~~

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.3 The isolation time of each power operated or automatic valve used in CIAS, CPIAS, or CSAS shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The containment isolation check valves shall be demonstrated OPERABLE pursuant to 10 CFR 50, Appendix J, with the exception of those check valves footnoted as "Not Type C Tested." in accordance with the Containment Leakage Rate Testing Program.

4.6.3.5 The containment isolation valves used as safety/relief, normally open-ESF actuated closed, or required open during accident conditions shall be demonstrated OPERABLE as required by Specification 4.0.5 and the Surveillance Requirements associated with those Limiting Conditions for Operation pertaining to each valve or system in which it is installed. Valves secured*** in their actuated position are considered operable pursuant to this specification.

4.6.3.6 The manual containment isolation valves (normally closed/post accident closed valves) shall be demonstrated OPERABLE pursuant to Surveillance Requirement 4.6.1.1.a of Specification 3.6.1.1.

***Locked, sealed, or otherwise prevented from unintentional operation.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety 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.

3/4.6.1.2 CONTAINMENT LEAKAGE

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

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix J of 10 CFR Part 50.

of Option B

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

ADMINISTRATIVE CONTROLS

- 2) Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
- 3) A detailed description of the equipment, components, and processes involved and the interfaces with other plant systems;
- 4) An evaluation of the change, which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
- 5) An evaluation of the change, which shows the expected maximum exposures to a MEMBER OF THE PUBLIC in the UNRESTRICTED AREA and to the general population that differ from those previously estimated in the license application and amendments thereto;
- 6) A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made; and
- 7) An estimate of the exposure to plant operating personnel as a result of the change.

6.16 Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of containment as required by 10 CFR Part 50.54(o) and 10 CFR Part 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September, 1995 and ANSI/ANS-56.8-1994.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a , is 49.5 psig.

The maximum allowable containment leakage rate, L_a , at P_a , shall be 0.1% of containment air weight per day.

Leakage rate acceptance criteria are:

- a. Containment leakage rate acceptance criterion is $\leq 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.6 L_a$ for the Type B and Type C tests and $\leq 0.75 L_a$ for Type A tests;
- b. Air lock testing acceptance criteria are:
 - 1) Overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$,
 - 2) For each door, leakage rate is $\leq 0.01 L_a$ when pressurized to $\geq 14.5 \pm 0.5$ psig.

A general visual inspection of the accessible interior and exterior surfaces of the containment system for structural deterioration which may affect the containment leak-tight integrity must be conducted prior to each Type A test, and at a periodic interval between Type A tests based on the performance of the containment system.

DEFINITIONS

CHANNEL FUNCTIONAL TEST

1.6 A CHANNEL FUNCTIONAL TEST shall be:

- a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions.
- b. Bistable channels - the injection of a simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions.
- c. Digital computer channels - the exercising of the digital computer hardware using diagnostic programs and the injection of simulated process data into the channel to verify OPERABILITY including alarm and/or trip functions.
- d. Radiological effluent process monitoring channels - the CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps such that the entire channel is functionally tested.

The CHANNEL FUNCTIONAL TEST shall include adjustment, as necessary, of the alarm, interlock and/or trip setpoints such that the setpoints are within the required range and accuracy.

CONTAINMENT INTEGRITY

1.7 CONTAINMENT INTEGRITY shall exist when:

- a. All penetrations required to be closed during accident conditions are either:
 1. Capable of being closed by an OPERABLE containment automatic isolation valve system, or
 2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.
- b. All equipment hatches are closed and sealed,
- c. Each 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, and THE CONTAINMENT LEAKAGE RATE TESTING PROGRAM, AND~~
- e. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CONTROLLED LEAKAGE

1.8 Not Applicable.

CORE ALTERATION

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that all 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 their positions except for valves that are open under administrative control as permitted by Specification 3.6.3.
- b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.
- c. After each closing of each penetration subject to Type B testing, except containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at P_a 49.5 psig and ~~verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2b. for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 L_a.~~ IN ACCORDANCE WITH THE CONTAINMENT LEAKAGE RATE TESTING PROGRAM.

*Except valves, blind flanges and deactivated automatic valves which are located inside the containment and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that 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:~~ in accordance with the Containment Leakage Rate Testing Program.

~~a. An overall integrated leakage rate of:~~

~~1. Less than or equal to L_a , 0.10% by weight of the containment air per 24 hours at P_a , 49.5 psig, or~~

~~2. Less than or equal to L_r , 0.05% by weight of the containment air per 24 hours at a reduced pressure of P_r , 24.8 psig.~~

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

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION: With containment leakage rates not within limits, restore containment leakage rates within limits within 1 hour, or be in at least HOT STANDBY within 1 hour. With either (a) the measured overall integrated containment leakage rate exceeding $0.75 L_a$ or $0.75 L_r$, as applicable, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding $0.60 L_a$, restore the overall integrated leakage rate to less than or equal to $0.75 L_a$, or less than or equal to $0.75 L_r$, as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than or equal to $0.60 L_a$ prior to increasing the Reactor Coolant System temperature above 210°F. the next 6 hours, And at least COLD SHUTDOWN within the following 30 hours.

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 Part 50 using the methods and provisions of ANSI N45.4-1972;~~ determined in accordance with the Containment Leakage Rate Testing Program. The provisions of Specification 4.0.2 are not applicable.

~~(a. Type A (Overall Integrated Containment Leakage Rate) testing shall be conducted in accordance with the requirements specified in Appendix J to 10 CFR 50, as modified by approved exemptions.~~

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- ~~b. Type B and C tests shall be conducted with gas at P_a, 49.5 psig,
at intervals no greater than 24 months except for tests involving:~~
 - ~~1. Air locks,~~
 - ~~2. Purge supply and exhaust isolation valves with resilient
material seals.~~
- ~~c. Purge supply and exhaust isolation valves with resilient material
seals shall be tested and demonstrated OPERABLE per Specifications
4.6.1.7.2 and 4.6.1.7.3.~~
- ~~d. Air locks shall be tested and demonstrated OPERABLE per
Specification 4.6.1.3.~~
- ~~e. The provisions of Specification 4.0.2 are not applicable.~~

CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each 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 of less than or equal to $0.05 L_a$ at P_a , 49.5 psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one 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. 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, or
 2. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 3. The provisions of Specification 3.0.4 are not applicable.
- b. With the containment air lock inoperable, except as the 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 STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each 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 to be less than or equal to $0.01 L_a$ when determined with the volume between the door seals pressurized to greater than or equal to 14.5 ± 0.5 psig, for at least 15 minutes, and at periodic intervals in accordance with the leakage criteria and frequency specified in the Containment Leakage Rate Testing Program. The provisions of Specification 4.0.2 are not applicable to the overall Air Lock leakage tests.~~

*Except during entry to repair an inoperable inner door, for a cumulative time not to exceed 1 hour per year.

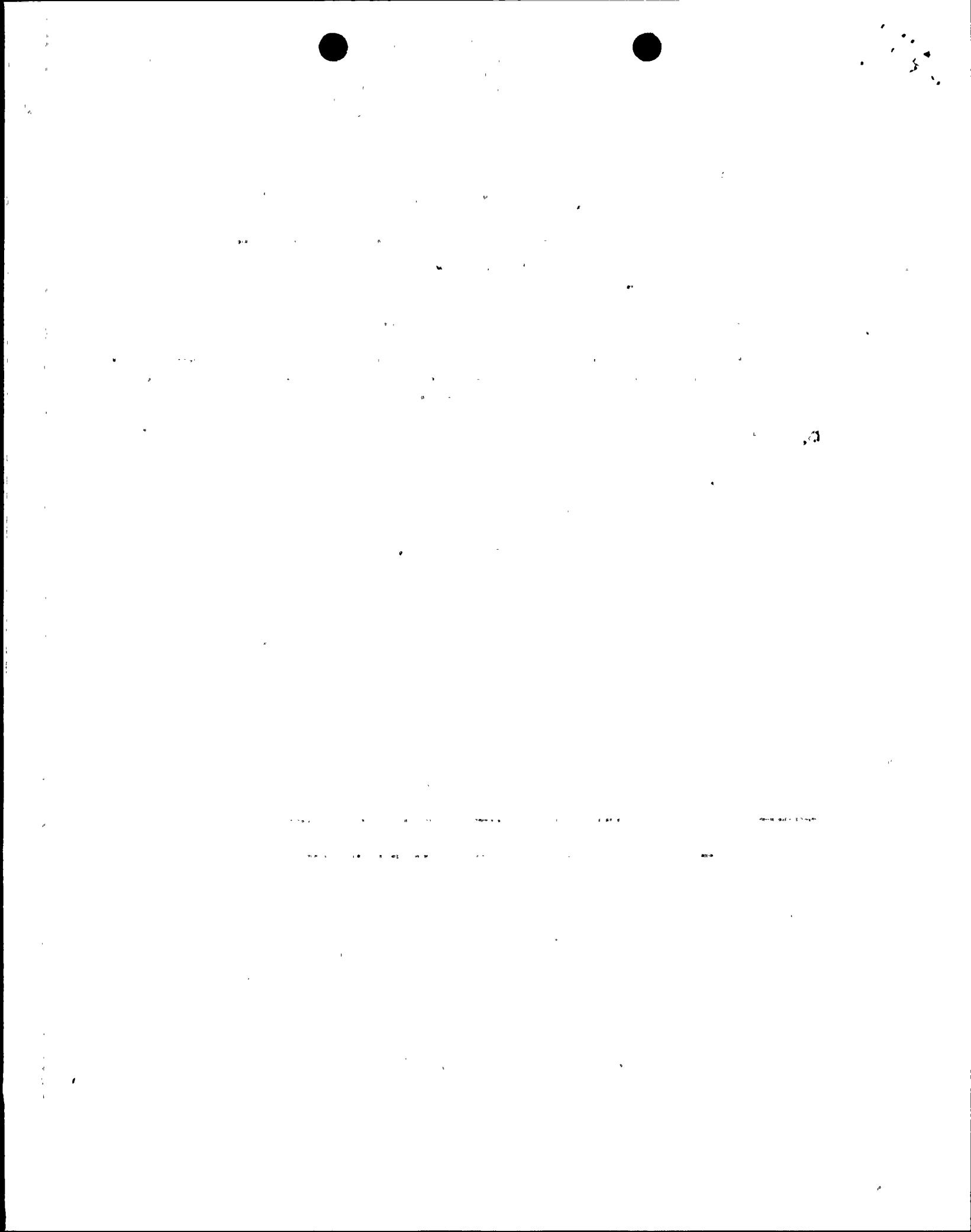
CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- ~~b. By conducting overall air lock leakage tests at not less than P_a , 49.5 psig, and verifying the overall air lock leakage rate is within its limit:~~
 - ~~1. At least once per 6 months#, and~~
 - ~~2. Prior to establishing CONTAINMENT INTEGRITY when maintenance has been performed on the air lock that could affect the air lock sealing capability*.~~
- b. ~~c.~~ At least once per 6 months by verifying that only one door in each air lock can be opened at a time.

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

~~*This constitutes an exemption to Appendix J of 10 CFR Part 50.~~



CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.3 The isolation time of each power operated or automatic valve used in CIAS, CPIAS, or CSAS shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The containment isolation check valves shall be demonstrated OPERABLE ~~pursuant to 10 CFR 50, Appendix J, with the exception of those check valves footnoted as "Not Type C Tested."~~ *in accordance with the Containment Leakage Rate Testing Program.*

4.6.3.5 The containment isolation valves used as safety/relief, normally open-ESF actuated closed, or required open during accident conditions shall be demonstrated OPERABLE as required by Specification 4.0.5 and the Surveillance Requirements associated with those Limiting Conditions for Operation pertaining to each valve or system in which it is installed. Valves secured*** in their actuated position are considered operable pursuant to this specification.

4.6.3.6 The manual containment isolation valves (normally closed/post accident closed valves) shall be demonstrated OPERABLE pursuant to Surveillance Requirement 4.6.1.1.a of Specification 3.6.1.1.

***Locked, sealed, or otherwise prevented from unintentional operation.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety 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.

3/4.6.1.2 CONTAINMENT LEAKAGE

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

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix J of 10 CFR Part 50.

of Option B

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

ADMINISTRATIVE CONTROLS

- 1) A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59.
- 2) Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
- 3) A detailed description of the equipment, components, and processes involved and the interfaces with other plant systems;
- 4) An evaluation of the change, which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
- 5) An evaluation of the change, which shows the expected maximum exposures to a MEMBER OF THE PUBLIC in the UNRESTRICTED AREA and to the general population that differ from those previously estimated in the license application and amendments thereto;
- 6) A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made; and
- 7) An estimate of the exposure to plant operating personnel as a result of the change.

6.16 Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of containment as required by 10 CFR Part 50.54(o) and 10 CFR Part 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September, 1995 and ANSI/ANS-56.8-1994.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a , is 49.5 psig.

The maximum allowable containment leakage rate, L_a , at P_a , shall be 0.1% of containment air weight per day.

Leakage rate acceptance criteria are:

- a. Containment leakage rate acceptance criterion is $\leq 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.6 L_a$ for the Type B and Type C tests and $\leq 0.75 L_a$ for Type A tests;
- b. Air lock testing acceptance criteria are:
 - 1) Overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$,
 - 2) For each door, leakage rate is $\leq 0.01 L_a$ when pressurized to $\geq 14.5 \pm 0.5$ psig.

A general visual inspection of the accessible interior and exterior surfaces of the containment system for structural deterioration which may affect the containment leak-tight integrity must be conducted prior to each Type A test, and at a periodic interval between Type A tests based on the performance of the containment system.

DEFINITIONS

CHANNEL FUNCTIONAL TEST

1.6 A CHANNEL FUNCTIONAL TEST shall be:

- a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions.
- b. Bistable channels - the injection of a simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions.
- c. Digital computer channels - the exercising of the digital computer hardware using diagnostic programs and the injection of simulated process data into the channel to verify OPERABILITY including alarm and/or trip functions.
- d. Radiological effluent process monitoring channels - the CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps such that the entire channel is functionally tested.

The CHANNEL FUNCTIONAL TEST shall include adjustment, as necessary, of the alarm, interlock and/or trip setpoints such that the setpoints are within the required range and accuracy.

CONTAINMENT INTEGRITY

1.7 CONTAINMENT INTEGRITY shall exist when:

- a. All penetrations required to be closed during accident conditions are either:
 1. Capable of being closed by an OPERABLE containment automatic isolation valve system, or
 2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.
- b. All equipment hatches are closed and sealed,
- c. Each 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, and the Containment Leakage Rate Testing Program, and
- e. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CONTROLLED LEAKAGE

1.8 Not Applicable.

CORE ALTERATION

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that all 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 their positions except for valves that are open under administrative control as permitted by Specification 3.6.3.
- b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.
- c. After each closing of each penetration subject to Type B testing, except containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at P_a 40.5 psig and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2b, for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 L/s. in accordance with the Containment Leakage Rate Testing Program.

*Except valves, blind flanges and deactivated automatic valves which are located inside the containment and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that 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: in accordance with the ~~Containment Leakage Rate Testing Program.~~

a. ~~An overall integrated leakage rate of:~~

1. ~~Less than or equal to L_a , 0.10% by weight of the containment air per 24 hours at P_a , 49.5 psig, or~~

2. ~~Less than or equal to L_c , 0.05% by weight of the containment air per 24 hours at a reduced pressure of P_c , 24.8 psig.~~

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

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION: With containment leakage rates not within limits, restore containment leakage rates to within limits within 1 hour, or be in at least HOT STANDBY within the next 6 hours, and at least COLD SHUTDOWN within the following 30 hours. With either (a) the measured overall integrated containment leakage rate exceeding 0.75 L_a or 0.75 L_c , as applicable, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding 0.60 L_a , restore the overall integrated leakage rate to less than or equal to 0.75 L_a , or less than or equal to 0.75 L_c , as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than or equal to 0.60 L_a prior to increasing the Reactor Coolant System temperature above 210°F.

6 hours, and at least COLD SHUTDOWN within the following 30 hours.

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 Part 50 using the methods and provisions of ANSI N45.4-1972: determined in accordance with the Containment Leakage Rate Testing Program. The provisions of Specification 4.0.2 are not applicable.

(a. ~~Type A (Overall Integrated Containment Leakage Rate) testing shall be conducted in accordance with the requirements specified in Appendix J to 10 CFR 50, as modified by approved exemptions.~~

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- ~~b. Type B and C tests shall be conducted with gas at P_a, 49.5 psig, at intervals no greater than 24 months except for tests involving:

 - ~~1. Air locks,~~
 - ~~2. Purge supply and exhaust isolation valves with resilient material seals.~~~~
- ~~c. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Specifications 4.6.1.7.2 and 4.6.1.7.3.~~
- ~~d. Air locks shall be tested and demonstrated OPERABLE per Specification 4.6.1.3.~~
- ~~e. The provisions of Specification 4.0.2 are not applicable.~~

FOR INFORMATION ON

CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each 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 of less than or equal to $0.05 L_a$ at P_a , 49.5 psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one 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. 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, or
 2. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 3. The provisions of Specification 3.0.4 are not applicable.
- b. With the containment air lock inoperable, except as the 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 STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each 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 to be less than or equal to $0.01 L_a$ when determined with the volume between the door seals pressurized to greater than or equal to 14.5 ± 0.5 psig, for at least 15 minutes, and at periodic intervals in accordance with the leakage criteria and frequency specified in the Containment Leakage Rate Testing Program. The provisions of Specification 4.0.2 are not applicable to the overall air lock leakage tests.~~

*Except during entry to repair an inoperable inner door, for a cumulative time not to exceed 1 hour per year.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

~~b. By conducting overall air lock leakage tests at not less than P_a , 49.5 psig, and verifying the overall air lock leakage rate is within its limit:~~

~~1. At least once per 6 months#, and~~

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

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

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

~~*This constitutes an exemption to Appendix J of 10 CFR Part 50.~~

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.3 The isolation time of each power operated or automatic valve used in CIAS, CPIAS, or CSAS shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The containment isolation check valves shall be demonstrated OPERABLE pursuant to 10 CFR 50, Appendix J, with the exception of those check valves footnoted as "Not Type C Tested." in accordance with the Containment Leakage Rate Testing Program.

4.6.3.5 The containment isolation valves used as safety/relief, normally open-ESF actuated closed, or required open during accident conditions shall be demonstrated OPERABLE as required by Specification 4.0.5 and the Surveillance Requirements associated with those Limiting Conditions for Operation pertaining to each valve or system in which it is installed. Valves secured*** in their actuated position are considered operable pursuant to this specification.

4.6.3.6 The manual containment isolation valves (normally closed/post accident closed valves) shall be demonstrated OPERABLE pursuant to Surveillance Requirement 4.6.1.1.a of Specification 3.6.1.1.

***Locked, sealed, or otherwise prevented from unintentional operation.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety 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.

3/4.6.1.2 CONTAINMENT LEAKAGE

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

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix J of 10 CFR Part 50.

of Option B

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

ADMINISTRATIVE CONTROLS

- 1) A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59.
- 2) Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
- 3) A detailed description of the equipment, components, and processes involved and the interfaces with other plant systems;
- 4) An evaluation of the change, which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
- 5) An evaluation of the change, which shows the expected maximum exposures to a MEMBER OF THE PUBLIC in the UNRESTRICTED AREA and to the general population that differ from those previously estimated in the license application and amendments thereto;
- 6) A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made; and
- 7) An estimate of the exposure to plant operating personnel as a result of the change.

6.16

Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of containment as required by 10 CFR Part 50.54(o) and 10 CFR Part 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September, 1995 and ANSI/ANS-56.8-1994.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a , is 49.5 psig.

The maximum allowable containment leakage rate, L_a , at P_a , shall be 0.1% of containment air weight per day.

Leakage rate acceptance criteria are:

- a. Containment leakage rate acceptance criterion is $\leq 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.6 L_a$ for the Type B and Type C tests and $\leq 0.75 L_a$ for Type A tests;
- b. Air lock testing acceptance criteria are:
 - 1) Overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$.
 - 2) For each door, leakage rate is $\leq 0.01 L_a$ when pressurized to $\geq 14.5 \pm 0.5$ psig.

A general visual inspection of the accessible interior and exterior surfaces of the containment system for structural deterioration which may affect the containment leak-tight integrity must be conducted prior to each Type A test, and at a periodic interval between Type A tests based on the performance of the containment system.

