ATTACHMENT

TO

0CAN049602

PROPOSED TECHNICAL SPECIFICATION

AND

RESPECTIVE SAFETY ANALYSES

IN THE MATTER OF AMENDING

LICENSE NOs. DPR-51 and NPF-6

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNITS ONE & TWO

DOCKET NOs. 50-313 and 50-368

DESCRIPTION OF PROPOSED CHANGES

1. Description of proposed ANO-1 changes:

- Changed Technical Specification (TS) 4.4.1.1, 4.4.1.1.4, 4.4.1.2, and 4.4.1.2.5 to require leakage rate tests to be conducted in accordance with the Reactor Building Leakage Rate Testing Program.

- Relocated the applicable information from TS sections 4.4.1.1.1, 4.4.1.1.2, 4.4.1.1.3, 4.4.1.1.5, 4.4.1.1.6, 4.4.1.1.7, 4.4.1.2.1, 4.4.1.2.2, 4.4.1.2.3, 4.4.1.2.4, 4.4.1.2.5, 4.4.1.3, and 4.4.1.5 to the Reactor Building Leakage Rate Testing Program. The information in these Specifications that was not allowed under Option B was removed.

- Revised bases information in TS 4.4.1 to be consistent with the Reactor Building Leakage Rate Testing Program.

- Placed all of Specification 4.4.1 on page 79, and placed its bases on page 80, for human factors considerations.

- Added section 6.8.4 which requires the Reactor Building Leakage Rate Testing Program.

2) Description of proposed ANO-2 changes:

- Added section 6.15, Containment Leakage Rate Testing Program, to the index page.

- Modified Specification 4.6.1.1.c to require leak rate testing of the equipment hatch seal in accordance with the Containment Leakage Rate Testing Program. A typographical error was also corrected in the title for section 3/4.6.1.

- Modified Specification 3/4.6.1.2 to insure the containment leakage rates are in accordance with the Containment Leakage Rate Testing Program. Also removed the limits that were repetitive to the program.

- The surveillance requirement 4.6.1.3.1 was modified to eliminate information from the Specification that exists in the Containment Leakage Rate Testing Program and a reference to the program was added. The footnote concerning the surveillance requirement for air lock interlock was modified in accordance with the Improved Standard Technical Specifications (ISTS). These changes resulted in the renumbering of the remaining footnotes.

- The inspection requirements from TS 4.6.1.5.3 were removed because Option B requires the same inspections to be performed. The bases for this specification was changed to reflect the most current maximum containment pressure in the event of a loss of coolant accident.

- Modified TS 3/4.6.1.2 bases to explain the leakage acceptance criteria and eliminated the information regarding low pressure testing of the containment due to no longer being allowed by Option B. In addition, a reference to Option B of 10 CFR 50 Appendix J was added for clarity.

- The bases information for 3/4.6.1.3 was expanded by adding applicable bases information from the ISTS that could be used to help clarify the Specification and removed the old bases information that would be repetitive.

- Added 6.15 to the Administrative Controls section requiring the Containment Leakage Rate Testing Program.

BACKGROUND

The Nuclear Regulatory Commission has amended its regulations to provide a performance based alternative for leakage rate testing of containments. The new testing alternative is Option B of 10 CFR 50, Appendix J, and is available in lieu of compliance with the present prescriptive requirements contained in Option A of Appendix J. Section V.B. of Option B requires licensees who wish to voluntarily adopt Option B, or parts thereof, to submit to the NRC an implementation plan and a request for a revision to the Technical Specifications. Therefore, ANO is proposing appropriate TS changes to adopt Option B of 10 CFR 50 Appendix J with our implementation plan listed below.

IMPLEMENTATION PLAN

The Containment Leakage Rate Testing Program, as required by Option B of 10 CFR 50 Appendix J, and as identified by Section 6.8.4 and 6.15 of the proposed ANO-1 and ANO-2 Technical Specifications, will be effective prior to implementation of these amendments. The performance based leakage rate testing program will be developed consistent with Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

DISCUSSION OF CHANGE

ANO has committed to implementation of the ISTS, NUREG-1430, "Standard Technical Specifications Babcock and Wilcox Plants," and NUREG-1432, "Standard Technical Specifications Combustion Engineering Plants." The industry is currently working with the NRC to include Option B in the ISTS. The proposed changes for both units are believed to be in accordance with the latest draft of Option B for the ISTS. In accordance with the criteria of 10 CFR 50.36, portions of the prescriptive information concerning leakage rate testing have been relocated out of the Technical Specifications and a leakage rate testing program is established and referenced in the Administrative Controls Section. The proposed changes to ANO-2 TS 3/4.6.1.3 are based on the approval of the proposed amendment described in letter 2CAN049511.

1. Discussion of proposed ANO-1 changes:

Specifications 4.4.1.1, 4.4.1.1.4, 4.4.1.2, and 4.4.1.2.5 have been changed to require Leakage Rate Tests to be conducted in accordance with the Reactor Building Leakage Rate Testing Program. This change is in accordance with the ISTS and is considered administrative.

The applicable information from TS sections 4.4.1.1.1, 4.4.1.1.2, 4.4.1.1.3, 4.4.1.1.5, 4.4.1.1.6, 4.4.1.1.7, 4.4.1.2.1, 4.4.1.2.2, 4.4.1.2.3, 4.4.1.2.5, 4.4.1.3, and 4.4.1.5 has been relocated to the Reactor Building Leakage Rate Testing Program in accordance with ISTS. The information in these Specifications that was not allowed under Option B was removed. The design pressure of the Reactor Building (59 psig) was previously assumed to be the same value used for P_a. Under Option B testing, P_a has been clearly defined as the peak calculated internal pressure related to the design basis loss of coolant accident. The most recent revision to this calculation reflects that 53.96 psig is the design bases loss of coolant accident reactor building peak pressure. The value of 54 psig was chosen for conservatism over the value of 53.96 psig for this change. Therefore, P_a was corrected to 54 psig and is listed in Section 6.8.4 of the proposed change.

The bases information under TS 4.4.1 has been modified to be consistent with the Reactor Building Leakage Rate Testing Program. The information regarding testing prior to initial operation was also removed because the information is located in the SAR. Also added bases information for this Specification that explains the reactor building leakage rate acceptance criteria in accordance with the ISTS.

Section 6.8.4 was added to require the Reactor Building Leakage Rate Testing Program. This section is in accordance with the latest draft of the ISTS with the exception of the air lock acceptance criteria. The air locks are tested penetrations that require Type B tests. Our current TS include any leakage from the air locks to be included in Specification 4.4.1.2.3. This is because the air locks are tested penetrations. The acceptance criteria located in TS 4.4.1.2.3 states "the total leakage from all tested penetrations and isolation valves shall not exceed 60% L_a". Section 6.8.4 of the proposed change maintains the requirement for the air locks to be Type B tested with the same acceptance criteria of $\leq 0.60\ L_a$ for the total leakage from all Type B and Type C tests.

2. Discussion of proposed ANO-2 changes:

The surveillance requirement 4.6.1.3.1 was modified to eliminate information that exists in the Containment Leakage Rate Testing Program and a reference to the program was added. The associated footnotes were renumbered and the footnote concerning the surveillance requirement for air lock interlock was modified in accordance with the ISTS.

The prescriptive requirements from 4.6.1.1.c and 3/4.6.1.2 were relocated to Section 6.15 and the low pressure testing requirements that are not allowed by Option B have been removed. The prescriptive surveillance frequencies were also removed from these specifications in order to adopt the new performance based testing frequencies allowed by Option B. These changes are to make the TS consistent with drafted Option B testing requirements to be implemented in the ISTS.

The inspection requirements from 4.6.1.5.3 were removed due to the these requirements being included in Option B and therefore included in the Containment Leakage Rate Testing Program. The relocation of this requirement out of the TS is consistent with the ISTS. The bases for this specification was also changed to reflect the most current maximum containment pressure of 54 psig in the event of a loss of coolant accident. This pressure is acceptable due to the design pressure of the containment building being 54 psig.

The bases information for 3/4.6.1.2 was modified to explain the leakage rate acceptance criteria and to eliminate the information regarding low pressure testing of the containment due to no longer being allowed by Option B. The added bases for the leakage rate acceptance criteria is in accordance with the ISTS. A reference to Option B of 10 CFR 50 Appendix J was also added.

The bases information for 3/4.6.1.3 was expanded by adding bases information from the ISTS that could be used for clarity and removed the information that would be repetitive. These changes are in accordance with the ISTS.

Section 6.15 was added to the Administrative Controls Section requiring the Containment Leakage Rate Testing Program. This program is in accordance with the latest ISTS draft.

Other administrative changes that are being proposed with this change is addition of Section 6.15, Containment Leakage Rate Testing Program on page XVII of the TS index page and the correction of the spelling of containment in the heading of 3/4.6.1.

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

An evaluation of the proposed change has been performed in accordance with 10CFR50.91(a)(1) regarding no significant hazards considerations using the standards in 10CFR50.92(c). A discussion of these standards as they relate to this amendment request follows:

Criterion 1 - Does Not Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated.

The proposed changes to the Technical Specifications implement Option B of 10 CFR 50 Appendix J at ANO. The proposed changes will result in increased intervals between containment leakage tests determined through a performance based approach. The intervals between such tests are not related to conditions which cause accidents. The proposed changes do not involve a change to the plant design or operation. Therefore, this change does not involve a significant increase in the probability of any accident previously evaluated.

NUREG-1493, "Performance-Based Containment Leak-Test Program," contributed to the technical bases for Option B of 10 CFR 50 Appendix J. NUREG-1493 contains a detailed evaluation of the expected leakage from containment and the associated consequences. The increased risk due to lengthening of the intervals between containment leakage tests was also evaluated and found acceptable. Using a statistical approach, NUREG-1493 determined the increase in the expected dose to the public from extending the testing frequency is extremely small. It also concluded that a small increase is justifiable due to the benefits which accrue from the interval extension. The primary benefit is in the reduction in occupational exposure. The reduction in the occupational exposure is a real reduction, while the small increase to the public is statistically derived using conservative assumptions. Therefore, this change does not involve a significant increase in the consequences of any accident previously evaluated.

Therefore, this change does not involve a significant increase in the probability or consequences of any accident previously evaluated.

Criterion 2 - Does Not Create the Possibility of a New or Different Kind of Accident from any Previously Evaluated.

The proposed change to the Technical Specifications incorporates the performance based approach authorized by Option B of 10 CFR 50 Appendix J. The interval extensions allowed by this change do not involve a change to the plant design or operation. No safety related equipment or safety functions are altered as a result of this change. The reduced testing frequency does not affect the testing methodology. As a result, the proposed change does not affect any of the parameters or conditions that could contribute to initiation of any accidents. No new accident modes are created by extending the test intervals. Therefore, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

Criterion 3 - Does Not Involve a Significant Reduction in the Margin of Safety.

The proposed change does not change the performance methodology of the containment leakage rate testing program. However, the proposed change does affect the frequency of containment leakage rate testing. With an increased frequency between tests, the proposed change does increase the probability that a increase in leakage could go undetected for a longer period of time. Operational experience has demonstrated the leak tightness of the containment buildings has been significantly below the allowable leakage limit.

The margin to safety that has the potential of being impacted by the proposed change involves the offsite dose consequences of postulated accidents which are directly related to containment leakage rates. The limitation on containment leakage rate is designed to ensure the total leakage volume will not exceed the value assumed in our accident analysis. The margin to safety for the offsite dose consequences of postulated accidents directly related to containment leakage is maintained by meeting the 1.0 L_a acceptance criteria. The proposed change maintains the 1.0 L_a acceptance criteria.

Therefore, this change does not involve a significant reduction in the margin of safety.

Therefore, based upon the reasoning presented above and the previous discussion of the amendment request, Entergy Operations has determined that the requested change does not involve a significant hazards consideration.

PROPOSED TECHNICAL SPECIFICATION CHANGES

ANO-1

4.4 REACTOR BUILDING

4.4.1 Reactor Building Leakage Tests

Applicability

Applies to the reactor building.

Objective

To verify that leakage from the reactor building is maintained within allowable limits.

Specification

4.4.1.1 Integrated leakage rate tests shall be conducted in accordance with the Reactor Building Leakage Rate Testing Program.

4.4.1.1.1 Deleted

4.4.1.1.2 Deleted

4.4.1.1.3 Deleted

4.4.1.1.4 Integrated leakage rate testing frequencies shall be in accordance with the Reactor Building Leakage Rate Testing Program.

4.4.1.1.5 Deleted

4.4.1.1.6 Deleted

4.4.1.1.7 Deleted

4.4.1.2 Local leakage rate tests shall be conducted in accordance with the Reactor Building Leakage Rate Testing Program.

4.4.1.2.1 Deleted

4.4.1.2.2 Deleted

4.4.1.2.3 Deleted

4.4.1.2.4 Deleted

4.4.1.2.5 Local leakage rate testing frequencies shall be in accordance with the Reactor Building Leakage Rate Testing Program.

4.4.1.3 Deleted

4.4.1.4 Isolation Valve Functional Tests

Every three months, remotely operated reactor building isolation valves shall be stroked to the position required to fulfill their safety function unless such operation is not practical during plant operation. The latter valves shall be tested once every 18 months.

4.4.1.5 Deleted

Bases (1)

The reactor building is designed for an internal pressure of 59 psig and a steam-air mixture temperature of 285°F.

The peak calculated reactor building pressure for the design basis loss of coolant accident, P_a, is 54 psig. The maximum allowable reactor building leakage rate, L_a, shall be 0.20% of containment air weight per day at P_a.

The reactor building will be periodically leakage tested in accordance with the Reactor Building Leakage Rate Testing Program. These periodic testing requirements verify the reactor building leakage rate does not exceed the assumptions used in the safety analysis. At $\leq 1.0\ L_a$ the offsite dose consequences are bounded by the assumptions of the safety analysis. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the combined Type B and Type C leakage, and $\leq 0.75\ L_a$ for overall Type A leakage. At all other times between required leakage tests, the acceptance criteria is based on an overall Type A leakage limit of $\leq 1.0\ L_a$.

REFERENCE

(1) FSAR, Sections 5 and 13.

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6.8.2 Each procedure of 6.8.1 above, and changes in intent thereto, shall be reviewed and approved as required by the QAMO prior to implementation and reviewed periodically as set forth in administrative procedures.

6.8.3 Changes to procedures of 6.8.1 above may be made and implemented prior to obtaining the review and approval required in 6.8.2 above provided:

a. The intent of the original procedure is not altered.

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's license on Unit 1.

c. The change is documented, reviewed and approved as required by the QAMO, within 14 days of implementation.

6.8.4 The Reactor Building Leakage Rate Testing Program shall be established, implemented, and maintained:

A program shall be established to implement the leakage rate testing of the reactor building as required by 10 CFR 50.54(o) and 10 CFR 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.

The peak calculated reactor building internal pressure for the design basis loss of coolant accident, P_a, is 54 psig.

The maximum allowable reactor building leakage rate, L_a, shall be 0.20% of containment air weight per day at P_a.

Reactor building leakage rate acceptance criteria is $\leq 1.0\ L_a$. During the first unit startup following each test performed in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the Type B and Type C tests and $\leq 0.75\ L_a$ for Type A tests.

The provisions of Specification 4.0.2 do not apply to the test frequencies specified in the Reactor Building Leakage Rate Testing Program.

The provisions of Specification 4.0.3 are applicable to the Reactor Building Leakage Rate Testing Program.

ANO-2

ADMINISTRATIVE CONTROLS

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3/4.6 CONTAINMENT SYSTEM

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 one 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 3.6.3.1.

b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.

c. After each closing of the equipment hatch, by leak rate testing the equipment hatch seals 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 LEAKAGE

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With containment leakage rates not within limits, restore containment leakage to within limits, prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be determined in accordance with the Containment Leakage Rate Testing Program.

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SURVEILLANCE REQUIREMENTS

4.6.1.3.1 Each containment air lock shall be demonstrated OPERABLE as specified in the Containment Leakage Rate Testing Program[5] .

4.6.1.3.2 Each containment air lock interlock shall be demonstrated OPERABLE by testing the air lock interlock mechanism at least once per 184 days[6] .

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[5] An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test.

[6] This surveillance requirement is only required to be performed upon entry or exit through the associated containment air lock.

4.6.1.5.2 End Anchorages and Adjacent Concrete Surfaces The structural integrity of the end anchorages of all tendons inspected pursuant to Specification 4.6.1.5.1 and the adjacent concrete surfaces shall be demonstrated by determining through inspection that no apparent changes have occurred in the visual appearance of the end anchorage or the concrete crack patterns adjacent to the end anchorages. Inspections of the concrete shall be performed during the Type A containment leakage rate tests (reference Specification 4.6.1.2) while the containment is at its maximum test pressure.

4.6.1.5.3 Deleted

4.6.1.5.4 Deleted

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 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 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 accident analyses at the peak design basis loss of coolant accident pressure, P_a, of 54 psig. As an added conservatism, the measured overall integrated leakage rate is further limited to $\leq 0.75\ L_a$ during the 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 Option B of Appendix "J" of 10 CFR 50.

The containment will be periodically leakage tested in accordance with the Containment Leakage Rate Testing Program. These periodic testing requirements verify the containment leakage rate does not exceed the assumptions used in the safety analysis. At $\leq 1.0\ L_a$ the offsite dose consequences are bounded by the assumptions of the safety analysis. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the combined Type B and Type C leakage, and $\leq 0.75\ L_a$ for overall Type A leakage. At all other times between required leakage tests, the acceptance criteria is based on an overall Type A leakage limit of $\leq 1.0\ L_a$.

3/4.6.1.3 CONTAINMENT AIR LOCKS

Each containment air lock forms part of the containment pressure boundary. As part of the containment, the air lock safety function is related to control of the containment leakage rate resulting from a DBA. Thus, each air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event. For the purposes of this specification, the vertical end plates of the air lock barrel, on which the doors themselves are mounted, shall be considered part of the door.

Each air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock doors must be OPERABLE. The interlock allows only one air lock door of an air lock to be opened at one time. This provision ensures that a gross breach of containment does not exist when containment is required to be OPERABLE. Closure of a single door in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, both doors are kept closed when the air lock is not being used for normal entry into and exit from containment.

3/4.6.1.4 INTERNAL PRESSURE, AIR TEMPERATURE AND RELATIVE HUMIDITY

The limitations on containment internal pressure, average air temperature and relative humidity ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of 5.0 psig, 2) the containment peak pressure does not exceed the design pressure of 54 psig during design basis conditions, and 3) the ECCS analysis assumptions are maintained.

The limitation on containment average air temperature ensures that the containment liner plate temperature does not exceed the design temperature of 300°F during LOCA conditions. The containment temperature limit is consistent with the accident analyses. Figure 3.6-1 represents analysis limits and does not account for instrument error.

3/4.6.1.5 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 54 psig in the event of a LOCA. The visual examination of tendons, anchorages and containment surfaces and the Type A leakage tests of the Unit 2 containment in conjunction with the required surveillance activities of the Unit 1 containment are sufficient to demonstrate this capability.

The surveillance requirements for demonstrating the containment's structural integrity are in compliance with the recommendations of Regulatory Guide 1.35 "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures", January 1976.

3/4.6.1.6 CONTAINMENT VENTILATION SYSTEM

The containment purge supply and exhaust isolation valves are required to be closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system.

6.15 CONTAINMENT LEAKAGE RATE TESTING PROGRAM

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 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.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 54 psig.

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

Leakage rate acceptance criteria are:

a. Containment leakage rate acceptance criteria is $\leq 1.0\ L_a$. During the first unit startup following each test performed in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the Type B and Type C tests and $\leq 0.75\ L_a$ for Type A tests.

b. Air lock acceptance criteria are:

   1. Overall air lock leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

   2. Leakage rate for each door is $\leq 0.01\ L_a$ when pressurized to ≥ 10 psig.

The provisions of Specification 4.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

The provisions of Specification 4.0.3 are applicable to the Containment Leakage Rate Testing Program.

MARKUP OF CURRENT ANO-1 TECHNICAL SPECIFICATIONS

(FOR INFO ONLY)

4.4 REACTOR BUILDING

4.4.1 Reactor Building Leakage Tests

Applicability

Applies to the reactor building.

Objective

To verify that leakage from the reactor building is maintained within allowable limits.

Specification

4.4.1.1 Integrated ~~L~~leakage ~~R~~rate ~~T~~tests shall be conducted in accordance with the Reactor Building Leakage Rate Testing Program.

4.4.1.1.1 ~~Design Pressure Leakage Rate~~ Deleted

~~The maximum allowable integrated leakage rate, L_a, from the reactor building at the 59 psig design pressure, P_p, shall not exceed 0.20 weight percent of the building atmosphere at that pressure per 24 hours.~~

4.4.1.1.2 ~~Testing at Reduced Pressure~~Deleted

~~The periodic integrated leak rate test may be performed at a test pressure, P_t, of 30 psig provided the resultant leakage rate, L_t, does not exceed a pre-established fraction of La determined as follows:~~

~~a. Prior to reactor operation the initial value of the integrated leakage rate of the reactor building shall be measured at design pressure and at the reduced pressure to be used in the periodic integrated leakage rate tests. The leakage rates thus measured shall be identified as L_{am} and L_{tm} respectively.~~

~~b. Lt shall not exceed~~ $\cancel{\left[L_a \frac{L_{tm}}{L_{am}}\right]}$ ~~for values of~~ $\cancel{\frac{L_{tm}}{L_{am}}}$ ~~below 0.7~~

~~c. L_t shall not exceed~~ $\cancel{L_a \sqrt{\frac{P_t}{P_a}}}$ ~~for values of~~ $\cancel{\frac{L_{tm}}{L_{am}}}$ ~~above 0.7~~

~~d. If L_{tm}/L_{am} is less than 0.3, the initial integrated test results shall be subject to review by the NRC to establish an acceptable value of L_t.~~

~~Where~~ ~~(L_a)~~ ~~Design Basis Accident Leakage Rate at Pressure P_a~~

~~(L_t)~~ ~~Maximum Allowable Test Leakage Rate at Reduced Test Pressure P_t Under Test Condition~~

~~(L_{ao})~~ ~~Maximum allowable operational leakage rate at pressure P_a~~

~~(L_{to})~~ ~~Maximum allowable leakage rate at pressure P_t~~

~~(L_{am})~~ ~~Initial Measured Leakage Rate at Pressure P_a~~

~~(L_{tm})~~ ~~Initial Measured Leakage Rate at Pressure P_t~~

~~(P_a)~~ ~~Peak Test Pressure of 59 psig~~

~~(P_t)~~ ~~Reduced Test Pressure of 30 psig~~

4.4.1.1.3 ~~Conduct of Tests~~Deleted

~~a. Leakage rate tests should not be started until essential temperature equilibrium has been attained. Containment test conditions should stabilize for a period of about four hours prior to the start of a leakage rate test.~~

~~b. The leakage rate test period shall extend to 24 hours of retained internal pressure. If it can be demonstrated to the satisfaction of those responsible for the acceptance of the containment structure that the leakage rate can be accurately determined during a shorter test period, the agreed upon shorter period may be used.~~

~~c. Test accuracy shall be verified by supplementary means, such as measuring the quantity of air required to return to the starting point or by imposing a known leak rate to demonstrate the validity of measurements.~~

~~d. Closure of reactor building isolation valves for the purpose of the test shall be accomplished by the means provided for normal operation of the valves without preliminary exercise or adjustment.~~

4.4.1.1.4 ~~Frequency of Test~~Integrated leakage rate

~~T~~testing frequencies shall be in accordance with ~~10CFR50, Appendix J, except as modified by approved exemptions.~~ the Reactor Building Leakage Rate Testing Program.

4.4.1.1.5 ~~Conditions for Return to Criticality~~ Deleted

~~If L_{tm} is less than L_{to}~~
~~(L_{to} = 75% L_t)~~

~~or~~

~~If L_{am} is less than L_{ao}~~
~~(L_{ao} = 75% L_a)~~

4.4.1.1.6 ~~Corrective Action Retest~~ Deleted

~~If L_{tm} is greater than L_{to}, local leak tests will then be performed and the required repairs made. The integrated leakage test need not be repeated provided local measured leakage reduction achieved by repairs of individual leaks reduces the reactor building's overall measured leakage rate sufficiently such that L_{tm} is less than L_{to}.~~

4.4.1.1.7 ~~Report of Test Results~~ Deleted

~~The initial test report shall include a schematic arrangement of the leakage rate measurement system, the instrumentation used, the supplemental test method and the test program selected as applicable to the initial test and all subsequent periodic tests. The report shall contain an analysis and interpretation of the leakage rate test data to the extent necessary to demonstrate the acceptability of the reactor building's leakage rate in meeting the acceptance criteria.~~

4.4.1.2 Local ~~L~~leakage ~~R~~rate ~~T~~tests shall be conducted in accordance with the Reactor Building Leakage Rate Testing Program.

4.4.1.2.1 ~~Scope of Testing~~ Deleted

~~The local leak rate shall be measured for components in the following categories:~~

~~a. Reactor building penetrations whose design incorporates resilient seals, gaskets, or sealant compounds; piping penetrations fitted with expansion bellows.~~

~~b. Air lock door seals, including operating mechanism and penetrations with resilient seals which are part of the reactor building pressure boundary in the air lock structures.~~

~~c. Equipment and access doors with resilient seals or gaskets (seal-welded doors are excluded).~~

~~d. Components other than those listed in items a, b, and c above which develop leaks inservice and~~

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~~require repairs to meet the acceptance criterion of specification 4.4.1.1.5.~~

~~e. Reactor building isolation valves which provide a direct connection with the inside atmosphere of the reactor building.~~

~~f. Reactor building isolation valves which in the event of valve leakage or valve malfunction upon a reactor building isolation signal, may extend (outside of the reactor building) the boundary of the leakage-limiting barrier of the reactor primary containment beyond that included during the conduct of the tests required by specification 4.4.1.1 (includes instrument valves in lines connected to the reactor coolant pressure boundary).~~

~~g. Reactor building isolation valves in engineered safety systems penetrating the reactor building which, under post-accident conditions, are required to close following the termination of the safety function.~~

4.4.1.2.2 ~~Conduct of Tests~~ Deleted

~~a. Local leak rate tests shall be performed at a pressure of 59 psig.~~

~~b. Acceptable methods of testing are halogen gas detection, soap bubbles, pressure decay, hydrostatic flow or equivalent.~~

4.4.1.2.3 ~~Acceptance Criteria~~ Deleted

~~The total leakage from all tested penetrations and isolation valves shall not exceed 60% L_a.~~

4.4.1.2.4 ~~Corrective Action~~ Deleted

~~a. If at any time during operation it is determined that specification 4.4.1.2.3 is exceeded, repairs shall be initiated immediately.~~

~~b. If conformance with specification 4.4.1.2.3 is not demonstrated within 72 hours following detection of excessive local leakage, the reactor shall be shutdown and placed in a condition such that reactor building integrity is not required. (Specification 3.6.1)~~

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4.4.1.2.5 ~~Test Frequency~~ Local leakage rate testing frequencies shall be in accordance with the Reactor Building Leakage Rate Testing Program.

~~Local leak detection tests shall be performed during each reactor shutdown for refueling or other convenient intervals, but in no case at intervals >2 years except that:~~

~~(a) The equipment hatch and fuel transfer tube seals shall be additionally tested after each opening.~~

~~(b) If a personnel hatch or emergency hatch door is opened when reactor building integrity is required, the affected door seal shall be tested. In addition, a pressure test shall be performed on the personnel and emergency hatches every six months.~~

4.4.1.3 ~~Reactor Building Modifications~~ Deleted

~~Any major modification or replacement of components affecting the reactor building integrity shall be followed by either an integrated leak rate test or a local leak test, as appropriate, and shall meet the acceptance criteria specified in 4.4.1.1 and 4.4.1.2 respectively.~~

4.4.1.4 Isolation Valve Functional Tests

Every three months, remotely operated reactor building isolation valves shall be stroked to the position required to fulfill their safety function unless such operation is not practical during plant operation. The latter valves shall be tested once every 18 months.

4.4.1.5 ~~Visual Inspection~~ Deleted

~~A visual examination of the accessible interior and exterior surfaces of the reactor building structure and its components shall be performed during each refueling shutdown and prior to any integrated leak test, to uncover any evidence of deterioration which may affect either the reactor building's structural integrity or leak-tightness. The discovery of any significant deterioration shall be accompanied by corrective actions in accord with acceptable procedures, nondestructive tests, and inspections, and local testing where practical prior to the conduct of any integrated leak test. Such repairs shall be reported as part of the test results.~~

Bases (1)

The reactor building is designed for an internal pressure of 59 psig and a steam-air mixture temperature of 285°F. ~~Prior to initial operation, the reactor building will be strength tested at 115% of design pressure and leak rate tested at the design pressure. The reactor building will also be leak tested prior to initial operation at not less than 50% of~~

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~~the design pressure. These tests will verify that the leakage rate from reactor building pressurization satisfies the relationships given in the specification.~~

~~The performance of a periodic integrated leakage rate test during plant life provides a current assessment of potential leakage from the reactor building in case of an accident that would pressurize the interior of the reactor building. In order to provide a realistic appraisal of the integrity of the reactor building under accident conditions, the reactor building isolation valves are to be closed in the normal manner. The test pressure of 30 psig for the periodic integrated leakage rate test is sufficiently high to provide an accurate measurement of the leakage rate and it duplicates the pre-operational leakage rate test at 30 psig. The specification provides a relationship for relating the measured leakage of air at 30 psig to the potential leakage at 59 psig. The frequency of the periodic integrated leakage rate test is keyed to the refueling schedule for the reactor, because these tests can best be performed during refueling shutdowns.~~

~~The specified frequency of periodic integrated leakage rate tests is based on three major considerations. First is the low probability of leaks in the liner, because of conformance of the complete reactor building to a 0.20% leakage rate at 59 psig during pre-operational testing and the absence of any significant stresses in the liner during reactor operation. Second is the more frequent testing, at design pressure, of those portions of the reactor building envelope that are most likely to develop leaks during reactor operation (penetrations and isolation valves) and the low value of .60~~$\cancel{L_a}$ ~~leakage that is specified as acceptable from tested penetrations and isolation valves. Third is the tendon stress surveillance program which provides assurance that an important part of the structural integrity of the reactor building is maintained.~~

<u>The peak calculated reactor building pressure for the design basis loss of coolant accident, P_a, is 54 psig. The maximum allowable reactor building leakage rate, L_a, shall be 0.20% of containment air weight per day at P_a.</u>

<u>The reactor building will be periodically leakage tested in accordance with the Reactor Building Leakage Rate Testing Program. These periodic testing requirements verify the reactor building leakage rate does not exceed the assumptions used in the safety analysis. At ≤ 1.0 L_a the offsite dose consequences are bounded by the assumptions of the safety analysis. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are ≤ 0.60 L_a for the combined Type B and Type C leakage, and ≤ 0.75 L_a for overall Type A leakage. At all other times between required leakage tests, the acceptance criteria is based on an overall Type A leakage limit of ≤ 1.0 L_a.</u>

<u>REFERENCE</u>

(1) FSAR, Sections 5 and 13.

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6.8.2 Each procedure of 6.8.1 above, and changes in intent thereto, shall be reviewed and approved as required by the QAMO prior to implementation and reviewed periodically as set forth in administrative procedures.

6.8.3 Changes to procedures of 6.8.1 above may be made and implemented prior to obtaining the review and approval required in 6.8.2 above provided:

a. The intent of the original procedure is not altered.

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's license on Unit 1.

c. The change is documented, reviewed and approved as required by the QAMO, within 14 days of implementation.

6.8.4 The Reactor Building Leakage Rate Testing Program shall be established, implemented, and maintained:

A program shall be established to implement the leakage rate testing of the reactor building as required by 10 CFR 50.54(o) and 10 CFR 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.

The peak calculated reactor building internal pressure for the design basis loss of coolant accident, P_a, is 54 psig.

The maximum allowable reactor building leakage rate, L_a, shall be 0.20% of containment air weight per day at P_a.

Reactor building leakage rate acceptance criteria is $\leq 1.0\ L_a$. During the first unit startup following each test performed in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the Type B and Type C tests and $\leq 0.75\ L_a$ for Type A tests.

The provisions of Specification 4.0.2 do not apply to the test frequencies specified in the Reactor Building Leakage Rate Testing Program.

The provisions of Specification 4.0.3 are applicable to the Reactor Building Leakage Rate Testing Program.

MARKUP OF CURRENT ANO-2 TECHNICAL SPECIFICATIONS

(FOR INFO ONLY)

ADMINISTRATIVE CONTROLS

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3/4.6 CONTAINMENT SYSTEM

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 one 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 3.6.3.1.

b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.

c. After each closing of the equipment hatch, by leak rate testing the equipment hatch seals ~~with gas at P_a (54 psig) and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2.d for all other Type B and C penetrations, the combined leakage rate is $\leq$ 0.60 L_a.~~ in accordance with the Containment Leakage Rate Testing Program.

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*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 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. $\leq L_a$, 0.10 percent by weight of the containment air per 24 hours at P_a, (54 psig), or~~

~~2. $\leq L_t$, 0.05 percent by weight of the containment air per 24 hours at a reduced pressure of P_t, (27 psig).~~

~~b. A combined leakage rate of $\leq 0.60\ L_a$ 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 ~~either (a) the measured overall integrated containment leakage rate exceeding 0.75 L_a or 0.75 L_t, 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 $\leq 0.75\ L_a$ or $\leq 0.75\ L_t$, as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to $\leq 0.60\ L_a$~~ containment leakage rates not within limits, restore containment leakage to within limits, prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be ~~demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4 - 1972 and Bechtel Topical Report BN-TOP-1, Rev. 1, Nov. 1972:~~ determined in accordance with the Containment Leakage Rate Testing Program.

~~a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown at either P_a (54 psig) or at P_t (27 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.~~

~~b. If any periodic Type A test fails to meet either .75 L_a or .75 L_t, 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 either .75 La or .75 Lt, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet either .75 L_a or .75 L_t 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 Type A test by verifying that the difference between supplemental and Type A test data is within 0.25 L_a or 0.25 L_t.~~

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

~~3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage at P_a (54 psig) or P_t (27 psig).~~

~~d. Type B and C tests shall be conducted with gas at Pa (54 psig) at intervals no greater than 24 months except for tests involving air locks.~~

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

~~f. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced integrated leakage measurement system.~~

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

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SURVEILLANCE REQUIREMENTS

4.6.1.3.1 Each containment air lock shall be demonstrated OPERABLE as specified in ~~10 CFR 50, Appendix J, or as modified by approved exemption[4];~~ the Containment Leakage Rate Testing Program[5].

~~a. By conducting a door seal leak test with a seal leakage rate of $\leq$ 0.01 L_a when tested at $\geq$ 10 psig[4],~~

~~b. By conducting an overall air lock leak test with an overall air lock leakage rate of $\leq$ 0.05 L_a when tested at $\geq$ P_a, and~~

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

4.6.1.3.2 Each containment air lock interlock shall be demonstrated OPERABLE by testing the air lock interlock mechanism at least once per 184 days[56].

~~[4] Leakrate results shall also be evaluated against the acceptance criteria of specification 3.6.1.2.~~

~~[4]~~ [5] An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test.

~~[5] If this surveillance comes due when the containment is not open, it may be deferred until the next entry into containment.~~

[6] This surveillance requirement is only required to be performed upon entry or exit through the associated containment air lock.

4.6.1.5.2 End Anchorages and Adjacent Concrete Surfaces The structural integrity of the end anchorages of all tendons inspected pursuant to Specification 4.6.1.5.1 and the adjacent concrete surfaces shall be demonstrated by determining through inspection that no apparent changes have occurred in the visual appearance of the end anchorage or the concrete crack patterns adjacent to the end anchorages. Inspections of the concrete shall be performed during the Type A containment leakage rate tests (reference Specification 4.6.1.2) while the containment is at its maximum test pressure.

4.6.1.5.3 ~~Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of the containment, including the liner plate, shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of these surfaces and verifying no apparent changes in appearance or other abnormal degradation.~~ Deleted

4.6.1.5.4 Deleted

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 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 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 accident analyses at the peak design basis loss of coolant accident pressure, P_a, of 54 psig. As an added conservatism, the measured overall integrated leakage rate is further limited to $\leq 0.75\ L_a$ ~~or $\leq 0.75 L_t$ (as applicable)~~ during the 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 Option B of Appendix "J" of 10 CFR 50.

The containment will be periodically leakage tested in accordance with the Containment Leakage Rate Testing Program. These periodic testing requirements verify the containment leakage rate does not exceed the assumptions used in the safety analysis. At $\leq 1.0\ L_a$ the offsite dose consequences are bounded by the assumptions of the safety analysis. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the combined Type B and Type C leakage, and $\leq 0.75\ L_a$ for overall Type A leakage. At all other times between required leakage tests, the acceptance criteria is based on an overall Type A leakage limit of $\leq 1.0\ L_a$.

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 provide assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.~~

Each containment air lock forms part of the containment pressure boundary. As part of the containment, the air lock safety function is related to control of the containment leakage rate resulting from a DBA. Thus, each air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event. For the purposes of this specification, the vertical end plates of the air lock barrel, on which the doors themselves are mounted, shall be considered part of the door.

Each air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock doors must be OPERABLE. The interlock allows only one air lock door of an air lock to be opened at one time. This provision ensures that a gross breach of containment does not exist when containment is required to be OPERABLE. Closure of a single door in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, both doors are kept closed when the air lock is not being used for normal entry into and exit from containment.

3/4.6.1.4 INTERNAL PRESSURE, AIR TEMPERATURE AND RELATIVE HUMIDITY

The limitations on containment internal pressure, average air temperature and relative humidity ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of 5.0 psig, 2) the containment peak pressure does not exceed the design pressure of 54 psig during design basis conditions, and 3) the ECCS analysis assumptions are maintained.

The limitation on containment average air temperature ensures that the containment liner plate temperature does not exceed the design temperature of 300°F during LOCA conditions. The containment temperature limit is consistent with the accident analyses. Figure 3.6-1 represents analysis limits and does not account for instrument error.

3/4.6.1.5 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 5~~3.~~4 psig in the event of a LOCA. The visual examination of tendons, anchorages and containment surfaces and the Type A leakage tests of the Unit 2 containment in conjunction with the required surveillance activities of the Unit 1 containment are sufficient to demonstrate this capability.

The surveillance requirements for demonstrating the containment's structural integrity are in compliance with the recommendations of Regulatory Guide 1.35 "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures", January 1976.

3/4.6.1.6 CONTAINMENT VENTILATION SYSTEM

The containment purge supply and exhaust isolation valves are required to be closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system.

6.15 CONTAINMENT LEAKAGE RATE TESTING PROGRAM

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 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.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 54 psig.

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

Leakage rate acceptance criteria are:

a. Containment leakage rate acceptance criteria is $\leq 1.0\ L_a$. During the first unit startup following each test performed in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the Type B and Type C tests and $\leq 0.75\ L_a$ for Type A tests.

b. Air lock acceptance criteria are:

1. Overall air lock leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

2. Leakage rate for each door is $\leq 0.01\ L_a$ when pressurized to ≥ 10 psig.

The provisions of Specification 4.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

The provisions of Specification 4.0.3 are applicable to the Containment Leakage Rate Testing Program.