Enclosure 4

Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications:

Page Change Instructions and Revised TS and TS Bases Pages

Enclosure 4

Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications:

Page Change Instructions and Revised TS Pages

Unit 1 TS

Page	Instruction
3/4 6-1	Replace
3/4 6-2	Replace
3/4 6-3	Replace
3/4 6-4	Replace
3/4 6-5	Replace
3/4 6-9	Replace
3/4 6-10a	Replace
3/4 6-10b	Replace
3/4 6-15	Replace
6-24	Replace
B 3/4 6-1	Replace
B 3/4 6-2	Replace

Unit 2 TS

Page	Instruction
3/4 6-1	Replace
3/4 6-2	Replace
3/4 6-3	Replace
3/4 6-4	Replace
3/4 6-5	Replace
3/4 6-9	Replace
3/4 6-10a	Replace
3/4 6-10b	Replace
3/4 6-15	Replace
6-24	Replace
B 3/4 6-1	Replace
B 3/4 6-2	Replace

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 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 as provided in Table 3.6-1 of Specification 3.6.3.1.

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

c. By conducting visual examinations and leakage rate testing in accordance with the Containment Leakage Rate Testing Program.

*Except valves, blind flanges, deactivated automatic valves and the equipment hatch 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. The blind flange on the fuel transfer canal flange shall be verified closed after each draining of the canal.

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the measured containment leakage rates exceeding the overall Containment Leakage Rate Testing Program acceptance criteria, restore the measured containment leakage rates to within the acceptance criteria 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

4.6.1.2 The containment leakage rates shall be demonstrated at the test schedule and shall be determined in conformance with the criteria specified in the Containment Leakage Rate Testing Program.

SURVEILLANCE REQUIREMENTS (Continued)

This page has been deleted.

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with 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.

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.

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

3. Otherwise, be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.

4. 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 six hours and in COLD SHUTDOWN within the following 30 hours.

c. With containment air lock leakage rates resulting in exceeding the overall Containment Leakage Rate Testing Program acceptance criteria, restore the leakage rates to within the acceptance criteria 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

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

a. By verifying leakage rates in accordance with the Containment Leakage Rate Testing Program.

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

SURVEILLANCE REQUIREMENTS (Continued)

b. Removing one wire from each of a dome, vertical and hoop tendon checked for lift off force and determining that:

1. The corrosion level over the entire length of the tendon wires has not progressed since the original installation or the previous surveillance.

2. There are no changes in physical appearance of the sheathing filler material.

3. A minimum tensile strength of 240,000 pounds per square inch for at least three wire samples (one from each end and one at mid-length) cut from each removed wire. Failure of any one of the wire samples to meet the minimum tensile strength test is evidence of abnormal degradation of the containment structure.

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

4.6.1.6.3 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of containment including the containment liner plate shall be determined during shutdown by a visual inspection of these surfaces. This inspection shall be performed in accordance with the Containment Leakage Rate Testing Program to verify no adverse changes in appearance or other abnormal degradation.

LIMITING CONDITION FOR OPERATION

b) One OPERABLE de-activated 48-inch outside containment purge supply or both supply and exhaust isolation valves secured in the closed position or secured by use of a blind flange, and one OPERABLE de-activated 8-inch outside containment purge supply or both supply and exhaust isolation valves secured in the closed position or secured by use of a blind flange, or

3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With the leakage rate for containment purge supply or exhaust penetrations exceeding the limit of Specification 4.6.1.7.3.b, reduce the leakage to within the limit:

1. Prior to entering MODE 4 following the next COLD SHUTDOWN if the existing leakage is determined during quarterly testing pursuant to Specification 4.6.1.7.2, or

2. Prior to entering MODE 4 if excess leakage is determined during COLD SHUTDOWN pursuant to Specification 4.6.1.7.3.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The 48-inch containment purge supply and exhaust isolation valves shall be determined de-activated in the closed position at least once per 31 days.

4.6.1.7.2 At least once per 92 days, each penetration containing 8-inch and 48-inch containment purge supply and exhaust isolation valves with resilient material seals shall be demonstrated OPERABLE by verifying that when the leakage rates from degradation tests for both penetrations are added to the leakage rates for all other valves and penetrations subject to Type B and C tests, the combined leakage rate is less than or equal to 0.60 L_a.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.7.3 Each containment purge supply and exhaust penetration containing isolation valves with resilient material seals shall be demonstrated OPERABLE prior to startup after each COLD SHUTDOWN, if not performed in the previous 92 days, by verifying that:

a) When the measured leakage rate is added to the leakage rates for all other valves and penetrations subject to Type B and C tests, the combined leakage rate is less than or equal to 0.60 L_a, and

b) The leakage rate for each containment purge supply and exhaust penetration is less than or equal to 0.05 L_a.

In addition, the leakage rate for the containment purge isolation valves shall be compared to the previously measured leakage rate (for the containment purge isolation valves) to detect excess valve degradation. An engineering evaluation shall be performed to determine what corrective action, if any, is necessary.

4.6.1.7.4 The resilient material valve seals of the 48-inch and the 8-inch containment purge supply and exhaust isolation valves shall be replaced at least once per 5 years.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a Phase A containment isolation test signal, each Phase A isolation valve actuates to its isolation position.

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The containment purge isolation valves shall be demonstrated OPERABLE prior to startup after each COLD SHUTDOWN if not performed in the previous 3 months by verifying that when the measured leakage rate is added to the leakage rates for all other Type B and C penetrations, the combined leakage rate is less than or equal to $0.60L_a$. In addition, the leakage rate for the containment purge isolation valves shall be compared to the previously measured leakage rate (for the containment purge isolation valves) to detect excess valve degradation.

An engineering evaluation shall be performed to determine what corrective action, if any, is necessary.

6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous, Solid)

This specification deleted. Refer to the Offsite Dose Calculation Manual and the Process Control Program.

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 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 48 psig.

The maximum allowable containment leakage rate, L_a, at P_a, is 0.15% of containment air weight per day.

Leakage rate acceptance criteria are:

a. Containment overall leakage rate acceptance criterion is $\leq 1.0\ L_a$. During plant 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 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 $\geq$ 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.

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 Containment Leakage Rate Testing Program, 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 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 during performance of the periodic test 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 10 CFR 50, Appendix J, Option B and NRC Regulatory Guide 1.163.

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.

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of 3.0 psig and 2) the containment peak pressure does not exceed the design pressure of 54 psig during LOCA conditions.

The maximum peak pressure expected to be obtained from a LOCA event is 48 psig. Even with an initial positive pressure of up to 3 psig, the maximum containment pressure will remain below the design limit of 54 psig.

3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the overall containment average air temperature does not exceed the initial temperature condition assumed in the accident analysis for a LOCA or steam line break accident.

3/4.6.1.6 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 48 psig in the event of a LOCA. The measurement of the containment lift off force, visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the containment leakage tests are sufficient to demonstrate this capability.

The surveillance requirements for demonstrating the containment's structural integrity are in compliance with the recommendations of paragraph C.1.3 of Regulatory Guide 1.35 "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structure," January 1976.

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 48-inch containment purge supply and exhaust isolation valves are required to be closed in MODES above COLD SHUTDOWN since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system.

The use of the containment purge lines is restricted to the 8-inch vent supply and exhaust isolation valves to ensure that the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of a loss-of-coolant accident during venting operations.

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 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 as provided in Table 3.6-1 of Specification 3.6.3.1.

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

c. By conducting visual examinations and leakage rate testing in accordance with the Containment Leakage Rate Testing Program.

*Except valves, blind flanges, deactivated automatic valves and the equipment hatch 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. The blind flange on the fuel transfer canal flange shall be verified closed after each draining of the canal.

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the measured containment leakage rates exceeding the overall Containment Leakage Rate Testing Program acceptance criteria, restore the measured containment leakage rates to within the acceptance criteria 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

4.6.1.2 The containment leakage rates shall be demonstrated at the test schedule and shall be determined in conformance with the criteria specified in the Containment Leakage Rate Testing Program.

SURVEILLANCE REQUIREMENTS (Continued)

This page has been deleted.

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with 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.

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.

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

   3. Otherwise, be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.

   4. 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 six hours and in COLD SHUTDOWN within the following 30 hours.

c. With containment air lock leakage rates resulting in exceeding the overall Containment Leakage Rate Testing Program acceptance criteria, restore the leakage rates to within the acceptance criteria 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

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE

a. By verifying leakage rates in accordance with the Containment Leakage Rate Testing Program.

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

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.6.2 End Anchorages and Adjacent Concrete Surfaces The structural integrity of the end anchorages of all tendons inspected pursuant to Specification 4.6.1.6.1 and 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 first Type A containment leakage rate tests (reference Specification 4.6.1.2) while the containment is at its maximum test pressure.

4.6.1.6.3 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of containment including the containment liner plate shall be determined during shutdown by a visual inspection of these surfaces. This inspection shall be performed in accordance with the Containment Leakage Rate Testing Program to verify no apparent changes in appearance or other abnormal degradation.

LIMITING CONDITION FOR OPERATION

b) One OPERABLE de-activated 48-inch outside containment purge supply or both supply and exhaust isolation valves secured in the closed position or secured by use of a blind flange, and one OPERABLE de-activated 8-inch outside containment purge supply or both supply and exhaust isolation valves secured in the closed position or secured by use of a blind flange, or

3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With the leakage rate for containment purge supply or exhaust penetrations exceeding the limit of Specification 4.6.1.7.3.b, reduce the leakage to within the limit:

1. Prior to entering MODE 4 following the next COLD SHUTDOWN if the existing leakage is determined during quarterly testing pursuant to Specification 4.6.1.7.2, or

2. Prior to entering MODE 4 if excess leakage is determined during COLD SHUTDOWN pursuant to Specification 4.6.1.7.3.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The 48-inch containment purge supply and exhaust isolation valves shall be determined de-activated in the closed position at least once per 31 days.

4.6.1.7.2 At least once per 92 days, each penetration containing 8-inch and 48-inch containment purge supply and exhaust isolation valves with resilient material seals shall be demonstrated OPERABLE by verifying that when the leakage rates from degradation tests for both penetrations are added to the leakage rates for all other valves and penetrations subject to Type B and C tests, the combined leakage rate is less than or equal to 0.60 L_a.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.7.3 Each containment purge supply and exhaust penetration containing isolation valves with resilient material seals shall be demonstrated OPERABLE prior to startup after each COLD SHUTDOWN, if not performed in the previous 92 days, by verifying that:

a) When the measured leakage rate is added to the leakage rates for all other valves and penetrations subject to Type B and C tests, the combined leakage rate is less than or equal to 0.60 L_a, and

b) The leakage rate for each containment purge supply and exhaust penetration is less than or equal to 0.05 L_a.

In addition, the leakage rate for the containment purge isolation valves shall be compared to the previously measured leakage rate (for the containment purge isolation valves) to detect excess valve degradation. An engineering evaluation shall be performed to determine what corrective action, if any, is necessary.

4.6.1.7.4 The resilient material valve seals of the 48-inch and the 8-inch containment purge supply and exhaust isolation valves shall be replaced at least once per 5 years.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a Phase A containment isolation test signal, each Phase A isolation valve actuates to its isolation position.

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The containment purge isolation valves shall be demonstrated OPERABLE prior to startup after each COLD SHUTDOWN if not performed in the previous 3 months by verifying that when the measured leakage rate is added to the leakage rates for all other Type B and C penetrations, the combined leakage rate is less than or equal to $0.60L_a$. In addition, the leakage rate for the containment purge isolation valves shall be compared to the previously measured leakage rate (for the containment purge isolation valves) to detect excess valve degradation.

An engineering evaluation shall be performed to determine what corrective action, if any, is necessary.

6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous, Solid)

This specification deleted. Refer to the Offsite Dose Calculation Manual and the Process Control Program.

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 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 48 psig.

The maximum allowable containment leakage rate, L_a, at P_a, is 0.15% of containment air weight per day.

Leakage rate acceptance criteria are:

a. Containment overall leakage rate acceptance criterion is $\leq 1.0\ L_a$. During plant 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 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 ≥ 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.

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 Containment Leakage Rate Testing Program, 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 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 during performance of the periodic test 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 10 CFR 50 Appendix J Option B and NRC Regulatory Guide 1.163.

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.

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of 3.0 psig and 2) the containment peak pressure does not exceed the design pressure of 51 psig during LOCA conditions.

The maximum peak pressure expected to be obtained from a LOCA event is 48 psig. Even with an initial positive pressure of up to 3 psig, the maximum containment pressure will remain below the design limit of 54 psig.

3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the overall containment average air temperature does not exceed the initial temperature condition assumed in the accident analysis for a LOCA or steam line break accident.

3/4.6.1.6 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 48 psig in the event of a LOCA. The visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the containment leakage tests, along with the data obtained from Unit 1 tendon surveillance, are sufficient to demonstrate this capability.

The surveillance requirements for demonstrating the containment's structural integrity are in compliance with the recommendations of paragraph C.1.3 of Regulatory Guide 1.35 "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures," January 1976.

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 48-inch containment purge supply and exhaust isolation valves are required to be closed in MODES above COLD SHUTDOWN since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system.

The use of the containment purge lines is restricted to the 8-inch vent supply and exhaust isolation valves to ensure that the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of a loss-of-coolant accident during venting operations.

Enclosure 5

Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications:

Marked -Up TS and TS Bases Pages

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 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 as provided in Table 3.6-1 of Specification 3.6.3.1.

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

Addressed by 4.6.1.2 and moved to Program

c. ~~After each closing of each penetration subject to Type B testing, if opened following a Type A or B test, by leak rate testing the seal with gas at P_a (48 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 less than or equal to 0.60 L_a.~~ By conducting visual examinations and leakage rate testing in accordance with the Containment Leakage Rate Testing Program.

*Except valves, blind flanges, deactivated automatic valves and the equipment hatch 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. The blind flange on the fuel transfer canal flange shall be verified closed after each draining of the canal.

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

Moved to program

a. An overall integrated leakage rate of:

1. Less than or equal to L_a, 0.15 percent by weight of the containment air per 24 hours at P_a, (48 psig), or

2. Less than or equal to L_t, 0.106 percent by weight of the containment air per 24 hours at a reduced pressure of P_t, (24 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: the overall Containment Leakage Rate Testing Program acceptance criteria, restore the measured containment leakage rates to within the acceptance criteria within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

With ~~either (a)~~ the measured ~~overall integrated~~ containment leakage rates 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 less than or equal to 0.75 L_a or less than or equal to 0.75 L_t, as applicable, and the combined leakage rate for all penetrations 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 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).~~ 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 (48 psig) or at P_t (24 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.

SURVEILLANCE REQUIREMENTS (Continued)

b. If any periodic Type A test fails to meet either 0.75 L_a or 0.75 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 0.75 L_a or 0.75 L_t, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet either 0.75 L_a or 0.75 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 (48 psig) or P_t (24 psig.)

Details in Program

d. Type B and C tests shall be conducted with gas at P_a (48 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.

This page has been deleted.

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~~

Moved to Program

b. ~~An overall air lock leakage rate of less than or equal to 0.05 L_a at not less than P_a (48 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.

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

3. Otherwise, be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.

4. 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 six hours and in COLD SHUTDOWN within the following 30 hours.

Clarification

c. With containment air lock leakage rates resulting in exceeding the overall Containment Leakage Rate Testing Program acceptance criteria, restore the leakage rates to within the acceptance criteria within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

By verifying leakage rates in accordance with the Containment Leakage Rate Testing Program.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

Details in Program

a. After each opening, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying the leakage rate is less than or equal to 0.01 L_a when the volume between the door seals is pressurized to greater than or equal to 10 psig for at least 15 minutes.

b. By conducting an overall air lock leakage test at not less than P_a (48 psig) and by verifying the over all airlock leakage rate is within its 0

1. At least once per six months, and

2. Prior to establishing CONTAINMENT INTEGRITY if opened when CONTAINMENT INTEGRITY was not required when maintenance has been performed on the air lock that could affect the air lock sealing capability,* and

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

Details in Program

The provisions of Specification 4.0.2 are not applicable.

* Exemption to Appendix "J" of 10 CFR 50.

b. Removing one wire from each of a dome, vertical and hoop tendon checked for lift off force and determining that:

1. The corrosion level over the entire length of the tendon wires has not progressed since the original installation or the previous surveillance.

2. There are no changes in physical appearance of the sheathing filler material.

3. A minimum tensile strength of 240,000 pounds per square inch for at least three wire samples (one from each end and one at mid-length) cut from each removed wire. Failure of any one of the wire samples to meet the minimum tensile strength test is evidence of abnormal degradation of the containment structure.

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

4.6.1.6.3 ~~Liner Plate~~ Containment Surfaces The structural integrity of the containment liner plate shall be determined during ~~the~~ shutdown ~~for the first Type A containment leakage rate test only (reference Specification 4.6.1.2)~~ by a visual inspection of ~~the liner plate and verifying~~ these surfaces. no adverse changes in appearance or other abnormal degradation.

This inspection shall be performed in accordance with the Containment Leakage Rate Testing Program to verify

exposed accessible interior and exterior surfaces of containment including the

LIMITING CONDITION FOR OPERATION

b) One OPERABLE de-activated 48-inch outside containment purge supply or both supply and exhaust isolation valves secured in the closed position or secured by use of a blind flange, and one OPERABLE de-activated 8-inch outside containment purge supply or both supply and exhaust isolation valves secured in the closed position or secured by use of a blind flange, or

3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With the leakage rate for containment purge supply or exhaust penetrations exceeding the limit of Specification 4.6.1.7.3.b, reduce the leakage to within the limit:

1. Prior to entering MODE 4 following the next COLD SHUTDOWN if the existing leakage is determined during quarterly testing pursuant to Specification 4.6.1.7.2, or

2. Prior to entering MODE 4 if excess leakage is determined during COLD SHUTDOWN pursuant to Specification 4.6.1.7.3.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The 48-inch containment purge supply and exhaust isolation valves shall be determined de-activated in the closed position at least once per 31 days.

Spec moved to Program

4.6.1.7.2 At least once per 92 days, each penetration containing 8-inch and 48-inch containment purge supply and exhaust isolation valves with resilient material seals shall be demonstrated OPERABLE by verifying that when the leakage rates from degradation tests for both penetrations are added to the leakage rates ~~determined pursuant to Specification 4.6.1.2.d~~ for all other valves and penetrations subject to Type B and C tests, the combined leakage rate is less than or equal to 0.60 L_a.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.7.3 Each containment purge supply and exhaust penetration containing isolation valves with resilient material seals shall be demonstrated OPERABLE prior to startup after each COLD SHUTDOWN, if not performed in the previous 92 days, by verifying that:

Spec moved to Program

a) When the measured leakage rate is added to the leakage rates ~~determined pursuant to Specification 4.6.1.2.d~~ for all other valves and penetrations subject to Type B and C tests, the combined leakage rate is less than or equal to 0.60 L_a, and

b) The leakage rate for each containment purge supply and exhaust penetration is less than or equal to 0.05 L_a.

In addition, the leakage rate for the containment purge isolation valves shall be compared to the previously measured leakage rate (for the containment purge isolation valves) to detect excess valve degradation. An engineering evaluation shall be performed to determine what corrective action, if any, is necessary.

4.6.1.7.4 The resilient material valve seals of the 48-inch and the 8-inch containment purge supply and exhaust isolation valves shall be replaced at least once per 5 years.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a Phase A containment isolation test signal, each Phase A isolation valve actuates to its isolation position.

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

Spec moved to Program

4.6.3.4 The containment purge isolation valves shall be demonstrated OPERABLE prior to startup after each COLD SHUTDOWN if not performed in the previous 3 months by verifying that when the measured leakage rate 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 less than or equal to $0.60L_a$. In addition, the leakage rate for the containment purge isolation valves shall be compared to the previously measured leakage rate (for the containment purge isolation valves) to detect excess valve degradation.

An engineering evaluation shall be performed to determine what corrective action, if any, is necessary.

6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous, Solid)

This specification deleted. Refer to the Offsite Dose Calculation Manual and the Process Control Program.

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 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 48 psig.

The maximum allowable containment leakage rate, L_a, at P_a, is 0.15% of containment air weight per day.

Leakage rate acceptance criteria are:

a. Containment overall leakage rate acceptance criterion is $\leq 1.0\ L_a$. During plant 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 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 ≥ 10 psig.

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

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

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Containment Leakage Rate Testing Program

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 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 0.75 L_t, as applicable,~~ during performance of the periodic test 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 50, Appendix J Option B and NRC Regulatory Guide 1.163.

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.

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of 3.0 psig and 2) the containment peak pressure does not exceed the design pressure of 54 psig during LOCA conditions.

The maximum peak pressure expected to be obtained from a LOCA event is 48 psig. Even with an initial positive pressure of up to 3 psig, the maximum containment pressure will remain below the design limit of 54 psig.

3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the overall containment average air temperature does not exceed the initial temperature condition assumed in the accident analysis for a LOCA or steam line break accident.

3/4.6.1.6 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 48 psig in the event of a LOCA. The measurement of the containment lift off force, visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the ~~Type A~~ leakage test~~is~~s are sufficient to demonstrate this capability. Containment

The surveillance requirements for demonstrating the containment's structural integrity are in compliance with the recommendations of paragraph C.1.3 of Regulatory Guide 1.35 "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures," January 1976.

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 48-inch containment purge supply and exhaust isolation valves are required to be closed in MODES above COLD SHUTDOWN since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system.

The use of the containment purge lines is restricted to the 8-inch vent supply and exhaust isolation valves to ensure that the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of a loss-of-coolant accident during venting operations.

TSAs 26 30 74

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 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 as provided in Table 3.6-1 of Specification 3.6.3.1.

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

Addressed by 4.6.1.2 and moved to Program

c. ~~After each closing of each penetration subject to Type B testing, if opened following a Type A or B test, by leak rate testing the seal with gas at P_a (48 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 less than or equal to 0.60 L_a.~~ By conducting visual examinations and leakage rate testing in accordance with the Containment Leakage Rate Testing Program.

*Except valves, blind flanges, deactivated automatic valves and the equipment hatch 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. The blind flange on the fuel transfer canal flange shall be verified closed after each draining of the canal.

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

Moved to program

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

~~1. Less than or equal to L_a, 0.15 percent by weight of the containment air per 24 hours at P_a, (48 psig), or~~

~~2. Less than or equal to L_t, 0.106 percent by weight of the containment air per 24 hours at a reduced pressure of P_t, (24 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 either (a) the measured overall integrated containment leakage rates 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 less than or equal to 0.75 L_a or less than or equal to 0.75 L_t, as applicable, and the combined leakage rate for all penetrations 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 200°F.~~

the overall Containment Leakage Rate Testing Program acceptance criteria, restore the measured containment leakage rates to within the acceptance criteria 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

4.6.1.2 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).~~ 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 (48 psig) or at P_t (24 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.~~

SURVEILLANCE REQUIREMENTS (Continued)

b. If any periodic Type A test fails to meet either 0.75 L_a or 0.75 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 0.75 L_a or 0.75 L_t, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet either 0.75 L_a or 0.75 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.

Details in Program

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 (48 psig) or P_t (24 psig.)

d. Type B and C tests shall be conducted with gas at P_a (48 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.

*This is a one-time Exemption to 10 CFR 50.46 Appendix J. The 24 month interval may be extended during the first fuel cycle to allow individual penetrations to be tested as plant conditions permit, but in no case shall any individual test interval extend beyond the first refueling outage. If plant conditions support earlier testing or if incidents occur which could jeopardize the leak tight integrity of a penetration, the testing will be performed at that time.

This page has been deleted.

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~~

Moved to Program

b. An overall air lock leakage rate of less than or equal to 0.05 L_a at not less than P_a (48 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.

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

3. Otherwise, be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.

4. 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 six hours and in COLD SHUTDOWN within the following 30 hours.

Clarification

c. With containment air lock leakage rates resulting in exceeding the overall Containment Leakage Rate Testing Program acceptance criteria, restore the leakage rates to within the acceptance criteria within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

By verifying leakage rates in accordance with the Containment Leakage Rate Testing Program.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE

Details in Program

a. After each opening, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying the leakage rate is less than or equal to 0.01 L_a when the volume between the door seals is pressurized to greater than or equal to 10 psig for at least 15 minutes.

b. By conducting an overall air lock leakage test at not less than P_a (48 psig) and by verifying the over all airlock leakage rate is within its limit:#

1. At least once per six months, and

2. Prior to establishing CONTAINMENT INTEGRITY if opened when CONTAINMENT INTEGRITY was not required when maintenance has been performed on the air lock that could affect the air lock sealing capability,* and

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

Details in Program

The provisions of Specification 4.0.2 are not applicable.

* Exemption to Appendix "J" of 10 CFR 50.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.6.2 End Anchorages and Adjacent Concrete Surfaces The structural integrity of the end anchorages of all tendons inspected pursuant to Specification 4.6.1.6.1 and 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 first Type A containment leakage rate tests (reference Specification 4.6.1.2) while the containment is at its maximum test pressure.

4.6.1.6.3 ~~Liner Plate~~ Containment Surfaces The structural integrity of the containment liner plate shall be determined during ~~the~~ shutdown ~~for the first Type A containment leakage rate test (reference Specification 4.6.1.2)~~ by a visual inspection of these surfaces. ~~the liner plate verifying~~ no apparent changes in appearance or other abnormal degradation.

This inspection shall be performed in accordance with the Containment Leakage Rate Testing Program to verify

exposed accessible interior and exterior surfaces of containment including the

LIMITING CONDITION FOR OPERATION

b) One OPERABLE de-activated 48-inch outside containment purge supply or both supply and exhaust isolation valves secured in the closed position or secured by use of a blind flange, and one OPERABLE de-activated 8-inch outside containment purge supply or both supply and exhaust isolation valves secured in the closed position or secured by use of a blind flange, or

3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With the leakage rate for containment purge supply or exhaust penetrations exceeding the limit of Specification 4.6.1.7.3.b, reduce the leakage to within the limit:

1. Prior to entering MODE 4 following the next COLD SHUTDOWN if the existing leakage is determined during quarterly testing pursuant to Specification 4.6.1.7.2, or

2. Prior to entering MODE 4 if excess leakage is determined during COLD SHUTDOWN pursuant to Specification 4.6.1.7.3.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The 48-inch containment purge supply and exhaust isolation valves shall be determined de-activated in the closed position at least once per 31 days.

Spec moved to Program

4.6.1.7.2 At least once per 92 days, each penetration containing 8-inch and 48-inch containment purge supply and exhaust isolation valves with resilient material seals shall be demonstrated OPERABLE by verifying that when the leakage rates from degradation tests for both penetrations are added to the leakage rates ~~determined pursuant to Specification 4.6.1.2.d~~ for all other valves and penetrations subject to Type B and C tests, the combined leakage rate is less than or equal to 0.60 L_a.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.7.3 Each containment purge supply and exhaust penetration containing isolation valves with resilient material seals shall be demonstrated OPERABLE prior to startup after each COLD SHUTDOWN, if not performed in the previous 92 days, by verifying that:

Spec moved to Program

a) When the measured leakage rate is added to the leakage rates ~~determined pursuant to Specification 4.6.1.2.d~~ for all other valves and penetrations subject to Type B and C tests, the combined leakage rate is less than or equal to 0.60 L_a, and

b) The leakage rate for each containment purge supply and exhaust penetration is less than or equal to 0.05 L_a.

In addition, the leakage rate for the containment purge isolation valves shall be compared to the previously measured leakage rate (for the containment purge isolation valves) to detect excess valve degradation. An engineering evaluation shall be performed to determine what corrective action, if any, is necessary.

4.6.1.7.4 The resilient material valve seals of the 48-inch and the 8-inch containment purge supply and exhaust isolation valves shall be replaced at least once per 5 years.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a Phase A containment isolation test signal, each Phase A isolation valve actuates to its isolation position.

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

Spec moved to Program

4.6.3.4 The containment purge isolation valves shall be demonstrated OPERABLE prior to startup after each COLD SHUTDOWN if not performed in the previous 3 months by verifying that when the measured leakage rate 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 less than or equal to $0.60L_a$. In addition, the leakage rate for the containment purge isolation valves shall be compared to the previously measured leakage rate (for the containment purge isolation valves) to detect excess valve degradation.

An engineering evaluation shall be performed to determine what corrective action, if any, is necessary.

6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous, and Solid)

This specification deleted. Refer to the Offsite Dose Calculation Manual and the Process Control Program.

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 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 48 psig.

The maximum allowable containment leakage rate, L_a, at P_a, is 0.15% of containment air weight per day.

Leakage rate acceptance criteria are:

a. Containment overall leakage rate acceptance criterion is $\leq 1.0\ L_a$. During plant 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 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 ≥ 10 psig.

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

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

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 accident analyses. This restriction, in conjunction with the ~~leakage rate limitation~~ Containment Leakage Rate Testing Program, 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 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 0.75 L_t, as applicable~~, during performance of the periodic test 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 50X Appendix J Option B and NRC Regulatory Guide 1.163.

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.

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of 3.0 psig and 2) the containment peak pressure does not exceed the design pressure of 54 psig during LOCA conditions.

The maximum peak pressure expected to be obtained from a LOCA event is 48 psig. Even with an initial positive pressure of up to 3 psig, the maximum containment pressure will remain below the design limit of 54 psig.

3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the overall containment average air temperature does not exceed the initial temperature condition assumed in the accident analysis for a LOCA or steam line break accident.

3/4.6.1.6 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 48 psig in the event of a LOCA. The visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the ~~Type A~~ leakage tests along with the data obtained from Unit 1 tendon surveillance, ~~is~~ are sufficient to demonstrate this capability. Containment

The surveillance requirements for demonstrating the containment's structural integrity are in compliance with the recommendations of paragraph C.1.3 of Regulatory Guide 1.35 "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures," January 1976.

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 48-inch containment purge supply and exhaust isolation valves are required to be closed in MODES above COLD SHUTDOWN since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system.

The use of the containment purge lines is restricted to the 8-inch vent supply and exhaust isolation valves to ensure that the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of a loss-of-coolant accident during venting operations.

TSB 3/4 6-6