

ATTACHMENT A

Marked-up Technical Specification Pages

DPR - 29

iv
3/4.7-3
3/4.7-4
3/4.7-5
3/4.7-6
3/4.7-11b
3/4.7-11c
6.13-1 (new page)

DPR - 30

iv
3/4.7-2
3/4.7-3
3/4.7-4
3/4.7-6c
3/4.7-6d
6.13-1 (new page)

QUAD CITIES
DPR-29

TABLE OF CONTENTS (Cont'd)

	Page
3.12/4.12 FIRE PROTECTION SYSTEMS - Deleted per Generic Letters 86-10 and 88-12 (Amendment No. 141).	
5.0 DESIGN FEATURES	5.0-1
6.0 ADMINISTRATIVE CONTROLS	6.1-1
6.1 Organization	6.1-1
6.2 Procedures and Programs	6.2-1
6.3 Reportable Event Action	6.3-1
6.4 Action to be Taken in the Event a Safety Limit is Exceeded	6.4-1
6.5 Plant Operating Records	6.5-1
6.6 Reporting Requirements	6.6-1
6.7 Environmental Qualification	6.7-1
6.8 Offsite Dose Calculation Manual (ODCM)	6.8-1
6.9 Process Control Program (PCP)	6.9-1
6.10 Major Changes to Radioactive Waste Treatment Systems (Liquid, Gaseous, Solid)	6.10-1
6.11 Radiation Protection Program	6.11-1
6.12 High Radiation Area	6.12-1
→ 6.13 Primary Containment Leakage Rate Testing Program	6.13-1

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F and fuel is in the reactor vessel except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.

a. When primary containment integrity is required, primary containment leakage rates shall be limited to:

- 1) An overall integrated leakage rate of:
 - a) $\leq L_a$, 1.0 percent by weight of the containment air per 24 hours at P_a , 48 psig, or
 - b) $\leq L_r$, 1.0 percent by weight of the containment air per 24 hours at a reduced pressure of P_r , 25 psig.
- 2) A combined leakage rate of $\leq 0.60 L_a$ for all penetrations and valves, except the main steam isolation valves, and the M01-220-1 valve (while it is inoperable), subject to Type B and C tests when pressurized to P_a . The M01-220-1 valve will be restored to operability no later than startup after the first Cold Shutdown following a 30-day period after December 21, 1982. Also temporarily excluded are those pathways specified in Section 4.2.d.5).

a. Without primary containment integrity, restore primary containment integrity within 1 hour or be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours.

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

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 \pm 10 month intervals during shutdown at either P_a , 48 psig, or at P_r , 25 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.

Primary containment integrity shall be demonstrated by:

a. Performing required visual examinations and leakage rate testing except for primary containment air lock testing in accordance with and at the frequency specified by the Primary Containment Leakage Rate Testing Program.

3) 11.5 scf per hour for any one main steam isolation valve when tested at 25 psig.

- b. With the measured overall integrated containment leakage rate exceeding $0.75 L_a$ or $0.75 L_t$, as applicable, restore the overall integrated leakage rate(s) to $\leq 0.75 L_a$ or $\leq 0.75 L_t$, as applicable. Temporarily excluded are those pathways specified in Section 4.2.d.5).

- c. With the measured combined leakage rate for all penetrations and valves, except for main steam isolation valves, subject to Type B and C tests exceeding $0.60 L_a$, restore the combined leakage rate for all penetrations and valves, except for main steam isolation valves, subject to Type B and C tests to $0.60 L_a$. Also temporarily excluded are those pathways specified in Section 4.2.d.5).

b. Deleted

- 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 each shutdown for refueling or approximately every 18 months, whichever occurs first, 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 test by verifying that the difference between the supplemental data and the 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.

d. Deleted

c. At the frequency specified by the Primary Containment Leakage Rate Testing Program, verify leakage for any one main steam line isolation valve when tested at P_t (25 psig) is ≤ 11.5 scfh.

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_s , 48 psig, or P_t , 25 psig.

d. Type B and C tests shall be conducted at P_s , 48 psig, at intervals no greater than 24 months except for tests involving:

1) Air locks shall be tested per Specification 4.7.A.7.

2) Main steam isolation valves which shall be leak tested at least once per operating cycle, of a frequency not to exceed 24 months, at a pressure of 25 psig.

3) Bolted double-gasketed seals which shall be tested at a pressure of 48 psig whenever the seal is closed after being opened and each operating cycle.

4) While valve MO1-200-1 is inoperable, valves MO1-220-2, MO1-220-3, and MO1-220-4 shall be VERIFIED closed after each closure.

5) The pathways identified in Table 4.7-1, which will not be tested until the end of cycle 11 refueling outage.

- e. With the measured leakage rate exceeding 11.5 scf per hour for any one main steam isolation valve, restore the leakage rate to \leq 11.5 scf per hour for any one main steam isolation valve prior to increasing the reactor coolant temperature above 212°F.

3. Pressure Suppression Chamber-Reactor Building Vacuum Breakers

- a. Except as specified in Specifications 3.7.A.3.b below, two pressure suppression chamber-reactor building vacuum breakers in each line shall be operable at all times when the primary containment integrity is required. The setpoint of the differential pressure instrumentation which actuates the pressure suppression chamber-reactor building air-operated vacuum breakers shall not exceed 0.5 psid. The vacuum breakers shall open fully when subjected to a force equivalent to or less than 0.5 psid acting on the valve disk.
- b. From and after the date that one of the pressure suppression chamber-reactor building vacuum breakers is made or found to be inoperable for any reason, the vacuum breaker shall be locked closed and reactor operation be permissible

- e. 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 measurements system.

3. Pressure Suppression Chamber-Reactor Building Vacuum Breakers

- a. The pressure suppression chamber-reactor building vacuum breakers and associated instrumentation, including setpoint, shall be checked for proper operation every 3 months.
- b. During each refueling outage each vacuum breaker shall be tested to determine that the force required to open it does not exceed the force specified in Specification 3.7.A.3.a; each vacuum breaker shall also be inspected and verified to meet design requirements.

QUAD-CITIES
DPR-29

7. Primary Containment Air Locks

- a. Each primary containment air lock shall be Operable with:

- (1) 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
- (2) An overall air lock leakage rate of less than or equal to 0.05 L_s at P_s 48 psig.

- b. With one primary containment air lock door inoperable:

- (1) Maintain at least the Operable air lock door closed* and either restore the inoperable air lock door to Operable status within 24 hours or lock the Operable air lock door closed.

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

c Results shall be evaluated against acceptance criteria applicable to Specification 4.7.A.2.

- * Except during entry through an operable door to repair an inoperable door or to facilitate the removal of personnel for a cumulative time not to exceed one hour per year.

* The provisions of Specification 1.0.DD are not applicable.

7. Primary Containment Air Locks

- a. Each primary containment air lock shall be demonstrated Operable:

- (1) By conducting an overall air lock leakage test at P_s 48 psig and verifying that the overall air lock leakage rate is within its limit:

- (a) Within 72 hours of air lock opening when containment integrity is required, except when the air lock is being used for multiple entries, then at least once per 72 hours,
- (b) At least once per 6 months*, and
- (c) Prior to establishing Primary Containment Integrity following air lock opening.

By performing required primary containment air lock leakage testing in accordance with the Primary Containment Leakage Rate Testing Program (b)(c)

QUAD-CITIES
DPR-29

- (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 shutdown within the next 12 hours and in cold shutdown within the following 24 hours.
- c. With the primary containment air lock interlock mechanism inoperable:
- (1) Operations may continue provided the air lock is otherwise Operable and entry and exit of the primary containment is administratively controlled by a dedicated individual.
 - (2) Otherwise, restore the air lock interlock mechanism to Operable status within 24 hours or lock the Operable air lock door closed and verify that the Operable air lock door is locked closed at least once per 31 days.
- d. With the primary containment air lock inoperable, except as a result of an inoperable air lock door or air lock interlock mechanism:
- (1) Maintain at least one air lock door closed.

(2) Concurrent with each overall air lock leakage test, conducted prior to establishing primary containment integrity, by verifying that only one door in each air lock can be opened at a time.

At least once per 6 months

(d)

d Only required to be performed upon entry into primary containment air lock when the primary containment is de-inerted.

* Except during entry through an operable door to repair an inoperable door or to facilitate the removal of personnel for a cumulative time not to exceed one hour per year.

QUAD-CITIES
DPR-29

6.13 Primary Containment Leakage Rate Testing Program

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

The peak calculated primary containment internal pressure for the design basis loss of coolant accident, P_a , is 48 psig.

The maximum allowable primary containment leakage rate, L_a , at P_a , is 1.0% of primary containment air weight per day.

Leakage rate acceptance criteria are:

- a. Primary containment overall leakage rate acceptance criterion is $\leq 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60 L_a$ for the combined Type B and Type C tests, and $\leq 0.75 L_a$ for Type A tests.
- b. Air lock testing acceptance criteria is the overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$.

The provisions of 1.0.DD.a do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.

NEW PAGE

TABLE OF CONTENTS (Cont'd)

	Page
5.0 DESIGN FEATURES	5.0-1
6.0 ADMINISTRATIVE CONTROLS	6.1-1
6.1 Organization	6.1-1
6.2 Procedures and Programs	6.2-1
6.3 Reportable Event Action	6.3-1
6.4 Action to be Taken in the Event a Safety Limit is Exceeded	6.4-1
6.5 Plant Operating Records	6.5-1
6.6 Reporting Requirements	6.6-1
6.7 Environmental Qualification	6.7-1
6.8 Offsite Dose Calculation Manual (ODCM)	6.8-1
6.9 Process Control Program (PCP)	6.9-1
6.10 Major Changes to Radioactive Waste Treatment Systems (Liquid, Gaseous, Solid)	6.10-1
6.11 Radiation Protection Program	6.11-1
6.12 High Radiation Area	6.12-1
6.13 Primary Containment Leakage Rate Testing Program	6.13-1

power operation limit specified in Item 1 within 24 hours.

3) The reactor shall be scrammed from any operating condition if the pool temperature reaches 110°F. Power operation shall not be resumed until the pool temperature is reduced below the normal operation limit specified in Item 1.

4) During reactor isolation conditions, the reactor pressure vessel shall be depressurized to less than 150 psig at normal cool-down rates if the pool temperature reaches 120°F.

d. Maximum downcomer Submergence
3.54 ft.

e. Minimum downcomer Submergence
3.21 ft.

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F and fuel is in the reactor vessel except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.

a. When primary containment integrity is required, primary containment leakage rates shall be limited to:

1) An overall integrated leakage rate of:

a) ≤ 1.0 percent by weight of the containment air per 24 hours at P_a , 48 psig, or

Primary containment integrity shall be demonstrated by:

a. Performing required visual examinations and leakage rate testing except for primary containment air lock testing in accordance with and at the frequency specified by the Primary Containment Leakage Rate Testing Program.

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).

1. 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 , 25 psig during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant in-service inspection.

QUAD-CITIES
DPR-30

Deleted

- b) $\leq L_r$, 1.0 percent by weight of the containment air per 24 hr. at a reduced pressure of P_r , 25 psig.
- 2) A combined leakage rate of $\leq 0.60 L_r$ for all penetrations and valves, except for main steam isolation valves subject to Type B and C tests when pressurized to P_r .
- 3) 11.5 scf per hour for any one main steam isolation valve when tested at 25 psig.
- b. With the measured overall integrated containment leakage rate exceeding $0.75 L_r$ or $0.75 L_r$, as applicable, restore the overall integrated leakage rate(s) to $\leq 0.75 L_r$ or $\leq 0.75 L_r$, as applicable.
- c. With the measured combined leakage rate for all penetrations and valves, except for main steam isolation valves, subject to Type B and C tests exceeding $0.60 L_r$, restore the combined leakage rate for all penetrations and valves, except for main steam isolation valves, subject to Type B and C tests to $0.60 L_r$.

d. Deleted

a. Without primary containment integrity, restore primary containment integrity within 1 hour or be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours.

- b. If any periodic Type A test fails to meet either $0.75 L_r$ or $0.75 L_r$, 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 $0.75 L_r$ or $0.75 L_r$, a Type A test shall be performed at each shutdown for refueling or approximately every 18 months, whichever occurs first, until two consecutive Type A tests meet either $0.75 L_r$ or $0.75 L_r$, at which time the above test schedule may be resumed.

- c. The accuracy of each Type A test shall be verified by a supplemental test which:
 - 1) Confirms the accuracy of the test by verifying that the difference between the supplemental data and the Type A test data is within $0.25 L_r$ or $0.25 L_r$.
 - 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_r , 48 psig, or P_r , 25 psig.
- d. Type B and C tests shall be conducted at P_r , 48 psig, at intervals no greater than 24 months except for tests involving:

1) Air locks shall be tested per Specification 4.7.A.7.

c. At the frequency specified by the Primary Containment Leakage Rate Testing Program, verify leakage for any one main steam line isolation valve when tested at P_r (25 psig) is ≤ 11.5 scfh.

QUAD-CITIES
DPR-30

- e. With the measured leakage rate exceeding 11.5 scf per hour for any one main steam isolation valve, restore the leakage rate to ≤ 11.5 scf per hour for any one main steam isolation valve prior to increasing the reactor coolant temperature above 212°F.

- 2) Main steam isolation valves, which shall be leak tested at least once per operating cycle at a frequency not to exceed 24 months and at a pressure of 25 psig.
- 3) Bolted double-gasketed seals which shall be tested at a pressure of 48 psig whenever the seal is closed after being opened and each operating cycle.

- e. 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 measurements system.

3. Pressure Suppression Chamber-Reactor Building Vacuum Breakers

- a. Except as specified in Specifications 3.7.A.3.b below, two pressure sup-

3. Pressure Suppression Chamber-Reactor Building Vacuum Breakers

- a. The pressure suppression chamber-reactor building vacuum

QUAD-CITIES
DPR-30

7. Primary Containment Air Locks

- a. Each primary containment air lock shall be Operable with:

- (1) 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
- (2) An overall air lock leakage rate of less than or equal to 0.05 L_a at P_a 48 psig.

- b. With one primary containment air lock door inoperable:

- (1) Maintain at least the Operable air lock door closed* and either restore the inoperable air lock door to Operable status within 24 hours or lock the Operable air lock door closed.

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

c Results shall be evaluated against acceptance criteria applicable to Specification 4.7.A.2.

7. Primary Containment Air Locks

- a. Each primary containment air lock shall be demonstrated Operable:

- (1) By conducting an overall air lock leakage test at P_a 48 psig and verifying that the overall air lock leakage rate is within its limit:

(a) Within 72 hours of air lock opening when containment integrity is required, except when the air lock is being used for multiple entries, then at least once per 72 hours,

(b) At least once per 6 months*, and

(c) Prior to establishing Primary Containment Integrity following air lock opening.

By performing required primary containment air lock leakage testing in accordance with the Primary Containment Leakage Rate Testing Program^{(b)(c)}

* Except during entry through an operable door to repair an inoperable door or to facilitate the removal of personnel for a cumulative time not to exceed one hour per year.

→ The provisions of Specification 1.0.DD are not applicable.

QUAD-CITIES
DPR-30

- (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^a at least once per 31 days.
 - (3) Otherwise, be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours.
- c. With the primary containment air lock interlock mechanism inoperable:
- (1) Operations may continue provided the air lock is otherwise Operable and entry and exit of the primary containment is administratively controlled by a dedicated individual.
 - (2) Otherwise, restore the air lock interlock mechanism to Operable status within 24 hours or lock the Operable air lock door closed and verify that the Operable air lock door is locked closed at least once per 31 days.
- d. With the primary containment air lock inoperable, except as a result of an inoperable air lock door or air lock interlock mechanism:
- (1) Maintain at least one air lock door closed.
 - (2) Restore the inoperable air lock to Operable status within 24 hours or be in at least hot shutdown within the next 12 hours and in at least cold shutdown within the following 24 hours.

- (2) Concurrent with each overall air lock leakage test, conducted prior to establishing primary containment integrity, by verifying that only one door in each air lock can be opened at a time.

At least once per 6 months

(d)

d Only required to be performed upon entry into primary containment air lock when the primary containment is de-inerted.

^a Except during entry through an operable door to repair an inoperable door or to facilitate the removal of personnel for a cumulative time not to exceed one hour per year.

QUAD-CITIES
DPR-30

6.13 Primary Containment Leakage Rate Testing Program

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

The peak calculated primary containment internal pressure for the design basis loss of coolant accident, P_a , is 48 psig.

The maximum allowable primary containment leakage rate, L_a , at P_a , is 1.0% of primary containment air weight per day.

Leakage rate acceptance criteria are:

- a. Primary containment overall leakage rate acceptance criterion is $\leq 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60 L_a$ for the combined Type B and Type C tests, and $\leq 0.75 L_a$ for Type A tests.
- b. Air lock testing acceptance criteria is the overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$.

The provisions of 1.0.DD.a do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.

NEW PAGE

ATTACHMENT B

Revised Technical Specification Pages

DPR - 29

iv
3/4.7-3
3/4.7-4
3/4.7-5
3/4.7-6
3/4.7-11b
3/4.7-11c
6.13-1 (new page)

DPR - 30

iv
3/4.7-2
3/4.7-3
3/4.7-4
3/4.7-6c
3/4.7-6d
6.13-1 (new page)

QUAD CITIES
DPR-29

TABLE OF CONTENTS (Cont'd)

		Page
3.12/4.12	FIRE PROTECTION SYSTEMS - Deleted per Generic Letters 86-10 and 88-12 (Amendment No. 141).	
5.0	DESIGN FEATURES	5.0-1
6.0	ADMINISTRATIVE CONTROLS	6.1-1
6.1	Organization, Review, Investigation, and Audit	6.1-1
6.2	Procedures and Programs	6.2-1
6.3	Reportable Event Action	6.3-1
6.4	Action to be Taken in the Event a Safety Limit is Exceeded	6.4-1
6.5	Plant Operating Records	6.5-1
6.6	Reporting Requirements	6.6-1
6.7	Environmental Qualification	6.7-1
6.8	Offsite Dose Calculation Manual (ODCM)	6.8-1
6.9	Process Control Program (PCP)	6.9-1
6.10	Major Changes to Radioactive Waste Treatment Systems (Liquid, Gaseous, Solid)	6.10-1
6.11	Radiation Protection Program	6.11-1
6.12	High Radiation Area	6.12-1
6.13	Primary Containment Leakage Rate Testing Program	6.13-1

QUAD-CITIES
DPR-29

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F and fuel is in the reactor vessel except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.
 - a. Without primary containment integrity, restore primary containment integrity within 1 hour or be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours.
2. Primary containment integrity shall be demonstrated by:
 - a. Performing required visual examinations and leakage rate testing except for primary containment air lock testing in accordance with and at the frequency specified by the Primary Containment Leakage Rate Testing Program.

QUAD-CITIES
DPR-29

b. Deleted

QUAD-CITIES
DPR-29

- c. At the frequency specified by the Primary Containment Leakage Rate Testing Program, verify leakage for any one main steam line isolation valve when tested at P_t (25 psig) is ≤ 11.5 scfh.
- d. Air locks shall be tested per Specification 4.7.A.7.

QUAD-CITIES
DPR-29

3. Pressure Suppression Chamber-Reactor Building Vacuum Breakers

- a. Except as specified in Specifications 3.7.A.3.b below, two pressure suppression chamber-reactor building vacuum breakers in each line shall be operable at all times when the primary containment integrity is required. The setpoint of the differential pressure instrumentation which actuates the pressure suppression chamber-reactor building air-operated vacuum breakers shall not exceed 0.5 psid. The vacuum breakers shall open fully when subjected to a force equivalent to or less than 0.5 psid acting on the valve disk.
- b. From and after the date that one of the pressure suppression chamber-reactor building vacuum breakers is made or found to be inoperable for any reason, the vacuum breaker shall be locked closed and reactor operation be permissible

3. Pressure Suppression Chamber-Reactor Building Vacuum Breakers

- a. The pressure suppression chamber-reactor building vacuum breakers and associated instrumentation, including setpoint, shall be checked for proper operation every 3 months.
- b. During each refueling outage each vacuum breaker shall be tested to determine that the force required to open it does not exceed the force specified in Specification 3.7.A.3.a; each vacuum breaker shall also be inspected and verified to meet design requirements.

QUAD-CITIES
DPR-29

7. Primary Containment Air Locks

- a. Each primary containment air lock shall be Operable.
- b. With one primary containment air lock door inoperable:
 - (1) Maintain at least the Operable air lock door closed^(a) and either restore the inoperable air lock door to Operable status within 24 hours or lock the Operable air lock door closed.

7. Primary Containment Air Locks

- a. Each primary containment air lock shall be demonstrated Operable:
 - (1) By performing required primary containment air lock leakage testing in accordance with the Primary Containment Leakage Rate Testing Program^{(b)(c)}.

-
- a. Except during entry through an operable door to repair an inoperable door or to facilitate the removal of personnel for a cumulative time not to exceed one hour per year.
 - b. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test.
 - c. Results shall be evaluated against acceptance criteria applicable to Specification 4.7.A.2.

QUAD-CITIES
DPR-29

- (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^(a) at least once per 31 days.
- (3) Otherwise, be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours.

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

c. With the primary containment air lock interlock mechanism inoperable:

- (1) Operations may continue provided the air lock is otherwise Operable and entry and exit of the primary containment is administratively controlled by a dedicated individual.
- (2) Otherwise, restore the air lock interlock mechanism to Operable status within 24 hours or lock the Operable air lock door closed and verify that the Operable air lock door is locked closed at least once per 31 days.

d. With the primary containment air lock inoperable, except as a result of an inoperable air lock door or air lock interlock mechanism:

- (1) Maintain at least one air lock door closed.

a Except during entry through an operable door to repair an inoperable door or to facilitate the removal of personnel for a cumulative time not to exceed one hour per year.

d Only required to be performed upon entry into primary containment air lock when the primary containment is de-inerted.

QUAD-CITIES
DPR-29

6.13 Primary Containment Leakage Rate Testing Program

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

The peak calculated primary containment internal pressure for the design basis loss of coolant accident, P_a , is 48 psig.

The maximum allowable primary containment leakage rate, L_a , at P_a , is 1.0% of primary containment air weight per day.

Leakage rate acceptance criteria are:

- a. Primary containment overall leakage rate acceptance criterion is $\leq 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60 L_a$ for the combined Type B and Type C tests, and $\leq 0.75 L_a$ for Type A tests.
- b. Air lock testing acceptance criteria is the overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$.

The provisions of 1.0.DD.a do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.

TABLE OF CONTENTS (Cont'd)

		Page
5.0	DESIGN FEATURES	5.0-1
6.0	ADMINISTRATIVE CONTROLS	6.1-1
6.1	Organization	6.1-1
6.2	Procedures and Programs	6.2-1
6.3	Reportable Event Action	6.3-1
6.4	Action to be Taken in the Event a Safety Limit is Exceeded	6.4-1
6.5	Plant Operating Records	6.5-1
6.6	Reporting Requirements	6.6-1
6.7	Environmental Qualification	6.7-1
6.8	Offsite Dose Calculation Manual (ODCM)	6.8-1
6.9	Process Control Program (PCP)	6.9-1
6.10	Major Changes to Radioactive Waste Treatment Systems (Liquid, Gaseous, Solid)	6.10-1
6.11	Radiation Protection Program	6.11-1
6.12	High Radiation Area	6.12-1
6.13	Primary Containment Leakage Rate Testing Program	6.13-1

QUAD-CITIES
DPR-30

power operation limit
specified in Item 1 within 24
hours.

- 3) The reactor shall be scrammed from any operating condition if the pool temperature reaches 110°F. Power operation shall not be resumed until the pool temperature is reduced below the normal operation limit specified in Item 1.

- 4) During reactor isolation conditions, the reactor pressure vessel shall be depressurized to less than 150 psig at normal cool-down rates if the pool temperature reaches 120°F.

d. Maximum downcomer Submergence
3.54 ft.

e. Minimum downcomer Submergence
3.21 ft.

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F and fuel is in the reactor vessel except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.

2. Primary containment integrity shall be demonstrated by:

- a. Performing required visual examinations and leakage rate testing except for primary containment air lock testing in accordance with and at the frequency specified by the Primary Containment Leakage Rate Testing Program.

QUAD-CITIES
DPR-30

a. Without primary containment integrity, restore primary containment integrity within 1 hour or be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours.

b. Deleted

c. At the frequency specified by the Primary Containment Leakage Rate Testing Program, verify leakage for any one main steam line isolation valve when tested at P_1 (25 psig) is ≤ 11.5 scfh.

d. Air locks shall be tested per Specification 4.7.A.7.

QUAD-CITIES
DPR-30

3. Pressure Suppression Chamber-
Reactor Building Vacuum Breakers

- a. Except as specified in
Specifications 3.7.A.3.b
below, two pressure sup-

3. Pressure Suppression Chamber-
Reactor Building Vacuum Breakers

- a. The pressure suppression
chamber-reactor building
vacuum

QUAD-CITIES
DPR-30

7. Primary Containment Air Locks

- a. Each primary containment air lock shall be Operable.
- b. With one primary containment air lock door inoperable:
 - (1) Maintain at least the Operable air lock door closed^(a) and either restore the inoperable air lock door to Operable status within 24 hours or lock the Operable air lock door closed.

7. Primary Containment Air Locks

- a. Each primary containment air lock shall be demonstrated Operable:
 - (1) By performing required primary containment air lock leakage testing in accordance with the Primary Containment Leakage Rate Testing Program^{(b)(c)}.

-
- a. Except during entry through an operable door to repair an inoperable door or to facilitate the removal of personnel for a cumulative time not to exceed one hour per year.
 - b. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test.
 - c. Results shall be evaluated against acceptance criteria applicable to Specification 4.7.A.2.

QUAD-CITIES
DPR-30

- (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^(a) at least once per 31 days.
 - (3) Otherwise, be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours.
- c. With the primary containment air lock interlock mechanism inoperable:
 - (1) Operations may continue provided the air lock is otherwise Operable and entry and exit of the primary containment is administratively controlled by a dedicated individual.
 - (2) Otherwise, restore the air lock interlock mechanism to Operable status within 24 hours or lock the Operable air lock door closed and verify that the Operable air lock door is locked closed at least once per 31 days.
- d. With the primary containment air lock inoperable, except as a result of an inoperable air lock door or air lock interlock mechanism:
 - (1) Maintain at least one air lock door closed.
 - (2) Restore the inoperable air lock to Operable status within 24 hours or be in at least hot shutdown within the next 12 hours and in at least cold shutdown within the following 24 hours.

a Except during entry through an operable door to repair an inoperable door or to facilitate the removal of personnel for a cumulative time not to exceed one hour per year.

d Only required to be performed upon entry into primary containment air lock when the primary containment is de-inerted.

QUAD-CITIES
DPR-30

6.13 Primary Containment Leakage Rate Testing Program

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

The peak calculated primary containment internal pressure for the design basis loss of coolant accident, P_a , is 48 psig.

The maximum allowable primary containment leakage rate, L_a , at P_a , is 1.0% of primary containment air weight per day.

Leakage rate acceptance criteria are:

- a. Primary containment overall leakage rate acceptance criterion is $\leq 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60 L_a$ for the combined Type B and Type C tests, and $\leq 0.75 L_a$ for Type A tests.
- b. Air lock testing acceptance criteria is the overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$.

The provisions of 1.0.DD.a do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.

ATTACHMENT A

NRC COMMUNICATION ROUTING SHEET

SUBJECT/DOCUMENT: ESK-96-066, App J Option B ImplementationDATE: 5/6/06REVIEW DUE DATE: 5/6/06

The undersigned have reviewed the attached document (or designated part(s)), and by their signature certify that the information contained is complete and correct to the best of their knowledge; subject to the comments and/or corrections listed below:

SECTION OF DOCUMENT	RESPONSIBLE INDIVIDUAL	COMMENTS OR CORRECTIONS	SIGNATURE	BASIS FOR SIGNATURE
Complete document	Anthony Fuhs	See date correction on cover letter.	<i>Anthony Fuhs</i>	Prepared document/TSUP Coord.
COMPLETE DOCUMENT	KENT JOHNSON	NONE	<i>Kent Johnson</i>	LLRT COORDINATOR
Cover letter	Nick Chrissolms	NONE	<i>N. Chrissolms</i>	RAS