**SCE&G -- Explanation of Changes Summary**

| PAGE | Affected Section | Bar # | Description of Change | Reason for Change |
|---|---|---|---|---|
| 1-2 | 1.7.d | 1 | Reworded "d." to reference the Containment Leakage Rate Testing Program. | These limits have been relocated to TS 6.8.4 under new segment "g." which has been added to describe the VCSNS Containment Leakage Rate Testing Program in accordance with the prescribed guidelines of NEI and WOG, |
| 3/4 6-1 | 4.6.1.1.c | 1 | Removed from TS and relocated to the VCSNS Containment Leakage Rate Testing Program. | This SR is addressed in the VCSNS Containment Leakage Rate Testing Program in accordance with NEI 94-01 and WOG guidelines for implementation of Option B of Appendix J. |
| 3/4 6-2 | 3.6.1.2 | 1 | Removed "a." and "b." and reworded 3.6.1.2 to state "Containment leakage rates shall be limited in accordance with the Containment Leakage Rate Testing Program." | Limits have been relocated to TS 6.8.4 under new segment "g." which has been added to describe the VCSNS Containment Leakage Rate Testing Program in accordance with the prescribed guidelines of NEI and WOG. |
| | 3.6.1.2 | 2 | Reworded ACTION to address Mode restraints and completion times when leakage limits are exceeded. | Based on WOG guidelines for W PWRs, NEI and NRC model technical specification to implement Option B. |
| | 4.6.1.2<br>4.6.1.2.a | 3 | Removed "a." and reworded 4.6.1.2 to state "The containment leakage rates shall be demonstrated at the intervals derived through the Containment Leakage Rate Testing Program and shall be determined per the program criteria.". | This SR is addressed in the VCSNS Containment Leakage Rate Testing Program which implements the requirements of Reg. Guide 1.163 and ANSI/ANS-56.8-1994. |
| 3/4 6-3 | 4.6.1.2.b<br>4.6.1.2.c<br>4.6.1.2.d<br>4.6.1.2.e<br>4.6.1.2.f<br>4.6.1.2.g | 1 | Removed from TS and relocated to the VCSNS Containment Leakage Rate Testing Program. | Relocation is based on model technical specifications to implement Option B. These SRs are addressed in the VCSNS Containment Leakage Rate Testing Program. |
| 3/4 6-4 | 3.6.1.3 | 1 | Removed "a." and "b." and reworded 3.6.1.3 to state "Each reactor building 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." | Limits have been relocated to TS 6.8.4 under new segment "g." which has been added to describe the VCSNS Containment Leakage Rate Testing Program in accordance with the prescribed guidelines of NEI and WOG. |
| 3/4 6-5 | 4.6.1.3.a | 1 | Reworded "a." to reference the Containment Leakage Rate Testing Program. | Rewording is based on model technical specifications to implement Option B. |
| | 4.6.1.3.b | 2 | Removed "b." from TS. | This SR is addressed in the VCSNS Containment Leakage Rate Testing Program and limits have been relocated to TS 6.8.4.g. |

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**SCE&G -- Explanation of Changes Summary**

| PAGE | Affected Section | Bar # | Description of Change | Reason for Change |
|---|---|---|---|---|
| 3/4 6-5 | 4.6.1.3.d | 3 | Removed "d" from TS and relocated to TS 6.8.4.g and the VCSNS Containment Leakage Rate Testing Program. | Limits have been relocated to TS 6.8.4.g and SR relocated to the VCSNS Containment Leakage Rate Testing Program in accordance with the prescribed guidelines of NEI and WOG. |
| | Footnote | 4 | Removed # and * Footnotes. | Footnotes have been incorporated into TS 6.8.4.g and the VCSNS Containment Leakage Rate Testing Program. |
| 3/4 6-10 | 4.6.1.6.3 | 1 | Reworded to reference the Containment Leakage Rate Testing Program. | Inspection frequencies are addressed in the VCSNS Containment Leakage Rate Testing Program which implements the requirements of Reg. Guide 1.163 and ANSI/ANS-56.8-1994. |
| 3/4 6-11 | 4.6.1.7.3 | 1 | Reworded to reference the Containment Leakage Rate Testing Program and incorporate the frequency allowed by Reg. Guide 1.163. | Testing frequencies are addressed in the VCSNS Containment Leakage Rate Testing Program which implements the requirements of Reg. Guide 1.163 and ANSI/ANS-56.8-1994. |
| B 3/4 6-1 | B 3/4.6.1.2 | 1 | Reworded to reference the Containment Leakage Rate Testing Program and incorporate changes presented in model technical specification to implement Option B. | Limits have been relocated to TS 6.8.4. under new segment "g." which has been added to describe the VCSNS Containment Leakage Rate Testing Program in accordance with the prescribed guidelines of NEI and WOG |
| | B 3/4.6.1.3 | 2 | Reworded to remove reference to leakage limits. | Leakage rate limits have been relocated to TS 6.8.4 under new segment "g." which has been added to describe the VCSNS Containment Leakage Rate Testing Program in accordance with the prescribed guidelines of NEI and WOG. |
| B 3/4 6-3 | B 3/4.6.1.7 | 1 | Reworded to reference the Containment Leakage Rate Testing Program . | Testing frequencies are addressed in the VCSNS Containment Leakage Rate Testing Program which implements the requirements of Reg. Guide 1.163 and ANSI/ANS-56.8-1994. |
| 6-12b | 6.8.4.g | 1 | Added "g." under PROCEDURES AND PROGRAMS. | New segment which has been added to describe the VCSNS Containment Leakage Rate Testing Program in accordance with the prescribed guidelines of NEI and WOG for implementation of Appendix J, Option B. |
| 6-12c | 6.8.4.g | 1 | New page. | New page to accommodate new 6.8.4.g. |

CONTAINMENT INTEGRITY

1.7 CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be closed during accident conditions are either:

1) Capable of being closed by an OPERABLE containment automatic isolation valve system, or

2) Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.4,

b. All equipment hatches are closed and sealed,

c. Each air lock is in compliance with the requirements of Specification 3.6.1.3,

d. The containment leakage rates are within the limits of Specification ~~3.6.1.2,~~ 6.8.4.g and

e. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

CONTROLLED LEAKAGE

1.8 CONTROLLED LEAKAGE shall be that seal water flow supplied to the reactor coolant pump seals.

CORE ALTERATION

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

CORE OPERATING LIMITS REPORT

1.9a The CORE OPERATING LIMITS REPORT (COLR) is the unit specific document that provides core operating limits for the current operating reload cycle. The cycle specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1.11. Plant operation within these operating limits is addressed in individual specifications.

DOSE EQUIVALENT I-131

1.10 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcurie/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

CONTAINMENT INTEGRITY

1.7 CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be closed during accident conditions are either:

1) Capable of being closed by an OPERABLE containment automatic isolation valve system, or

2) Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.4,

b. All equipment hatches are closed and sealed,

c. Each air lock is in compliance with the requirements of Specification 3.6.1.3,

d. The containment leakage rates are within the limits of Specification 6.8.4.g, and

e. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

CONTROLLED LEAKAGE

1.8 CONTROLLED LEAKAGE shall be that seal water flow supplied to the reactor coolant pump seals.

CORE ALTERATION

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

CORE OPERATING LIMITS REPORT

1.9a The CORE OPERATING LIMITS REPORT (COLR) is the unit specific document that provides core operating limits for the current operating reload cycle. The cycle specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1.11. Plant operation within these operating limits is addressed in individual specifications.

DOSE EQUIVALENT I-131

1.10 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcurie/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

## 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 for valves that are open under administrative control as permitted by Specification 3.6.4.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

c. ~~After each closing of each penetration subject to Type B testing, except fire containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at $P_a$ (53.5 psig) and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2.d for all other Type B and C penetrations, the combined leakage rate is less than 0.60 $L_a$.~~

DELETE

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

## 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 for valves that are open under administrative control as permitted by Specification 3.6.4.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

c. Deleted.

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

## CONTAINMENT SYSTEMS

## CONTAINMENT LEAKAGE

### LIMITING CONDITION FOR OPERATION

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

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

~~1. Less than or equal to $L_a$, 0.20 percent by weight of the containment air per 24 hours at $P_a$, 53.5 psig, or~~

~~2. Less than or equal to $L_t$, 0.10 percent by weight of the containment air per 24 hours at a reduced pressure of $P_t$, 26.8 psig.~~

~~b. A combined leakage rate of less than 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:

Within 1 hour initiate action to be in 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 rate exceeding ~~0.75~~ 1.0 $L_a$, ~~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:~~

~~a. Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at either $P_a$ (53.5 psig) or at $P_t$ (26.8 psig) during each 10 year service period in accordance with 10 CFR 50, Appendix J.~~

intervals derived through the Containment Leakage Rate Testing Program and shall be determined per the program criteria.

## 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 overall integrated containment leakage rate exceeding 1.0 $L_a$, within 1 hour initiate action to be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the overall integrated leakage rate to less than or equal to 0.75 $L_a$ 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 intervals derived through the Containment Leakage Rate Testing Program and shall be determined per the program criteria.

SURVEILLANCE REQUIREMENTS (continued)

b. ~~Deleted.~~

c. The accuracy of each Type A test shall be verified by a supplemental test in accordance with Appendix J.

d. Type B and C tests shall be conducted with gas at $P_a$ (53.5psig) in accordance with Appendix J except for tests involving:

1. Air locks.

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

Details in Program

e. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.7.3.

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

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

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CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each reactor building air lock shall be OPERABLE with:

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

~~b. An overall air lock leakage rate of less than or equal to 0.10 $L_a$ at $P_a$, 53.5 psig.~~

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one reactor building 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 reactor building 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.

## CONTAINMENT AIR LOCKS

### LIMITING CONDITION FOR OPERATION

3.6.1.3 Each reactor building 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 reactor building 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 reactor building 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.

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each reactor building air lock shall be demonstrated OPERABLE:

a. ~~Within 72 hours following each closing, except when the air lock is~~ being used for ~~multiple~~ entries, then at least ~~once per~~ 72 hours, by verifying that the seal ~~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 8.0 psig for at least 3 minutes.~~

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

b. ~~By conducting overall air lock leakage tests at not less than $P_a$,~~ 53.5 psig, and verifying the overall air lock leakage rate is within its limit:

Deleted

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

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

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

d. ~~At least once per 6 months#, by verifying that the seal leakage rate is less than or equal to 0.01 $L_a$ when the volume between the handwheel shaft seals is pressurized to greater than or equal to 8.0 psig for at least 3 minutes.~~

Deleted

~~# The provisions of Specification 4.0.2 are not applicable.~~
~~* Exemption to Appendix J of 10CFR50.~~

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each reactor building air lock shall be demonstrated OPERABLE:

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

b. Deleted.

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

d. Deleted.

SURVEILLANCE REQUIREMENTS (Continued)

If the inspections performed at 1, 3, and 5 years indicate no abnormal degradation of the tendon system, the number of sample tendons may be reduced to 3 dome, 3 vertical, and 3 hoop for subsequent inspections. Upon the completion of the five year inspection, the results of the first three inspections shall be evaluated to determine if an abnormal condition is evident for the tendon system. Based on the conclusions of this evaluation, the sample tendons with their Base Values and Normalizing Factors will be specified for all subsequent inspections.

4.6.1.6.2 At the same inspection frequency as the tendons, the structural integrity of the end anchorages of all tendons inspected pursuant to Specification 4.6.1.6.1 and the adjacent concrete surfaces shall be determined by a visual inspection and verifying that no abnormal material or structural behavior is evident

4.6.1.6.3 In accordance with the Containment Leakage Rate Testing Program, ~~At the same inspection frequency as the Type A containment leakage rate test,~~ the structural integrity of the exposed accessible interior and exterior surfaces of the containment shall be determined ~~prior to each Type A containment leakage rate test (Specification 4.6.1.2)~~ by a visual inspection of these surfaces and verifying that no abnormal material or structural behavior is evident.

SURVEILLANCE REQUIREMENTS (Continued)

If the inspections performed at 1, 3, and 5 years indicate no abnormal degradation of the tendon system, the number of sample tendons may be reduced to 3 dome, 3 vertical, and 3 hoop for subsequent inspections. Upon the completion of the five year inspection, the results of the first three inspections shall be evaluated to determine if an abnormal condition is evident for the tendon system. Based on the conclusions of this evaluation, the sample tendons with their Base Values and Normalizing Factors will be specified for all subsequent locations.

4.6.1.6.2 At the same inspection frequency as the tendons, the structural integrity of the end anchorages of all tendons inspected pursuant to Specification 4.6.1.6.1 and the adjacent concrete surfaces shall be determined by a visual inspection and verifying that no abnormal material or structural behavior is evident.

4.6.1.6.3 In accordance with the Containment Leakage Rate Testing Program, the structural integrity of the exposed accessible interior and exterior surfaces of the containment shall be determined by a visual inspection of these surfaces and verifying that no abnormal material or structural behavior is evident.

CONTAINMENT SYSTEMS

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.7 Each containment purge supply and exhaust isolation valve shall be OPERABLE and:

a. Each 36-inch containment purge supply and exhaust isolation valve shall be sealed closed.

b. The 6-inch containment purge supply and exhaust isolation valves may be open for less than or equal to 1000 hours per 365 days.

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

ACTION:

a. With a 36-inch containment purge supply and/or exhaust isolation valve(s) open or not sealed close, close and/or seal close the open valve(s) or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With a 6-inch containment purge supply and/or exhaust isolation valve(s) open for more than 1000 hours per 365 days, close the open 6-inch valve(s) or isolate the penetration within 4 hours otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With a containment purge supply and/or exhaust isolation valve(s) having a measured leakage rate exceeding the limits of Surveillance Requirements 4.6.1.7.3, restore the inoperable valve(s) to OPERABLE status within 24 hours; otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 Each 36-inch containment purge supply and exhaust isolation valve shall be verified to be:

a. Closed at least once per 24 hours,

b. Sealed closed at least once per 31 days.

4.6.1.7.2 The cumulative time that the 6-inch purge supply and exhaust isolation valves have been open during the past 365 days shall be determined at least once per 7 days.

4.6.1.7.3 At least once per ~~6~~ 30 months ~~on a STAGGERED TEST BASIS~~ each containment purge supply and exhaust isolation valve with resilient material seals shall be demonstrated OPERABLE ~~by verifying that the measured leakage rate is less than or equal to 0.05 $L_a$ when pressurized to $P_a$~~. in accordance with the Containment Leakage Rate Testing Program.

## CONTAINMENT VENTILATION SYSTEM

### LIMITING CONDITION FOR OPERATION

3.6.1.7 Each containment purge supply and exhaust isolation valve shall be OPERABLE and:

a. Each 36-inch containment purge supply and exhaust isolation valve shall be sealed closed.

b. The 6-inch containment purge supply and exhaust isolation valves may be open for less than or equal to 1000 hours per 365 days.

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

ACTION:

a. With a 36-inch containment purge supply and/or exhaust isolation valve(s) open or not sealed close, close and/or seal close the open valve(s) or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With a 6-inch containment purge supply and/or exhaust isolation valve(s) open for more than 1000 hours per 365 days, close the open 6-inch valve(s) or isolate the penetration within 4 hours otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With a containment purge supply and/or exhaust isolation valve(s) having a measured leakage rate exceeding the limits of Surveillance Requirements 4.6.1.7.3, restore the inoperable valve(s) to OPERABLE status within 24 hours; otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

### SURVEILLANCE REQUIREMENTS

4.6.1.7.1 Each 36-inch containment purge supply and exhaust isolation valve shall be verified to be:

a. Closed at least once per 24 hours.

b. Sealed closed at least once per 31 days.

4.6.1.7.2 The cumulative time that the 6-inch purge supply and exhaust isolation valves have been open during the past 365 days shall be determined at least once per 7 days.

4.6.1.7.3 At least once per 30 months each containment purge supply and exhaust isolation valve with resilient material seals shall be demonstrated OPERABLE in accordance with 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, 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 (including those used in demonstrating a 30 day water seal) 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~~ 15 consistent with the ~~requirements of Appendix "J" of 10 CFR 50.~~ Containment Leakage Rate Testing Program.

#### 3/4.6.1.3 REACTOR BUILDING AIR LOCKS

The limitations on closure ~~and leak rate~~ for the reactor building 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 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, 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 (including those used in demonstrating a 30 day water seal) 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 is consistent with the Containment Leakage Rate Testing Program.

#### 3/4.6.1.3 REACTOR BUILDING AIR LOCKS

The limitations on closure for the reactor building 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.

3/4.6.1.7 REACTOR BUILDING VENTILATION SYSTEM

The 36-inch containment purge supply and exhaust isolation valves are required to be closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA 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. To provide assurance that the 36-inch valves cannot be inadvertently opened, they are sealed closed in accordance with the Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevent power from being spplied to the valve operator.

The use of the containment purge lines is restricted to the 6 inch purge supply and exhaust isolation valves since unlike the 36 inch valves the 6 inch valves will close during a LOCA or steam line break accident and therefore the site boundary dose guidelines of 10 CFR 100 would not be exceeded in the event of an accident during purging operations.

Periodic leakage integrity tests ~~with a maximum allowable leakage rate~~ for purge supply and exhaust isolation valves with resilient material seals will ~~provide early indication of seal degradation and will allow the opportunity for repair before gross leakage failures develop. The 0.60 $L_a$ leakage limit shall not be exceeded when the leakage rates determined by the leakage integrity tests of these valves are added to the previously determined total for all valves and penetrations subject to type B and C tests.~~ be performed in accordance with the Containment Leakage Rate Testing Program.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 REACTOR BUILDING SPRAY SYSTEM

The OPERABILITY of the reactor building spray system ensures that reactor building depressurization and cooling capability will be available in the event of a steam line break. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the accident analyses.

The reactor building spray system and the reactor building cooling system are redundant to each other in providing post accident cooling of the reactor building atmosphere. However, the reactor building spray system also provides a mechanism for removing iodine from the reactor building atmosphere and therefore the time requirements for restoring an inoperable spray system to OPERABLE status have been maintained consistent with that assigned other inoperable ESF equipment.

3/4.6.1.7 REACTOR BUILDING VENTILATION SYSTEM

The 36-inch containment purge supply and exhaust isolation valves are required to be closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA 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. To provide assurance that the 36-inch valves cannot be inadvertently opened, they are sealed closed in accordance with the Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevent power from being supplied to the valve operator.

The use of the containment purge lines is restricted to the 6 inch purge supply and exhaust isolation valves since unlike the 36 inch valves the 6 inch valves will close during a LOCA or steam line break accident and therefore the site boundary dose guidelines of 10 CFR 100 would not be exceeded in the event of an accident during purging operations.

Periodic leakage integrity tests for purge supply and exhaust isolation valves with resilient material seals will be performed in accordance with the Containment Leakage Rate Testing Program.

3/4.6.2. DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 REACTOR BUILDING SPRAY SYSTEM

The OPERABILITY of the reactor building spray system ensures that reactor building depressurization and cooling capability will be available in the event of a steam line break. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the accident analyses.

The reactor building spray system and the reactor building cooling system are redundant to each other in providing post accident cooling of the reactor building atmosphere. However, the reactor building spray system also provides a mechanism for removing iodine from the reactor building atmosphere and therefore the time requirements for restoring an inoperable spray system to OPERABLE status have been maintained consistent with that assigned other inoperable ESF equipment.

f. Radiological Environmental Monitoring Program (Continued)

2) A Land Use Census to ensure that changes in the use of areas at and beyond the site boundary are identified and that modifications to the monitoring program are made if required by the results of the census; and

3) Participation in an Inter-laboratory Comparison Program to ensure that independent checks on the precision and accuracy of measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

NEW PROPOSED SPECIFICATION 6.8.4.g

g. Containment Leakage Rate Testing Program

A program shall be established to implement leakage rate testing of the containment system 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; NEI 94-01, "Industry Guideline for Performance-Based Option of 10CFR50, Appendix J", Revision 0; ANSI/ANS-56.8-1994, "Containment System Leakage Testing Requirements"; as modified by approved exceptions.

The peak calculated containment internal pressure for the design basis loss of coolant accident, Pa, is 45.1 psig.

The maximum allowable containment leakage rate, La, at Pa, is 0.20 percent by weight of the containment air per 24 hours.

Leakage rate acceptance criteria are:

1) Containment overall leakage rate acceptance criterion is $\leq$ 1.0 La. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq$ 0.60 La for the combined Type B and Type C tests, and $\leq$ 0.75 La for Type A tests;

2) Air lock testing acceptance criteria are:

   a. Overall air lock leakage rate is $\leq$ 0.10 La when tested at $\geq$ Pa.

   b. For each door, leakage rate is $\leq$ 0.01 La when pressurized to $\geq$ 8.0 psig for at least 3 minutes.

The provisions of SR 3.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

f. Radiological Environmental Monitoring Program

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measures of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

1) Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM;

2) A Land Use Census to ensure that changes in the use of areas at and beyond the site boundary are identified and that modifications to the monitoring program are made if required by the results of the census; and

3) Participation in an Inter-laboratory Comparison Program to ensure that independent checks on the precision and accuracy of measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

g. Containment Leakage Rate Testing Program

A program shall be established to implement leakage rate testing of the containment system 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; NEI 94-01, "Industry Guideline for Performance-Based Option of 10 CFR 50, Appendix J", Revision 0; ANSI/ANS-56.8-1994, "Containment System Leakage Testing Requirements"; as modified by approved exceptions.

The peak calculated containment internal pressure for the design basis loss of coolant accident, $P_a$, is 45.1 psig.

The maximum allowable containment leakage rate, $L_a$, at $P_a$, is 0.20 percent by weight of the containment air per 24 hours.

Leakage rate acceptance criteria are:

1) 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;

g. Containment Leakage Rate Testing Program (Continued)

2) Air lock testing acceptance criteria are:

a. Overall air lock leakage rate is $\leq 0.10\ L_a$ when tested at $\geq P_a$.

b. For each door, leakage rate is $\leq 0.01\ L_a$ when pressurized to $\geq 8.0$ psig for at least 3 minutes.

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.

# SAFETY EVALUATION FOR REVISING THE CONTAINMENT LEAKAGE RATE TESTING SPECIFICATION IN THE VIRGIL C. SUMMER NUCLEAR STATION TECHNICAL SPECIFICATIONS

## DESCRIPTION OF AMENDMENT REQUEST

South Carolina Electric & Gas Company (SCE&G) proposes to revise the Virgil C. Summer Nuclear Station (VCSNS) Technical Specifications (TS) to adopt the implementation of 10CFR50, Appendix J, Option B for containment leakage rate testing. TS 3/4.6.1, through changes to Limiting Conditions for Operations (LCO), ACTION statements, and Surveillance Requirements (SR), is being revised to remove the existing prescriptive requirements for containment leakage rate testing and replace them with reference to the VCSNS Containment Leakage Rate Testing Program (CLRTP). TS 6.8.4.g has been added to the ADMINISTRATIVE CONTROLS section of TS to describe the CLRTP. The associated BASES for the specification is also affected.

The proposed request is submitted to support the implementation of Option B of 10CFR50, Appendix J for containment leakage rate testing. The request includes Type A, B and C testing.

In accordance with Appendix J, either Option A or Option B may be implemented; however, licensees must submit a TS revision in accordance with 10CFR50, Appendix J, Option B, V.B for the adoption of Option B.

## SAFETY EVALUATION

This proposed change will remove the prescriptive TS requirements for the performance of containment leakage testing and allow leakage testing to be conducted as determined appropriate through the performance-based or risk-based alternatives described in the VCSNS CLRTP. The CLRTP is developed in accordance with Regulatory Guide 1.163 and NEI 94-01. Since the requirements of Appendix J to 10CFR50 will continue to apply, the type of testing will not change.

The proposed request does not modify any plant equipment or systems. It provides a mechanism within the VCSNS TS for implementing an NRC approved regulation. The proposed request is necessary to identify that VCSNS will adopt the performance-based option of 10CFR50, Appendix J and structure its program for implementation in accordance with Regulatory Guide 1.163 and NEI 94-01.

The changes proposed do not involve any significant safety risk for the following reasons:

- The requirements of Appendix J will continue to govern the type of test, testing methodology, and acceptance criteria for Type A, B and C testing.

- The NRC has concluded, prior to approving Option B, that performance-based testing would eliminate or modify prescriptive regulatory requirements for which the burden is marginal-to-safety. Reviews and analyses considered by the NRC are presented in NUREG-1493, PERFORMANCE-BASED CONTAINMENT LEAK-TEST PROGRAM, Final Report, September 1995.

- Previous leakage testing performed at VCSNS has demonstrated low overall containment leakage and supports the implementation of Option B.

The combination of the NRC review and analyses results presented in NUREG-1493, the low overall containment leakage exhibited by VCSNS, and the requirements of Appendix J controlled through Regulatory Guide 1.163 and NEI 94-01 and implemented by ANSI/ANS-56.8-1994 shows that the proposed change to the VCSNS TS has insignificant impact on the health and safety of the public.

# NO SIGNIFICANT HAZARDS DETERMINATION FOR REVISING THE CONTAINMENT LEAKAGE RATE TESTING SPECIFICATION IN THE VIRGIL C. SUMMER NUCLEAR STATION TECHNICAL SPECIFICATIONS

## Description of Amendment Request

South Carolina Electric & Gas Company (SCE&G) proposes to revise the Virgil C. Summer Nuclear Station (VCSNS) Technical Specifications (TS) to adopt the implementation of 10CFR50, Appendix J, Option B for containment leakage rate testing. TS 3/4.6.1, through changes to Limiting Conditions for Operations (LCO), ACTION statements, and Surveillance Requirements (SR), is being revised to remove the existing prescriptive requirements for containment leakage rate testing and replace them with reference to the VCSNS Containment Leakage Rate Testing Program (CLRTP). TS 6.8.4.g has been added to the ADMINISTRATIVE CONTROLS section of TS to describe the CLRTP. The associated BASES for the specification is also affected.

The proposed request is submitted to support the implementation of Option B of 10CFR50, Appendix J for containment leakage rate testing. The request includes Type A, B and C testing.

In accordance with Appendix J, either Option A or Option B may be implemented; however, licensees must submit a TS revision in accordance with 10CFR50, Appendix J, Option B, V.B for the adoption of Option B.

## Basis for No Significant Hazards Consideration Determination

SCE&G has evaluated the proposed changes to the VCSNS TS described above against the Significant Hazards Criteria of 10 CFR 50.92 and determined that the changes do not involve any significant hazard for the following reasons:

1. The probability or consequences of an accident previously evaluated is not significantly increased.

   There is no increase in the probability of an accident since there is no work that would affect containment integrity. The testing of containment isolation valves (CIVs) and other containment penetration sealing devices is not postulated as an accident precursor or initiating event.

   Type A testing is capable of determining the total leakage from both local leakage paths and gross containment leakage paths. Our Type B and C testing has consistently provided accurate leakage rates for valves and penetrations.

Administrative controls govern maintenance and testing such that there is very low probability that unacceptable maintenance or alignments can occur. Prior to and following maintenance on CIVs and penetrations, a local leak rate test (LLRT) is required to be performed. As a result, Type A testing is not required to accurately quantify the leakage through containment penetrations.

Any specific exemptions to the requirements of Appendix J will require approval by the NRC before implementation.

Therefore, this proposed change does not involve a significant increase in the possibility or consequences of an accident previously evaluated.

2. The possibility of an accident or a malfunction of a different type than any previously evaluated is not created.

The proposed request does not involve any physical changes to the plant, affect the operation of the plant, or change testing methods or acceptance criteria. The history of containment testing verifies that containment integrity has been maintained.

The frequency changes allowed by implementation of Option B will not significantly decrease the level of confidence in the ability of the reactor building to limit offsite doses to allowable values. No accident or malfunction can be the result of the allowed changes to test schedule or frequency.

Since the proposed request will not directly impact equipment, procedures or operations, the changes will not create the possibility of any new or different kind of accident from any previously evaluated.

3. The margin of safety has not been significantly reduced.

The reason for performing containment leakage rate testing is to assure that the leakage paths are identified, and that any accident release will be restricted to those paths assumed in the safety analysis. The purpose for the schedule is to assure that containment integrity is verified on a periodic basis.

Implementation of Option B to provide flexibility in the scheduled requirements does not mean that containment integrity will be compromised. The historical leakage rate test results for VCSNS and for the nuclear industry support extension of testing frequencies and demonstrate that structural integrity has been maintained.

Therefore, the margin of safety has not been significantly reduced.