



September 8, 2014  
NND-14-0516  
10 CFR 50.90

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3  
Combined License Nos. NPF-93 and NPF-94  
Docket Nos. 52-027 & 52-028

Subject: Supplemental Response Related to License Amendment Request  
(LAR 13-037)

- Reference:
1. V. C. Summer, Units 2 and 3- LAR 13-037 Request for License Amendment: Technical Specifications Upgrade (ADAMS Accession Number ML13346A078)
  2. Southern Nuclear Operating Company, Vogtle Electric Generating Plant Units 3 and 4 Request for License Amendment: Technical Specifications Upgrade (LAR-12-002) (Adams Accession Number ML120650172)
  3. Acceptance Review of Southern Nuclear Operating Company's Request for License Amendment for the Vogtle Electric Generating Plant Units 3 and 4: Technical Specifications Upgrade (LAR 12-002) (Adams Accession Number ML12094A140)
  4. Vogtle, Units 3 and 4, Enclosure Response to Request for Additional Information Letter No. 1 Related to License Amendment Request LAR-12-002 (Adams Accession Number ML12286A360)
  5. Vogtle, Units 3 and 4- Supplemental Response Related to License Amendment Request (LAR-12-002) (Adams Accession Number ML12346A053)
  6. Safety Evaluation Report That Supports License Amendment No. 13 to Vogtle Units 3 and 4 Combined Licenses (ML13239A287)

In response to a public meeting on August 14, 2014, South Carolina Electric & Gas Company (SCE&G) herein submits its responses to the Nuclear Regulatory Commission (NRC) comments identified during the review of the initial submittal of LAR 13-037, Reference 1. During the meeting, SCE&G agreed that the NRC had correctly characterized the comments and agreed to provide its responses and corrections. The Enclosure to this supplemental letter provides the agreed upon information.

The information provided in the Enclosure of this letter does not change the scope of, nor affect the Technical Evaluation or the conclusions of the Significant Hazards Consideration determination of the LAR provided in Reference 1.

Consistent with the Regulatory commitments provided in Enclosure 5 of SCE&G's initial submittal, SCE&G maintains its request for 90 days for implementation from issuance of the amendment. However, in accordance with License Condition 2.D.(9), the Technical Specifications in Appendix A to the licenses would not become effective until a Commission finding that the acceptance criteria in this license (ITAAC) are met in accordance with 10 CFR 52.103(g). This letter contains no new or revised regulatory commitments.

In accordance with 10 CFR 50.91, SCE&G is notifying the State of South Carolina of this LAR supplement by transmitting a copy of this letter and Enclosure to the designated State Official.

As a result of providing this supplemental information for NRC review, SCE&G requests approval of LAR 13-037 by October 30, 2014.

Should you have any questions, please contact Mrs. April R. Rice by telephone at (803) 941-9858, or by email at arice@scana.com.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 8<sup>th</sup> day of September 2014.

Sincerely,

  
Ronald A. Jones  
Vice President  
New Nuclear Operations

AJC/RAJ/ajc

Enclosure : Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3--Supplemental Information Related to License Amendment Request LAR 13-037

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**South Carolina Electric & Gas Company**

**NND-14-0516**

**Enclosure**

**Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3**

**Supplemental Information Related to  
License Amendment Request LAR 13-037**

(26 pages total)

### **Summary Description**

A public meeting was held on August 14, 2014 to discuss comments related to the Nuclear Regulatory Commission (NRC) review of License Amendment Request (LAR) 13-037. During the meeting SCE&G agreed that the NRC had correctly characterized the comments. SCE&G agreed to provide responses and corrected pages. This enclosure provides that supplemental information.

A response to each Comment is provided followed by the respective corrected pages. Yellow highlighting is provided to show location of the changes. Since the changes to the Technical Specifications required only formatting (pagination) changes, there were no markup pages required and only re-typed pages for Units 2 and 3 are provided. Re-typed Description of Change pages for A038, A112, and L01 and VCSNS Unit 2 Technical Specification (TS) Bases are also provided. Re-typed pages for Unit 3 TS Bases are not provided but will be modified accordingly.

Enclosure: Supplemental Information Related to  
License Amendment LAR 13-037

**Potential Errors:**

A. Enclosure 1:

1. Administrative Change A038 described on page E1 Attachment 1–50 states that it affects page 3.9.4-2, but it actually affects page 3.9.4-1.

**Response:**

SCE&G understands and agrees with the comment. Administrative Change A038 has been revised to reflect affected page 3.9.4-1.

Enclosure 1  
Attachment 1Detailed Description of Changes and Technical Evaluations  
Administrative Changes

3.6.9-1	• SR 3.4.11.1	• SR 3.6.9.1	• SR 3.7.6.10
3.7.6-3	• SR 3.4.11.2	• SR 3.6.9.2	• SR 3.9.4.1
3.7.6-4	• SR 3.4.11.3	• SR 3.7.6.2	• SR 3.9.7.1
3.9.4-1	• SR 3.4.13.1	• SR 3.7.6.3	
3.9.7-1	• SR 3.4.16.1	• SR 3.7.6.5	

**Technical Evaluation**

Deletion of "that" from Surveillances is consistent with the guidance provided in TSTF-GG-05-01, subsection 3.1.1.g, that states: "Avoid the use of 'that' in the Specifications if the statement is clear without it." Deleting "that" from the current SRs does not reduce the clarity of the SRs.

These changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to provide clarification and for consistency with TSTF-GG-05-01. These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the TS.

**A039****Detailed Description**

- 3.3.5-3 Current TS 3.3.5, "Diverse Actuation System (DAS) Manual Controls," Table 3.3.5-1, "DAS Manual Controls," footnote c is revised from "In MODE 6 with reactor internals in place," to "With reactor internals in place."
- Current TS 3.3.5, Table 3.3.5-1, Applicable Modes or Other Specified Conditions for Functions 2, 3, 4, 5, 6, 7, and 10 are revised to superscript the footnotes associated with Mode 5 and Mode 6, as applicable.

**Technical Evaluation**

Current TS 3.3.5, "Diverse Actuation System (DAS) Manual Controls," is renumbered as TS 3.3.19 as discussed in DOC A028.

Current TS Table 3.3.5-1, footnote c modifies the Applicable Modes or Other Specified Conditions for Function 7, "ADS stage 4 valves." Function 7 is required to be Operable in Modes 1, 2, 3, 4, 5, and in MODE 6, as modified by footnote c, with the reactor internals in place. Because Mode 6 is specified in the Applicable Modes or Other Specified Conditions column of current Table 3.3.5-1 for Function 7, including "MODE 6" in the footnote is an extraneous detail. The Applicability of the Function is clear without repeating Mode 6 in both locations.

Footnotes associated Modes and Other Specified Conditions in other TS tables, such as Table 3.3.1-1, "Reactor Trip System Instrumentation," are formatted as superscript text. This change revises the formatting for consistency with footnotes in other instrumentation tables in the TS.

These changes are designated as administrative changes and are acceptable

Enclosure: Supplemental Information Related to  
License Amendment LAR 13-037

2. Administrative Change A112 does not include pages 3.8.5-2, 3.8.6-1, or 3.8.6-2 among its affected pages despite those pages having changes designated as A112 changes. The text describing the change also makes reference to the Technical Specifications that span these pages being revised, but the list on the left side of the page neglects to mention the affected pages.

**Response:**

SCE&G understands and agrees with the comment. Administrative Change A112 has been revised to reflect affected pages 3.8.5-2, 3.8.6-1 and 3.8.6-2. During review of the Description discussion it was noted that TS 3.8.5 Condition E was incorrectly listed and should have referenced Condition F.



Enclosure 1  
Attachment 1Detailed Description of Changes and Technical Evaluations  
Administrative Changes

- 3.7.12-2 loading curve, based on burnup and initial enrichment. Figure 3.7.12-1 is revised to clearly specify the acceptable region and the unacceptable region.

**Technical Evaluation**

The Acceptable Region of the Region 2 loading curve is the area above and to the left of the curve. This is clearly identified by the title of Figure 3.7.12-1, "Minimum Fuel Assembly Burnup Versus Initial Enrichment for Region 2 Spent Fuel Cells." This is also identified in Table 7.4 of the document referenced in the TS Bases (Reference 2). This change (wording preferences, editorial changes, reformatting, revised numbering, etc.) is made to provide clarification. This change is designated as an administrative change and is acceptable because it does not result in technical changes to the TS.

**A112****Detailed Description**

TS 3.8.5, "Distribution Systems – Operating," and TS 3.8.6, "Distribution Systems – Shutdown," are revised to delete "bus" from the name for subsystem "AC instrument and control."

3.8.5-1  
3.8.5-2  
3.8.6-1  
3.8.6-2

TS 3.8.5 LCO is revised to specify the two electrical power distribution subsystems in a list format.

TS 3.8.5, Conditions A, B, C, D, and E are revised to move "Division" or "Divisions" such that the Condition reads "division inoperable" or "divisions inoperable"; for example Condition A is revised to "One AC instrument and control division inoperable."

TS 3.8.5 Required Actions A.1, B.1, C.1, and D.1 are revised to add "division" such that each of these "Restore" Required Action ends with "division to OPERABLE status." For example, Required Action A.1 is revised to "Restore AC instrument and control division to OPERABLE status."

TS 3.8.5 Required Action C.1 and Required Action D.1 are revised from "Restore..." to "Restore one... ."

TS 3.8.5 Condition **F** is revised to remove "divisions with" and "distribution subsystems" and add "divisions" after "inoperable".

**Technical Evaluation**

The nomenclature used for the two Class 1E electrical power distribution subsystems is clarified by deleting "bus" from the name for subsystem "AC instrument and control" and the TS 3.8.5 LCO reformatted to clarify that both DC and AC instrument and control divisions are electrical power distribution subsystems. The Actions are revised to present inoperabilities of divisions.

As described in the TS Bases, current TS 3.8.5 Action A provides the requirements when one division of the AC instrument and control electrical power distribution subsystem is inoperable and current Action B provides the requirements when one division of the DC electrical power distribution subsystem is inoperable. Current TS 3.8.5 Actions C and D provide the requirements when

Enclosure: Supplemental Information Related to  
License Amendment LAR 13-037

3. Less Restrictive Change L01 does not include page 3.7.10-2 as an affected page despite that page having a change designated as an L01 change. The text describing the change makes reference to SR 3.7.10.3 being revised, but the list on the left side of the page neglects to mention page 3.7.10-2.

**Response:**

SCE&G understands and agrees with the comment. Less Restrictive Change L01 has been revised to reflect affected page 3.7.10-2.

Enclosure 1  
Attachment 5Detailed Description of Changes and Technical Evaluations  
Less Restrictive Changes

The following changes are designated as Less Restrictive:

**DOC /  
Affected  
Pages****Detailed Description and Technical Justification****L01****Detailed Description**

1.1-1  
3.1.9-2  
3.3.2-12  
3.3.2-13  
3.4.11-2  
3.4.13-2  
3.5.2-2  
3.5.4-3  
3.5.6-3  
3.5.8-3  
3.6.10-2  
3.7.7-2  
3.7.10-2

The TS Definition for Actuation Device Test is deleted. Reference to “overlap with the ACTUATION DEVICE TEST” that is cited in the definition of Actuation Logic Test is replaced with “overlap with the actuated device.”

Current TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," SR 3.3.2.7 ("Perform ACTUATION DEVICE TEST") and SR 3.3.2.8 ("Perform ACTUATION DEVICE TEST for squib valves") are deleted from current TS 3.3.2 and Table 3.3.2-1, Function 26.a, ESF Actuation Subsystem. The equivalent requirement (using phrasing generally consistent with NUREG-1431) is included in individual Specifications for the actuated devices with the same 24 month Frequency as the deleted SRs. The following are the SRs being added:

- New SR 3.1.9.3 is added to TS 3.1.9, "Chemical and Volume Control System (CVS) Demineralized Water Isolation Valves and Makeup Line Isolation Valves," stating: "Verify each CVS demineralized water isolation valve actuates to the isolation position on an actual or simulated actuation signal."
- New SR 3.4.11.4 is added to TS 3.4.11, "Automatic Depressurization System (ADS) – Operating," stating: "Verify each stage 1, 2, and 3 ADS valve actuates to the open position on an actual or simulated actuation signal."
- New SR 3.4.11.5 is added to TS 3.4.11, stating: "Verify continuity of the circuit from the Protection Logic Cabinets to each stage 4 ADS valve;" also including a Note to the SR stating: "Squib actuation may be excluded."
- SR 3.5.2.7 is added to TS 3.5.2, "Core Makeup Tanks (CMTs) – Operating," stating: "Verify each CMT outlet isolation valve actuates to the open position on an actual or simulated actuation signal." Consequently, current SR 3.5.2.7 is renumbered as SR 3.5.2.8.
- SR 3.5.4.8 is added to TS 3.5.4, "Passive Residual Heat Removal Heat Exchanger (PRHR HX) – Operating," stating: "Verify both PRHR HX air operated outlet isolation valves actuate to the open position and both IRWST gutter isolation valves actuate to the isolation position on an actual or simulated actuation signal." Consequently, some subsequent SRs are appropriately renumbered.
- SR 3.5.6.9 is added to TS 3.5.6, "In-containment Refueling Water Storage Tank (IRWST) – Operating," stating: "Verify continuity of the circuit from the Protection Logic Cabinets to each IRWST injection and containment recirculation squib valve on an actual or simulated actuation signal;" also

Enclosure: Supplemental Information Related to  
License Amendment LAR 13-037

B. Enclosure 2

None

C. Enclosure 3 Parts 1 and 2:

1. On page 1.3–6 for both Units 2 and 3, it appears that the text “Examples (Continued)” was not included at the top of the page, despite being included in pages that have similar spacing situations.

**Response:**

SCE&G understands and agrees with the comment. Page 1.3 - 6 for Units 2 and 3 has been revised to include the text “Examples (Continued)” at the top of the page and delete the same text from the bottom of page 1.3 - 5.

## 1.3 Completion Times

## EXAMPLES (continued)

On restoring one of the valves to OPERABLE status the Condition A Completion Time is not reset, but continues from the time the first valve was declared inoperable. This Completion Time may be extended if the valve restored to OPERABLE status was the first inoperable valve. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second valve being inoperable for > 7 days.

EXAMPLE 1.3-3

## ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Function X train inoperable.	A.1 Restore Function X train to OPERABLE status.	7 days
B. One Function Y train inoperable.	B.1 Restore Function Y train to OPERABLE status.	72 hours
C. One Function X train inoperable. <u>AND</u> One Function Y train inoperable.	C.1 Restore Function X train to OPERABLE status. <u>OR</u> C.2 Restore Function Y train to OPERABLE status.	72 hours  72 hours

When one Function X train and one Function Y train are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each train starting from the time each train was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second train was declared inoperable (i.e., the time the situation described in Condition C was discovered).



### 1.3 Completion Times

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#### **EXAMPLES (continued)**

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A.

It is possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, there shall be administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.

## 1.3 Completion Times

## EXAMPLES (continued)

On restoring one of the valves to OPERABLE status the Condition A Completion Time is not reset, but continues from the time the first valve was declared inoperable. This Completion Time may be extended if the valve restored to OPERABLE status was the first inoperable valve. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second valve being inoperable for > 7 days.

EXAMPLE 1.3-3

## ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Function X train inoperable.	A.1 Restore Function X train to OPERABLE status.	7 days
B. One Function Y train inoperable.	B.1 Restore Function Y train to OPERABLE status.	72 hours
C. One Function X train inoperable. <u>AND</u> One Function Y train inoperable.	C.1 Restore Function X train to OPERABLE status. <u>OR</u> C.2 Restore Function Y train to OPERABLE status.	72 hours  72 hours

When one Function X train and one Function Y train are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each train starting from the time each train was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second train was declared inoperable (i.e., the time the situation described in Condition C was discovered).

### 1.3 Completion Times

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#### **EXAMPLES (continued)**

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A.

It is possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, there shall be administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.



Enclosure: Supplemental Information Related to  
License Amendment LAR 13-037

D. Enclosure 4:

1. On page B 3.2.5–4, there is no NOTE associated with Action B.1 anymore, so the third paragraph under B.1 should be deleted as it was for Vogtle's LAR 12-002 by the 10/4 RAI response.

**Response:**

SCE&G understands and agrees with the comment. Bases Page B 3.2.5 - 4 has been revised to delete the third paragraph under B.1.

BASES

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## ACTIONS

A.1

With any of the OPDMS-monitored power distribution parameters outside of their limits, the assumptions used as most limiting base conditions for the DBA analyses may no longer be valid. The 1 hour operator ACTION requirement to restore the parameter to within limits is consistent with the basis for the anticipated operational occurrences and provides time to assess if there are instrumentation problems. It also allows the possibility to restore the parameter to within limits by rod cluster control assembly (RCCA) motion if this is possible. The OPDMS will continuously monitor these parameters and provide an indication when they are approaching their limits.

B.1

If the OPDMS-monitored power distribution parameters cannot be restored to within their limits within the Completion Time of ACTION A.1, it is likely that the problem is not due to a failure of instrumentation. Most of these parameters can be brought within their respective limits by reducing THERMAL POWER because this will reduce the absolute power density at any location in the core thus providing margin to the limit.

If the parameters cannot be returned to within limits as power is being reduced, THERMAL POWER must be reduced to < 50% RTP where the LCOs are no longer applicable. 

The Completion Time of 4 hours provides an acceptable time to reduce power in an orderly manner and without allowing the plant to remain outside the  $F_{\Delta H}^N$  limits for an extended period of time.

C.1

If the SDM requirements are not met, boration must be initiated promptly. A Completion Time of 15 minutes is adequate for an operator to correctly align and start the required systems and components. It is assumed that boration will be continued until the SDM requirements are met. In the determination of the required combination of boration flow rate and boron concentration, there is no unique requirement that must be satisfied. Since it is imperative to raise the boron concentration of the RCS as soon as possible, the boron concentration should be a concentrated solution. The operator should begin boration with the best source available for the plant conditions.

Enclosure: Supplemental Information Related to  
License Amendment LAR 13-037

2. On page B 3.3.1–28, the paragraph under heading “SR 3.3.1.7” has the following parenthetical in line 2: “(which refers to this test as an “RTCOT”)”. This parenthetical appears to be intended to only follow mentioning of “Reference 6” as it does in line 1–2 of the third paragraph on the page. The Vogtle submitted Bases have the parenthetical as “(note that reference 6 refers to this test as an “RTCOT”)

**Response:**

SCE&G understands and agrees with the comment. Bases page B 3.3.1 - 28 has been revised to modify the parenthetical note to read “(note that reference 6 refers to this test as an “RTCOT”)”.

## BASES

## SURVEILLANCE REQUIREMENTS (continued)

If the COT cannot be completed using the built-in test subsystem, either because of failures in the test subsystem or failures in redundant channel hardware used for functional testing, the COT can be performed using portable test equipment.

Interlocks implicitly required to support the Function's OPERABILITY are also addressed by this COT. This portion of the COT ensures the associated Function is not bypassed when required to be enabled. This can be accomplished by ensuring the interlocks are calibrated properly in accordance with the SP. If the interlock is not automatically functioning as designed, the condition is entered into the Corrective Action Program and appropriate OPERABILITY evaluations performed for the affected Function. The affected Function's OPERABILITY can be met if the interlock is manually enforced to properly enable the affected Function. When an interlock is not supporting the associated Function's OPERABILITY at the existing plant conditions, the affected Function's channels must be declared inoperable and appropriate ACTIONS taken.

This test frequency of 92 days is justified based on Reference 6 (which refers to this test as "RTCOT") and the use of continuous diagnostic test features, such as deadman timers, cross-check of redundant channels, memory checks, numeric coprocessor checks, and tests of timers, counters and crystal time bases, which will report a failure within the Protection and Safety Monitoring System cabinets to the operator within 10 minutes of a detectable failure.

During the COT, the Protection and Safety Monitoring System cabinets in the division under test may be placed in bypass.

SR 3.3.1.7

SR 3.3.1.7 is the performance of a COT as described in SR 3.3.1.6 (note that reference 6 refers to this test as an "RTCOT"), except it is modified by a Note that allows this surveillance to be satisfied if it has been performed within the previous 92 days. The test is performed in accordance with the SP. If the actual setting of the channel is found to be outside the as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the channel setpoint to the NTS (within the allowed tolerance), and evaluating the channel's response. If the channel is functioning as required and is expected to pass the next surveillance, then the channel is OPERABLE and can be restored to service at the completion of the surveillance. After the surveillance is completed, the channel as-found condition will be entered into the Corrective Action Program for further evaluation.

Enclosure: Supplemental Information Related to  
License Amendment LAR 13-037

3. On page 3.4.11 -5, the paragraph under heading “SR 3.4.11.5” adds the following additional sentence that wasn’t included with the Vogtle submittal:
  - a. The OPERABILITY of the squib valves is checked by performing a continuity check of the circuit from the Protection Logic Cabinets to the squib valve.

While this change makes sense, and changes to the bases do not need to be staff reviewed, this could be a possible error.

**Response:**

SCE&G understands and agrees with the comment. Bases page B 3.4.11 - 5, item a. has been revised to delete the additional sentence “The OPERABILITY of the squib valves is checked by performing a continuity check of the circuit from the Protection Logic Cabinets to the squib valve.”


Additionally, it was identified in the Vogtle submittal that a typographical error was introduced in that, after deletion of the additional sentence, the period at the end of the previous sentence was inadvertently omitted. SCE&G has elected to make this correction in this submittal. SNC is aware of the omission and has planned a future correction for this Bases change.

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**BASES**

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**SURVEILLANCE REQUIREMENTS (continued)**

This Surveillance is modified by a Note that excludes squib valve actuation as a requirement for this Surveillance to be met. This is acceptable because the design of the squib actuated valve was selected for this application because of its very high reliability. 

The Frequency of 24 months is based on the need to perform this surveillance during periods in which the plant is shutdown for refueling to prevent any upsets of plant operation.

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**REFERENCES**

1. Section 6.3, "Passive Core Cooling System."
  2. Section 15.6, "Decrease in Reactor Coolant Inventory."
  3. AP1000 Probabilistic Risk Assessment, Appendix A.
  4. Section 3.9.6, "Inservice Testing of Pumps and Valves."
-

4. On page 3.4.17–4 and 3.4.17–5 it appears as though the “Actions (continued)” was accidentally left on the bottom of page 3.4.17–4 instead of at the top of 3.4.17–5.

**Response:**

SCE&G understands and agrees with the comment. Bases page B 3.4.17 - 4 has been revised to delete the “Actions (continued)” from the bottom of the page and add the “Actions (continued)” to the top of Bases page B 3.4.17 - 5.

## BASES

## LCO (continued)

The operational LEAKAGE performance criterion provides an observable indication of SG tube conditions during plant operation. The limit on operational LEAKAGE is contained in LCO 3.4.7, "RCS Operational LEAKAGE," and limits primary to secondary LEAKAGE through any one SG to 150 gallons per day. This limit is based on the assumption that a single crack leaking this amount would not propagate to a SGTR under the stress conditions of a LOCA or a main steam line break. If this amount of LEAKAGE is due to more than one crack, the cracks are very small, and the above assumption is conservative.

## APPLICABILITY

Steam generator tube integrity is challenged when the pressure differential across the tubes is large. Large differential pressures across SG tubes can only be experienced in MODE 1, 2, 3, or 4.

RCS conditions are far less challenging in MODES 5 and 6 than during MODES 1, 2, 3, and 4. In MODES 5 and 6, primary to secondary differential pressure is low, resulting in lower stresses and reduced potential for LEAKAGE.

## ACTIONS

The ACTIONS are modified by a Note clarifying that the Conditions may be entered independently for each SG tube. This is acceptable because the Required Actions provide appropriate compensatory actions for each affected SG tube. Complying with the Required Actions may allow for continued operation, and subsequent affected SG tubes are governed by subsequent Condition entry and application of associated Required Actions.

A.1 and A.2

Condition A applies if it is discovered that one or more SG tubes examined in an inservice inspection satisfy the tube repair criteria but were not plugged in accordance with the Steam Generator Program as required by SR 3.4.17.2. An evaluation of SG tube integrity of the affected tube(s) must be made. Steam generator tube integrity is based on meeting the SG performance criteria described in the Steam Generator Program. The SG repair criteria define limits on SG tube degradation that allow for flaw growth between inspections while still providing assurance that the SG performance criteria will continue to be met. In order to determine if a SG tube that should have been plugged has tube integrity, an evaluation must be completed that demonstrates that the SG performance criteria will continue to be met until the next refueling outage or SG tube inspection. The tube integrity determination



## BASES

**ACTIONS (continued)**

is based on the estimated condition of the tube at the time the situation is discovered and the estimated growth of the degradation prior to the next SG tube inspection. If it is determined that tube integrity is not being maintained, Condition B applies.

A Completion Time of 7 days is sufficient to complete the evaluation while minimizing the risk of plant operation with a SG tube that may not have tube integrity.

If the evaluation determines that the affected tube(s) have tube integrity, Required Action A.2 allows plant operation to continue until the next refueling outage or SG inspection provided the inspection interval continues to be supported by an operational assessment that reflects the affected tubes. However, the affected tube(s) must be plugged prior to entering MODE 4 following the next refueling outage or SG inspection. This Completion Time is acceptable since operation until the next inspection is supported by the operational assessment.

B.1 and B.2

If the Required Actions and associated Completion Times of Condition A are not met or if SG tube integrity is not being maintained, the reactor must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the desired plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE  
REQUIREMENTSSR 3.4.17.1

During shutdown periods the SGs are inspected as required by this SR and the Steam Generator Program. NEI 97-06, Steam Generator Program Guidelines (Ref. 1), and its referenced EPRI Guidelines, establish the content of the Steam Generator Program. Use of the Steam Generator Program ensures that the inspection is appropriate and consistent with accepted industry practices.

During SG inspections a condition monitoring assessment of the SG tubes is performed. The condition monitoring assessment determines the "as found" condition of the SG tubes. The purpose of the condition monitoring assessment is to ensure that the SG performance criteria have been met for the previous operating period.

Enclosure: Supplemental Information Related to  
License Amendment LAR 13-037

5. On page B 3.7.3 - 2 it appears as though the entire line starting with APPLICABILITY should be moved to page B 3.7.3–3.

**Response:**

SCE&G understands and agrees with the comment. Bases page B 3.7.3 - 2 has been revised to delete the entire line starting with APPLICABILITY and add the entire line starting with APPLICABILITY to Bases page B 3.7.3 - 3.

## BASES

## BACKGROUND (continued)

Additionally, the MFIVs close automatically on a Low-1  $T_{avg}$  coincident with reactor trip (P-4). Each valve may be actuated manually. In addition to the MFIVs and the MFCVs, a check valve is available outside containment to isolate the feedwater line penetrating containment. In the event of feedwater line depressurization due to pump trip on line break, the check valve provides rapid backup isolation of the steam generators limiting the inventory loss. A description of the MFIVs and MFCVs is found in Reference 1.

APPLICABLE  
SAFETY  
ANALYSES

The design basis of the MFIVs and MFCVs is established by the analyses for the large SLB. It is also influenced by the accident analysis for the large Feedwater Line Break (FWLB). Closure of the MFIVs (or MFCVs) may also be relied on to mitigate an SLB for core response analysis and excess feedwater event upon the receipt of a steam generator water level – High 2 signal.

Failure of an MFIV (or MFCV), to close following an SLB or FWLB, can result in additional mass and energy being delivered to the steam generators, contributing to cooldown. This failure also results in additional mass and energy releases following an SLB or FWLB event.

In addition, the MFIVs are containment isolation valves and support the assumptions related to minimizing the loss of inventory and establishing the containment boundary during major accidents. Therefore, the safety analysis of any event requiring isolation of containment is applicable to the MFIVs.

The MFIVs and MFCVs satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

## LCO

This LCO ensures that the MFIVs and the MFCVs will isolate the main feedwater system.

This LCO requires that the one isolation valve and one control valve on each feedwater line be OPERABLE. These valves are considered OPERABLE when their isolation times are within limits and they close on an isolation actuation signal.

Failure to meet the LCO requirements can result in additional mass and energy being released to containment following an SLB or FWLB inside containment. A main feedwater isolation signal on high steam generator level is relied on to terminate an excess feedwater flow event, and therefore failure to meet the LCO may result in the introduction of water into the main steam lines.

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BASES

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**APPLICABILITY**

The MFIVs and MFCVs must be OPERABLE whenever there is significant mass and energy in the Reactor Coolant System and the steam generators. This ensures that, in the event of a high energy line break, a single failure cannot result in the blowdown of more than one steam generator. In MODE 1, 2, 3, or 4, these valves are required to be OPERABLE to limit the amount of available fluid that could be added to the containment in the case of a secondary system pipe break inside containment and where a DBA could cause a release of radioactive material to containment.

In MODES 5 and 6 steam generator energy is low. Therefore, the MFIVs and the MFCVs are normally closed since MFW is not required.

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**ACTIONS**

The ACTIONS table is modified by a Note indicating that separate condition entry is allowed for each feedwater flow path.

A.1 and A.2

With one or both feedwater flow paths with an MFIV or MFCV inoperable (one or two MFIVs, or one or two MFCVs inoperable), the affected flow path must be isolated in 72 hours. When these flow paths are isolated, they are performing their required safety function.

The 72 hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves, and the low probability of an event that would require isolation of the main feedwater flow paths occurring during this period.

For inoperable MFIVs and MFCVs that cannot be restored to OPERABLE status within the specified Completion Time but whose affected flow path is isolated, the flow paths must be verified on a periodic basis to be isolated. This is necessary to ensure that the assumptions in the safety analyses remain valid. The 7 day Completion Time is reasonable based on engineering judgment, in view of valve status indications available in the control room, and other administrative controls, to ensure that these flow paths are isolated.

B.1

With one or both feedwater flow paths with associated MFIV and MFCV inoperable (two inoperable valves in the same flow path), there may be no redundant system to operate automatically to perform the required safety function. Under these conditions, one valve in the affected flow path must be restored to OPERABLE status, or the affected flow path isolated within 8 hours. This action returns the system to the situation in which at least one valve in the affected flow path is performing the required safety

**Comments:**

1. In a conference call (November 15, 2012) between the NRC Staff and the licensee for Vogtle units 3 and 4 COL, the staff identified a non-conservative technical specification(TS) requirement related to TS 3.2.1, Heat Flux Hot Channe Factor, Surveillance SR 3.2.1.1, Note 2. The staff indicated that it was a non-conservative Technical Specification, and administrative controls should be imposed as described in NRC Administrative Letter 98-10, "Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety," and a future License Amendment Request (LAR).

To address this issue, Licensee for Vogtle units 3 and 4 entered this condition into its Corrective Action Program and stated that the appropriate administrative controls will be determined through the resolution of the condition report and the future LAR development will be tracked in the list of planned LARs (ML12345A256, December 6, 2012).

Please provide your plan to address the identical non-conservative TS in the Summer Units 2 and 3 TS.

**Response:**

SCE&G understands and agrees with the comment. SCE&G had previously entered this issue into its Corrective Action Program (CR-NND-12-00870). Appropriate administrative controls will be determined through the resolution of the condition report and the future LAR development will be tracked in the CR and list of planned LARs.

2. SCE&G in its letter dated December 4, 2013 (LAR 13-037, Technical Specifications Upgrade) states that SCE&G has complied all changes included in SNC's letters related to SNC's LAR 12-002 (ML120650172, ML12286A360). However, the SNC's letter dated December 7, 2014 (ML12346A053) is missing from SCE&G LAR submittal. Please address this omission.

**Response:**

SCE&G understands and agrees with the comment. SCE&G has determined that the ML number for Reference 4 of SCE&G's initial LAR submittal letter was incorrectly inputted and should have referenced ML12346A053 for the SNC letter dated December 7, 2012. Reference 5 of this supplemental letter shows the correct ML number for the SNC letter dated December 7, 2012 as "ML12346A053". The compliance to all changes made in SNC's submittals remains valid.