



B. H. Whitley  
Director  
Regulatory Affairs

Southern Nuclear  
Operating Company, Inc.  
42 Inverness Center Parkway  
Birmingham, AL 35242  
Tel 205.992.7079  
Fax 205.992.5296

July 28, 2017

Docket Nos.: 52-025  
52-026

ND-17-1279  
10 CFR 50.90

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Units 3 and 4  
Request for License Amendment:  
Technical Specification Updates for Reactivity Controls  
and other Miscellaneous Changes (LAR-17-024)

Ladies and Gentlemen:

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC) requests an amendment to the combined licenses (COLs) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4 (License Numbers NPF-91 and NPF-92, respectively). The requested amendment proposes to depart from approved COL Appendix A, Technical Specifications.

The requested amendment proposes changes to revise COL Appendix A, plant-specific Technical Specifications (TS) by modifying the TS to make them consistent with the remainder of the design, licensing basis, and the technical specifications.

Enclosure 1 provides the description, technical evaluation, regulatory evaluation (including the Significant Hazards Consideration) and environmental considerations for the proposed changes in the License Amendment Request (LAR).

Enclosure 2 identifies the requested changes and provides markups depicting the requested changes to the VEGP Units 3 and 4 licensing basis documents.

Enclosure 3 provides conforming Technical Specification Bases changes for information only.

This letter contains no regulatory commitments. This letter has been reviewed and determined not to contain security related information.

SNC requests NRC staff review and approval of the license amendment by March 30, 2018, to support Operator training updates. Delayed approval of this license amendment could result in a delay in Operator training updates. SNC expects to implement the proposed amendment within thirty days of approval. South Carolina Electric & Gas Company (SCE&G) has stated that the

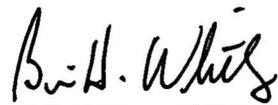
current requested approval date for the expected parallel LAR for Virgil C. Summer Nuclear Station (VCSNS) Unit 2 is July 31, 2018.

In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR by transmitting a copy of this letter and its enclosures to the designated State Official.

Should you have any questions, please contact Mr. Christopher L. Whitfield at (205) 992-5071.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 28<sup>th</sup> day of July 2017.

Respectfully submitted,



---

Brian H. Whitley  
Director, Regulatory Affairs  
Southern Nuclear Operating Company

- Enclosures
- 1) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Request for License Amendment: Technical Specification Updates for Reactivity Controls and other Miscellaneous Changes (LAR-17-024)
  - 2) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Changes to Licensing Basis Documents (LAR-17-024)
  - 3) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Conforming Technical Specification Bases Changes (For Information Only) (LAR-17-024)

cc:

Southern Nuclear Operating Company / Georgia Power Company

Mr. S. E. Kuczynski (w/o enclosures)

Mr. M. D. Rauckhorst

Mr. D. G. Bost (w/o enclosures)

Mr. M. D. Meier (w/o enclosures)

Mr. D. H. Jones (w/o enclosures)

Mr. D. L. McKinney (w/o enclosures)

Mr. T.W. Yelverton (w/o enclosures)

Mr. B. H. Whitley

Mr. J. J. Hutto

Mr. C. R. Pierce

Ms. A. G. Aughtman

Mr. D. L. Fulton

Mr. M. J. Yox

Mr. E. W. Rasmussen

Mr. T. R. Takats

Mr. W. A. Sparkman

Ms. A. C. Chamberlain

Mr. M. K. Washington

Ms. A. L. Pugh

Mr. J. D. Williams

Document Services RTYPE: VND.LI.L00

File AR.01.02.06

Nuclear Regulatory Commission

Mr. W. Jones (w/o enclosures)

Ms. J. Dixon-Herrity

Mr. C. Patel

Mr. W. C. Gleaves

Ms. R. Reyes

Ms. J. M. Heisserer

Mr. B. Davis

Mr. P. Kallan

Mr. G. Khouri

Ms. S. Temple

Ms. V. Ordaz

Mr. T. E. Chandler

Ms. P. Braxton

Mr. T. Brimfield

Mr. C. J. Even

Mr. A. Lerch

State of Georgia

Mr. R. Dunn

Oglethorpe Power Corporation

Mr. M. W. Price

Mr. K. T. Haynes

Ms. A. Whaley

Municipal Electric Authority of Georgia

Mr. J. E. Fuller

Mr. S. M. Jackson

Dalton Utilities

Mr. T. Bundros

Westinghouse Electric Company, LLC

Mr. R. Easterling (w/o enclosures)

Mr. G. Koucheravy (w/o enclosures)

Mr. C. D. Churchman (w/o enclosures)

Mr. P. A. Russ

Mr. M. L. Clyde

Mr. C. A. Castell

Ms. K. Chesko

Mr. J. Hopkins

Mr. D. Hawkins

Other

Mr. S. W. Kline, Bechtel Power Corporation

Ms. L. A. Matis, Tetra Tech NUS, Inc.

Dr. W. R. Jacobs, Jr., Ph.D., GDS Associates, Inc.

Mr. S. Roetger, Georgia Public Service Commission

Ms. S. W. Kernizan, Georgia Public Service Commission

Mr. K. C. Greene, Troutman Sanders

Mr. S. Blanton, Balch Bingham

Mr. R. Grumbir, APOG

Mr. N. R. Kellenberger, South Carolina Electric & Gas Company

Mr. D. Kersey, South Carolina Electric & Gas Company

NDDocumentinBox@duke-energy.com, Duke Energy

Mr. S. Franzone, Florida Power & Light

**Southern Nuclear Operating Company**

**ND-17-1279**

**Enclosure 1**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Request for License Amendment:  
Technical Specification Updates for Reactivity Controls  
and other Miscellaneous Changes (LAR-17-024)**

(This Enclosure consists of 39 pages, including this cover page.)

**Table of Contents**

1. SUMMARY DESCRIPTION
2. DETAILED DESCRIPTION AND TECHNICAL EVALUATION
3. TECHNICAL EVALUATION (Incorporated into Section 2)
4. REGULATORY EVALUATION
  - 4.1. Applicable Regulatory Requirements/Criteria
  - 4.2. Precedent
  - 4.3. Significant Hazards Consideration
  - 4.4. Conclusions
5. ENVIRONMENTAL CONSIDERATIONS
6. REFERENCES

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC) hereby requests an amendment to Combined License (COL) Nos. NPF-91 and NPF-92 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively.

## 1. SUMMARY DESCRIPTION

The requested amendment proposes changes to revise COL Appendix A, plant-specific Technical Specifications (TS) by modifying the TS to make them consistent with the remainder of the design, licensing basis, and the technical specifications.

The requested amendment proposes changes to the COL Appendix A, plant-specific TS as detailed in Section 2. This enclosure requests approval of the license amendment necessary to implement the COL Appendix A changes.

## 2. DETAILED DESCRIPTION AND TECHNICAL EVALUATION

Detailed descriptions of each change proposed in this request are provided in the discussion of changes (DOCs) below. Other generic acronyms not previously defined that are used in this license amendment request include:

CL	Clarification NSHC
ESF	Engineered Safety Feature
LCO	Limiting Condition for Operation
LR	Less Restrictive NSHC
MR	More Restrictive NSHC
NSHC	No Significant Hazards Consideration
SR	Surveillance Requirement

<b>DOC / Affected Pages</b>	<b>Detailed Description and Technical Justification</b>
<b>L01 /</b>	<b>Detailed Description</b>
<b>1.1-5</b>	TS 1.1 Definitions - Shutdown Margin
<b>LR</b>	<p>Change Shutdown Margin (SDM) definition c. from “In MODE 2 with <math>k_{eff} &lt; 1.0</math>, and MODES 3, 4, and 5, the worth of fully inserted Gray Rod Cluster Assemblies (GRCAs) will be included in the SDM calculation.” to “In MODE 2 with <math>k_{eff} &lt; 1.0</math>, and in MODES 3, 4, and 5, the worth of the verified fully inserted Gray Rod Cluster Assemblies (GRCAs) which have passed the acceptance criteria for GRCA bank worth measurements performed during startup physics testing may be included in the SDM calculation.”</p> <p><b>Technical Evaluation</b></p> <p>As stated in the NRC Safety Evaluation Report (SER) (ML12193A278) “Westinghouse Electric Company’s Final Topical Report Safety Evaluation For WCAP-16943, “Enhanced Gray Rod Cluster Assembly Rodlet Design,” Section 3.0, the use of tungsten GRCAs is non-safety in nature as compared to the high worth black Rod Cluster Control Assemblies (RCCAs), which are intended to provide shutdown capability for the core. In the event of a reactor trip, the GRCAs are dropped into the core along with the RCCAs, but the reactivity effect is comparatively small and is not credited in the safety analyses. Additionally, the SER concludes, in Section 3.1, that the GRCAs will not be credited in the shutdown margin calculations made prior to the startup of the core, but will be accounted for in analyses in which their use leads to more limiting results. WCAP-16943-P-A, Section 3.5, states that GRCA worth can be included in the shutdown margin (SDM) as long as they are confirmed to be inserted by position indication and have passed the acceptance criteria for GRCA bank worth measurements performed during startup physics testing.</p> <p>Additionally, the TS Bases 3.1.1 and Bases 3.1.4 discuss SDM calculations. When SDM is calculated during power operation, it is conservative to ignore the effects of GRCAs on SDM upon reactor trip. When SDM is calculated in the reactor shutdown and refueling MODES, the calculation of SDM can include the GRCAs, but is unnecessary for maintaining adequate SDM. The 1.1 SDM definition indicates that in MODE 2 with <math>k_{eff} &lt; 1.0</math> and in MODES 3, 4, and 5, the worth of the GRCAs will be included in the SDM calculation. However, in the SER for WCAP-16943-P-A, the TS Bases B 3.1.1, B 3.1.4, B 3.1.5 and Surveillance Requirement (SR) 3.1.4.3 where SDM is discussed, using the worth of the GRCAs is optional for ensuring adequate SDM exists.</p>

The 1.1 Definitions - Shutdown Margin change is proposed for consistency with the WCAP-16943-P-A SER and other SDM TS Bases discussions.

**L02 /**  
**3.1.4-1-4**  
**LR**

**Detailed Description**

TS 3.1.4 Rod Group Alignment Limits

L02A. Change Limiting Condition of Operation (LCO) from “All shutdown and control rods shall be OPERABLE.” to “Each rod cluster control assembly (RCCA) shall be OPERABLE.”

L02B. Change LCO AND statement from “Individual indicated rod positions shall be within 12 steps of their group step counter demand position.” to “Individual indicated rod positions of each RCCA and Gray Rod Cluster Assembly shall be within 12 steps of their group step counter demand position.”

L02C. Delete LCO 3.1.4 note.

L02D. Change Action Condition A from “One or more rod(s) inoperable.” to where it now applies to “One or more RCCA(s) inoperable.”

L02E. Acronym defined in change to Required Action B.1 Completion Time from “1 hour with the OPDMS not monitoring parameters” to “1 hour with the On-Line Power Distribution Monitoring System not monitoring parameters.”

L02F. Add Required Action B.2.3.1 where the Required Action will be to “Perform SR 3.2.5.1” with a Completion Time of “Once per 12 hours,” OR perform B.2.3, which is renumbered as B.2.3.2.1.

L02G. Delete Required Action B.2.4 Note, and renumber the Required Action to B.2.3.2.2.

L02H. Delete Required Action B.2.5 Note, and renumber the Required Action to B.2.3.2.3.

L02I. Renumber Required Action B.2.6 to B.2.4.

L02J. Change SR 3.1.4.2 Note from “Not applicable to GRCAs” to “Not applicable to Axial Offset (AO) Control Bank RCCAs.”

L02K. Change SR 3.1.4.2 from “Verify rod freedom of movement (trippability) by moving each rod not fully inserted in the core  $\geq 10$  steps in either direction.” to “Verify rod freedom of movement (trippability) by moving each RCCA not fully inserted in the core  $\geq 10$  steps in either direction.”

L02L. Delete the Note to SR 3.1.4.3

L02M. Change SR 3.1.4.3 from “Verify rod drop time of each rod...” to “Verify rod drop time of each RCCA...”.

## Technical Evaluation

### L02A, L02B, L02D, L02J, L02K, L02L and L02M

LCO 3.1.4 Rod Group Alignment Limits is revised to reflect the AP1000 design and analysis basis. LCO 3.1.4 requires that all control rods, both gray rod cluster assemblies (GRCA) and rod cluster control assemblies (RCCAs) be operable and within 12 steps of their group step counter demand position. The operability (e.g., trippability) of the RCCAs is an initial assumption in all safety analyses which assume rod insertion upon reactor trip. Maximum rod misalignment is an initial assumption in the safety analyses that directly affects core power distributions and assumption of available SDM. Specifically, the design basis only requires that RCCAs be operable (all rods must still be in alignment) since the GRCA are not credited in the shutdown margin assessments in MODES 1 and 2 with  $k_{eff} \geq 1$ . The calculation of the SDM, during critical operation (MODE 2,  $k_{eff} \geq 1$ , and MODE 1), does not include the trip reactivity worth of the GRCA. Therefore, the design basis function of the GRCA, when the reactor is critical does not include a provision of trip reactivity. Since the GRCA do not have a function to maintain the reactor sub-critical unless they are fully inserted, and the reactor is shutdown, Operability does not apply to GRCA like it does to RCCAs.

The LCO is proposed to be changed so that operability should only be required for the RCCAs with the accompanying change in the Action A Condition Statement where one or more RCCAs are inoperable. The associated Surveillance Requirements (SRs) 3.1.4.2 and 3.1.4.3 currently reflect the condition where one or more RCCAs are inoperable. Appropriate actions for GRCA misalignment are the same for RCCAs. Changes to the LCO make it clear that the operability requirements apply to RCCAs only. The proposed change to the LCO would only require operability of the RCCAs, and the Action A. proposed change accurately reflects the condition where one or more required RCCAs are inoperable.

The proposed change from “rod” to “RCCA” in SR 3.1.4.2, the proposed change to the first SR 3.1.4.2 Note to delete GRCA, the proposed deletion of SR 3.1.4.3 Note, and the proposed change to SR 3.1.4.3 “RCCA” instead of “rod” are consistent with the proposed LCO modification. The Note modification to SR 3.1.4.2 exception for the control rods of the AO control bank RCCAs is proposed to prevent perturbing the power distribution. Moving the AO control bank will significantly and inappropriately perturb the power distribution. Although moving the rods individually is an option that would perturb power distribution less over the 92 day frequency, several steps of motion of the AO control bank RCCAs are expected during normal operations. As a result, any malfunction of an AO control bank RCCA causing loss of mobility would be self-revealing to the operator.

#### L02C and L02E

The LCO 3.1.4 Note exception applicability during GRCA bank sequence exchange was added when it was thought that the GRCA bank sequence exchange would be accomplished by moving pairs of GRCA rods from the two banks exchanging positions; thus, purposely misaligning rods from their group during normal operation. The final mechanical shim (MSHIM) design has the sequence exchange occurring by moving the gray rods in groups, thus maintaining alignment. Therefore, the exception described in the note is no longer needed and the note can be removed.

An editorial change is proposed to Required Action B.1 Completion Time to define OPDMS as the “On-Line Power Distribution Monitoring System” monitoring parameters.

#### L02F, L02G, L02H and L02I

The current LCO 3.1.4 requires the Operator to check shutdown margin (LCO 3.1.4 Action B.2.3) and perform SR 3.2.1.1 & 3.2.1.2 (LCO 3.1.4 Action B.2.4), and 3.2.2.1 (LCO 3.1.4 Action B.2.5) for a single misaligned rod. When the OPDMS system is functional, it is performing these same actions at all times. Therefore, checking OPDMS was added as an alternative to performing the (more complicated) individual checks. Since OPDMS provides continuous monitoring of these parameters following update with the misaligned rod position data, and also monitors shutdown margin, the new action B.2.3.1 for performing SR 3.2.5.1 once per 12 hours is an alternative to existing Action B.2.3, in addition to B.2.4 and B.2.5. The proposed addition of B.2.3.1 to perform SR 3.2.5.1 verifying LCO 3.2.5 parameters renders the B.2.4 and B.2.5 Notes unnecessary. Therefore, it is proposed to delete Notes B.2.4 and B.2.5.

**L03 /**  
**3.1.6-1**  
**LR**

**Detailed Description**

TS 3.1.6 Control Bank Insertion Limits

Change LCO 3.1.6, Note 2 from “This LCO is not applicable to Gray Rod Cluster Assembly (GRCA) banks during GRCA bank sequence exchange with On-Line Power Distribution Monitoring System monitoring parameters.” to “This LCO is not applicable to Gray Rod Cluster Assembly (GRCA) banks for up to one hour during GRCA bank sequence exchange.”

**Technical Evaluation**

LCO 3.1.6 requires each control bank to be within insertion limits specified in the Core Operating Limits Report (COLR). The LCO is applicable during MODES 1 and 2; however, Note 1 clarifies that the LCO is not applicable while performing SR 3.1.4.2, and Note 2 clarifies that the LCO is not applicable to the GRCA banks during GRCA bank sequence exchange with OPDMS monitoring parameters.

Note 2 was written when GRCA bank sequence exchange would be accomplished by moving two individual clusters of banks until they were located at their new positions, and repeating this action until all eight GRCA banks had been moved. This action would require OPDMS monitoring and several hours for completion of this activity. The final mechanical shim (MSHIM) design established that the GRCA bank sequence exchange will best be accomplished by moving both banks at the same time. The entire exchange sequence will only take a few minutes from the time banks begin moving. During this short duration, OPDMS is not suited for real time monitoring relative to the time constant for the vanadium fixed incore detector system. The exchange transient may be completed before the OPDMS detects a significant change in the core radial power distribution. In addition, it is unlikely there would be significant time to take corrective action in response to an OPDMS alarm if one occurred during the exchange. If the Note 2 is left as is, this would require OPDMS be functional to perform the exchange without entry into Condition B. If OPDMS is functional, the time that the limits could be exceeded would not be limited. It is proposed to change the Note 2 to not require OPDMS during GRCA bank sequence exchange, and limit the LCO Applicability exception to one hour after the insertion or sequence or overlap limits are violated due to the short duration of the sequence exchange.

**L04 /  
3.1.7-2**

**Detailed Description**

TS 3.1.7 Rod Position Indication

**LR**

Delete Required Action B.2 and renumber the remaining Condition B Required Actions.

**Technical Evaluation**

LCO 3.1.7 requires that the Digital Rod Position Indication (DRPI) system and the Bank Demand Position Indication System be operable. Condition B is entered when more than one DRPI per group is inoperable and Required Action B.2 requires monitoring and recording reactor coolant system (RCS)  $T_{avg}$ .

Required Action B.1 applies when more than one DRPI per group is inoperable in one or more groups, and requires placing the control rods in manual control immediately, and existing Required Action B.4 (renumbered as B.3) requires restoring the inoperable position indicators to operable status such that a maximum of one DRPI per group is inoperable within 24 hours. According to NRC conclusions reached in the "Final Safety Evaluation of Technical Specifications Task Force Traveler TSTF-547, Revision 1, "Clarification of Rod Position Requirements," Section 3.5, page 13, (ML15328A350) dated March 4, 2016, the Required Action B.2 provides no safety benefit for identifying trends in reactor coolant  $T_{avg}$  and is acceptable to be deleted because the LCO continues to specify the minimum performance level of equipment needed for safe operation of the facility. Monitoring  $T_{avg}$  provides no power distribution information for unmonitored rods that isn't already provided by complying with the existing requirements of Condition A, and average coolant temperature provides no indication of changes in shutdown margin. As a result, the Required Action B.2 is proposed to be deleted.

**L05 /  
3.3.1-6**

**Detailed Description**

Table 3.3.1-1 Reactor Trip System Instrumentation

**MR**

Change surveillance requirements for Function 4 Overpower  $\Delta T$  by adding two new Surveillance Requirements SR 3.3.1.4 and SR 3.3.1.5.

**Technical Evaluation**

Currently, Table 3.3.1-1 Function 4 does not require surveillance requirements SR 3.3.1.4 and SR 3.3.1.5. SR 3.3.1.4 compares the results of the incore detector instruments to the power range channel axial flux difference, while SR 3.3.1.5 requires calibrating the power range channels to agree with the incore detector measurements. Overtemperature / Overpower Reactor Trips Divisions A, B, C and D include the  $\Delta I$  (differential

current from the power range upper and lower detector for that division of flux difference) as an input to both the Overpower  $\Delta T$  reactor trip function and the Overtemperature  $\Delta T$  reactor trip function. In addition, UFSAR Subsections 4.3.2.2.4, 4.4.6.1, 4.4.6.2, 7.2.1.1.3, and 7.2.1.2.3 discuss axial flux difference and/or Overpower  $\Delta T$  calculation. This proposed change provides consistency with the aforementioned UFSAR subsections, and with the Overtemperature  $\Delta T$  reactor trip function that receives an input from  $\Delta I$ . Credit is taken for the results of the incore detector instruments to power range channel axial flux difference and the calibration of the power range channels to the incore detector measurements in accordance with SR 3.3.1.4 and SR 3.3.1.5 as an input from the  $\Delta I$ . Additionally, the associated Bases for the Overpower  $\Delta T$  reactor trip, which includes a description of the axial power distribution input, also credit the results of SR 3.3.1.4 and SR 3.3.1.5. Accordingly, it is proposed to add SR 3.3.1.4 and SR 3.3.1.5 to Table 3.3.1-1, Function 4.

**L06**

**Detailed Description**

**3.3.1-7**

Table 3.3.1-1 Reactor Trip System Instrumentation

**LR**

Change Function 12 Passive Residual Heat Removal Actuation by deleting Surveillance Requirement SR 3.3.1.9.

**Technical Evaluation**

Table 3.3.1-1, Function 12, for the passive residual heat removal (PRHR) reactor trip system actuation requires SR 3.3.1.9 Channel Calibration. Channel Calibration is an adjustment, when necessary, of the channel so that it responds to known values of the parameter that the channel monitors. PRHR reactor trip actuation initiates a reactor trip in the event either of the parallel PRHR discharge valves (PXS-PL-V108A/B) is not fully closed. The proper adjustment of the valve position indication contact inputs to the breaker position are verified by SR 3.3.1.10 Trip Actuating Device Operational Test (TADOT). Surveillance Requirement SR 3.3.1.9 is not applicable to the PRHR reactor trip actuation function in as much as the PRHR channel inputs are contact inputs from the valve position switches and not from analog channels. The adjustment of the valve position switches and function of the valve position indication contact inputs to the breaker position list are verified by SR 3.3.1.10, TADOT. Therefore, SR 3.3.1.9 is not needed as input to the PRHR reactor trip system actuation. Accordingly, it is proposed to delete SR 3.3.1.9 for PRHR reactor trip actuation.

**L07 Detailed Description**

**3.3.5-3**

**LR**

1. Change the Table 3.3.5-1 Function 1, Manual Reactor Trip Required Channels from “2” to “2 switches.”
2. Change the Table 3.3.5-1, Function 2, Safeguards Actuation Input from Engineered Safety Feature Actuation System – Manual Required Channels from “2” to “2 switches.”
3. Change the Table 3.3.5-1, Function 4, Core Makeup Tank Actuation Input from Engineered Safety Feature Actuation System – Manual Required Channels from to “2 switch sets” to “2 switches.”

**Technical Evaluation**

A manual actuation “switch set” refers to a pair of redundant switches on the Primary Dedicated Safety Panel (PDSP), and for some protective functions, one switch on the Secondary Dedicated Safety Panel (SDSP). The second set of redundant switches is located on the SDSP for the actuation of all safety functions that cause the operation of components with onerous consequences. In order to initiate the protective function of switch sets that have both a PDSP switch and associated SDSP switch, they must be actuated simultaneously. For Reactor Trip and Engineered Safety Features Actuation System (ESFAS) functions with manual actuation switches located only on the PDSP, the term “switch set” does not apply.

Table 3.3.5-1, Functions 1 and 2 states 2 channels, and Function 4, states “2 switch sets” for the manual actuation reactor trip function under the Required Channels column. The Protection and Safety Monitoring System (PMS) design of the manual actuation reactor trip provides two redundant switches on the PDSP, with no corresponding switches on the SDSP. For this configuration, the term “switches” for Functions 1, 2 and 4, manual reactor trip is applicable for this proposed change. There is no change in manual actuation reactor trip functions with these changes, or any change in PMS function. The proposed changes to the Reactor Trip and ESFAS manual actuation is being made for consistency with the design.

**L08 /  
3.3.17-3**

**Detailed Description**

Table 3.3.17-1 Post-Accident Monitoring Instrumentation

**MR**

1. Delete "Monitor" from Function 5 "RCS Subcooling Monitor."
2. Add new Function 20. Pressurizer Pressure, Required Channels, 2, and Condition Referenced From Required Action D.1, E.

**Technical Evaluation**

The editorial deletion of "Monitor" from the Function 5 "RCS Subcooling" is being made for consistency with the other monitors and sensors listed in Table 3.3.17-1, Post-Accident Monitoring Instrumentation.

The instrument channels required to be operable by LCO 3.3.17, Post-Accident Monitoring Instrumentation, include two classes of parameters: Regulatory Guide (RG) 1.97 Type A variables and Category 1 variables. Pressurizer pressure is used to provide operators with information to accomplish or maintain the safety-related function of the reactor coolant system inventory control. The new Function 20 Pressurizer Pressure with two Required Channels operable and Condition E from Required Action D.1 is added to post-accident monitoring to reflect that it is a RG 1.97 Category 1 variable (B1), and should be included to provide operators with information to assess the process for accomplishing or maintaining the safety-related function of RCS inventory control.

**L09 /  
3.3.19-3**

**Detailed Description**

TS 3.3.19 Diverse Actuation System Manual Controls

**CL**

Change Note (c) for Table 3.3.19-1 Diverse Actuation System Manual Controls from "With reactor internals in place" to "With upper internals in place."

**Technical Evaluation**

According to LCO 3.4.13 Applicability, the ADS Stage 4 valves are not required to be operable with the upper internals removed. However, the reactor internals would still be present. The Table 3.3.19-1 Diverse Actuation System (DAS) Automatic Depressurization System (ADS) Stage 4 Valve DAS control operability require the reactor internals be in place, not the upper internals. Per TS 3.3.9, Function 7, MODE 6, and TS 3.4.13, MODE 6 applicability, the ADS Stage 4 valves are not required to be operable once the upper internals are removed (reactor internals still present).

Therefore, it is proposed to clarify Note (c) from reactor internals in place to “With upper internals in place” to be consistent with TS 3.3.9 and TS 3.4.13.

**L10 /**  
**3.5.4-3**  
**CL**

### **Detailed Description**

TS 3.5.4 Passive Residual Heat Removal Heat Exchanger PRHR HX – Operating

Change Surveillance Requirements SR 3.5.4.6 from “Verify both PRHR HX air operated outlet isolation valves and both IRWST gutter isolation valves stroke open.” to “Verify both PRHR HX air operated outlet isolation valves stroke open and both IRWST gutter isolation valves stroke closed.”

### **Technical Evaluation**

The In-Containment Refueling Water Storage Tank (IRWST) Gutter Isolation Valves (V130A/B) are normally open, fail-closed air-operated ball valves in the drain line from the IRWST gutter to the Liquid Radwaste System (WLS) sump. The valves automatically close on a Passive Residual Heat Removal (PRHR) Heat Exchanger (HX) actuation signal from the Protection and Safety Monitoring System (PMS) to support long-term PRHR HX heat removal. Closure of the valves is an active safety-related function which ensures sufficient IRWST inventory to support long-term PRHR HX heat removal.

Technical Specification SR 3.5.4.6 states: “Verify both PRHR HX air-operated outlet isolation valves and both IRWST gutter isolation valves stroke open.” However, the IRWST gutter isolation valves safety-related design function is to stroke closed. SR 3.5.4.6 is proposed to be revised to state that “both PRHR HX air-operated outlet isolation valves stroke open and both IRWST gutter isolation valves stroke closed.” This change is proposed for consistency between the UFSAR, the site-specific TS, and Tier 1 Table 2.2.3-1 that state that the IRWST Gutter Isolation Valves have an active function of “transfer closed.” Closing the valves is an active safety-related design function. This supports the closure of the IRWST gutter isolation valves, which in turn supports the safety-related function of ensuring IRWST inventory and supporting long-term PRHR HX heat removal.

**L11 /  
3.8.3-1  
LR**

**Detailed Description**

TS 3.8.3 Inverters – Operating

1. Change Action Condition A. from “One inverter inoperable” to “One or two inverter(s) within one division inoperable.”
2. Change Required Action A.1 from “Restore inverter to OPERABLE status.” to “Restore inverter(s) to OPERABLE status.”

**Technical Evaluation**

Power inverters are components belonging to the safety-related Class 1E DC and Uninterruptible Power Supply (UPS) System (IDS). The IDS serves the safety-related function of providing power for the safety-related equipment required for plant instrumentation, control, monitoring, and other vital functions for plant shutdown during total loss of offsite power and total loss of onsite AC power sources. The electrical inverters serve the purpose of converting direct current from the DC battery sources to alternating current that can be used to support IDS functions. The IDS is designed with four independent Class 1E 250 VDC divisions (A, B, C, and D) instrument and control power buses. Each division has one 24-hour battery bank. In addition, divisions B and C consist of two inverters, two instrument and control distribution panels, and a voltage regulating transformer with a distribution panel. One inverter is powered by the 24-hour battery bank switchboard, and the other by the 72-hour battery bank.

TS 3.8.3 does not explicitly discuss Actions for divisions B or C, which could involve two inoperable inverters. Two inverters in one division inoperable would require entry into LCO 3.0.3. In contrast, LCO 3.8.5, Distribution Systems - Operating, provides Action A for an entire instrument and control division being inoperable (i.e., de-energized) for up to 6 hours. As such, the Actions for the support system (i.e., both inverters in one division) being inoperable should not be more restrictive than the actions for the supported system (i.e., the distribution division). Therefore, the proposed changes to TS 3.8.3, Action A, allow one or both inverters in any one division to be inoperable for the 24 hour Completion Time. It is noted that in the event that during the inverter(s) inoperability, if the distribution bus is de-energized (e.g., backup power via the static inverter is not provided), then the more restrictive Actions of TS 3.8.5 apply.

**3. TECHNICAL EVALUATION (Incorporated into Section 2)**

#### **4. REGULATORY EVALUATION**

##### **4.1 Applicable Regulatory Requirements/Criteria**

10 CFR 52.98(c) requires NRC approval for any modification to, addition to, or deletion from the terms and conditions of a Combined License (COL). This activity involves a change to COL Appendix A, Technical Specifications (TS); therefore, this activity requires NRC approval prior to making the plant-specific changes in this license amendment request.

10 CFR 52, Appendix D, VIII.C.6 states that after issuance of a license, "Changes to the plant specific TS (Technical Specifications) will be treated as license amendments under 10 CFR 50.90." 10 CFR 50.90 addresses the applications for amendments of licenses, construction permits, and early site permits. As discussed above, a change to COL Appendix A is requested, and thus a license amendment request (LAR) (as supplied herein) is required.

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TS as part of the license. The TSs ensure the operational capability of structures, systems, and components that are required to protect the health and safety of the public. The U.S. Nuclear Regulatory Commission's (NRC's) requirements related to the content of the TSs are contained in Section 50.36 of Title 10 of the *Code of Federal Regulations* (10 CFR 50.36) which requires that the TSs include items in the following specific categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements per 10 CFR 50.36(c)(3); (4) design features; and (5) administrative controls.

##### **4.2 Precedent**

No precedent is identified.

##### **4.3 Significant Hazards Consideration**

The requested amendment proposes changes to revise COL Appendix A, plant-specific Technical Specifications (TS) by modifying the TS to make them consistent with the remainder of the design, licensing basis, and the technical specifications.

An evaluation to determine whether or not a significant hazards consideration is involved with the proposed amendment was completed by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below. However, to provide for ease of review, similar changes have been grouped into categories to facilitate the significant hazards evaluations required by 10 CFR 50.92. Generic

significant hazards evaluations are provided for the More Restrictive Changes and a specific significant hazards evaluation for each Clarification or Less Restrictive change. In regards to obvious editorial or administrative changes (e.g., formatting, page rolls, punctuation, etc.), an explicit discussion was not always provided, but is considered to be addressed by the applicable generic significant hazards evaluation.

## **EVALUATION FOR MORE RESTRICTIVE CHANGES**

This generic category include changes that impose additional requirements, decrease allowed outage times, increase the Frequency of Surveillances, impose additional Surveillances, increase the scope of Specifications to include additional plant equipment, broaden the Applicability of Specifications, or provide additional actions. These changes have been evaluated to not be detrimental to plant safety.

More restrictive changes are proposed only when such changes are consistent with the current Vogtle Electric Generating Plant, Units 3 and 4 (VEGP) licensing basis; the applicable VEGP safety analyses; and good engineering practice such that the availability and reliability of the affected equipment is not reduced.

Changes to the Technical Specifications (TS) requirements categorized as More Restrictive are annotated with an "MR" in Section 2 Discussion of Change (DOC). This affects TS changes L05 and L08.

Southern Nuclear Operating Company (SNC) proposes to amend the VEGP TS. SNC has evaluated each of the proposed TS changes identified as More Restrictive in accordance with the criteria set forth in 10 CFR 50.92, "Issuance of amendment," and has determined that the proposed changes do not involve a significant hazards consideration. This significant hazards consideration is applicable to each More Restrictive change identified in Section 2.

The basis for the determination that the proposed changes do not involve a significant hazards consideration is an evaluation of these changes against each of the criteria in 10 CFR 50.92(c). The criteria and conclusions of the evaluation are presented below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes provide more stringent TS requirements. These more stringent requirements impose greater operational control and conservatism, and as a result, do not result in operations that significantly increase the probability of initiating an analyzed event, and do not alter assumptions relative to mitigation of an accident or transient event. The more restrictive

requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes do not involve a physical alteration of the plant (no new or different type of equipment will be installed) or changes in methods governing normal plant operation. The proposed changes do impose different Technical Specification requirements. However, these changes are consistent with the assumptions in the safety analyses and licensing basis. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The imposition of more restrictive requirements either has no effect on or increases a margin of plant safety. As provided in the discussion of change, each change in this category is, by definition, providing additional restrictions to enhance plant safety. The changes maintain requirements within the safety analyses and licensing basis. Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

## **EVALUATION FOR CLARIFICATION CHANGES**

This category consists of technical changes which revise existing requirements such that the design and operation of a system correctly reflects how the LCO is applied and how the Action or Surveillance Requirement (SR) is carried out. This adds detail and clarity to the Technical Specifications (TS) in operating the applicable portions of the as designed and licensed plant.

Technical changes to the TS requirements categorized as "Clarification" are identified with an "CL" and an individual number in Section 2 Discussion of Change (DOC).

Southern Nuclear Operating Company (SNC) proposes to amend the Vogtle Electric Generating Plant, Units 3 and 4 (VEGP), Technical Specifications. SNC has evaluated each of the proposed technical changes identified as "Clarification" individually in accordance with the criteria set forth in 10 CFR 50.92 and has determined that the proposed changes do not involve a significant hazards consideration.

The basis for the determination that the proposed changes do not involve a significant hazards consideration is an evaluation of these changes against each of the criteria in 10 CFR 50.92(c). The criteria and conclusions of the evaluation are presented below.

**L09** SNC proposes to amend TS 3.3.19 Diverse Actuation System Manual Controls, Note (c) in Table 3.3.19-1 to "With upper internals in place."

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant or a change in the methods governing normal plant operations. The change applies to a Diverse Actuation System (DAS) Manual Controls Mode 6 note for operability of the Automatic Depressurization System (ADS) Stage 4 valves that involves revising the note from reactor internals in place to upper internals in place. In accordance with Limiting Condition for Operation (LCO) 3.4.13 ADS – Shutdown, Reactor Coolant System (RCS) Open Applicability and TS 3.3.9, Engineered Safeguards Actuation System Instrumentation, Function 7, the ADS Stage 4 valves are not required to be operable in MODE 6 with the upper internals removed. However, the reactor internals would still be present. The change involves clarification of the note (with no change in required system or device function), such that the appropriate configuration in Mode 6 would be in place and would not conflict with TS 3.4.13 or TS 3.3.9. The revised note is not an initiator to any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected.

The consequences of an accident as a result of the revised note and associated requirements and actions are no different than the consequences of the same accident during the existing ones. As a result, the consequences of an accident previously evaluated are not affected by this change.

The proposed change does not alter or prevent the ability of structures, systems, and components from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change clarifies TS requirements for the DAS manual control ADS Stage 4 valves such that they would be in agreement with the requirements set forth for the ADS in RCS Shutdown Mode 6. However, the proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change will not reduce a margin of safety because it has no effect on any assumption of the safety analyses. While the condition for the manual control of ADS Stage 4 actuation switches in Mode 6 has changed, no action is made less restrictive than currently approved for any associated actuated device inoperability. As such, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

- L10** SNC proposes to amend current TS 3.5.4, "Passive Residual Heat Removal Heat Exchanger PRHR HX – Operating," Surveillance Requirement (SR) 3.5.4.6 to: Verify both PRHR HX air operated outlet valves stroke open and both IRWST gutter isolation valves stroke closed.

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant or a change in the methods governing normal plant operations. The change involves correcting an existing surveillance requirement (with no change in required system or device function), such that the surveillance requirement complies with the In-Containment Refueling Water Storage Tank (IRWST) Gutter Isolation valve design and the Passive Residual Heat Removal (PRHR) Heat Exchanger (HX) outlet isolation valve design. Revised surveillance requirement presentation and compliance with TS actions are not an initiator to any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected.

The consequences of an accident as a result of the revised surveillance requirement are no different than the consequences of the same accident during the existing one. As a result, the consequences of an accident previously evaluated are not affected by this change.

The proposed change does not alter or prevent the ability of structures, systems, and components from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change clarifies the surveillance requirement such that it agrees with the IRWST and PRHR HX isolation valve design. However, the proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment

be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change will not reduce a margin of safety because it has no effect on any assumption of the safety analyses. While the surveillance requirement has changed for the IRWST and PRHR HX isolation valves, no action is made less restrictive than currently approved for any associated actuated device inoperability. As such, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justification.

## **10 CFR 50.92 EVALUATIONS FOR LESS RESTRICTIVE CHANGES**

This category consists of technical changes which revise existing requirements such that more restoration time is provided, fewer compensatory measures are needed, unnecessary Surveillance Requirements (SR) are deleted, or less restrictive surveillance requirements are required. This would also include unnecessary requirements which are deleted from the Technical Specifications (TS) and other technical changes that do not fit a generic category. These changes are evaluated individually.

Technical changes to the TS requirements categorized as "Less Restrictive" are identified with an "LR" and an individual number in Section 2 Discussion of Change (DOC).

Southern Nuclear Operating Company (SNC) proposes to amend the Vogtle Electric Generating Plant, Units 3 and 4 (VEGP), Technical Specifications. SNC has evaluated each of the proposed technical changes identified as "Less Restrictive" individually in accordance with the criteria set forth in 10 CFR 50.92 and has determined that the proposed changes do not involve a significant hazards consideration.

The basis for the determination that the proposed changes do not involve a significant hazards consideration is an evaluation of these changes against each of the criteria in 10 CFR 50.92(c). The criteria and conclusions of the evaluation are presented below.

**L01** SNC proposes to amend TS 1.1 Definitions - Shutdown Margin by:

Changing Shutdown Margin (SDM) definition c. "In MODE 2 with  $k_{eff} < 1.0$  and MODES 3, 4, and 5, the worth of fully inserted Gray Rod Cluster Assemblies (GRCAs) will be included in the SDM calculation." to "In MODE 2 with  $k_{eff} < 1.0$  and in MODES 3, 4, and 5, the worth of the verified fully inserted Gray Rod Cluster Assemblies (GRCAs) which have passed the acceptance criteria for GRCA bank worth measurements performed during startup physics testing may be included in the SDM calculation."

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant or a change in the methods governing normal plant operations. The change proposed involves re-defining whether the worth of the Gray Rod Cluster Assemblies (GRCAs) should be included in MODE 2 with  $k_{eff} < 1.0$  and Modes 3, 4, and 5 when calculating the appropriate Shutdown Margin (SDM). The worth of the GRCAs for MODE 2 with  $k_{eff} < 1.0$  and Modes 3, 4, and 5 is not credited in the safety analyses as stated in the NRC Safety Evaluation Report (SER) "Westinghouse Electric Company's Final Topical Report Safety Evaluation For WCAP-16943, "Enhanced Gray Rod Cluster Assembly Rodlet Design," Section 3.0 for ensuring adequate SDM exists.

The change involves revising the existing SDM definition (with no change in required system or device function), such that a more appropriate, albeit less restrictive, definition would be applied when calculating SDM. The revised SDM definition is not an initiator of any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected.

The consequences of an accident as a result of the revised definition requirements are no different than the consequences of the same accident during the existing one. As a result, the consequences of an accident previously evaluated are not affected by this change.

The proposed change does not alter or prevent the ability of structures, systems, and components from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change.

This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change removes the requirement to include the worth of the GRCAs when calculating the SDM because they are not credited for SDM in MODE 2 with  $k_{eff} < 1.0$  and in MODES 3, 4, and 5. The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change will not reduce a margin of safety because it has no effect on any assumption of the safety analyses. While the SDM calculation defined is made less restrictive by eliminating the worth of the GRCAs in MODE 2 with  $k_{eff} < 1.0$  and in MODES 3, 4, and 5, no credit is taken in the safety analyses for including their worth as discussed in the NRC Safety Evaluation Report (SER) "Westinghouse Electric Company's Final Topical Report Safety Evaluation For WCAP-16943, "Enhanced Gray Rod Cluster Assembly Rodlet Design," Section 3.0. As such, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

**L02** SNC proposes to amend TS 3.1.4 Rod Group Alignment Limits by:

L02A. Change Limiting Condition of Operation (LCO) from "All shutdown and control rods shall be OPERABLE." to "Each rod cluster control assembly (RCCA) shall be OPERABLE."

L02B. Change LCO AND statement from "Individual indicated rod positions shall be within 12 steps of their group step counter demand position." to "Individual indicated rod positions of each RCCA and Gray Rod Cluster Assembly shall be within their 12 steps of their group step counter demand position."

L02C. Delete LCO 3.1.4 note.

L02D. Change Action Condition A from "one or more rod(s) inoperable." to where it now applies to "One or more RCCA(s) inoperable."

L02E. Acronym defined in change to Required Action B.1 Completion Time from "1 hour with the OPDMS not monitoring parameters" to "1 hour with the On-Line Power Distribution Monitoring System not monitoring parameters."

L02F. Add Required Action B.2.3.1 where the Required Action will be to "Perform SR 3.2.5.1" with a Completion Time of "Once per 12 hours," OR perform B.2.3, which is renumbered as B.2.3.2.1.

L02G. Delete Required Action B.2.4 Note, and renumber the Required Action to B.2.3.2.2.

L02H. Delete Required Action B.2.5 Note, and renumber the Required Action to B.2.3.2.3.

L02I. Renumber Required Action B.2.6 to B.2.4.

L02J. Change SR 3.1.4.2 Note from "Not applicable to GRCAs" to "Not applicable to Axial Offset (AO) Control Bank RCCAs."

L02K. Change SR 3.1.4.2 from "Verify rod freedom of movement (trippability) by moving each rod not fully inserted in the core  $\geq 10$  steps in either direction." to "Verify rod freedom of movement (trippability) by moving each RCCA not fully inserted in the core  $\geq 10$  steps in either direction."

L02L. Delete the Note to SR 3.1.4.3

L02M. Change SR 3.1.4.3 from "Verify rod drop time of each rod..." to "Verify rod drop time of each RCCA..."

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant or a change in the methods governing normal plant operations. The proposed changes involve revising the existing LCO 3.1.4 operability to be applicable to RCCAs with accompanying changes in actions and surveillance requirements (with no change in required system or device function), such that more appropriate, albeit less restrictive, actions would be applied. The proposed changes involve excluding the Gray Rod Cluster Assemblies (GRCAs) in the LCO 3.1.4 Rod Group Alignments LCO since their trip reactivity worth is not credited in the shutdown margin assessments in MODES 1 and 2, nor required by the design basis to be operable. Only the rod cluster control assemblies (RCCAs) are required to be operable. The maximum rod misalignment is an initial assumption in the safety analyses that directly affects core power distributions and assumption of available shutdown margin (SDM). Since the GRCAs do not have a function to maintain the reactor sub-critical unless they are fully inserted, and the reactor is shut down, operability does not apply to

GRCAs like it does for RCCAs in MODES 1 and 2. The design basis function of the GRCAs when the reactor is critical does not include a provision of trip reactivity.

The revised LCO, associated actions and surveillance requirements are not an initiator to any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected.

The consequences of an accident as a result of the revised LCO requirements, associated actions, and surveillance requirements are no different than the consequences of the same accident during the existing ones. As a result, the consequences of an accident previously evaluated are not affected by this change.

The proposed change does not alter or prevent the ability of structures, systems, and components from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change.

This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change involves revising the existing LCO 3.1.4 operability to be applicable to RCCAs with accompanying changes in actions and surveillance requirements (with no change in required system or device function), such that more appropriate, albeit less restrictive, actions would be applied. The proposed change does not

involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change will not reduce a margin of safety because it has no effect on any assumption of the safety analyses. While the LCO 3.1.4 for Rod Group Alignment Limits is made less restrictive by eliminating the worth of the GRCA in MODES 1 and 2 with  $k_{\text{eff}} \geq 1$ , no credit is taken in the current design basis for including their trip reactivity worth. As such, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

- L03** SNC proposes to amend TS 3.1.6 Control Bank Insertion Limits by changing Note 2. from "This LCO is not applicable to Gray Rod Cluster Assembly (GRCA) banks during GRCA bank sequence exchange with On-Line Power Distribution Monitoring System monitoring parameters" to "This LCO is not applicable to Gray Rod Cluster Assembly (GRCA) banks for up to one hour during GRCA bank sequence exchange."

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant or a change in the methods governing normal plant operations. The proposed change to TS 3.1.6 Control Bank Insertion Limits Note 2. is to not require On Line Power Distribution System (OPDMS) during GRCA bank sequence exchange and limit the LCO applicability exception for one hour after the insertion or sequence or overlap limits are violated due to the short duration of the sequence exchange. The final mechanical shim (MSHIM) design established that the GRCA bank sequence exchange will best be accomplished by moving both banks at the same time. The entire exchange sequence will only take a few minutes from the time banks begin moving. During this short duration, OPDMS is not suited for real time monitoring relative to the time constant for the vanadium fixed incore detector system. The exchange transient may be completed before the OPDMS detects a significant change in the core radial power distribution. In addition, it is unlikely there would be significant time to take corrective action in response to an OPDMS alarm if one occurred during the exchange.

The revised LCO note exception is not an initiator of any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected.

The consequences of an accident as a result of the revised LCO note exception is no different than the consequences of the same accident during the existing one. As a result, the consequences of an accident previously evaluated are not affected by this change.

The proposed change does not alter or prevent the ability of structures, systems, and components from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change.

This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced.

The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change will not reduce a margin of safety because it has no effect on any assumption of the safety analyses. While the proposed change to TS 3.1.6, Note 2 would not require OPDMS be functional during GRCA bank sequence exchange for up to one hour, OPDMS operability is still required by TS 3.2.5 On-Line Power Distribution Monitoring System (OPDMS) – Monitored Parameters. As such, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of “no significant hazards consideration” is justified.

- L04** SNC proposes to amend TS 3.1.7 Rod Position Indication by deleting Required Action B.2 and renumbering the remaining Condition B Required Actions.

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant or a change in the methods governing normal plant operations. The proposed change is to remove Required Action B.2 for monitoring and recording Reactor Coolant System (RCS)  $T_{avg}$  (with no change in required system or device function), such that more appropriate, albeit less restrictive, actions would be applied. There are no safety benefits, no acceptance criteria or no actions associated with any trends for recording  $T_{avg}$ . Monitoring  $T_{avg}$  provides no power distribution information for unmonitored rods that isn't already provided by complying with the existing requirements of Condition A, and average coolant temperature provides no indication of changes in shutdown margin.

The revised actions are not an initiator of any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected.

The consequences of an accident as a result of the revised LCO requirements and actions are no different than the consequences of the same accident during the existing ones. As a result, the consequences of an accident previously evaluated are not affected by this change.

The proposed change does not alter or prevent the ability of structures, systems, and components from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated

in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change.

This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change will not reduce a margin of safety because it has no effect on any assumption of the safety analyses. While the required actions of LCO 3.1.7 for Rod Position Indication are made less restrictive by deletion of Action B.2 for monitoring  $T_{avg}$ , monitoring  $T_{avg}$  provides no power distribution information for unmonitored rods that aren't already provided by complying with the existing requirements of Condition A. As such, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10

CFR 50.92(c), and accordingly, a finding of “no significant hazards consideration” is justified.

- L06** SNC proposes to amend TS 3.3.1 “Reactor Trip System Instrumentation,” Table 3.3.1-1 FUNCTION 12, (page 2 of 2), Passive Residual Heat Removal Actuation by deleting SR 3.3.1.9.

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, “Issuance of amendment,” as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change is to delete the Surveillance Requirement (SR) 3.3.1.9 Channel Calibration for the passive residual heat removal (PRHR) reactor trip system actuation. The PRHR reactor trip actuation initiates a reactor trip in the event either of the parallel PRHR discharge valves is not fully closed. The proper adjustment of the valve position indication contact inputs to the breaker position are verified by performance of SR 3.3.1.10 Trip Actuating Device Operational Test (TADOT). The revised surveillance requirements are not an initiator to any accident previously evaluated. The reactor trip from PRHR actuation has not changed, and the proper adjustment of the valve position indication contact inputs continues to be addressed by current SR 3.3.1.10. As a result, the probability of an accident previously evaluated is not affected.

The consequences of an accident as a result of the revised surveillance requirements are no different than the consequences of the same accident during the existing ones. As a result, the consequences of an accident previously evaluated are not affected by this change.

The proposed change does not alter or prevent the ability of structures, systems, and components from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits.

The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change.

This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change will not reduce a margin of safety because it has no effect on any assumption of the safety analyses. While the surveillance requirements have been made less restrictive, the intent of the deleted surveillance requirement remains covered by an existing surveillance requirement. As such, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10

CFR 50.92(c), and accordingly, a finding of “no significant hazards consideration” is justified.

- L07** SNC proposes to amend TS, Section 3.3.5, "Reactor Trip System Manual Actuation," Table 3.3.5-1 "Reactor Trip System Manual Actuation," Functions 1. Manual Reactor Trip, 2. Safeguards Actuation Input from Engineered Safety Feature Actuation System – Manual and 4. Core Makeup Tank Actuation Input from Engineered Safety Feature Actuation System – Manual for Required Channels to 2 switches.

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes define the required channels operable for manual reactor trip based upon the existing design. Required channels operable are not an initiator to any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected. The consequences of an accident with defined number of switches operable for manual reactor trip are no different than the consequences of the same accident using the existing required channels operable. As a result, the consequences of an accident previously evaluated are not affected by this change.

The proposed change does not alter or prevent the ability of structures, systems, and components (SSCs) from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits.

The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Further, the proposed change does not increase the types or amounts of radioactive effluent that may be released offsite, nor significantly increase individual or cumulative occupational/public radiation exposures. The proposed change is consistent with the safety analysis assumptions and resultant consequences.

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

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change to define the required channels operable consistent with the plant design does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis acceptance criteria are not affected by this change. The proposed change will not result in plant operation in a configuration outside of the design basis. Therefore, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

- L11** SNC proposes to amend current TS 3.8.3, "Inverters - Operating," by changing:

1. Action Condition A. from "One inverter inoperable." to "One or two inverter(s) within one division inoperable."
2. Second Note in Required Action A.1 from "Restore inverter to OPERABLE status." to "Restore inverter(s) to OPERABLE status."

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three

standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve a physical alteration of the plant or a change in the methods governing normal plant operations. The proposed changes to action conditions to explicitly define an inverter division that contains two inoperable inverters is not an accident initiator nor do they impact mitigation of the consequences of any accident. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change does not involve a physical alteration of the plant as described in the UFSAR and does not alter the method of operation or control of equipment as described in the UFSAR. The current assumptions in the safety analysis regarding accident initiators and mitigation of accidents are unaffected by this change. Plant equipment remains capable of performing mitigative functions assumed by the accident analysis. No additional failure modes or mechanisms are being introduced and the likelihood of previously analyzed failures remains unchanged.

The integrity of fission product barriers, plant configuration, and operating procedures as described in the UFSAR will not be affected by this change. Therefore, the consequences of previously analyzed accidents will not increase because of this change. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes to action conditions to explicitly define an inverter division that contains two inoperable inverters does not involve a physical alteration of the plant as described in the UFSAR. No new equipment is being introduced, and equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, that are affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No change is being made to the procedures relied upon to respond to an off-normal event as

described in the UFSAR as a result of this change. As such, no new failure modes are being introduced. The change does not alter assumptions made in the safety analysis and licensing basis. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

Margin of safety is established through equipment design, operating parameters, and the setpoints at which automatic actions are initiated. The proposed change will not reduce a margin of safety because it has no such effect on any assumption of the safety analyses. Operation in accordance with the proposed TS operability ensures that the plant response to analyzed events continues to provide the margins of safety assumed by the analysis. Appropriate monitoring and maintenance, consistent with industry standards, will continue to be performed. Therefore, there is no significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

#### **4.4 Conclusions**

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. Pursuant to 10 CFR 50.92, the requested change does not involve a Significant Hazards Consideration.

## **5. ENVIRONMENTAL CONSIDERATIONS**

The requested amendment proposes changes to revise COL Appendix A, plant-specific Technical Specifications (TS) by modifying the TS to make them consistent with the remainder of the design, licensing basis, and the technical specifications

The details of the proposed changes are provided in Section 2 of this license amendment request.

This review has determined that the proposed change requires an amendment to the COL. However, a review of the anticipated construction and operational effects of the requested amendment has determined that the requested amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), in that:

(i) *There is no significant hazards consideration.*

As documented in Section 4.3, Significant Hazards Consideration, of this license amendment request, an evaluation was completed to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment." The Significant Hazards Consideration determined that (1) the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) the proposed amendment does not involve a significant reduction in a margin of safety. Therefore, it is concluded that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

(ii) *There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.*

The proposed amendment revises the COL Appendix A to make consistency changes between it and the design basis. The changes are unrelated to any aspects of plant construction or operation that would introduce any changes to effluent types (e.g., effluents containing chemicals or biocides, sanitary system effluents, and other effluents) or affect any plant radiological or non-radiological effluent release quantities. Furthermore, the proposed changes do not diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. Therefore, it is concluded that the proposed amendment does not involve a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite.

(iii) *There is no significant increase in individual or cumulative occupational radiation exposure.*

The proposed amendment revises the COL Appendix A to make consistency changes between it and the design basis. The change does not affect plant radiation zones (addressed in UFSAR Section 12.3), and controls under 10 CFR 20 preclude a significant increase in occupational radiation exposure. Therefore, the proposed amendment does not involve a significant increase in individual or cumulative occupational radiation exposure.

ND-17-1279  
Enclosure 1  
Technical Specification Updates for Reactivity Controls  
and other Miscellaneous Changes (LAR-17-024)

Based on the above review of the requested amendment, it has been determined that anticipated construction and operational effects of the requested amendment do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the requested amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed amendment is not required.

## **6. REFERENCES**

None.

**Southern Nuclear Operating Company**

**ND-17-1279**

**Enclosure 2**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Proposed Changes to Licensing Basis Documents**

**(LAR-17-024)**

**Insertions Denoted by Blue Underline and Deletions by ~~Red~~ Strikethrough  
Omitted text is identified by three asterisks (\* \* \*)**

(This Enclosure consists of 9 pages, including this cover page)

**Revised COL Appendix A (Technical Specifications), TS 1.1, Definitions, as follows (L01):**

SHUTDOWN MARGIN (SDM)

\*\*\*

~~6.~~In MODE 2 with  $k_{eff} < 1.0$ , and MODES 3, 4, and 5, the worth of verified fully inserted Gray Rod Cluster Assemblies (GRCAs) which have passed the acceptance criteria for GRCA bank worth measurements performed during startup physics testing ~~will~~may be included in the SDM calculation.

**Revised COL Appendix A (Technical Specifications), TS 3.1.4, Rod Group Alignment Limits, as follows (L02A-D):**

LCO 3.1.4

~~All shutdown and control rods~~ Each rod cluster control assembly (RCCA) shall be OPERABLE.

AND

Individual indicated rod positions of each RCCA and Gray Rod Cluster Assembly shall be within 12 steps of their group step counter demand position.

-----  
**— NOTE**

~~Not applicable to Gray Rod Cluster Assemblies (GRCAs) during GRCA bank sequence exchange with the On-Line Power Distribution Monitoring System (OPDMS) monitoring parameters.~~  
 -----

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. <b>One or more</b> <del>rod(s)</del> <u>RCCA(s)</u> inoperable.	* * *	* * *

**Revised COL Appendix A (Technical Specifications), TS 3.1.4, Rod Group Alignment Limits, as follows (L02E-G):**

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One rod not within alignment limits.</p>	<p>B.1 * * *</p> <p><u>AND</u></p> <p><u>B.2.3.1 Perform SR 3.2.5.1</u></p> <p><u>OR</u></p> <p><del>B.2.3</del> <u>B.2.3.2.1 Verify SDM is within the limits specified in the COLR.</u></p> <p><del>AND AND</del></p> <p><del>B.2.4</del> _____</p> <p style="text-align: center;"><del>—NOTE—</del></p> <p style="text-align: center;"><del>Only required to be performed when OPDMS is not monitoring parameters.</del></p> <p style="text-align: center;">_____</p> <p><u>B.2.3.2.2 Perform SR 3.2.1.1 and SR 3.2.1.2.</u></p> <p><del>AND AND</del></p>	<p>1 hour with the <u>On-Line Power Distribution Monitoring System</u> <del>OPDMS</del>-not monitoring parameters</p> <p>* * *</p> <p><u>Once per 12 hours</u></p> <p>* * *</p>

**Revised COL Appendix A (Technical Specifications), TS 3.1.4, Rod Group Alignment Limits, as follows (L02H & I):**

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	<p><del>B.2.5</del></p> <p style="text-align: center;"><del>—NOTE—</del></p> <p style="text-align: center;"><del>Only required to be performed when OPDMS is not monitoring parameters.</del></p> <hr style="border: 1px dashed red;"/> <p><a href="#">B.2.3.2.3</a> Perform SR 3.2.2.1.</p> <p style="text-align: center;"><u>AND</u></p> <p>B.2.64 Re-evaluate safety analyses and confirm results remain valid for duration of operation under these conditions.</p>	* * *

**Revised COL Appendix A (Technical Specifications), TS 3.1.4, Rod Group Alignment Limits, as follows (L02J-M):**

**SURVEILLANCE REQUIREMENTS**

* * *	SURVEILLANCE	* * *	FREQUENCY
* * *	* * *	* * *	* * *
<b>SR 3.1.4.2</b>	<p>-----</p> <p style="text-align: center;">- NOTE -</p> <p>Not applicable to <del>GRCAs</del> <u>Axial Offset (AO) Control Bank RCCAs</u>.</p> <p>-----</p> <p>Verify rod freedom of movement (trippability) by moving each <del>rod</del> <u>RCCA</u> not fully inserted in the core <math>\geq 10</math> steps in either direction.</p>	* * *	* * *
<b>SR 3.1.4.3</b>	<p>-----</p> <p style="text-align: center;"><del>-NOTE-</del></p> <p><del>Not applicable to GRCAs.</del></p> <p>-----</p> <p>Verify rod drop time of each <del>rod</del> <u>RCCA</u>, from the fully withdrawn position, is <math>\leq 2.7</math> seconds from the beginning of decay of stationary gripper coil voltage to dashpot entry, with:</p>	* * *	* * *

**Revised COL Appendix A (Technical Specifications), TS 3.1.6, Control Bank Insertion Limits, as follows (L03):**

APPLICABILITY: MODE 1.  
 MODE 2 with  $k_{eff} \geq 1.0$ .

-----  
**- NOTES -**  
 -----

1. This LCO is not applicable while performing SR 3.1.4.2.
  2. This LCO is not applicable to Gray Rod Cluster Assembly (GRCA) banks for up to one hour during GRCA bank sequence exchange ~~with On-Line Power Distribution Monitoring System monitoring parameters.~~
-

**Revised COL Appendix A (Technical Specifications), TS 3.1.7, Rod Position Indication, as follows (L04):**

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<b>B. More than one DRPI per group inoperable.</b>	B.1 Place the control rods under manual control.	* * *
	<u>AND</u>	
	<del>B.2 Monitor and record Reactor Coolant System (RCS) Tavg.</del>	<del>Once per 1 hour</del>
	<u>AND</u>	
	B.32 Verify the position of the rods with inoperable position indicators indirectly by using the incore detectors.	* * *
	<u>AND</u>	
	B.43 Restore inoperable position indicators to OPERABLE status such that a maximum of one DRPI per group is inoperable.	* * *

**Revised COL Appendix A (Technical Specifications), TS 3.3.1, RTS Instrumentation, as follows (L05 & 06):**

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS
* * *	* * *	* * *	* * *	* * *
4. Overpower $\Delta T$	1,2	4 (2/loop)	D	SR 3.3.1.1 SR 3.3.1.3 <a href="#">SR 3.3.1.4</a> <a href="#">SR 3.3.1.5</a> SR 3.3.1.6 SR 3.3.1.8 SR 3.3.1.11
* * *	* * *	* * *	* * *	* * *
12. Passive Residual Heat Removal Actuation	1,2	4 per valve	D	<del>SR 3.3.1.9</del> SR 3.3.1.10 SR 3.3.1.11

**Revised COL Appendix A (Technical Specifications), TS 3.3.5, RTS Manual Actuation, as follows (L07):**

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS
1. Manual Reactor Trip	* * *	2 <a href="#">switches</a>
2. Safeguards Actuation Input from Engineered Safety Feature Actuation System – Manual	* * *	2 <a href="#">switches</a>
3. ADS Stages 1, 2, and 3 Actuation Input from Engineered Safety Feature Actuation System – Manual	* * *	2 switch sets
4. Core Makeup Tank Actuation Input from Engineered Safety Feature Actuation System – Manual	* * *	2 <a href="#">switches</a> <del>switch sets</del>

**Revised COL Appendix A (Technical Specifications), TS 3.3.17, PAM Instrumentation, as follows (L08):**

FUNCTION	REQUIRED CHANNELS	CONDITION REFERENCED FROM REQUIRED ACTION D.1
5. RCS Subcooling <del>Monitor</del>	* * *	* * *
	* * *	* * *
	* * *	* * *
<a href="#">20. Pressurizer Pressure</a>	<a href="#">2</a>	<a href="#">E</a>

**Revised COL Appendix A (Technical Specifications), TS 3.3.19, DAS Manual Controls, as follows (L09):**

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CONTROLS
* * *	* * *	* * *

- (a) With Reactor Coolant System (RCS) pressure boundary intact.
- (b) With the reactor decay heat > 6.0 MWt.
- (c) With ~~reactor~~upper internals in place.

**Revised COL Appendix A (Technical Specifications), TS 3.5.4, PRHR HX – Operating, as follows (L10):**

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
* * *	* * *
SR 3.5.4.6      Verify both PRHR HX air operated outlet isolation valves <u>stroke open</u> and both IRWST gutter isolation valves stroke <del>open</del> <u>closed</u> .	In accordance with the Inservice Testing Program

**Revised COL Appendix A (Technical Specifications), TS 3.8.3, Inverters - Operating, as follows (L11):**

**ACTIONS**

CONDITION	REQUIRED ACTION	COMPLETION TIME
<b>A. One <u>or two</u> inverter(s) <u>within one division</u> inoperable.</b>	A.1 ----- <p style="text-align: center;"><b>- NOTE -</b></p> Enter applicable Conditions and Required Actions of LCO 3.8.5 “Distribution Systems – Operating” with any instrument and control bus de-energized. ----- Restore inverter(s) to OPERABLE status.	24 hours

**Southern Nuclear Operating Company**

**ND-17-1279**

**Enclosure 3**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Conforming Technical Specification Bases Changes**

**(For Information Only)**

**(LAR-17-024)**

**Insertions Denoted by Blue Underline and Deletions by ~~Red~~ Strikethrough  
Omitted text is identified by three asterisks (\* \* \*)**

(This Enclosure consists of 12 pages, including this cover page.)

**Revised Technical Specification Bases, Section B 3.1.1, SHUTDOWN MARGIN (SDM), as follows (L01):****BASES****BACKGROUND**

According to GDC 26 (Ref. 1) the reactivity control systems must be redundant and capable of holding the reactor core subcritical when shutdown under cold conditions. Maintenance of the SDM ensures that postulated reactivity events will not damage the fuel.

SDM requirements provide sufficient reactivity margin to assure that acceptable fuel design limits will not be exceeded for normal shutdown and anticipated operational occurrences (AOOs). As such, the SDM defines the degree of subcriticality that would be obtained immediately following the insertion or scram of all Rod Cluster Control Assemblies (RCCAs), assuming that the single rod cluster assembly of highest reactivity worth is fully withdrawn. When confirming SDM requirements in MODES 1 and 2 with  $k_{eff} \geq 1.0$ , the calculation conservatively ignores the insertion of the Gray Rod Cluster Assemblies (GRCAs) upon reactor trip. When SDM is confirmed in MODE 2 with  $k_{eff} < 1.0$ , and in MODES 3, 4, and 5, the calculation may include the negative reactivity from the GRCAs if the GRCAs are confirmed inserted and have passed the acceptance criteria for GRCA bank worth measurements performed during startup physics testing (Ref. 5).

\* \* \*

**REFERENCES**

\* \* \*

5. WCAP-16943-P-A, "Enhanced GRCA (Gray Rod Cluster Assembly) Rodlet Design."

**Revised Technical Specification Bases, Section B 3.1.4, Rod Group Alignment Limits, as follows (L01 and L02):****BASES****BACKGROUND**

The OPERABILITY (e.g., trippability) of the ~~RCCAs~~Rod Cluster Control Assemblies (RCCAs) is an initial assumption in all safety analyses which assume rod insertion upon reactor trip. Although Gray Rod Cluster Assemblies (GRCAs) are released on reactor trip, GRCAs are conservatively excluded from this assumption, in that their reactivity worth is not credited in advance when calculating the total negative reactivity worth potentially available from control rod insertion on a reactor trip. As a result, GRCAs are excluded from the OPERABILITY (i.e., trippability) requirements of this LCO. However, the basis for LCO 3.1.1, "SHUTDOWN MARGIN (SDM)" defines conditions under which negative reactivity from GRCA banks may be credited for SDM after a shutdown has already occurred. ~~Maximum rod misalignment~~Rod misalignment to the maximum extent allowed by this LCO is an initial assumption in the safety analysis that directly

affects core power distributions and assumptions of available SDM. ~~Gray Rod Cluster Assemblies (GRCAs) are excluded from this LCO during the planned GRCA bank sequence exchange, with the Online Power Distribution Monitoring System (OPDMS) monitoring parameters. The bank sequence exchange of GRCA banks will be periodically necessary to prevent excessive burnup shadowing of fuel rods near the gray rod assemblies. The bank sequence exchange maneuver will purposefully misalign GRCAs from their bank for a short period of time. The exclusion from this LCO is acceptable due to SHUTDOWN MARGIN being calculated exclusive of GRCAs, the relative low worth of individual gray rod assemblies, the short time duration anticipated for the bank sequence exchange maneuver and with OPDMS monitoring parameters, power peaking and xenon redistribution effects will be monitored and controlled.~~

\* \* \*

Mechanical or electrical failures may cause ~~a control rod~~ an RCCA to become inoperable or cause an RCCA or GRCA to become misaligned from its group. ~~Control rod~~ RCCA inoperability or misalignment of a control rod of either type, may cause increased power peaking due to the asymmetric reactivity distribution and a reduction in the total available rod worth for reactor shutdown. Therefore, RCCA and GRCA ~~control rod~~ alignment and RCCA OPERABILITY are related to core operation in design power peaking limits and the core design requirement of a minimum SDM.

\* \* \*

~~Red cluster control assemblies (RCCAs)~~ and GRCAs are moved by their control rod drive mechanisms (CRDMs). Each CRDM moves its RCCA or GRCA one step (approximately 5/8 inch) at a time but at varying rates (steps per minute) depending on the signal output from the Plant Control System (PLS).

## BASES

### APPLICABLE SAFETY ANALYSES (continued)

\* \* \*

~~Shutdown and control rod~~ RCCA OPERABILITY and the alignment of all control rods (RCCAs and GRCAs) are directly related to power distributions and SDM, which are initial conditions assumed in safety analyses. Therefore they satisfy Criterion 2 of 10 CFR 50.36(c)(2)(ii).

## BASES

## LCO

The limits on shutdown or control rod alignments assure that the assumptions in the safety analysis will remain valid. The requirements on ~~control rod~~RCCA OPERABILITY assure that upon reactor trip, the assumed reactivity will be available and will be inserted. The ~~control rod~~RCCA OPERABILITY requirements (i.e., trippability) apply to all RCCAs in the shutdown and control banks (not GRCA) and are separate from the alignment requirements, ~~which~~. The alignment requirements ensure that all control rods (RCCAs and GCRAs), and their respective~~the RCCAs and~~ banks maintain ~~the correct~~ power distribution and rod alignment within analyzed limits. The ~~rod~~RCCA OPERABILITY requirement is satisfied provided the rod will fully insert in the required rod drop time assumed in the safety analysis. Rod control malfunctions that result in the inability to move ~~a rod~~an RCCA (e.g., rod lift coil failures), but that do not impact trippability, do not result in ~~rod~~RCCA inoperability.

\* \* \*

~~The LCO is modified by a Note to relax the rod alignment limit on GRCA during GRCA bank sequence exchange operations. The two exchanging banks will move out of sequence and overlap limits for several minutes during the sequence exchange. This operation which occurs frequently throughout the fuel cycle would normally violate the LCO. GRCA bank sequence exchange is only allowed with the OPDMS OPERABLE to monitor the parameters of LCO 3.2.5, "On-Line Power Distribution Monitoring System (OPDMS) - Monitored Parameters."~~

## APPLICABILITY

The requirements on RCCA OPERABILITY and alignment of all control rods are applicable in MODES 1 and 2 because these are the only MODES in which neutron (or fission) power is generated, and the OPERABILITY (i.e., trippability) and alignment of rods have the potential to affect the safety of the plant. In MODES 3, 4, 5, and 6, the alignment limits do not apply because the control rods are bottomed and the reactor is shut down and not producing fission power. In the shutdown MODES, the OPERABILITY of the ~~shutdown and control rods has~~RCCAs have the potential to affect the required SDM, but this effect can be compensated for by an increase in the boron concentration of the RCS. See LCO 3.1.1, "SHUTDOWN MARGIN (SDM)," for SDM in MODES 3, 4, and 5 and LCO 3.9.1, "Boron Concentration," for boron concentration requirements during refueling.

## BASES

## ACTIONS

\* \* \*

When one or more ~~rods~~[RCCA\(s\)](#) are inoperable (i.e., untrippable), there is a possibility that the required SDM may be adversely affected. Under these conditions, it is important to determine the SDM, and if it is less than the required value, initiate boration until the required SDM is recovered. The Completion Time of 1 hour is adequate to determine SDM and, if necessary, to initiate boration to restore SDM.

A.2

If the inoperable ~~rod(s)~~[RCCA\(s\)](#) cannot be restored to OPERABLE status, the plant must be brought to a MODE or condition in which the LCO requirements are not applicable.\* \* \*

B.1

\* \* \*

An alternative to realigning a single misaligned [RCCA control rod](#) to the group average position is to align the remainder of the group to the position of the misaligned [RCCA control rod](#).\* \* \*

~~B.2.2, B.2.3, B.2.4, B.2.5, and B.2.6~~[B2.3.2.1, B.2.3.2.2, B.2.3.2.3, and B.2.4.](#)

For continued operation with a misaligned rod, RTP must be reduced, SDM must periodically be verified within limits, hot channel factors ( $F_Q(Z)$  and  $F_{\Delta H}^N$ ) must be verified within limits, and the safety analyses must be re-evaluated to confirm continued operation is permissible. ~~A note has been added indicating that Required Actions B.2.4 and B.2.5,  $F_Q$  and  $F_{\Delta H}^N$  verification, are only required when the OPDMS is not monitoring parameters and therefore unavailable to continuously monitor the core power distribution.~~

Reduction of power to 75% of RTP ensures that local LHR increases due to a misaligned [RCCA control rod](#) will not cause the core design criteria to be exceeded (Ref. 3). The Completion Time of 2 hours gives the operator sufficient time to accomplish an orderly power reduction without challenging the Protection and Safety Monitoring System.

When a rod is known to be misaligned, there is a potential to impact the SDM. Since the core conditions can change with time, periodic verification of SDM is required. ~~A Frequency~~[The OPDMS provides continuous monitoring of these parameters following update with the misaligned rod position data. Performing SR 3.2.5.1 \(Verify OPDMS monitored parameters within limits\) on a frequency](#) of 12 hours is sufficient to ensure ~~this requirement continues~~[that these requirements continue](#) to be met while the reactor is operating with a

misaligned control rod at THERMAL POWER less than or equal to 75% RTP.

~~Online monitoring of core power distribution by the OPDMS, or verifying that  $F_Q(Z)$  and  $F_{\Delta H}^N$  are within the required limits when the OPDMS is not monitoring parameters, ensures that current operation at 75% of RTP with a rod misaligned is not resulting in power distributions which may invalidate safety analysis assumptions at full power. The Completion Time of 72 hours allows sufficient time to restore OPDMS monitoring parameters or to obtain and analyze offline flux maps of the core power distribution using the incore detector system and to calculate  $F_Q(Z)$  and  $F_{\Delta H}^N$ . When the OPDMS is not monitoring parameters, an offline verification of SDM and the peaking factors  $F_Q(Z)$  and  $F_{\Delta H}^N$  must be performed. The offline verification of SDM is performed with a frequency of 12 hours, but the verification of the peaking factors is performed on a frequency of 72 hours. The allowed Completion Time of 72 hours is reasonable considering that the reactor power is reduced to  $\leq 75\%$  RTP. This provides significant margin to the fuel LHR and DNBR and subsequently to the peaking factor  $F_Q(Z)$  and  $F_{\Delta H}^N$  limits.~~

\* \* \*

SURVEILLANCE  
REQUIREMENTS

\* \* \*

SR 3.1.4.2

Verifying each ~~control rod~~RCCA is OPERABLE would require that each rod be tripped. However, in MODES 1 and 2, tripping each ~~control rod~~RCCA would result in radial or axial power tilts, or oscillations. Exercising each individual ~~control rod~~RCCA every 92 days provides increased confidence that all rods continue to be OPERABLE without exceeding the alignment limit, even if they are not regularly tripped. Moving each ~~control rod~~RCCA by 10 steps will not cause radial or axial power tilts, or oscillations, to occur.

The 92 day Frequency takes into consideration other information available to the operator in the control room and SR 3.1.4.1, which is performed more frequently and adds to the determination of OPERABILITY of the ~~rods~~RCCAs. Between required performances of SR 3.1.4.2 (determination of ~~control rod~~RCCA OPERABILITY by movement), if a ~~control rod~~RCCA(s) is discovered to be immovable, but remains trippable and aligned, the ~~control rod~~RCCA(s) is considered to be OPERABLE. At any time, if a ~~control rod~~RCCA(s) is immovable, a determination of the trippability (OPERABILITY) of the ~~control rod~~RCCA(s) must be made, and appropriate action taken.

GRCA are excluded from this Surveillance because they are not considered in the calculation of SDM in MODES 1 and 2 with  $k_{eff} \geq$

---

1.0. In MODE 2 with  $k_{eff} < 1.0$ , SR 3.1.4.2 is not applicable because GRCA's must be verified to be fully inserted to be credited in the calculation of SDM.

This SR is modified by a Note stating that the Surveillance is not required to be performed for AO control bank RCCAs. While AO control bank RCCAs are included in the class of control rods required to be OPERABLE, the surveillance is not required to be performed because AO control bank motion is expected during routine reactor operation to control the core axial power distribution. Therefore any malfunction of an AO control bank RCCA causing a loss of mobility would be self-revealing in the course of normal operation.

## BASES

---

### SURVEILLANCE REQUIREMENTS (continued)

#### SR 3.1.4.3

Verification of ~~rod~~RCCA drop times allows the operator to determine that the maximum ~~rod~~RCCA drop time permitted is consistent with the assumed rod drop time used in the safety analysis. Measuring ~~rod~~RCCA drop times prior to reactor criticality, after each reactor vessel head removal and each earthquake requiring plant shutdown, ensures that the reactor internals and rod drive mechanism will not interfere with ~~rod~~RCCA motion or ~~rod~~RCCA drop time, and that no degradation in these systems has occurred that would adversely affect control rod motion or drop time. \* \* \* GRCA are excluded from this Surveillance because they are not considered in the calculation of SDM in MODES 1 and 2 with  $k_{eff} \geq 1.0$ . In MODE 2 with  $k_{eff} < 1.0$ , SR 3.1.4.2 is not applicable because GRCA's must be verified to be fully inserted to be credited in the calculation of SDM.

**Revised Technical Specification Bases, Section B 3.1.5, Shutdown Bank Insertion Limits, as follows (L02):**

BASES

BACKGROUND

\* \* \*

The rod cluster control assemblies (RCCAs) are divided among control banks and shutdown banks. Each bank may be further subdivided into two groups to provide for precise reactivity control.\* \* \* See LCO 3.1.4, "Rod Group Alignment Limits," for ~~control and shutdown rod~~[RCCA](#) OPERABILITY and [control rod](#) alignment requirements, and LCO 3.1.7, "Rod Position Indication," for position indication requirements.

\* \* \*

APPLICABLE SAFETY ANALYSES

On a reactor trip, all RCCAs (~~shutdown banks and control banks exclusive of the GRCAs~~), except the most reactive RCCA, are assumed to insert into the core.\* \* \* The ~~combination of control banks and shutdown banks (less~~[insertion of all RCCAs \(except](#) for the most reactive RCCA which is assumed to be fully withdrawn) is sufficient to take the reactor from full power conditions at rated temperature to zero power, and to maintain the required SDM at the rated no load temperature (Ref. 3).

\* \* \*

**Revised Technical Specification Bases, Section B 3.1.6, Control Bank Insertion Limits, as follows (L02):**

BASES

BACKGROUND

\* \* \*

The ~~rod cluster control assemblies (RCCAs)~~[control rods](#) are divided among control banks and shutdown banks. ~~Gray rod cluster assemblies (GRCAs) are limited to control banks.~~ Each bank may be further subdivided into two groups to provide for precise reactivity control. \* \* \* See LCO 3.1.4, "Rod Group Alignment Limits," for ~~control and shutdown rod~~[RCCA](#) OPERABILITY and [control rod](#) alignment requirements, and LCO 3.1.7, "Rod Position Indication," for position indication requirements.

**Revised Technical Specification Bases, Section B 3.1.6, Control Bank Insertion Limits, as follows (L02 & 03):**

BASES

---

APPLICABILITY (continued)

\* \* \*

The applicability requirements are modified by a Note indicating the LCO requirements are suspended during the performance of SR 3.1.4.2. This SR verifies the freedom of the ~~rods~~RCCA to move, and requires the control bank to move below the LCO limits, which would violate the LCO.

The second Note suspends LCO applicability to GRCA banks during GRCA bank sequence exchange operations for up to one hour. \* \* \* This operation, which occurs frequently throughout the fuel cycle, would normally violate the LCO. One hour provides sufficient time to complete the exchange while limiting any impact on local power distribution from the GRCA banks being out of sequence and overlap. Considering that this operation is a planned maneuver and involves exchanging the position of low worth GRCA banks over a short time period, it is acceptable to suspend applicability of this LCO. ~~GRCA bank sequence exchange is only allowed with the OPDMS monitoring the parameters of LCO 3.2.5, "OPDMS-Monitored Parameters."~~

**Revised Technical Specification Bases, Section B 3.1.7, Rod Position Indication, as follows (L04):**

BASES

---

ACTIONS (continued)

\* \* \*

B.1, B.2, and B.3, and B.4

\* \* \*

~~Monitoring and recording reactor coolant Tavg help assure that significant changes in power distribution and SDM are avoided. The once per hour Completion Time is acceptable because only minor fluctuations in RCS temperature are expected at steady state plant operating conditions.~~

\* \* \*

**Revised Technical Specification Bases, Section B 3.3.1, RTS Instrumentation, as follows (L06):**

BASES

---

SURVEILLANCE REQUIREMENTS (continued)

\* \* \*

SR 3.3.1.10

SR 3.3.1.10 is the performance of a TADOT of the Passive Residual Heat Removal Actuation [valve position indicator contact inputs](#).

\* \* \*

**Revised Technical Specification Bases, Section B 3.3.5, RTS Manual Actuation, as follows (L07):**

---

APPLICABLE  
SAFETY  
ANALYSES, LCOs,  
and APPLICABILITY

\* \* \*

1. Manual Reactor Trip

\* \* \*

The LCO requires two Manual Reactor Trip actuation [channelswitches](#) to be OPERABLE in MODES 1 and 2, and in MODES 3, 4, and 5 when the Plant Control System (PLS) is capable of rod withdrawal, or one or more rods are not fully inserted. Two independent actuation [channelswitches](#) are required to be OPERABLE so that no single random failure will disable the Manual Reactor Trip Function.

\* \* \*

2. Safeguards Actuation Input from Engineered Safety Feature Actuation System – Manual

\* \* \*

The LCO requires two manual [channelswitches](#) of Safeguards Actuation Input from ESFAS to be OPERABLE in MODES 1 and 2.

\* \* \*

4. Core Makeup Tank (CMT) Actuation Input from Engineered Safety Feature Actuation System – Manual

\* \* \*

The LCO requires two manual actuation ~~switch-sets~~[switches](#) for the CMT Actuation Input from Engineered Safety Feature Actuation System to be OPERABLE. Two OPERABLE manual actuation ~~switch-sets~~[switches](#) are provided to ensure that random failure of a single logic channel will not prevent reactor trip.

\* \* \*

**Revised Technical Specification Bases, Section B 3.3.17, PAM Instrumentation, as follows (L08):**

BASES

---

LCO (continued)

\* \* \*

5. RCS Subcooling ~~Monitor~~

RCS Subcooling is calculated from pressurizer pressure and RCS hot leg temperature. The RCS Subcooling ~~Monitor~~ is provided for verification of core cooling. Subcooling margin is available when the RCS pressure is greater than the saturation pressure corresponding to the core exit temperature. Inputs to the RCS Subcooling ~~Monitor~~ are pressurizer pressure and RCS hot leg temperature.

\* \* \*

20. Pressurizer Pressure

Pressurizer Pressure is used to provide the control room operating staff with information to assess reactor coolant system inventory control.

**Revised Technical Specification Bases, Section B 3.5.4, PRHR HX - Operating, as follows (L10):**

BASES

---

SURVEILLANCE REQUIREMENTS (continued)

\* \* \*

SR 3.5.4.6

Verification that both air operated PRHR HX outlet valves stroke open and both IRWST gutter isolation valves stroke ~~open~~closed ensures that the PRHR HX will actuate on command, with return flow from the gutter to the IRWST. Since these valves are redundant, if one valve is inoperable, the system can function at 100% capacity. Verification requires the actual operation of each valve to ~~open~~move it to its safe position. \* \* \*

ND-17-1279

Enclosure 3

Conforming Technical Specification Bases Changes (For Information Only) (LAR-17 -024)

**Revised Technical Specification Bases, Section B 3.8.3 Inverters - Operating, as follows (L11):**

---

ACTIONS

A.1

With ~~a required inverter~~ one or two inverters inoperable, ~~its~~ in one division, the associated Class 1E AC instrument and control bus is automatically energized from its regulating transformer. \* \* \*

For this reason a Note has been included in Condition A requiring the entry into the applicable Conditions and Required Actions of LCO 3.8.5, "Distribution Systems – Operating." This ensures that ~~the~~ each affected vital bus is reenergized within 6 hours.

Required Action A.1 allows 24 hours to fix ~~the~~ each inoperable inverter and return it to service. \* \* \*