



Ronald A. Jones
Vice President
New Nuclear Operations

July 19, 2013
NND-13-0415
10 CFR 50.90
10 CFR 52.63

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

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

Subject: LAR 13-04 Request for License Amendment and Exemption:
Reconciliation of Tier 1 Valve Differences Supplement

Reference: 1. South Carolina Electric & Gas Company (SCE&G) Request for
License Amendment and Exemption: Reconciliation of Tier 1 Valve
Differences, dated February 7, 2013 (NND-13-0066). (Adams Accession
Number ML13042A005)

In accordance with the provisions of 10 CFR 50.90, South Carolina Electric & Gas Company (SCE&G) submitted a request for an amendment to the Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3 combined licenses (COLs) (License Nos. NPF-93 and NPF-94, respectively) (Reference 1). The proposed amendment would reconcile various valve descriptions and definitions in Tier 1.

Enclosure 1, included with Reference 1, provides the description, technical evaluation, and regulatory evaluation (including the Significant Hazards Consideration determination) for the proposed changes. Enclosure 2, included with Reference 1, provides the background and supporting basis for the requested exemption. Enclosure 3, included with Reference 1, provides markups depicting the requested changes to plant-specific DCD Tier 1 information, the corresponding changes to COL Appendix C, and UFSAR text, tables, and figures.

Enclosure 4 of this letter is provided as a Supplement to the LAR in Reference 1. This Supplement provides multiple revised pages of the corresponding Enclosure 1 in Reference 1. Therefore, it is requested that Enclosure 4 replace Enclosure 1 in Reference 1.

The information provided in Enclosures 4 does not change the scope of the amendment request in Reference 1 submitted on February 7, 2013. The LAR text was revised to more accurately describe the proposed changes. The extent of the changes does not affect the Significant Hazards Consideration determination.

DD83
L120

Due to construction need date changes, SCE&G requests NRC staff review and approval of the license amendment in Reference 1 by August 28, 2014.

This letter contains no regulatory commitments.


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

Should you have any questions, please contact Mr. Alfred M. Paglia by telephone at (803) 941-9876, or by email at apaglia@scana.com.

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

Executed on this 19th day of JULY, 2013.

Sincerely,



Ronald A. Jones
Vice President
New Nuclear Operations

BB/RAJ/bb

Enclosures:

4. Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3 – Supplement to License Amendment Regarding Reconciliation of Tier 1 Valve Differences: Replaces Enclosure 1 of LAR 13-04

c: Denise McGovern
Ravindra Joshi
Brian Anderson
Rahsean Jackson
Victor McCree
Jim Reece
Stephen A. Byrne
Jeffrey B. Archie
Ronald A. Jones
Alvis J. Bynum
Kathryn M. Sutton
Julie Ezell
Dean Kersey
Amy G. Aughtman
Joel Hjelseth
Brian McIntyre
Thom Ray
Zach Harper
William E. Hutchins
Curt Castell
William A. Fox, III
Susan E. Jenkins
William M. Cherry
Rhonda O'Banion
Dan Churchman
VCSummer2&3ProjectMail@Shawgrp.com
vcsummer2&3project@westinghouse.com
DCRM-EDMS@SCANA.COM

South Carolina Electric & Gas Company

NND-13-0415

Enclosure 4

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

**Supplement to License Amendment Regarding Reconciliation of Tier 1 Valve
Differences: Replaces Enclosure 1 of LAR 13-04**

Note:

**Enclosures 1 through 3 were provided with the original submittal of
LAR 13-04 by South Carolina Electric & Gas Company (Reference 1)**

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 50.90, South Carolina Electric & Gas (SCE&G) hereby requests an amendment to Combined License (COL) Numbers NPF-93 and NPF-94 for the Virgil C. Summer Nuclear Station (VCSNS), Units 2 and 3, respectively.

1. Summary Description

The proposed amendment would depart from plant-specific Design Control Document (DCD) to reconcile valve related information contained in Tier 1 material to be consistent with the technically correct corresponding Tier 2 material incorporated into the Updated Final Safety Analysis Report (UFSAR). The proposed changes affect material for valves in the Component Cooling Water System (CCS), Chemical and Volume Control System (CVS), Passive Containment Cooling System (PCS), Passive Core Cooling System (PXS), Reactor Coolant System (RCS), Normal Residual Heat Removal System (RNS), and Main Control Room Emergency Habitability System (VES) by reconciling various valve information for consistency within the UFSAR, plant-specific Tier 1 information, corresponding information in COL Appendix C, and the AP1000 design. The proposed departures from Tier 1 information involve valve information in Tier 1 Tables 2.1.2-1, 2.2.1-1, 2.2.2-1, 2.2.3-1, 2.2.3-3, 2.2.5-1, 2.3.2-1, 2.3.2-3 and 2.3.6-1.

This enclosure requests approval of the license amendment necessary to implement the proposed change to the Tier 1 material, and the corresponding material incorporated into Appendix C of the COL.

2. Detailed Description and Technical Evaluation

The proposed changes below are considered editorial or consistency corrections associated with valve identification and/or consistencies with valve design functions. None of the changes result in physical changes to the plant or changes to the design function of the plant. Because there are no physical changes to the plant, none of the changes affect functions for containing, controlling, processing or releasing of radioactive and non-radioactive materials. No effluent release path is affected. The types and quantities of expected effluents are not changed. Plant radiation zones, controls under 10 CFR Part 20, and expected amounts and types of radioactive materials are not affected by the proposed changes.

CCS Containment Isolation Relief Valve – Outlet Line IRC, CCS-PL-V220

Valve Design Function:

The CCS Containment Isolation Relief Valve – Outlet Line IRC, CCS-PL-V220, is a 1” relief valve, and is shown in its system configuration in UFSAR Figure 9.2.2-2 (Sheet 2 of 5). This valve provides for containment isolation and overpressure protection due to thermal expansion of the contained fluid.

Tier 1 Departure:

- Tier 1 Table 2.2.1-1 - Change valve tag number from “CCS-PL-220” to “CCS-PL-V220.”

Associated Tier 2 Departure:

- Tier 2 Table 3.2-3 - Change valve tag number from "CCS-PL-220" to "CCS-PL-V220."

Technical Evaluation:

This change corrects the valve’s tag number. This correction does not adversely affect the design function of the CCS. The valve’s tag number is correctly stated in other UFSAR tables, such as Tables 3.9-12, 3.9-16, 3.11-1, 3I.6-3, and 6.2.3-1. This change proposes to make the tag number consistent throughout the UFSAR and COL Appendix C.

CVS Auxiliary Pressurizer Spray Line Check Valve, CVS-PL-V085

Valve Design Function:

The CVS Auxiliary Pressurizer Spray Line Valve, CVS-PL-V085, is a simple check valve, and can be seen in its system configuration in UFSAR Figure 9.3.6-1 (Sheet 1 of 2). The valve provides the function of preserving the Reactor Coolant Pressure Boundary (RCPB) by preventing backflow from the Reactor Coolant System (RCS) when the Auxiliary Pressurizer Spray Line Isolation Valve is open and no charging flow exists in the charging and spray path.

Tier 1 Departure:

- Tier 1 Table 2.3.2-1 - Remove Class 1E and Harsh Environment Qualification requirements.

Technical Evaluation:

Tier 1 and COL Appendix C Table 2.3.2-1 list CVS-PL-V085 as requiring Class 1E and Harsh Environment Qualification requirements; however, this requirement is inconsistent with other simple check valves. CVS-PL-V085 functions as a normal check valve as called out in UFSAR Table 3.9-16. Check valves do not require power to function, and as such, do not require any Class 1E (or non-Class 1E) electrical equipment or harsh environment qualification of any electrical equipment. ITAAC 2.3.2–6a, states The Class 1E equipment identified in Table 2.3.2-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function. There is no ITAAC requirement in Tier 1 Table 2.3.2-4 that requires

harsh environment qualification for non-1E equipment. The valve itself is still qualified to the harsh environment mechanical equipment program conditions as shown in UFSAR Tier 2 Table 3.11-1. Actual check valve design requirements for CVS-PL-V085 are consistent with the other CVS Pressure Boundary Check Valves as listed in Tier 1 Table 2.3.2-1, such as, valve CVS Purification Return Line Pressure Boundary Check Valve (CVS-PL-V082). Therefore, the design functions and requirements as described in UFSAR Table 3.9-16 and Table 3.11-1 accurately reflect the AP1000 design requirements for CVS-PL-V085, and the correction of the Tier 1 information is necessary to consistently reflect the functional design requirements within the certified design.

CVS Demineralized Water Isolation Valves A/B, CVS-PL-V136A/B

Valve Design Function:

The CVS Demineralized Water Isolation Valves A/B, CVS-PL-V136A/B, are 3-inch butterfly valves in series with air operators that fail closed on loss of instrument air and can be seen in their system configuration in UFSAR Figure 9.3.6-1 (Sheet 2 of 2). They are located outside containment in the line from the Demineralized Water Transfer and Storage System (DWS). The purpose of these valves is to prevent a boron dilution accident by closing either one of two of the valves from the DWS to the suction side of the Makeup Pumps, thus isolating the source of dilution water.

Tier 1 Departure:

- Tier 1, Table 2.3.2-3 - Change '136A' to 'V136A' and '136B' to 'V136B'

Technical Evaluation:

This is another change to correct the valve tag numbers, similar to CCS-PL-V220. The valve's tag number is correctly stated in UFSAR Tier 2 Tables 3.2-3, 3.9-12, 3.9-16, 3.11-1, 3I.6-2, 3I.6-3, 9.3.1-1, and Tier 1 Table 2.3.2-1. This change proposes to make the tag number consistent throughout the UFSAR and COL Appendix C.

PCS Makeup to SFS Isolation Valve, PCS-PL-V009

Valve Design Function:

The PCS Spent Fuel Pool Emergency Makeup Valve, PCS-PL-V009, is a three-inch normally closed manual gate valve which is used to isolate flow to the spent fuel pool (SFP), and can be seen in its system configuration in UFSAR Figure 6.2.2-1 (Sheet 1 of 2). Opening this valve allows gravity flow of the Passive Containment Cooling Water Storage Tank (PCCWST) into the SFP.

Tier 1 Departure:

- Tier 1, Table 2.2.2-1 – Remove “Transfer Close” as an active function from PCS-PL-V009

Technical Evaluation:

This valve is a normally closed manual gate valve used to isolate flow to the SFP during normal operation. The safety function is to allow gravity flow of the PCCWST into the SFP. The valve must stay closed until needed, then open, and remain open, to fulfill the safety function of the line. This function is accurately described in UFSAR Table 3.9-16, which states the safety related missions as Maintain Close, Transfer Open, and Maintain

Open. The valve is not required to stop the flow once initiated, thus Transfer Close is not required as a safety function. Tier 1 and COL Appendix C Table 2.2.2-1 lists the active functions of valves, and for PCS-PL-V009 indicates "Transfer Close" as an active function. As discussed above, the valve does not have a Transfer Close function, and as such, this change proposes to remove this designation from the Tier 1 and COL Appendix C Table 2.2.2-1.

PXS Accumulator A/B Discharge Isolation Valves, PXS-PL-V027A/B

Valve Design Function:

The PXS Accumulator A/B Discharge Isolation Valves, PXS-PL-V027A/B, are normally open motor-operated isolation valves and are shown in their system configuration in UFSAR Figure 6.3-1. These valves provide isolation capability for Accumulators A/B Discharge.

Tier 1 Departure:

- Tier 1 Table 2.2.3-1 - Change safety related display from 'Yes' to 'No'

Associated Tier 2 Departure:

- Tier 2 Table 3.9-16 – Omit safety related position, so delete valve PXS-PL-V027A/B as no test requirements remain

Technical Evaluation:

For the PXS Accumulator A/B Discharge Isolation Valves (PXS-PL-V027A/B), the system design has always stated in the UFSAR that the valve position indication uses non-1E power, meaning the position indication is non-safety related. Table 3.9-16 only indicates testing of safety-related position indication. PXS-PL-V027A/B are class C valves, and are tied to the Nuclear Non Safety (NNS) power supplies and receive their signals from the PLS system. These valves are normally de-energized until they get a confirmatory open signal upon a safeguards actuation as shown in the current AP1000 design. As there are no other test requirements remaining in Table 3.9-16, the proposed change removes PXS-PL-V027 from UFSAR Table 3.9-16. As the Tier 1 information is derived from Tier 2 information, the associated Tier 1 Table 2.2.3-1 safety-related display changes from "Yes" to "No."

PXS Containment Recirculation Isolation Valves, PXS-PL-V117A/B

Valve Design Function:

The PXS Containment Recirculation Isolation Valves, PXS-PL-V117A/B, are 8" normally open motor operated gate valves, and are shown in their system configuration in UFSAR Figure 6.3-2 (Sheet 2 of 2). These valves provide isolation capability for the containment recirculation pipe lines. Additionally, these valves open to allow for containment recirculation.

Tier 1 Departure:

- Tier 1 Table 2.2.3-3 – Correct valve tag for Containment Recirculation A/B Isolation valves from "V017A/B" to "V117A/B."

Technical Evaluation:

This change corrects the valve's tag number. This correction does not adversely affect the design function of the PXS. The valve's tag number is correctly stated in other UFSAR Tables 3.2-3, 3.9-16, 3.11-1, 3I.6-2 and 3I.6-3, and Tier 1 Table 2.2.3-1. This proposed change makes the valves' tag numbers consistent throughout the UFSAR and COL Appendix C.

RCS Reactor Vessel Head Vent Valves, RCS-PL-V150A/B/C/D

Valve Function:

The Reactor Coolant System (RCS) Reactor Vessel Head Vent valves RCS-PL-V150A/B/C/D, are 1" solenoid operated globe valves. The valves are shown in their system configuration in UFSAR Figure 5.1-5 (Sheet 1 of 3) and Figure 5.4-8. The primary function of the reactor vessel head vent is for use during plant startup to properly fill the reactor coolant system and vessel head. Additionally, the valves can remove non-condensable gases or steam from the reactor vessel head to mitigate a possible condition of inadequate core cooling or impaired natural circulation through steam generators resulting from non-condensable gas accumulation.

Tier 1 Departure:

- Tier 1 Table 2.1.2-1 – Add "Transfer Closed" to Active Functions.

Associated Tier 2 Departure:

- Tier 2 Table 3.9-16 – Add "Transfer Close" to Safety-Related Missions.

Technical Evaluation:

The proposed change modifies the active function descriptions in the UFSAR to include Transfer Closed. As discussed in UFSAR Section 5.4.12, the valves require an administrative opening function during shutdown and startup conditions to support RCS filling and venting. Additionally, the valves can be opened to remove non-condensable gases or steam from the reactor vessel head to mitigate a possible condition of inadequate core cooling or impaired natural circulation through steam generators resulting from non-condensable gas accumulation. If opened, the valves would transfer back to their normally closed position to support their intended functions and prevent propagation to a Loss-of-Coolant-Accident (LOCA). The Transfer Close function is a required design function of the valves, which is not currently identified as an active function in the above referenced Tier 1 and Tier 2 tables. Valve functions are identified as active functions if they have a change in state (e.g., open to closed) are performed to mitigate an accident. Returning the valves to their normally closed position reduces the probability of initiating a loss of coolant accident. In-service testing requirements for the valve are consistent with the active functions provided by the valve, thus the IST requirements supported the required functions of the valve and the RCS system. Therefore, these changes do not adversely affect the design function of the RCS.

RNS Discharge Containment Isolation Test Connection Valve, RNS-PL-V012

Valve Function:

The Normal Residual Heat Removal System (RNS) Discharge Containment Isolation Test Connection valve RNS-PL-V012, is a 1" manual globe valve locked closed to prevent from inadvertently opening. The valve is shown in its system configuration in UFSAR Figure 5.4-7. RNS-PL-V012 is a containment isolation valve, and is used as a test connection for containment isolation valve leak tests. Long-term containment inventory makeup can also be supplied through (containment penetration test connection) valve RNS-PL-V012. After an accident that includes an ADS Stage 4 initiation, long-term makeup may be needed from outside containment. The flow path for this long-term supply of water is through RNS-V012, and is administratively controlled.

Tier 1 Departure:

- Tier 1 Table 2.3.6-1 – Add "Transfer Closed" to Active Functions.

Associated Tier 2 Departure:

- Tier 2 Table 3.9-16 – Add "Transfer Close" to Safety-Related Missions.

Technical Evaluation:

The valve will be manually returned to its normally closed position to provide for containment isolation after being opened to support long-term containment make-up as discussed in UFSAR Section 5.4.7.5. The transfer close function is a required design function of the valve that was not identified as an active function. Valve functions are identified as active functions if they are performed to mitigate an accident. The safety-related function of this valve is to maintain closed to provide containment isolation. This valve also has a safety-related functions to transfer open, maintain open, and then transfer closed to fulfill the long-term containment makeup function. The need for these functions are based on the design basis assumptions for containment leakage, and will not be required for at least 30 days after an accident. Returning the valve to its normally closed position places it in the position that is consistent with its containment isolation functions assumed for the previously evaluated accidents. The design evaluation for RNS-PL-V012 is consistent with the design as presented in the UFSAR, Subsection 6.2.3.1.3 part (I) which states, "Normally closed manual containment isolation valves have provisions for locking the valves closed. Locking devices are designed such that the valves can be locked only in the fully closed position. Administrative control provides verification that manual isolation valves are maintained locked closed during normal operation. Position locks provide confidence that valves are placed in the correct position prior to locking." Therefore RNS-PL-V012 is still in conformance with the UFSAR design requirements as well as the requirements set forth in 10 CFR 50, Appendix A, General Design Criterion (GDC) 16. In-service testing requirements for the valve are consistent with the active functions provided by the valve, thus the IST requirements supported the required functions of the valve and the RNS system. Therefore, the proposed changes do not adversely affect the design function of the RNS.

RNS Pump Discharge Relief Valve, RNS-PL-V045

Valve Function:

The RNS Pump Discharge Relief Valve, RNS-PL-V045, is a 1" relief valve. This valve is located outside containment upstream of the Discharge Containment Isolation Valve (RNS-PL-V011) and is shown in its system configuration in UFSAR Figure 5.4-7. The valve protects the RNS against over-pressurization of piping and components due to any back-leakage from RCS boundary check valves and thermal expansion in the RNS piping.

Tier 1 Departure:

- Tier 1 Table 2.3.6-1 – Remove active valve functions from table; Revise valve description to "RNS Pump Discharge Relief."

Associated Tier 2 Departure:

- Tier 2 Table 3.9-12 – Remove valve from table.
- Tier 2 Table 3.11-1 – Move valve to Non Active section of table.

Technical Evaluation:

In the current AP1000 design, the long term containment make-up function was moved from the RNS heat exchanger drain lines to the RNS discharge containment isolation test connection valve, RNS-PL-V012, located inside the containment penetration. This long term containment make-up function for RNS-PL-V012 is discussed in UFSAR Subsection 5.4.7.5 and shown in Figure 5.4-7. Therefore, in the currently approved design, the RNS pump discharge lines are not integral to the safety-related function of long term containment inventory makeup. RNS-PL-V045 does not perform any active function to mitigate an accident event, thus is not considered an active valve. Also, the description is to be changed to match the UFSAR Tier 2 Table 3.2-3, 3.11-1 and 3I.6-3 valve descriptions. The non-active function of this relief valve is consistent with the valve's functions currently assumed in accidents previously evaluated in the UFSAR.

For consistency of terminology throughout the UFSAR, the description of valve RNS-PL-V045 in Tier 1 Table 2.3.6-1 is being changed to match the UFSAR Tier 2 Table 3.2-3, 3.11-1 and 3I.6-3 valve descriptions.

VES Air Tank Safety Relief Valves, VES-PL-V040A/B/C/D

Valve Function:

The Main Control Room Emergency Habitability System (VES) Air Tank Relief Valves (VES-PL-V040A/B & VES-PL-V040C/D) are 1" relief valves. The valves are normally closed, but may transfer open to relieve pressure from the VES emergency air storage tanks. After opening to relieve tank pressure, these valves transfer to their normally closed position to preserve MCR habitability.

VES-PL-V040A/B

Tier 1 Departure:

- Tier 1, Table 2.2.5-1 – Add "Transfer Close" as Active Function.

Associated Tier 2 Departure:

- Tier 2 Table 3.9-16 – Add “Transfer Close” to Safety Related Missions.
- Tier 2, Table 3.11-1 – Change valve descriptions to “Air Tank Safety Relief Valve A/B.”
- Tier 2, Table 3I.6-3 – Change valve descriptions to “Air Tank Safety Relief Valve A/B.”

VES-PL-V040C/D

Tier 1 Departure:

- Tier 1, Table 2.2.5-1 – Add “Transfer Close” as Active Function.

Associated Tier 2 Departure:

- Tier 2, UFSAR Table 3.9-12 - Change VES-PL-V041A/B valve tags to VES-PL-V040C/D; Change valve descriptions to “Air Tank Safety Relief Valve C/D”.
- Tier 2, UFSAR Table 3.9-16 - Change VES-PL-V041A/B valve tags to VES-PL-V040C/D; Change valve descriptions to “Air Tank Safety Relief Valve C/D”; Add “Transfer Close” to Safety-Related Missions.
- Tier 2, Table 3.11-1 – Change valve descriptions to “Air Tank Safety Relief Valve C/D”
- Tier 2, UFSAR Table 3I.6-3 - Change VES-PL-V041A/B valve tags to VES-PL-V040C/D. Change valve descriptions to “Air Tank Safety Relief Valve C/D.”

Technical Evaluation:

In the current AP1000 design, the VES Air Tank safety relief valves provide for overpressure protection during refilling operations, excessive temperature rises in tank rooms, and fires. The valves are normally closed, but may transfer open to relieve pressure from the VES emergency air storage tanks. If the VES-PL-V040A/B/C/D valves are needed to open for overpressure protection of the tanks, the valves must then transfer close to preserve MCR habitability. The valves are pressure relief valves, and as such, are designed to close after tank pressure drops below the design limit. Thus, the transfer close function is a required design function of the valves that should be classified as an active function in Tier 1, Table 2.2.5-1 and Tier 2 Table 3.9-16. Valve functions are classified as active functions if they have a change in state (e.g., open to closed or closed to open) that is performed to mitigate an accident. Returning the valves to their normally closed position preserves MCR habitability consistent with previously evaluated accidents. In-service testing requirements for the valves are consistent with the active functions provided by the valve, thus the IST requirements supported the required design functions of the valves and system. Therefore, these changes do not adversely affect the design function of the VES.

In addition, for consistency of terminology throughout the UFSAR, the tag numbers of the VES-PL-V041A/B in Tier 2 need to be corrected. The correct tag number should state VES-PL-V040C/D consistent with Tier 1. Also, the valve descriptions for VES-PL-V040C/D are to be corrected for consistency within the UFSAR and COL Appendix C.

Summary

The proposed changes would revise the Combined Licenses in regard to the Component Cooling Water System (CCS), Chemical and Volume Control System (CVS), Passive Containment Cooling System (PCS), Passive Core Cooling System (PXS), Reactor Coolant System (RCS), Normal Residual Heat Removal System (RNS), and Main Control Room Emergency Habitability System (VES) by reconciling various valve information for consistency within the UFSAR and COL Appendix C and with the AP1000 design.

The above proposed changes would not adversely affect the design functions of the CCS, CVS, PCS, PXS, RCS, RNS and VES, or adversely affect any other safety-related equipment or function, design function, radioactive material barrier or safety analysis, as shown in each of the above detailed descriptions.

3. TECHNICAL EVALUATION (Included Above)

4. REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

10 CFR 52, Appendix D, Section VIII.B.5.a requires that an applicant or licensee who references this appendix may depart from Tier 2 information, without prior NRC approval, unless the proposed departure involves a change to or departure from Tier 1 information, Tier 2* information, or the Technical Specifications, or requires a license amendment under paragraphs B.5.b or B.5.c of this section. When evaluating the proposed departure, an applicant or licensee shall consider all matters described in the UFSAR. This license amendment request proposes changes to valve information in various locations in the UFSAR. These UFSAR changes involve changes to Plant Specific Tier 1 information and COL Appendix C, and thus, require NRC approval.

10 CFR 50, Appendix A, General Design Criterion (GDC) 14 states that the reactor coolant pressure boundary shall be designed, fabricated, erected, and tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture. The CVS changes maintain compliance with GDC 14 by continuing to preserve the reactor coolant pressure boundary.

10 CFR 50, Appendix A, GDC 16 states that reactor containment and associated systems shall be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require. The CCS changes were editorial, and thus, compliance with GDC 16 is not affected. The RNS changes maintain compliance with GDC 16 by continuing to provide for containment isolation.

10 CFR 50, Appendix A, GDC 19 states that a control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions, including loss-of-coolant accidents. Adequate radiation protection shall be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident. Equipment at appropriate locations outside the control room shall be provided (1) with a design capability for prompt hot shutdown of the reactor, including necessary instrumentation and controls to maintain the unit in a safe condition during hot

shutdown, and (2) with a potential capability for subsequent cold shutdown of the reactor through the use of suitable procedures. The VES changes maintain compliance with GDC 19 by continuing to preserve the habitability of the MCR.

10 CFR 50, Appendix A, GDC 32 states that components which are part of the reactor coolant pressure boundary shall be designed to permit (1) periodic inspection and testing of important areas and features to assess their structural and leak tight integrity, and (2) an appropriate material surveillance program for the reactor pressure vessel. The CVS changes maintain compliance with GDC 32 by continuing to require in-service testing of the reactor coolant pressure boundary isolation valve.

10 CFR 50, Appendix A, GDC 34 states that a system to remove residual heat shall be provided. The system safety function shall be to transfer fission product decay heat and other residual heat from the reactor core at a rate such that specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded. The RNS changes maintain compliance with GDC 34 by continuing to provide the ability to remove residual heat.

10 CFR 50, Appendix A, GDC 35 states that a system to provide abundant emergency core cooling shall be provided. The system safety function shall be to transfer heat from the reactor core following any loss of reactor coolant at a rate such that (1) fuel and clad damage that could interfere with continued effective core cooling is prevented and (2) clad metal-water reaction is limited to negligible amounts. The PCS changes only remove Transfer Close and does not need to be closed as a required safety function. The valve maintains compliance with GDC 35 by continuing to provide abundant emergency core cooling. The PXS maintains compliance with GDC 35 by continuing to provide abundant emergency core cooling.

10 CFR 50, Appendix A, GDC 44 states that a system to transfer heat from structures, systems, and components important to safety, to an ultimate heat sink shall be provided. The system safety function shall be to transfer the combined heat load of these structures, systems, and components under normal operating and accident conditions. The CCS changes are editorial, and the CCS maintains compliance with GDC 44 by continuing to transfer heat from structures, systems, and components important to safety to an ultimate heat sink.

10 CFR 50, Appendix A, GDC 55 states that each line that is part of the reactor coolant pressure boundary and that penetrates the primary reactor containment shall be provided with containment isolation valves... (4) one automatic isolation valve inside and one automatic isolation valve outside containment... The CCS and CVS changes maintain compliance with GDC 55 as the CCS and CVS continue to provide containment isolation valves inside and outside containment for lines that penetrate containment.

4.2 Precedent

No precedent is identified.

4.3 Significant Hazards Consideration

The proposed amendment would revise the Combined License (COLs) for the Licensee to reconcile valve related information in Tier 1 material to be consistent with corresponding Tier

2 material incorporated into the Updated Final Safety Analysis Report (UFSAR). The proposed changes affect material for valves in the Component Cooling Water System (CCS), Chemical and Volume Control System (CVS), Passive Containment Cooling System (PCS), Passive Core Cooling System (PXS), Reactor Coolant System (RCS), Normal Residual Heat Removal System (RNS), and Main Control Room Emergency Habitability System (VES) by reconciling various valve information for consistency within the UFSAR, plant-specific Tier 1 information, corresponding information in COL Appendix C, and the AP1000 design.

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:

4.3.1 Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed changes do not result in any physical changes to the plant, and therefore do not change any safety-related design requirement, qualification requirement or function. The proposed changes do not involve any accident initiating event or component failure, thus, the probabilities of the accidents previously evaluated are not affected. The proposed changes do not affect the radioactive material releases used in the accident analyses, thus, the radiological releases in the accident analyses are not affected. Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

4.3.2 Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed changes do not result in any physical changes to the plant, and therefore do not adversely affect any structure, system or component. No safety-related equipment qualification or design function is affected. The proposed changes do not introduce a new failure mode or create a new fault or sequence of events that could result in a radioactive material release. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident.

4.3.3 Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed changes do not result in any physical changes to the plant, and therefore do not change valve performance, including containment isolation. No safety acceptance criterion would be exceeded or challenged. No safety-related function would be affected. Valve qualification would not be affected. The proposed changes do not affect compliance with existing design codes and regulatory criteria and do not affect any safety analysis. Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

Based on the above, 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.

4.4 Conclusions

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. The above evaluations demonstrate that the proposed changes can be accommodated without an increase in the probability or consequences of an accident previously evaluated, without creating the possibility of a new or different kind of accident from any accident previously evaluated, and without a significant reduction in a margin of safety. Having arrived at negative declarations with regard to the criteria of 10 CFR 50.92, this assessment determined that the proposed change does not involve a Significant Hazards Consideration.

5. Environmental Considerations

The proposed amendment would depart from plant-specific Design Control Document (DCD) to reconcile valve related information in Tier 1 material to be consistent with corresponding Tier 2 material incorporated into the Updated Final Safety Analysis Report (UFSAR). The proposed changes affect material for valves in the Component Cooling Water System (CCS), Chemical and Volume Control System (CVS), Passive Containment Cooling System (PCS), Passive Core Cooling System (PXS), Reactor Coolant System (RCS), Normal Residual Heat Removal System (RNS), and Main Control Room Emergency Habitability System (VES) by reconciling various valve information for consistency within the UFSAR, plant-specific Tier 1 information, corresponding information in COL Appendix C, and the AP1000 design.

This review has determined that the proposed departure would require an amendment to the COL; however, a review of the anticipated construction and operational effects of the proposed amendment has determined that the proposed 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 Determination, 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 would not affect any subject valve's function because the proposed amendment makes no physical changes to the plant. Therefore, the proposed changes are unrelated to any aspect of plant construction or operation that would introduce any change 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 affect any effluent release path or 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.*

Because the proposed amendment makes no physical changes to the plant, the proposed amendment would not change the capability to isolate radioactive material. Plant radiation zones are not affected, 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.

Based on the above review of the proposed amendment, it has been determined that anticipated construction and operational affects of the proposed amendment does 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 the individual or cumulative occupational radiation exposure. Accordingly, the proposed 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