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April 13, 2018

Docket Nos.: 52-025
52-026

ND-18-0374
10 CFR 50.90

U.S. Nuclear Regulatory Commission
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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Request for License Amendment:
Technical Specification Changes to Support Operability During Mode 5
Vacuum Fill Operations (LAR-18-009)

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 changes to COL Appendix A, Technical Specifications (TS). The requested amendment also proposes to depart from associated Updated Final Safety Analysis Report (UFSAR) information (which includes the plant-specific DCD Tier 2 information) with changes which conform with the requested TS changes.

The requested amendment proposes to change TS Limiting Condition for Operation (LCO) 3.5.5 to not require the Passive Residual Heat Removal Heat Exchanger (PRHR HX) to be operable in Mode 5 during vacuum fill operations. In addition, the requested amendment proposes to change Surveillance Requirement (SR) 3.5.7.1 regarding operability requirements for the In-containment Refueling Water Storage Tank (IRWST) and associated flow paths and proposes to add an additional SR 3.5.7.2 to address operability requirements that are not required during vacuum fill operations. Finally, the requested amendment proposes conforming changes to the UFSAR, Appendix 19E, Subsection 2.3.2.4.

Enclosure 1 provides the description, technical evaluation, regulatory evaluation (including the Significant Hazards Consideration Determination) and environmental considerations for the proposed changes.

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 TS 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 approval of the license amendment request (LAR) by October 12, 2018. Approval by this date will allow sufficient time to implement licensing basis changes necessary to support procedure development in relation to conducting the necessary operator training to support plant operations. SNC expects to implement this proposed amendment within 30 days of approval of the requested changes.

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 Wesley Sparkman at (205) 992-6061.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 13th of April 2018.

Respectfully submitted,

Amy G. Aughtman
Licensing Director
Southern Nuclear Operating Company

Enclosures
1) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Request for License Amendment Regarding Technical Specification Changes to Support Operability During Mode 5 Vacuum Fill Operations (LAR-18-009)
2) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Changes to Licensing Basis Documents (LAR-18-009)
3) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Conforming Technical Specification Bases Changes (For Information Only) (LAR-18-009)

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Southern Nuclear Operating Company

ND-18-0374

Enclosure 1

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Request for License Amendment Regarding

Technical Specification Changes to Support Operability During Mode 5 Vacuum Fill Operations

(LAR-18-009)

(This Enclosure consists of 15 pages, including this cover page)

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Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC, or the "Licensee") 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 to change TS Limiting Condition for Operation (LCO) 3.5.5 to not require the Passive Residual Heat Removal Heat Exchanger (PRHR HX) to be operable in Mode 5 during vacuum fill operations. In addition, the requested amendment proposes to change Surveillance Requirement (SR) 3.5.7.1 regarding operability requirements for the In-containment Refueling Water Storage Tank (IRWST) and associated flow paths and proposes to add an additional SR 3.5.7.2 to address operability requirements that are not required during vacuum fill operations. Finally, the requested amendment proposes conforming changes to the UFSAR, Appendix 19E, Subsection 2.3.2.4.

This enclosure requests approval of the license amendment necessary to implement these changes.

2. DETAILED DESCRIPTION and TECHNICAL EVALUATION

DETAILED DESCRIPTION

Passive Core Cooling System Overview

The Passive Core Cooling System (PXS) provides emergency core cooling following postulated design-basis events. The PXS consists of two core makeup tanks (CMTs), an in-containment refueling water storage tank (IRWST), a passive residual heat removal heat exchanger (PRHR HX), two accumulators, and other supporting equipment.

Emergency Core Decay Heat Removal Subsystem

The IRWST is a large, stainless-steel lined tank located underneath the operating deck inside the containment. The IRWST contains one PRHR HX. The PRHR HX tubes are submerged in the normally cold borated water within the IRWST. The PRHR HX is connected to the reactor coolant system (RCS) by an inlet line from one RCS hot leg, and an outlet line to the associated steam generator cold leg channel head. The inlet line to the PRHR HX contains a normally open, motor-operated isolation valve. The outlet line is isolated by two parallel, normally closed air operated valves. There is a collection point at the top of the common inlet piping high point which serves as a gas collector. It is provided with level detectors to indicate when noncondensible gases have collected in this area. A low level is indicative of noncondensible gases. There are provisions to manually vent these gases to the IRWST.

RCS Injection Subsystem

The IRWST is connected to the RCS through the two gravity injection lines, each connected to a direct vessel injection line. Each gravity injection line has a common IRWST injection and containment recirculation line that is connected to both the bottom of the IRWST at the IRWST screen outlet, and also to a containment recirculation screen outlet. Each gravity injection line contains a normally open motor-operated isolation valve and four normally closed isolation valves. The isolation valves for each gravity injection line are arranged in two parallel paths, each path having one squib valve backed up by one check valve. Although gas accumulation is not expected in the IRWST injection lines, there are gas collection chambers located at the high point directly after IRWST injection squib valves PXS-V123A/B and PXS-V125A/B. Level detectors in each chamber indicate the presence of gases. A low level is indicative of nonconsensible gases. There are provisions to allow the operators to locally open manual vent valves to vent these gases to the reactor coolant drain tank during power operation.

RCS Vacuum Fill

RCS vacuum fill occurs in MODE 5. The primary objective of the vacuum fill operation is to maximize air mass removal from the RCS to minimize the dissolved oxygen content prior to startup. Vacuum fill is used after refueling outages to shorten the outage length and to eliminate the starting and stopping of the Reactor Coolant Pumps to remove air from the top of the Steam Generator tubes which is trapped during refill. Vacuum fill is performed when the RCS water level is down near the mid-loop level (i.e., < 20% pressurizer level), where the vacuum refill system can evacuate air from the drained volumes within the RCS (including the reactor vessel head, cold legs, CMT inlet lines, steam generator U-tubes, and pressurizer) out through the plant vent.

PRHR HX and IRWST OPERABILITY Requirements

TS LCO 3.5.5 imposes OPERABILITY requirements on the PRHR HX in MODE 4 with RCS cooling provided by the Normal Residual Heat Removal System (RNS) and in MODE 5 with the RCS pressure boundary intact and the pressurizer level greater than or equal to 20%. This LCO requires the PRHR HX to be OPERABLE so that it can be placed in service in the event normal decay heat removal capability from the RNS is lost.

TS LCO 3.5.7 imposes OPERABILITY requirements on the IRWST in MODE 5. The IRWST OPERABILITY requirements in MODE 5 ensure that an adequate supply of borated water is available to act as a heat sink for the PRHR HX and to supply the required volume of borated water as safety injection for core cooling and reactivity control.

Noncondensible Gas

Noncondensible gases can accumulate when the RCS is refilled and pressurized following a refueling. These gases can adversely impact the performance of the passive safety systems. Therefore, the PRHR HX and IRWST high point vents can be used to remove these gases.

PRHR HX High Point Level (PXS-JE-LS060, -061)

Two nonsafety-related level switches are provided off the PRHR HX common inlet piping high point. These level switches are used to alert the operators that noncondensible gases have collected in this region. These instruments provide a signal to the Plant Control System (PLS) for generation of a Low level alarm in the main control room (MCR) to alert the operator to manually vent these gases to the IRWST.

IRWST Injection Lines High Point Level (PXS-JE-LS070, -071, -072, -073, -074, -075, -076, -077)

Two nonsafety-related level switches are provided for each squib valve outlet path for the IRWST injection lines in a gas collection chamber located on the top of the piping high point. These level switches are used to alert the operators that noncondensible gases have collected in this region. These instruments provide a signal to the PLS for generation of a Low level alarm in the MCR to alert the operators to manually vent these gases to the WLS Reactor Coolant Drain Tank.

Technical Evaluations

There are two changes associated with this amendment request related to PRHR HX and IRWST OPERABILITY during RCS vacuum fill.

1. PRHR HX OPERABILITY during Vacuum Fill in MODE 5

TS 3.5.5 requires that the PRHR HX be OPERABLE in MODE 5 with the RCS pressure boundary intact and pressurizer level greater than or equal to 20%. SR 3.5.5.1 requires the Surveillances of TS 3.5.4 to be met for the PRHR HX to be considered OPERABLE. One of these Surveillances, SR 3.5.4.3, requires the PRHR HX inlet line noncondensible gas volume to be within limit. However, SR 3.5.4.3 cannot be met in MODE 5 during RCS vacuum fill operations.

During RCS vacuum fill, the PRHR HX inlet line begins to fill along with the RCS. When pressurizer level reaches 20%, TS 3.5.5 requires the PRHR HX to be OPERABLE. However as shown in Table 1 and Figure 1, a pressurizer level of 20% is below the elevation of the high point water level sensor in the PRHR HX inlet line. As such, at that time the inlet line cannot be vented. Therefore, the PRHR HX inlet line noncondensible gas volume is out of limit, making

the PRHR HX inoperable due to failure of SR 3.5.4.3 (which is required per SR 3.5.5.1). When the RCS is water solid and returned to atmospheric conditions prior to concluding vacuum refill operations, the PRHR HX will be vented and restored to OPERABLE status.

Table 1: Reference Plant Elevations

Pressurizer level	Description	Elevation (ft.)
100%	-	159.8
62%	PRHR HX inlet line high point	146.4
43%	PRHR HX high point sensors (PXS-JE-LS060/061)	139.7
20%	-	131.5
0%	-	124.5

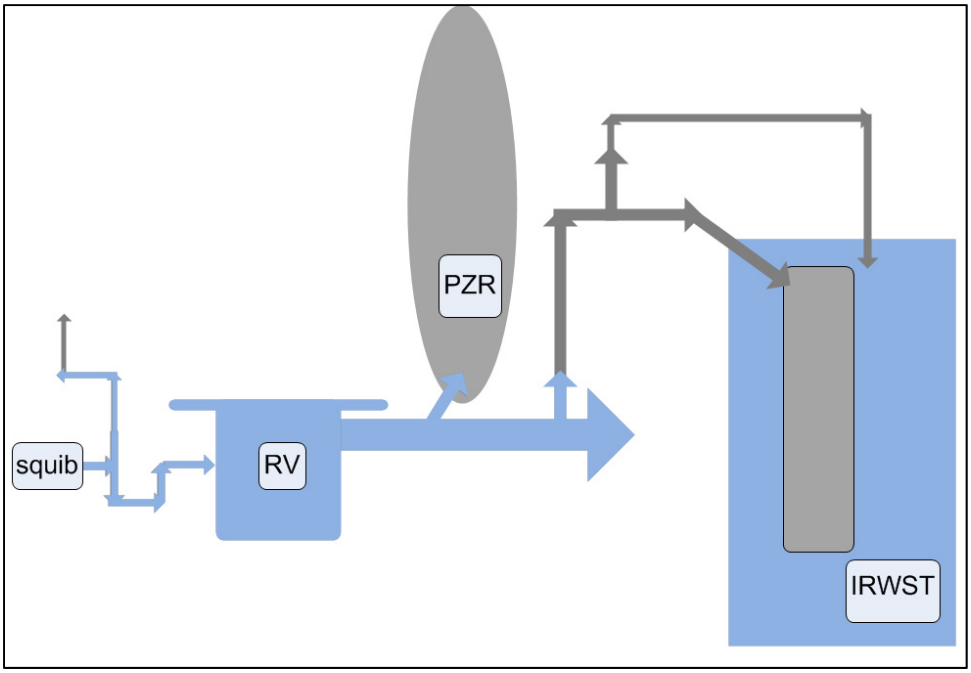

Figure 1: Depiction of PRHR HX Inlet Line (Not to Scale)

Therefore, TS 3.5.5 SR 3.5.5.1 imposing the requirement to meet SR 3.5.4.3 unnecessarily precludes compliance with TS 3.5.5 once the RCS reaches 20% pressurizer level during vacuum refill. As such, SR 3.5.5.1 is proposed to be revised to account for RCS vacuum fill operations.

Changes to COL Appendix A (Plant-specific Technical Specification) TS 3.5.5 are proposed to add a Note to the Applicability which states "PRHR HX is not required to be OPERABLE in MODE 5 during RCS vacuum fill operations." In addition, UFSAR Subsection 19E.2.3.2.4 is revised to note that the PRHR HX does not provide decay heat removal during RCS vacuum fill operations. With these changes, the PRHR HX is not required to be OPERABLE during RCS vacuum fill.

In MODE 5, vacuum fill configuration, the PRHR HX is not credited in the safety analysis to remove decay heat. If decay heat removal by the RNS is lost during vacuum fill, the heat removal function is provided by the vent path through the ADS valves and the injection flow path from the IRWST with containment closure capability provided.

This proposed Applicability Note does not provide an exception during other situations while in MODE 5. During plant shutdown from power operation in MODE 5 with pressurizer level greater than 20% and the RCS pressure boundary intact, the PRHR HX is credited for decay heat removal as the transition is being made from power operation to refueling conditions. In this situation, there is no change to the PRHR HX Applicability requirement and normal means can be used to either vent the PRHR HX if necessary or a transition to an open RCS can be made where PRHR HX OPERABILITY is not Applicable.

The following changes are proposed to COL Appendix A (Plant-specific Technical Specifications):

- LCO 3.5.5 Applicability is revised to add a note "PRHR HX is not required to be OPERABLE in MODE 5 during RCS vacuum fill operations."

The following changes are proposed to the UFSAR:

- Subsection 19E.2.3.2.4 is revised to change the PRHR HX availability to state that it is not available during vacuum fill.

2. <u>IRWST OPERABILITY during Vacuum Fill in MODE 5</u>

TS 3.5.7 requires the IRWST to be OPERABLE in MODE 5. SR 3.5.7.1 requires the SRs of TS 3.5.6 to be met for the IRWST and its flow paths to be considered OPERABLE. SR 3.5.6.3 requires the IRWST injection flow path noncondensible gas volume to be within limit. However, SR 3.5.6.3 cannot be met during RCS vacuum fill operations in MODE 5.

When vacuum refill conditions are established in MODE 5, the RCS level is at mid-loop, and the pressure at the high point level sensors may be less than the saturation pressure of expected RCS temperatures. As a result, the water in the IRWST injection high point vent lines will

vaporize the volume of water sufficiently to initiate an alarm which is primarily used to alert operators of noncondensible gas in the line (see Table 2 and Figure 2 for relative elevations). Therefore, the IRWST injection line noncondensible gas volume is out of limit, making the IRWST inoperable per failure of SR 3.5.6.3 (which is required per SR 3.5.7.1).

Table 2: Reference Plant Elevations

Description	Elevation (ft.)
IRWST injection line high point sensors (PXS-JE-LS072, 073) Note: Sensors are at different elevations than PXS-JE-LS-070, 071, 074, 075, 076, and 077 due to layout constraints. This does not impact the design function of having a gas collection chamber located in the high point directly after IRWST injection squib valve.	111.6
IRWST injection line high point sensors (PXS-JE-LS070, 071, 074, 075, 076, 077)	110.3
Approximate water level at beginning of vacuum fill (mid-loop)	102

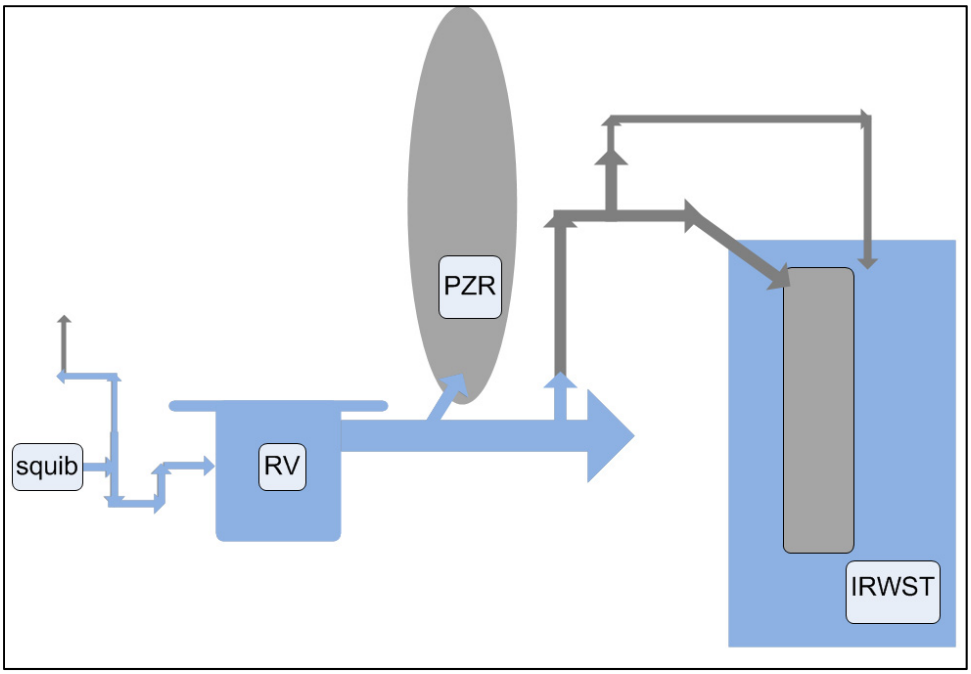

Figure 2: Depiction of IRWST Injection Line (Not to Scale)

Changes to COL Appendix A (Plant-specific Technical Specification) TS 3.5.7 are proposed to remove SR 3.5.6.3 applicability from SR 3.5.7.1 and add SR 3.5.6.3 applicability to new SR 3.5.7.2 with a Note that it is not required to be met during RCS vacuum fill operations.

A gas void could form in the IRWST injection high point vent if dissolved gases were to come out of solution as pressure is reduced during vacuum refill. The size of the gas void is calculated to fill 53-63% of the IRWST injection high point vent piping depending on temperature. This will initiate an alarm; however, this volume would not penetrate into the main IRWST injection line and therefore would not interrupt IRWST injection flow. Therefore, the IRWST continues to be OPERABLE and meet its safety function.

The PXS has been designed to minimize the potential for gas accumulation that could adversely affect performance of safety functions. The changes do not affect any gas accumulation mechanism or the assessment concluding that the PXS design addresses potential issues identified in Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems."

The following changes are proposed to COL Appendix A (Plant-specific Technical Specifications):

- SR 3.5.7.1 is revised to invoke all SRs of TS 3.5.6, except SR 3.5.6.3.

- TS 3.5.7 is revised to add new SR 3.5.7.2 to invoke SR 3.5.6.3, with a Note that it is not required to be met during RCS vacuum fill.

Summary Conclusions

The proposed changes do not adversely impact any functions associated with containing, controlling, channeling, monitoring, or processing radioactive or non-radioactive materials, nor do they diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. The types and quantities of expected plant effluents are not changed. No effluent release path is impacted by this change. Therefore, neither radioactive nor non-radioactive material effluents are affected by this activity.

The proposed changes do not adversely impact radiologically controlled zones. Plant radiation zones, radiation controls established to satisfy 10 CFR Part 20 requirements, and expected amounts and types of radioactive materials are not affected by the proposed changes. Therefore, individual and cumulative radiation exposures are not significantly affected by this change.

The change activity has no adverse impact on the emergency plan or the physical security plan implementation, because there are no changes to physical access to credited equipment inside the Nuclear Island (including containment or the auxiliary building) and no adverse impact to plant personnel's ability to respond to any plant operations or security event.

3. TECHNICAL EVALUATION (Incorporated into Section 2, above)

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 changes to COL Appendix A Technical Specifications; therefore, this activity requires an amendment to the COL. Accordingly, NRC approval is required prior to making the plant-specific changes in this license amendment request.

10 CFR 52, Appendix D, Section 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 application 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.

10 CFR 50, Appendix A, General Design Criterion (GDC) 34 requires the plant design to include a system to remove residual heat from the reactor core, so specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded. With the proposed changes, the Passive Core Cooling System (PXS) continues to provide passive heat removal from the reactor core, so specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded.

10 CFR 50, Appendix A, GDC 35 requires the PXS 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. Suitable redundancy in components and features and suitable interconnections, leak detection, isolation, and containment capabilities shall be provided to assure that for onsite electric power system operation (assuming offsite power is not available) and for offsite electric power system (assuming onsite power is not available) the system safety function can be accomplished. With the proposed changes, the PXS continues to provide adequate core cooling independent of ac power and assuming single active failures.

10 CFR 50, Appendix A, GDC 36 requires the PXS to be designed to permit appropriate periodic inspection of important components. The proposed changes do not prevent the PXS from periodic inspection. The PXS continues to comply with GDC 36.

The proposed changes have been evaluated to determine whether applicable regulations continue to be met. It was determined that the proposed changes do not affect conformance with the GDC differently than described in the plant-specific DCD or UFSAR.

4.2 Precedent

No precedent is identified.

4.3 Significant Hazards Consideration

The requested amendment proposes to change TS Limiting Condition for Operation (LCO) 3.5.5 to not require the Passive Residual Heat Removal Heat Exchanger (PRHR HX) to be operable in Mode 5 during vacuum fill operations. In addition, the requested amendment proposes to change Surveillance Requirement (SR) 3.5.7.1 regarding operability requirements for the In-containment Refueling Water Storage Tank (IRWST) and associated flow paths and proposes to add an additional SR 3.5.7.2 to address operability requirements that are not required during vacuum fill operations. Finally, the requested amendment proposes conforming changes to the UFSAR, Appendix 19E, Subsection 2.3.2.4. 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 affect the operation of any systems or equipment that initiate an analyzed accident or alter any structures, systems, and components (SSC) accident initiator or initiating sequence of events.

The proposed changes do not affect the physical design and operation of the Passive Residual Heat Removal Heat Exchanger (PRHR HX) or In-containment Refueling Water Storage Tank (IRWST) as described in the Updated Final Safety Analysis Report (UFSAR). The proposed changes do not affect the probability of inadvertent operation or failure. Therefore, the probabilities of the accidents previously evaluated in the UFSAR are not affected.

The proposed changes do not affect the ability of the PRHR HX and IRWST to perform their design functions. The designs of the PRHR HX and IRWST continue to meet the same regulatory acceptance criteria, codes, and standards as required by the UFSAR. In addition, the proposed changes maintain the capabilities of the PRHR HX and IRWST to mitigate the consequences of an accident and to meet the applicable regulatory acceptance criteria.

The proposed changes do not affect the prevention and mitigation of other abnormal events (e.g. anticipated operational occurrences, earthquakes, floods and turbine missiles), or their safety or design analyses. Therefore, the consequences of the accidents evaluated in the UFSAR 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 affect the operation of any systems or equipment that may initiate a new or different kind of accident, or alter any SSC such that a new accident initiator or initiating sequence of events is created.

The proposed changes do not affect any other SSC design functions or methods of operation in a manner that results in a new failure mode, malfunction, or sequence of events that affect safety-related or nonsafety related equipment. Therefore, this activity does not allow for a new fission product release path, result in a new fission product barrier failure mode, or create a new sequence of events that result in significant fuel cladding failures.

Therefore, the requested amendment does not create the possibility of a new or different type of accident from any accident previously evaluated.

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

Response: No.

The proposed changes maintain existing safety margins. The proposed changes verify and maintain the capabilities of the PRHR HX and IRWST to perform their design functions. Therefore, the proposed changes satisfy the same design functions in accordance with the same codes and standards as stated in the UFSAR. These changes do not affect any design code, function, design analysis, safety analysis input or result, or design/safety margin.

No safety analysis or design basis acceptance limit/criterion is challenged or exceeded by the proposed changes, and no margin of safety is reduced.

Therefore, the requested 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 requested amendment proposes to change TS Limiting Condition for Operation (LCO) 3.5.5 to not require the Passive Residual Heat Removal Heat Exchanger (PRHR HX) to be operable in Mode 5 during vacuum fill operations. In addition, the requested amendment proposes to change Surveillance Requirement (SR) 3.5.7.1 regarding operability requirements for the In-containment Refueling Water Storage Tank (IRWST) and associated flow paths and proposes to add an additional SR 3.5.7.2 to address operability requirements that are not required during vacuum fill operations. Finally, the requested amendment proposes conforming changes to the UFSAR, Appendix 19E, Subsection 2.3.2.4.

A review has determined that facility construction and operation following implementation of the requested amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a 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), 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 requested amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the requested amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) the requested amendment does not involve a significant reduction in a margin of safety. Therefore, it is concluded that the requested 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 changes in the requested amendment would not adversely affect the design or function of any SSC. 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 adversely 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.

The proposed changes in the requested amendment would not adversely affect the design or function of any SSC. Plant radiation zones (in UFSAR Section 12.3) 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 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-18-0374

Enclosure 2

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Proposed Changes to Licensing Basis Documents

(LAR-18-009)

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

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

UFSAR Tier 2 Changes

UFSAR Appendix 19E, Subsection 2.3.2.4, Passive Residual Heat Removal Heat Exchanger, is revised as follows:

The PRHR HX provides decay heat removal during power operation and is required to be available in shutdown ~~Modes 3, 4, and 5, until the RCS is open~~Modes 3 and 4, and in Mode 5 until the RCS is open except during vacuum fill. In these modes, the PRHR HX provides a passive decay heat removal path. It is automatically actuated on a CMT actuation signal, which would eventually be generated on a loss of shutdown decay heat removal, as shown in the analysis provided in Section 19E.4 of this appendix. In modes with the RCS open (portions of Mode 5 and Mode 6), decay heat removal is provided by “feeding” water from the IRWST and “bleeding” steam from the ADS.

Revise COL Appendix A, Technical Specification 3.5 as follows:

3.5 PASSIVE CORE COOLING SYSTEM (PXS)

3.5.5 Passive Residual Heat Removal Heat Exchanger (PRHR HX) – Shutdown, Reactor Coolant System (RCS) Intact

LCO 3.5.5 The PRHR HX shall be OPERABLE.

APPLICABILITY: MODE 4 with the RCS cooling provided by the Normal Residual Heat Removal System (RNS).
MODE 5 with the RCS pressure boundary intact and pressurizer level ≥ 20%.

- NOTE -

PRHR HX is not required to be OPERABLE in MODE 5 during RCS vacuum fill operations.

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Revise COL Appendix A, Technical Specification 3.7 as follows:

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3.5.7 In-containment Refueling Water Storage Tank (IRWST) – Shutdown, MODE 5

LCO 3.5.7 The IRWST, with one injection flow path and one containment recirculation flow path, shall be OPERABLE.

APPLICABILITY: MODE 5.

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SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.5.7.1	For the IRWST and flow paths required to be OPERABLE, ~~the SRs of Specification 3.5.6, "In-containment Refueling Water Storage Tank (IRWST) - Operating," are applicable.~~the following SRs are applicable: SR 3.5.6.1 SR 3.5.6.2 SR 3.5.6.4 SR 3.5.6.5 SR 3.5.6.6 SR 3.5.6.7 SR 3.5.6.8 SR 3.5.6.9 SR 3.5.6.10 SR 3.5.6.11	In accordance with applicable SRs
SR 3.5.7.2	---------- **- NOTE -** Not required to be met during RCS vacuum fill operations. ---------- For the IRWST and flow paths required to be OPERABLE, the following SR is applicable: SR 3.5.6.3	In accordance with applicable SR

Southern Nuclear Operating Company

ND-18-0374

Enclosure 3

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Conforming Technical Specification Bases Changes

(For Information Only)

(LAR-18-009)

Insertions Denoted by Blue Underline
Omitted text is identified by three asterisks (* * *)

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

Revise Technical Specification Bases, Section B 3.5.5 as follows:

* * *

APPLICABILITY

The PRHR HX must be OPERABLE in MODE 4 with RCS cooling provided by the Normal Residual Heat Removal System (RNS) and in MODE 5 with the RCS pressure boundary intact and pressurizer level ≥ 20% to provide decay heat removal in the event the normal residual heat removal system is not available.

The Applicability is modified by a Note that states that the PRHR is not required to be OPERABLE in MODE 5 during RCS vacuum fill operations. In this scenario, the heat removal function is provided by the vent path through the ADS valves and the injection flow path from the IRWST with containment closure capability provided

The PRHR HX requirements in MODES 1, 2, 3, and 4 with RCS cooling not provided by the RNS are specified in LCO 3.5.4, “Passive Residual Heat Removal Heat Exchanger (PRHR HX) – Operating.”

The PRHR HX is not capable of natural circulation cooling of the RCS in MODE 5 with either the RCS pressure boundary open or with the RCS intact when pressurizer level ≤ 20%, or in MODE 6.

* * *

Revise Technical Specification Bases, Section B 3.5.7 as follows:

* * *

LCO

The IRWST requirements ensure that an adequate supply of borated water is available to act as a heat sink for PRHR and to supply the required volume of borated water as safety injection for core cooling and reactivity control.

To be considered OPERABLE, the IRWST must meet the water volume, boron concentration, and temperature limits defined in the Surveillance Requirements, and one path of injection and recirculation must be OPERABLE (the motor operated injection isolation valve must be open with power removed, and the motor operated sump recirculation isolation valves must be open). OPERABILITY is not expected to be challenged due to small gas accumulations in the high point, and rapid gas accumulations are not expected during plant operation. However, a relatively small gas volume was incorporated into the design for alerting operators to provide sufficient time to initiate venting operations before the gas volume would be expected to increase to a sufficient volume that might potentially challenge the OPERABILITY of passive safety injection flow. Noncondensible gas accumulation in the injection line high point that causes the water level to drop below the sensor will require operator action to investigate the cause of the gas accumulation and to vent the associated high point(s).

Note that during vacuum refill operations, a vapor void may form in the high point vent lines, causing the water level to drop below the high point water level sensor. Noncondensible gas accumulation will not increase to a volume that could potentially challenge the OPERABILITY of the passive safety injection flow.

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SURVEILLANCE REQUIREMENTS

SR 3.5.7.1

The LCO 3.5.6 Surveillance Requirements and Frequencies (SR 3.5.6.1 through SR 3.5.6.11, except SR 3.5.6.3) are applicable to the IRWST and the flow paths required to be OPERABLE. Refer to the corresponding Bases for LCO 3.5.6 for a discussion of each SR.

The LCO 3.5.6 Surveillance Requirement 3.5.6.3 is not applicable to the IRWST and the flow paths required to be OPERABLE. During RCS vacuum fill operations, a vapor void may form in the high point vent line, causing the water level to drop below the high point water level sensor. Gas accumulation will not increase to a volume that could potentially

challenge the OPERABILITY of the passive safety injection flow.

SR 3.5.7.2

The LCO 3.5.6 Surveillance Requirement 3.5.6.3 is applicable to the IRWST and the flow paths required to be OPERABLE. SR 3.5.7.2 is not required to be met during RCS vacuum fill operations, as a vapor void may form in the high point vent line, causing the water level to drop below the high point water level sensor. Gas accumulation will not increase to a volume that could potentially challenge the OPERABILITY of the passive safety injection flow.