

June 12, 2020

Docket Nos.: 50-321  
50-366

NL-20-0029

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

Edwin I. Hatch Nuclear Plant - Units 1 and 2  
Application to Revise Technical Specifications to Adopt TSTF-568,  
"Revise Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2"

Ladies and Gentlemen:

Pursuant to 10 CFR 50.90, Southern Nuclear Operating Company (SNC) is submitting a request for amendments to the Technical Specifications (TS) for Edwin I. Hatch Nuclear Plant (HNP), Units 1 and 2.

SNC requests adoption of TSTF-568, "Revise Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2." TSTF-568 revises the Applicability and Actions of Technical Specification (TS) 3.6.3.2, "Primary Containment Oxygen Concentration," and presents the requirements in a manner more consistent with the Standard Technical Specifications (STS) format and content.

The enclosure provides a description and assessment of the proposed change. Attachment 1 provides the existing TS pages marked to show the proposed change. Attachment 2 provides revised (clean) TS pages. Attachment 3 provides the existing TS Bases pages marked to show revised text associated with the proposed TS changes and is provided for information only.

SNC requests review of this amendment request under the Consolidated Line Item Improvement Process (CLIIP). Approval of the proposed amendment is requested by December 31, 2020. Once approved, the amendment shall be implemented within 45 days.

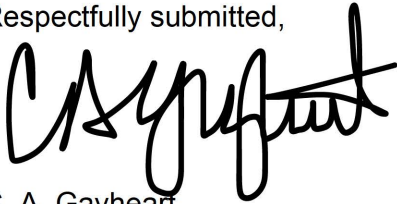
In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Georgia Official.

There are no regulatory commitments made in this submittal.

If you should have any questions regarding this submittal, please contact Jamie Coleman at 205.992.6611.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 12<sup>th</sup> day of June 2020.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'C. A. Gayheart', with a stylized, cursive script.

C. A. Gayheart

Director, Regulatory Affairs

Southern Nuclear Operating Company

CAG/TLE/scm

Enclosure: Description and Assessment

Attachments: 1. Proposed Technical Specification Changes (Mark-Up)  
2. Revised Technical Specification Pages  
3. Proposed Technical Specification Bases Changes (Mark-Up) - For Information Only

cc: Regional Administrator, Region II  
NRR Project Manager – Hatch  
Senior Resident Inspector – Hatch  
Director, Environmental Protection Division – State of Georgia  
RType: CHA02.004

**Edwin I. Hatch Nuclear Plant - Units 1 and 2**  
**Application to Revise Technical Specifications to Adopt TSTF-564,**  
**“Revise Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2”**

**Enclosure**

**Description and Assessment**

## **1.0 DESCRIPTION**

Southern Nuclear Operating Company (SNC) requests adoption of Technical Specification Task Force (TSTF) traveler TSTF-568, "Revise the Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2," into the Edwin I. Hatch Nuclear Plant (HNP) Unit 1 and Unit 2 Technical Specifications (TS). TSTF-568 revises the Applicability and Actions of TS 3.6.3.2, "Primary Containment Oxygen Concentration," and presents the requirements in a manner more consistent with the Standard Technical Specifications (STS) format and content.

## **2.0 ASSESSMENT**

### **2.1 Applicability of Safety Evaluation**

SNC has reviewed the safety evaluation for TSTF-568 provided to the Technical Specifications Task Force in a letter dated December 17, 2019. This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-568. SNC has concluded that the justifications presented in TSTF-568 and the safety evaluation prepared by the NRC staff are applicable to HNP Units 1 and 2 and justify this amendment for the incorporation of the changes to the HNP Units 1 and 2 TS.

### **2.2 Optional Changes and Variations**

The proposed change to TS 3.6.2.5, "Drywell-to-Suppression Chamber Differential Pressure," in TSTF-568 is not applicable to HNP Units 1 and 2 and is not included.

## **3.0 REGULATORY ANALYSIS**

### **3.1 No Significant Hazards Consideration Analysis**

Southern Nuclear Operating Company (SNC) requests adoption of TSTF-568, "Revise Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2." TSTF-568 revises the Applicability and Actions of Technical Specification (TS) 3.6.3.2, "Primary Containment Oxygen Concentration," and presents the requirements in a manner more consistent with the Standard Technical Specifications (STS) format and content.

SNC has evaluated if a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

- (1) Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed change revises the Applicability and Actions of TS 3.6.3.2, "Primary Containment Oxygen Concentration," and presents the



requirements in a manner more consistent with the STS format and content. Primary containment oxygen concentration is not an initiator to any accident previously evaluated. As a result, the probability of any accident previously evaluated is not affected by the proposed change.

Primary containment oxygen concentration is an assumption in the mitigation of some accidents previously evaluated. The Applicability of TS 3.6.3.2 is changed from Mode 1 when thermal power is greater than 15% to Modes 1 and 2. This expands the Applicability of the TS and will not have an effect on the consequences of an accident. The existing Applicability exceptions are removed and replaced with a longer Completion Time of 72 hours. The consequences of an event that could affect the primary containment oxygen concentration are no different during the proposed Completion Time than the consequences of the same event during the existing Completion Times. A note referencing Limiting Condition for Operation (LCO) 3.0.4.c is added to the Actions to permit entering the Applicability with the LCO not met. The note replaces the existing Applicability exceptions. This change is administrative and has no effect on the consequences of an accident.

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

- (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 change revises the Applicability and Actions of TS 3.6.3.2, "Primary Containment Oxygen Concentration," and presents the requirements in a manner more consistent with the STS format and content. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed). No credible new failure mechanisms, malfunctions, or accident initiators that would have been considered a design basis accident in the UFSAR are created because the Nuclear Regulatory Commission has determined that hydrogen generation is not risk significant for design basis accidents.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- (3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed change revises the Applicability and Actions of TS 3.6.3.2, "Primary Containment Oxygen Concentration," and presents the requirements in a manner more consistent with the STS format and content. No safety limits are affected. No Limiting Conditions for Operation or Surveillance limits are affected. The Primary Containment Oxygen Concentration Technical Specification requirements assure sufficient safety

margins are maintained, and that the design, operation, surveillance methods, and acceptance criteria specified in applicable codes and standards (or alternatives approved for use by the NRC) will continue to be met as described in the plants' licensing basis. The proposed change does not adversely affect existing plant safety margins or the reliability of the equipment assumed to operate in the safety analysis. As such, there are no changes being made to safety analysis assumptions, safety limits, or limiting safety system settings that would adversely affect plant safety.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, SNC concludes 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.

### 3.2 Conclusion

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.

## 4.0 ENVIRONMENTAL EVALUATION

The proposed change does not change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or does not change an inspection or surveillance requirement. The proposed change 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 individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

**Edwin I. Hatch Nuclear Plant - Units 1 and 2**  
**Application to Revise Technical Specifications to Adopt TSTF-564,**  
**“Revise Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2”**

**Attachment 1**

**Proposed Technical Specification Changes (Mark-Up)**

### 3.6 CONTAINMENT SYSTEMS

#### 3.6.3.2 Primary Containment Oxygen Concentration

LCO 3.6.3.2 The primary containment oxygen concentration shall be < 4.0 volume percent.

APPLICABILITY: MODE 1 and 2 ~~during the time period:~~

~~a. From 24 hours after THERMAL POWER is > 15% RTP following startup, to~~

~~b. 24 hours prior to reducing THERMAL POWER to < 15% RTP prior to the next scheduled reactor shutdown.~~

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Primary containment oxygen concentration not within limit.	A.1 <u>-----NOTE-----</u> <u>LCO 3.0.4.c is applicable.</u> <u>Restore oxygen concentration to within limit.</u>	<u>72</u> <del>24</del> hours
B. Required Action and associated Completion Time not met.	B.1 <u>Be in MODE 3</u> <del>Reduce THERMAL POWER to ≤ 15% RTP.</del>	<u>12</u> <del>8</del> hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.3.2.1 Verify primary containment oxygen concentration is within limits.	In accordance with the Surveillance Frequency Control Program



### 3.6 CONTAINMENT SYSTEMS

#### 3.6.3.2 Primary Containment Oxygen Concentration

LCO 3.6.3.2 The primary containment oxygen concentration shall be < 4.0 volume percent.

APPLICABILITY: MODE 1 and 2 during the time period:

~~a. From 24 hours after THERMAL POWER is > 15% RTP following startup, to~~

~~b. 24 hours prior to reducing THERMAL POWER to < 15% RTP prior to the next scheduled reactor shutdown.~~

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Primary containment oxygen concentration not within limit.	A.1 <u>-----NOTE-----</u> <u>LCO 3.0.4.c is applicable.</u> <u>Restore oxygen concentration to within limit.</u>	<u>72</u> <del>24</del> hours
B. Required Action and associated Completion Time not met.	B.1 <u>Be in MODE 3</u> <del>Reduce THERMAL POWER to ≤ 15% RTP.</del>	<u>12</u> <del>8</del> hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.3.2.1 Verify primary containment oxygen concentration is within limits.	In accordance with the Surveillance Frequency Control Program

**Edwin I. Hatch Nuclear Plant - Units 1 and 2**  
**Application to Revise Technical Specifications to Adopt TSTF-564,**  
**“Revise Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2”**

**Attachment 2**

**Revised Technical Specification Pages**

### 3.6 CONTAINMENT SYSTEMS

#### 3.6.3.2 Primary Containment Oxygen Concentration

LCO 3.6.3.2      The primary containment oxygen concentration shall be < 4.0 volume percent.

APPLICABILITY:      MODE 1 and 2.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Primary containment oxygen concentration not within limit.	A.1      -----NOTE----- LCO 3.0.4.c is applicable. ----- Restore oxygen concentration to within limit.	72 hours
B. Required Action and associated Completion Time not met.	B.1      Be in MODE 3.	12 hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.3.2.1      Verify primary containment oxygen concentration is within limits.	In accordance with the Surveillance Frequency Control Program

### 3.6 CONTAINMENT SYSTEMS

#### 3.6.3.2 Primary Containment Oxygen Concentration

LCO 3.6.3.2      The primary containment oxygen concentration shall be < 4.0 volume percent.

APPLICABILITY:      MODE 1 and 2.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Primary containment oxygen concentration not within limit.	A.1      -----NOTE----- LCO 3.0.4.c is applicable. ----- Restore oxygen concentration to within limit.	72 hours
B. Required Action and associated Completion Time not met.	B.1      Be in MODE 3.	12 hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.3.2.1      Verify primary containment oxygen concentration is within limits.	In accordance with the Surveillance Frequency Control Program



**Edwin I. Hatch Nuclear Plant - Units 1 and 2**  
**Application to Revise Technical Specifications to Adopt TSTF-564,**  
**“Revise Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2”**

**Attachment 3**

**Proposed Technical Specification Bases Changes (Mark-Up) - For Information Only**

BASES (continued)

---

LCO                      The primary containment oxygen concentration is maintained < 4.0 v/o to ensure that an event that produces any amount of hydrogen does not result in a combustible mixture inside primary containment.

---

APPLICABILITY                      The primary containment oxygen concentration must be within the specified limit when primary containment is inerted, ~~except as allowed by the relaxations during startup and shutdown addressed below.~~ The primary containment must be inert in MODE S 1 and 2, since this is the condition with the highest probability of an event that could produce hydrogen.

~~Inerting the primary containment is an operational problem because it prevents containment access without an appropriate breathing apparatus. Therefore, the primary containment is inerted as late as possible in the plant startup and de-inerted as soon as possible in the plant shutdown. As long as reactor power is < 15% RTP, the potential for an event that generates significant hydrogen is low and the primary containment need not be inert. Furthermore, the probability of an event that generates hydrogen occurring within the first 24 hours of a startup, or within the last 24 hours before a shutdown, is low enough that these "windows," when the primary containment is not inerted, are also justified. The 24 hour time period is a reasonable amount of time to allow plant personnel to perform inerting or de-inerting.~~

---

ACTIONS                      A.1

If oxygen concentration is  $\geq 4.0$  v/o ~~at any time~~ while operating in MODE 1 or MODE 2, ~~with the exception of the relaxations allowed during startup and shutdown~~, oxygen concentration must be restored to < 4.0 v/o within 7224 hours. The 7224 hour Completion Time is allowed when oxygen concentration is  $\geq 4.0$  v/o because of the availability of other hydrogen mitigating systems (e.g., the CAD System) and the low probability and long duration of an event that would generate significant amounts of hydrogen occurring during this period.

A Note permits the use of the provisions of LCO 3.0.4.c. This allowance permits entry into the applicable MODE(S) while relying on the ACTIONS. This allowance is acceptable because inerting the primary containment prevents containment access without an appropriate breathing apparatus. Therefore, the primary containment

(continued)

is inerted as late as possible in the plant startup, after entering MODES 1 and 2, and de-inerted as soon as possible in the plant shutdown. It is acceptable to intentionally enter Required Action A.1 prior to a shutdown in order to begin de-inerting the primary containment prior to exiting the Applicability.

(continued)

BASES

---

ACTIONS  
(continued)

B.1

If oxygen concentration cannot be restored to within limits within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, power must be reduced to MODE 3 ~~≤ 15% RTP~~ within 128 hours. The 128 hour Completion Time is reasonable, based on operating experience, to reduce reactor power from full power conditions in an orderly manner and without challenging plant systems.

---

SURVEILLANCE  
REQUIREMENTS

SR 3.6.3.2.1

The primary containment (drywell and suppression chamber) must be determined to be inert by verifying that oxygen concentration is < 4.0 v/o. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

---

REFERENCES

1. FSAR, Section 5.2.4.9.
  2. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.
-



BASES (continued)

---

APPLICABILITY

The primary containment oxygen concentration must be within the specified limit when primary containment is inerted, ~~except as allowed by the relaxations during startup and shutdown addressed below.~~ The primary containment must be inert in MODES 1 and 2, since this is the condition with the highest probability of an event that could produce hydrogen.

~~Inerting the primary containment is an operational problem because it prevents containment access without an appropriate breathing apparatus. Therefore, the primary containment is inerted as late as possible in the plant startup and de-inerted as soon as possible in the plant shutdown. As long as reactor power is < 15% RTP, the potential for an event that generates significant hydrogen is low and the primary containment need not be inert. Furthermore, the probability of an event that generates hydrogen occurring within the first 24 hours of a startup, or within the last 24 hours before a shutdown, is low enough that these "windows," when the primary containment is not inerted, are also justified. The 24 hour time period is a reasonable amount of time to allow plant personnel to perform inerting or de-inerting.~~

---

ACTIONS

A.1

If oxygen concentration is  $\geq 4.0$  v/o ~~at any time~~ while operating in MODE 1 or MODE 2, ~~with the exception of the relaxations allowed during startup and shutdown,~~ oxygen concentration must be restored to  $< 4.0$  v/o within 7224 hours. The 7224 hour Completion Time is allowed when oxygen concentration is  $\geq 4.0$  v/o because of the low probability and long duration of an event that would generate significant amounts of hydrogen occurring during this period.

A Note permits the use of the provisions of LCO 3.0.4.c. This allowance permits entry into the applicable MODE(S) while relying on the ACTIONS. This allowance is acceptable because inerting the primary containment prevents containment access without an appropriate breathing apparatus. Therefore, the primary containment is inerted as late as possible in the plant startup, after entering MODES 1 and 2, and de-inerted as soon as possible in the plant shutdown. It is acceptable to intentionally enter Required Action A.1 prior to a shutdown in order to begin de-inerting the primary containment prior to exiting the Applicability.

---

(continued)

B.1

If oxygen concentration cannot be restored to within limits within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, power must be reduced to MODE 3 ~~≤ 15% RTP~~ within 128 hours. The 128 hour Completion Time is reasonable, based on operating experience, to reduce reactor power from full power conditions in an orderly manner and without challenging plant systems.

---

(continued)