*General Directions: This Model SE provides the format and content to be used when preparing the plant-specific SE of LAR to adopt Traveler TSTF-568, Revision 2. The **bolded** bracketed information shows text that should be filled in for the specific amendment; individual licensees would furnish site-specific nomenclature or values for these bracketed items. The italicized wording provides guidance on what should be included in each section. The italicized wording should not be included in the SE.*

FINAL MODEL SAFETY EVALUATION

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER

TSTF-568, REVISION 2

"REVISE APPLICABILITY OF BWR/4 TS 3.6.2.5 AND TS 3.6.3.2"

USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS

(EPID L-2017-PMP-0024)

1.0 INTRODUCTION

By application dated **[enter date]** (Agencywide Documents Access and Management System (ADAMS) Accession No. **[MLXXXXXXXXX]**), **[as supplemented by letters dated [enter date(s)]], [name of licensee]** (the licensee) submitted a license amendment request (LAR) for **[name of facility or facilities (abbreviated name(s)), applicable unit(s)]**.

The proposed changes would revise **[TS [Technical Specification] 3.6.2.5, "Drywell-to-Suppression Chamber Differential Pressure," and]** TS 3.6.3.2, "Primary Containment Oxygen Concentration." The proposed changes simplify and clarify the applicability statements, which if misapplied, could conflict with the corresponding required actions. The proposed changes also remove the undefined term "scheduled plant shutdown" and provide adequate terminal actions.

The proposed amendment is based on Technical Specifications Task Force (TSTF) Traveler TSTF-568, Revision 2, "Revise Applicability of BWR/4 TS 3.6.2.5 and TS 3.6.3.2" (ADAMS Accession No. ML19141A122). The U.S. Nuclear Regulatory Commission (NRC or the Commission) approved TSTF-568, Revision 2, by letter dated December 17, 2019 (ADAMS Package Accession No. ML19325C444). The NRC staff's safety evaluation (SE) of the traveler was enclosed with the NRC staff's approval letter.

[[The licensee has proposed variations from the TS changes described in Traveler TSTF-568, Revision 2. The variations are described in Section [2.2.3] of this SE and evaluated in Section [3.3].] *OR* **[The licensee is not proposing any variations from the TS changes described in TSTF-568, Revision 2, or the applicable parts of the NRC staff's SE of TSTF-568, Revision 2.]]**

[The supplemental letter(s) dated [enter date(s)], provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on [enter date] (cite FR reference).]

2.0 REGULATORY EVALUATION

2.1 Description of Structures, Systems, Components and TS Sections

{NOTE: Section 2.1.1 is only applicable for plants with Mark I containments.}

2.1.1 Current Drywell-to-Suppression Chamber Differential Pressure Control

The drywell-to-suppression chamber differential pressure control is a safety-related operational feature of Mark I containment designs. The TS 3.6.2.5 requires a minimum differential pressure of **[1.5]** pounds per square inch differential (psid) to reduce the loss-of-coolant accident (LOCA) hydrodynamic loads during the Mark I containment load definition short- and long-term programs.[1] The LOCA pool swell loads are significantly reduced because the differential pressure control reduces the length of water leg in the downcomer. The LOCA vent clearing and pool swell due to bubble formation would occur earlier (i.e., at a lower drywell pressure resulting in lesser forces on the suppression chamber thereby increasing the safety margin for containment integrity, containment internal structures, and pressure boundary). Decreasing the allowable suppression chamber water level has a similar effect.

It is difficult to control the differential pressure during startup and shutdown transients. This is because of the variation of the drywell heat loads from the primary and auxiliary systems and because the inerting (during startup) or the de-inerting (during shutdown) of containment. Inerting the containment during startup involves the addition of large volumes of nitrogen. De-inerting containment during shutdown involves the addition of large volumes of air. In order to allow operation during the time differential pressure control is difficult, the current TS 3.6.2.5 is applicable from **[24]** hours following startup after the reactor thermal power exceeds **[15]** percent to **[24]** hours prior to reducing thermal power less than **[15]** percent reactor thermal power (RTP) during a scheduled shutdown.

2.1.**[2]** Current Containment Oxygen Concentration Requirement

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.44, "Combustible gas control for nuclear power reactors," states that for a plant with an inerted containment atmosphere, the oxygen concentration in the primary containment is required to be maintained below 4 percent by volume during normal plant operation. This requirement ensures that an accident that produces hydrogen does not result in a combustible mixture inside the primary containment. The current TS 3.6.3.2 requires primary containment oxygen concentration to be less than 4 percent by volume when in Mode 1 during the period from **[24]** hours after the thermal power exceeds **[15]** percent RTP following startup, and to **[24]** hours prior to reducing the RTP to less than **[15]** percent RTP during next scheduled shutdown. TSTF-568, Revision 2, stated that the **[24]**-hour allowance above **[15]** percent RTP is provided in the primary containment oxygen concentration specification to delay inerting the

---

[1] U.S. Nuclear Regulatory Commission, NUREG-0661, "Safety Evaluation Report Mark I Containment Long-term Program Resolution of Generic Technical Activity A-7," July 1980 (ADAMS Accession No. ML072710452).

primary containment in a plant startup and to accelerate de-inerting for a plant shutdown. This allowance is provided so that plant personnel can safely enter the primary containment without breathing apparatus to perform the needed inspections and maintenance adjustments.

{NOTE: Use this paragraph for Mark I containments.}

The containment consists of a drywell (in the shape of an inverted light bulb), a suppression chamber (in the shape of a toroid), and a network of vents which extend radially outward and downward from the drywell to the suppression chamber. The containment atmosphere is inerted with nitrogen gas during normal operation to prevent a combustible mixture of hydrogen and oxygen from forming during accident conditions. Long-term control of post-LOCA hydrogen gas concentration is accomplished by adding additional nitrogen gas and then venting the primary containment through the standby gas treatment system.

{NOTE: Use this paragraph for Mark II containments.}

The containment consists of a drywell (in the shape of a truncated cone), a suppression chamber directly below the drywell (in the shape of a right circular cylinder), and a network of vertical vents extending downward from the drywell to the suppression chamber. The containment atmosphere is inerted with nitrogen gas during normal operation to prevent a combustible mixture of hydrogen and oxygen from forming during accident conditions. Long-term control of post-LOCA hydrogen gas concentration is accomplished by adding additional nitrogen gas and then venting the primary containment through the standby gas treatment system.

2.1.**[3]** Pressure Suppression Following a LOCA

The drywell is immediately pressurized when a postulated line break occurs within the primary containment. As drywell pressure increases, drywell atmosphere (primarily nitrogen gas) and steam are blown down through the vents into the suppression pool via the downcomers. The steam condenses in the suppression pool which suppresses the peak pressure in the drywell. Non-condensable gases discharged into the suppression pool collect in the free air volume of the suppression chamber, increasing the suppression chamber pressure. As steam is condensed in the suppression pool and on the structures in the drywell, the pressure decreases until the suppression chamber pressure exceeds the drywell pressure and the suppression chamber-drywell vacuum breakers open and vent non-condensable gases back into the drywell.

{NOTE: Section 2.1.4 is only applicable for plants with Mark I containments.}

2.1.**[4]** TS 3.6.2.5, “Drywell-to-Suppression Chamber Differential Pressure”

A drywell-to-suppression chamber differential pressure limit is required to ensure the containment conditions assumed in the safety analyses are met. Failure to maintain the required differential pressure could result in excessive forces on the suppression chamber due to higher water clearing loads from downcomer vents and higher-pressure buildup in the drywell during a LOCA. Drywell-to-suppression chamber differential pressure must be controlled when the primary containment is inert. The TS requires that the drywell pressure be maintained ≥ **[1.5]** psid above the pressure of the suppression chamber.

2.1.**[5]** TS 3.6.3.2, “Primary Containment Oxygen Concentration”

The primary containment oxygen concentration is maintained to ensure that a LOCA, a postulated event that produces hydrogen, does not result in a combustible mixture inside primary containment. The TS requires that the primary containment oxygen concentration be maintained below 4 volume percent. Below this concentration, the primary containment is inerted and no combustion can occur.

2.2 Description of Proposed Technical Specification Changes

{NOTE: Section 2.2.1 is only applicable for plants with Mark I containments.}

2.2.1 Proposed Changes to TS 3.6.2.5, “Drywell-to-Suppression Chamber Differential Pressure”

The Applicability of TS 3.6.2.5, “Drywell-to-Suppression Chamber Differential Pressure,” is revised as shown below.

Current TS Applicability	Proposed TS Applicability
MODE 1 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.	MODE 1 with THERMAL POWER > **[15]**% RTP.

Required Action A.1 and the completion time (CT) are revised as shown below.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell-to-suppression chamber differential pressure not within limit.	A.1 ---------- *NOTE* ---------- *LCO 3.0.4.c is applicable.* ---------- Restore differential pressure to within limit.	*72* ~~8~~ hours

The NRC staff understands the overall purpose of the proposed changes is to simplify the applicability statement by adding a new note and revising the CT. This change provides similar operational flexibility but more closely follows established TS conventions.

[2.2.2] Proposed Changes to TS 3.6.3.2, "Primary Containment Oxygen Concentration"

The Applicability of TS 3.6.3.2, "Primary Containment Oxygen Concentration," would be revised as shown below.

Current TS Applicability	Proposed TS Applicability
MODE 1 during the time period: c. From **[24]** hours after THERMAL POWER is > **[15]**% RTP following startup, to d. **[24]** hours prior to reducing THERMAL POWER to < **[15]**% RTP prior to the next scheduled reactor shutdown.	MODES 1 and 2.

Required Actions A.1 and B.1 and their associated CTs are revised as shown below.

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* ~~24~~ hours
B. Required Action and associated Completion Time not met.	B.1 *Be in MODE 3*~~Reduce THERMAL POWER to ≤ [15]% RTP~~.	*12*~~8~~ hours

The NRC staff understands the overall purpose of the proposed changes is to simplify the applicability statement by adding a new note and revising the CT. This change provides operational flexibility but more closely follows established TS conventions and requires that the plant be in Mode 3 if oxygen concentration cannot be restored to within limits.

[2.2.3 Variations]

{Note: If the licensee identifies variations in the LAR, other than differences in the numbering of the TS and nomenclature, they should be described in this section.}

2.3 Applicable Regulatory Requirements and Guidance

Section 50.90 of 10 CFR, "Application for amendment of license, construction permit, or early site permit," requires that whenever a licensee desires to amend the license, application for an amendment must be filed with the Commission fully describing the changes desired, and following as far as applicable, the form prescribed for original applications.

Under 10 CFR 50.92(a), determinations on whether to grant an applied-for license amendment are to be guided by the considerations that govern the issuance of initial licenses or construction permits to the extent applicable and appropriate. Both the common standards for licenses and construction permits in 10 CFR 50.40(a), and those specifically for issuance of operating licenses in 10 CFR 50.57(a)(3), provide that there must be "reasonable assurance" that the activities at issue will not endanger the health and safety of the public.

The regulation, 10 CFR 50.36, "Technical specifications," establishes the regulatory requirements related to the content of TSs. Section 50.36(a)(1) requires an application for an operating license to include proposed TSs. A summary statement of the bases or reasons for such specifications, other than those covering administrative controls, must also be included in the application, but shall not become part of the TSs.

The regulation, 10 CFR 50.36(b), requires:

> Each license authorizing operation of a …utilization facility …will include technical specifications. The technical specifications will be derived from the analyses and evaluation included in the safety analysis report, and amendments thereto, submitted pursuant to [10 CFR] 50.34 ["Contents of applications; technical information"]. The Commission may include such additional technical specifications as the Commission finds appropriate.

The categories of items required to be in the TSs are listed in 10 CFR 50.36(c).

In accordance with 10 CFR 50.36(c)(2), limiting conditions for operation (LCOs) are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When LCOs are not met, the licensee must shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met. In addition, 10 CFR 50.36(c)(2)(ii)(B) requires a TS LCO of a nuclear reactor must be established for a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The regulation, 10 CFR 50.44(b)(2)(i), states that "All boiling water reactors with Mark I or Mark II type containments must have an inerted atmosphere." Section 50.44(a)(1) defines "[i]nerted atmosphere" as a containment atmosphere with less than 4 percent of oxygen by volume.

{NOTE: Use this paragraph for Mark I containments.}

Chapter 6.2.1.1.C, Revision 7, "Pressure-Suppression Type BWR Containments" of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition" (SRP), March 2007 (ADAMS Accession No. ML063600403) states: "The acceptability of LOCA pool dynamic loads for plants with Mark I containments is based on conformance with NRC acceptance criteria found in NUREG-0661."

The NRC staff's guidance for the review of TSs is in Chapter 16.0, Revision 3, "Technical Specifications," of the SRP, March 2010 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared Standard Technical Specifications (STSs) for each of the LWR nuclear designs. Accordingly, the NRC

staff's review includes consideration of whether the proposed changes are consistent with the applicable reference STSs (i.e., the current STSs), as modified by NRC-approved travelers. The STS applicable to **[abbreviated name of facility]** is NUREG-1433, Revision 4.0, "Standard Technical Specifications, General Electric Plants BWR/4," Volume 1, "Specifications," and Volume 2, "Bases," April 2012 (ADAMS Accession Nos. ML12104A192 and ML12104A193, respectively).

3.0 TECHNICAL EVALUATION

The proposed amendments are based on the NRC-approved TSTF-568, Revision 2. The NRC staff also considered the regulations and guidance discussed in Section 2.3 of this SE in its review.

{NOTE: The changes to TS 3.6.2.5 discussed in Section 3.1 are only applicable to plants with Mark I containments.}

3.1 PROPOSED CHANGES TO TS 3.6.2.5

3.1.1 Proposed Changes in the Applicability

The licensee proposed to delete the time periods, dependent on startup and shutdown times, from the applicability section and to replace them with a thermal power value. These time periods are "a. From **[24]** hours after THERMAL POWER is > **[15]** percent RTP following startup," to b. "**[24]** hours prior to reducing THERMAL POWER to < **[15]** percent RTP prior to the next scheduled reactor shutdown." These time periods would be replaced by flexibilities and requirements in the revised completion times and the inserted note referencing LCO 3.0.4.c. This would result in requiring the drywell pressure during Mode 1 to be maintained above the specified limit whenever the thermal power is above **[15]** percent. The current limitations of applicability, dependent on startup and shutdown, were established to allow licensees operational flexibilities, such as containment entry to perform maintenance and surveillances while at power.

In TSTF-568, Revision 2, Attachment, General Electric (GE) Safety Communication (SC) 02-10, page 4, under the heading "Corrective/Preventive Actions," item 2, it is recommended that Mark I plants that use TS 3.6.2.5 should "confirm that their containment is structurally designed for pool swell loads with a zero drywell-to-suppression chamber differential pressure." For these plants, the Mark I containment load definition program has defined the pool swell loads associated with zero drywell-to-suppression chamber differential pressure. NUREG-0661, Appendix A, Section 2.3, states that each plant with a differential pressure control (i.e., TS 3.6.2.5) perform a structural assessment to demonstrate that the containment can maintain its functional capability when the differential pressure control is out-of-service (i.e., the differential pressure is zero).

[Browns Ferry, Units 1, 2, and 3/Dresden Units 2 and 3/Quad Cities, Units 1 and 2/FitzPatrick is/are] applying the drywell-to-suppression chamber differential pressure control TS 3.6.2.5. The licensee's plant-specific analysis report called PUAR [Plant Unique Analysis Report] was approved by the NRC.[2] As stated in SC02-10, page 3, structural assessment based on zero drywell-to-suppression chamber differential pressure pool swell load

[2] Cut and paste appropriate references here: Browns Ferry use Reference 1; Dresden use References 2, 3, and 4; Quad Cities use Reference 5; FitzPatrick use Reference 6.

definition was used to confirm the functional capability of the suppression chamber against the Service Level D limit. The SC02-10 also identifies the following two major conservatisms in the pool swell load definitions based on the Mark I Quarter Scale tests:

(a) The drywell pressurization test transient was based on the predicted drywell pressure from the NRC approved conservative GE code M3CPT. This code predicts about 50 percent higher drywell pressurization than a realistic analysis using the GE-Hitachi code TRACG.

(b) The break was simulated by air to pressurize the drywell, which produces a more severe pool swell response than a realistic nitrogen/steam mixture and enhances the bubble growth.

The NRC approval confirmed that the licensee met the acceptance criteria specified in NUREG-0661, Appendix A, and reviewed and approved any exceptions the licensee took from the acceptance criteria. Therefore, the NRC staff approval of the PUARs confirmed that with the drywell-to-suppression chamber differential pressure out-of-service, the containment is structurally designed for the pool swell loads during a large-break LOCA.

Based on the PUARs, the NRC staff finds it acceptable for the reactor to not be depressurized when the differential pressure is out-of-service at ≤ **[15]** percent RTP. Further NUREG-0661, Section 3.12.7, concluded that if the differential pressure is out-of-service, the probability of occurrence of a large-break LOCA, is less than 10E-7 per reactor-year, which is sufficiently small. This minimal probability of occurrence paired with the short period during which plants are in the transition state of less than **[15]** percent rated thermal power, support the adequacy of this change because the LOCA dynamic loads are not adversely affected. The NRC staff determined the proposed deletion of the time periods is acceptable because they are now included in the note insertion (discussed in Section 3.1.2 of this SE) and change in the CT (discussed in Section 3.1.3 of this SE). In addition, the proposed change is acceptable since it simplifies and clarifies the applicability statement and continues to provide the lowest functional capability of equipment required for safe operation of the facility as required by 10 CFR 50.36(c)(2) by protecting containment integrity.

3.1.2 Proposed Changes in Required Action A.1

In accordance with approved Traveler TSTF-568, Revision 2, the licensee proposed to add the following note to Required Action A.1: “LCO 3.0.4.c is applicable.” LCO 3.0.4 states:

> When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:
>
> a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;
>
> b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or

c. When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

The criteria applicable to TS LCO 3.6.2.5 is LCO 3.0.4.c since this LCO establishes an individual value or parameter (i.e., drywell pressure maintained above a certain value). The new note will allow entry into the mode of applicability of TS LCO 3.6.2.5 with the drywell pressure outside of the required limit. This note allows the licensee operational flexibility as it permits entry into Mode 1 at greater than **[15]** percent RTP when drywell pressure is outside of the required limit during startup configurations. The NRC staff concludes that the addition of the note is acceptable because it clarifies and simplifies the intent of the current TS LCO 3.6.2.5 applicability statement "a." of allowing startup operation with the LCO not met.

3.1.3 Proposed Changes in the CT of Condition A

In accordance with approved Traveler TSTF-568, Revision 2, the licensee proposed to change the CT for Required Action A.1 from 8 hours to 72 hours. TSTF-568, Revision 2, stated the proposed change will permit safe entry of personnel into the containment in Modes 1 and 2. The 72 hours provides: **[24]** hours to de-inert the containment to permit safe personnel access, **[24]** hours to perform the required work, and **[24]** hours to re-inert containment. The NRC staff finds that the extended CT incorporates the time currently allowed through the applicability statement in Section 3.1.1 of this SE. The NRC staff finds that 72 hours is reasonable to conduct these activities based on operating experience and the requested completion time does not present a significant change in risk given the low probability that a large line break would occur during this period. Therefore, NRC staff finds this change acceptable.

3.1.4 Conclusion for Proposed Changes to TS 3.6.2.5

The NRC staff finds the changes proposed in TS 3.6.2.5 acceptable and continue to meet 10 CFR 50.36(c)(2) since the revised LCO provides the lowest functional capability of equipment required for safe operation of the facility by protecting containment integrity.

3.2 <u>PROPOSED CHANGES TO TS 3.6.3.2</u>

3.2.1 Proposed Changes in the Applicability

In accordance with approved Traveler TSTF-568, Revision 2, the licensee proposed to expand the applicability of this LCO to Modes 1 and 2 without exception. The NRC staff finds the proposed change acceptable because it is more restrictive since an unlikely LOCA event leading to a degraded core that could produce hydrogen has the highest probability of occurrence during Modes 1 and 2 conditions.

3.2.2 Proposed Changes in Required Action A.1

In accordance with approved Traveler TSTF-568, Revision 2, the licensee proposed to add the following note to Required Action A.1: "LCO 3.0.4.c is applicable." As stated in Section 3.1.2 of this SE, TS LCO 3.0.4.c allows entering the mode of applicability of TS LCO 3.6.3.2 with the LCO not met. Therefore, the proposed change would permit entry into Modes 1 and 2 with

primary containment oxygen concentration higher than the required limit. The NRC staff concludes the addition of the note is acceptable because it clarifies and simplifies the intent of the current TS LCO 3.6.3.2 applicability statement “a.” of allowing startup operation with the LCO not met.

3.2.3 Proposed Changes in the CT of Condition A

In accordance with approved Traveler TSTF-568, Revision 2, the licensee proposed changing the CT from 24 hours to 72 based on the following sequence of operations: allow **[24]** hours to de-inert the containment to permit safe personnel access, allow **[24]** hours to perform the required maintenance or repair work, and allow **[24]** hours to inert the containment. The NRC staff determined that the presence of a higher oxygen concentration for the 72-hour CT is appropriate considering the low safety significance of the change for potential accidents and the additional restrictions and conservatisms in the revised applicability.

3.2.4 Proposed Changes in Required Action B.1

In accordance with approved Traveler TSTF-568, Revision 2, the licensee proposed to change the applicability statement of TS LCO 3.6.3.2 to Modes 1 and 2. If the oxygen concentration cannot be restored within the required limit and CT of Required Action A.1, the reactor should be brought to Mode 3. In this mode, the reactor would be in a hot shutdown condition (control rods fully inserted) with all reactor vessel head bolts fully tensioned.

The NRC staff recognizes that on entering Mode 3, the decay heat is rapidly decreasing. Steam is initially available for operating the reactor core isolation cooling/high pressure coolant injection steam turbine-driven pumps until the reactor pressure and thus water temperature is substantially reduced. As the decay heat continues to decrease, operators have increased time and options for achieving adequate water injection using the low-pressure emergency core cooling system to avoid core damage and associated generation of combustible gas. Therefore, the occurrence of a LOCA leading to degraded core is highly unlikely in Mode 3.

The NRC staff finds the proposed change in Required Action B.1 acceptable because it provides a more appropriate terminal action since it requires the plant to be placed in a mode in which the LCO does not apply and the oxygen concentration limit is no longer required. The previous terminal action allowed an indefinite period of operation at ≤ **[15]** percent RTP.

Due to the low potential for hydrogen generation when the reactor is in Mode 3, inerting of containment in Mode 3 is not needed. Therefore, the NRC staff concluded the proposed change is acceptable because it continues to protect containment integrity and meets 10 CFR 50.36(c)(2) by providing the lowest functional capability of equipment required for safe operation of the plant.

3.2.5 Proposed Changes in the CT of Condition B

In accordance with approved Traveler TSTF-568, Revision 2, the licensee proposed to change the Condition B CT from 8 hours to 12 hours, stating that 12 hours is a reasonable time to reduce reactor power from full power conditions to Mode 3 in an orderly manner and without challenging plant systems. The proposed change from 8 hours to 12 hours for bringing the reactor to a hot shutdown condition from full power is acceptable to NRC staff because it is not a significant change and is based on industry operating experience.

3.2.6 Conclusion for Proposed Changes to TS 3.6.3.2

The NRC staff concludes the proposed changes in the applicability statement for TS 3.6.3.2 are acceptable since they are more restrictive as the applicability now extends to Modes 1 and 2 without exception. In addition, the occurrence of a LOCA that could lead to degraded core conditions with containment de-inerted, while in Mode 3, is unlikely. Therefore, the changes proposed in TS 3.6.3.2 are acceptable and continue to meet 10 CFR 50.36(c)(2).

{Note: If the plant's TS differs from the standard TS, include the bracketed language below, replacing the discussion of the differences as necessary. Differences should be identified by the licensee in the LAR. For differences beyond TS numbering and nomenclature, justification should be provided by the licensee and a more thorough evaluation of the applicability of TSTF-568 should be included in Section 3.3. More extensive differences may be considered exceptions to the approved traveler (i.e., may exceed the scope of what is allowable in CLIIP applications).}

3.3 ADDITIONAL CHANGES

[The licensee identified differences between the TSs for [abbreviated name of facility] and NUREG-1433, upon which TSTF-568 is based. These differences included [the TS numbering and nomenclature]. The NRC staff determined that these differences do not affect the applicability of TSTF-568 for [plant name].]

{Note: If the licensee identifies variations other than differences in the numbering of the TS and nomenclature, they should be evaluated in this section.}

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the **[Name of State]** State official was notified of the proposed issuance of the amendment on **[enter date]**. The State official had **[no]** comments. **[If comments were provided, they should be addressed here]**.

5.0 ENVIRONMENTAL CONSIDERATION

{NOTE: This section is to be prepared by the PM. As needed, the PM should coordinate with NRR's Environmental Review and NEPA Branch (MENB) to determine the need for an EA. Specific guidance on preparing EAs and considering environmental issues is contained in NRR Office Instruction LIC-203, "Procedural Guidance for Preparing Categorical Exclusions, Environmental Assessments, and Considering Environmental Issues."}

The amendment changes requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, which was published in the *Federal Register* on **[DATE (XX FR XXX)],** and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

{NOTE: This section is to be prepared by the PM.}

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner (2) there is reasonable assurance that 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.

7.0 REFERENCES

{NOTE: The references below are provided so the PM can cut and paste the appropriate references into the footnote in Section 3.1.1 of this SE, then References 1-6 can be deleted. However, if the PM prefers to include a reference section, then delete only those not applicable and add all other references here. The full citation for other documents referenced throughout this model SE can be copied from the traveler SE (ADAMS Accession No. ML19325C434). The DORL PM would also need to add any plant-specific references (i.e., incoming LAR, RAI responses, etc.).}

1. Vassallo, Domenic B., U.S. Nuclear Regulatory Commission, letter to Hugh G. Parris, Tennessee Valley Authority, "Mark I Containment Long-Term Program, Re: Browns Ferry Nuclear Plant, Units 1, 2, and 3," dated May 6, 1985 (ADAMS Package Accession No. ML18029A537).

2. Zwolinski, John A., U.S. Nuclear Regulatory Commission, letter to Dennis L. Farrer, Commonwealth Edison Company, "Mark I Containment Long-Term Program, Re: Dresden Nuclear Power Station, Unit Nos. 2, and 3," dated September 18, 1985 (ADAMS Accession No. ML17195A950).

3. U.S. Nuclear Regulatory Commission, "Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Mark I Containment Long-Term Program Pool Dynamic Loads Review, Commonwealth Edison Company, Docket Nos. 50-237/249," dated September 18, 1985 (ADAMS Accession No. ML17195A952).

4. U.S. Nuclear Regulatory Commission, "Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Mark I Containment Long-Term Program Structural Review, Commonwealth Edison Company, Docket Nos. 50-237/249," dated September 18, 1985 (ADAMS Accession No. ML17195A953).

5. Zwolinski, John A., U.S. Nuclear Regulatory Commission, letter to Dennis L. Farrar, Commonwealth Edison Company, "Mark I Containment Long-Term Program, Re: Quad Cities Nuclear Power Station, Units 1 and 2," dated February 15, 1986 (ADAMS Accession No. ML19199A123).

6. Vassallo, Domenic B., U.S. Nuclear Regulatory Commission, letter to C. A. McNeill, Jr., Power Authority of the State of New York, "Mark I Containment Long-Term Program Re: James A. Fitzpatrick Nuclear Power Plant," dated December 12, 1984 (ADAMS Accession No. ML19203A093).

{NOTE: These are the principal contributors for the model SE of the traveler. Replace these names with those who prepared the plant-specific SE. Since this is a CLIIP Traveler, the only reviewer necessary is DSS/STSB (unless there were significant variations.}

Principal Contributors: A. Sallman, NRR/DSS/SNSB
C. Tilton, NRR/DSS/STSB

Date: December 17, 2019