Southern Nuclear

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ND-22-0831

U.S. Nuclear Regulatory Commission
Victor E. Hall, Chief
Vogtle Project Office
Office of Nuclear Reactor Regulation
Washington, DC 20555-0001

Vogtle Electric Generating Plant (VEGP) Units 3 and 4
Docket Nos.: 52-025 & 52-026

Subject: Southern Nuclear Company VEGP Comments on AP1000 Standard Technical Specifications (STS) – Draft NUREG-2194, Revision 1

Ladies and Gentlemen:

On August 10, 2022, NRC Staff requested comments from Southern Nuclear Operating Company (SNC) (i.e., an AP1000 plant COL holder) on the draft of Revision 1 of the AP1000 Standard Technical Specifications (STS) to provide assurance that any technical inaccuracies are identified and corrected [ADAMS Accession No. ML22220A197]. The request asked that comments be provided by September 30, 2022; however, in subsequent discussions it was agreed that SNC would provide comments by October 31, 2022.

The SNC review identified many Technical Specification (TS) Bases (TSB) differences from NUREG-2194 Revision 0 that appeared to be editorial and/or presentation preference type changes. A number of these changes depart from other STS NUREGs (e.g., NUREG-1431) and from Vogtle Electric Generating Plant (VEGP) Unit 3. Since the request was to focus on technical inaccuracies, many of these differences are not addressed in the comments provided.

Through this letter SNC provides the requested review in the allotted timeframe and with the SNC resources available at the time; however, since there were no markups provided showing differences from NUREG-2194 Revision 0, SNC was challenged to ensure all potential differences have been identified and evaluated. Furthermore, since there were no discussions or justifications provided for those differences (i.e., as would be the case for generic changes to other STS NUREGs in accordance with the Technical Specification Task Force [TSTF] process), evaluating the appropriateness of the NUREG-2194 Revision 1 text, including its technical accuracy, was also difficult in many cases. For example, TSB design detail and logic descriptions that differ from the approved VEGP Unit 3 TSB could not be fully technically evaluated. Comments were provided when revision to the draft Revision 1 text was clearly warranted. However, the review effort did encompass providing the requested comments to include appropriate changes related to VEGP TS Bases Revision 70.

Attachment 1 provides the review comments associated with NUREG-2194, Volume 1, “Specifications.”

Attachment 2 provides the review comments associated with NUREG-2194, Volume 2, "Bases."

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

If you have any questions, please contact Amy Chamberlain at 205.992.6361.

Respectfully submitted,

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Southern Nuclear Operating Company

Attachments: 1) NUREG-2194 Volume 1, Technical Specification (TS) Comments

2) NUREG-2194 Volume 2, Technical Specification Bases (TSB) Comments

cc: w/o Attachments

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Attachment 1

NUREG-2194 Volume 1, Technical Specification (TS) Comments

Item	Comment	Justification
Abstract	Revise the first paragraph to describe the past-tense origin of Revision 0 and add sentence acknowledging "*Subsequently, the NRC has issued additional amendments to the VEGP Unit 3 TS (i.e., through Amendment 186), which informs the basis for Revision 1 of the AP1000 STS.*"	Current description is silent on the more complete history leading to NUREG-2194, Revision 1.
Various	Delete numerous blank pages throughout Volume 1.	Blank pages provide a misleading suggesting that there is an intended format to include blank pages.
Various	Revise use of "Trip Setpoint[s]" to lower initial capitalization "trip setpoint[s]" unless specifically referring to "Nominal Trip Setpoint."	This capitalization is consistent with VEGP Unit 3 and with NUREG-1431 instances. This editorial change would establish consistency.
Table of Contents	Sections 4.1, 4.2, and 4.3 page numbers to be added.	For consistency with all other Sections in the Table of Contents.
1.1 Definitions, Actuation Logic Test	Add definition for "ACTUATION LOGIC TEST"	Refer to Vogtle Electric Generating Plant (VEGP) Unit 3 Amendment 168 (ML19297C791), which retained this definition as used in Surveillance Requirement (SR) 3.3.20.3.
1.1 Definitions, Channel Calibration	Second paragraph "or thermocouple sensors" should be revised to ", thermocouples, or reactor coolant pump speed sensors"	Refer to VEGP Unit 3 Amendment 166 (ML19282D340), which justifies this change.
1.3 Completion Times (p.1)	Revise the title of LCO 3.5.1 from "Passive Core Cooling System (PXS)" to "Accumulators"	LCO 3.5.1 title is "Accumulators." "Passive Core Cooling System (PXS)" is the title of Section 3.5.
LCO 3.1.2, Action C	Delete Action C	Action C appears to have been added to Revision 1 in error. There is no TSTF or VEGP Amendment that adds an Action C. Furthermore, Condition C addresses a specific condition that is not called out in LCO 3.1.2.
LCO 3.1.4 ACTIONS	Replace Required Actions B.1.1 AND B.1.2 OR B.2 with VEGP Required Action B.1. Renumber the B.3.x series to be B.2.x series	The draft NUREG-2194 Revision 1 Required Action B.1.1 requires a "once per hour" verification the Applicability of TS 3.2.5 being met (i.e., OPDMS monitoring parameters). This imposes an unnecessary operator administrative burden that was not required in NUREG-2194 Revision 0 or required in VEGP TS. VEGP Unit 3 Required Action B.1 was revised in Amendment 138 (ML18100A110).

Item	Comment	Justification
LCO 3.1.9, Header	Add use of acronyms “DWI” and “MLI” in LCO Title.	These acronyms are not spelled out or defined in LCO, Table of Contents, or Bases. Adding definitions “(DWI)” and “(MLI)” in LCO Title would provide a basis for these terms in the header for this LCO.
LCO 3.1.9, Action Note	“Flow paths” revised to “Flow path(s)” – add parentheticals around “s”.	An inoperability leading to entering the Actions might affect only one flow path. Parenthetical “(s)” infers one or more and is more appropriate. This is consistent with VEGP Unit 3 TS as revised in Amendment 13 (ML13238A337).
LCO 3.1.10, Applicability	Revise Applicability to “MODE 5 with LCO 3.4.4 not met.”	LCO 3.1.10 was added by VEGP Unit 3 Amendment 117 (ML18060A411) with the Applicability “MODE 5 with LCO 3.4.4 not met” with no further Amendments. LCO 3.4.4 can be “not met” (and LCO 3.1.10 Applicability met) with only one (or more) of four reactor coolant pumps (RCPs) not in operation, while the NUREG-2194 draft Revision 1 Applicability can only be entered with all four RCPs not in operation. This technical difference is overly restrictive and not aligned with the VEGP licensing basis.
LCO 3.2.1 and LCO 3.2.3 Applicability	Format the Applicability with an indented second line.	This format aligns with the Writer’s Guide for LCO Applicabilities.
LCO 3.2.3, Note 4	Revise reference to “SR 3.3.1.5” to “SR 3.3.1.4.”	SR 3.3.1.5 was revised to SR 3.3.1.4 for VEGP Unit 3 in Amendment 168 (ML19297C791) due to deletion of SR 3.3.1.1.
Table 3.3.4-1	Remove yellow highlighting in Surveillance Requirement column.	Yellow highlighting is not an allowed format option.
LCO 3.3.5, Various	Revise instances of “division[s]” to “channel[s]”	NUREG-2194 Revision 0, as well as VEGP Unit 3 Amendment 13, used “channel[s]” for LCO, Actions, and Table 3.3.5-1. NUREG-2194 Revision 1 draft “division[s]” does not align with the design. While the RTS actuation logic (see LCO 3.3.6) consists of four divisions, the manual actuations consist of two channels each.

Item	Comment	Justification
Table 3.3.5-1, Required Channels	Delete parenthetical additions to “2” for Functions 1, 2, and 4 Required Channels. Revise Function 3 Required Channels to “2 switch sets”	The Required Channels for Functions 1 and 2 have been “2” for NUREG-2194 Revision 0, as well as VEGP Unit 3 initial COL and Amendment 13. The Required Channels for Function 3 have been “2 switch sets” for NUREG-2194 Revision 0, as well as VEGP Unit 3 initial COL and Amendment 13. The Required Channels for Function 4 were revised to “2” in VEGP Unit 3 Amendment 138 (ML18100A110). The proposed parenthetical modifiers in NUREG-2194 Revision 1 draft are not in accordance with the design.
Table 3.3.17-1	Revise to include Surveillance Requirement column and revise the Surveillance Requirements Note to “Refer to Table 3.3.17-1 to determine which SRs apply for each PAM Function.”	This more typical format for presenting which SRs apply to each Function was implemented in VEGP Unit 3 Amendment 168 (ML19297C791).
Table 3.3.19-1	Revise Footnote (b) value “6.0” to “7.0”	Reactor decay heat value of “6.0 MWt” was revised to “7.0 MWt” in Amendment 126 (ML18100A069) to align with revised safety analyses.
Table 3.3.20-1	Function 2, MODES 4, 5, and 6 listing of Surveillance Requirements revise “SR 3.3.20.2” and SR 3.3.20.3” to “SR 3.3.20.3” and SR 3.3.20.4.”	The applicable SRs for Function 2 in MODES 4, 5, and 6 were approved in VEGP Unit 3 Amendment 168 (ML19297C791). NUREG-2194 listing of Channel Calibration (SR 3.3.20.2) in lieu of TADOT (SR 3.3.20.4) is not appropriate for surveillance of a manual switch function.
LCO 3.4.12 Required Actions	Revise A.1 “Four flow paths...” to “Five flow paths...”	VEGP Unit 3 Amendment 118 (ML18075A094) revised the required Automatic Depressurization System (ADS) requirements to support vacuum fill operations.
LCO 3.5.2, SR 3.5.2.2	Delete SR 3.5.2.2 and renumber remaining SRs.	VEGP Unit 3 Amendment 176 (ML20049A655) deleted this Surveillance.
LCO 3.5.3, SR 3.5.3.1	Replace listed Surveillance “SR 3.5.2.3” with “SR 3.5.2.4” and delete listed Surveillance “SR 3.5.2.8.”	VEGP Unit 3 Amendment 176 (ML20049A655) revised the referenced Surveillances based on deleting SR 3.5.2.2 and renumbering the remaining SRs.
LCO 3.7.10 Applicability	Add Applicability Note: “PORV OPERABILITY is not required in MODE 4 with Reactor Coolant System (RCS) being cooled by the Normal Residual Heat Removal System (RNS).”	NUREG-2194, Revision 0, for LCO 3.7.10 (refer to ML16111A200) included discussion of adding this Applicability Note, and added a description of it in Volume 2, Bases (as also appears in draft NUREG-2194 Revision 1 Volume 2). The Applicability Note was inadvertently omitted in Revision 0 and draft Revision 1 from Volume 1, Specifications.

Item	Comment	Justification
LCO 3.7.11 Applicability	Revise Applicability to read "When fuel assemblies are stored in the spent fuel pool."	This ensures the LCO applies even after a spent fuel pool storage verification has been performed. VEGP Unit 3 Amendment 172 (ML19343C013) revised this Applicability.
LCO 3.7.11 Required Actions	Modify the Required Actions to • Change Required Action "A.2.1" number to "A.2" • Delete Required Action A.2.2 (and the "OR" preceding it)	This change is consistent with the change to the Applicability (comment above). VEGP Unit 3 Amendment 172 (ML19343C013) provided these changes.
LCO 3.7.13 Applicability	Format the Applicability with an indented second line.	This format aligns with the Writer's Guide for LCO Applicabilities.
LCO 3.9.3 Surveillance	Add "SR 3.9.3.1 Perform a CHANNEL CHECK" with a 12 hour frequency, and renumber current "SR 3.9.3.1" to "SR 3.9.3.2"	SR 3.9.3.1, Perform CHANNEL CHECK" was included in NUREG-2194 Revision 0 (refer to ML16111A220) and remains included in VEGP Unit 3 TS 3.9.3. While VEGP Unit 3 Amendment 168 (ML19297C791) removed many CHANNEL CHECK Surveillances, the CHANNEL CHECK was retained for Source Range Neutron Flux monitors.
Figure 4.3-1	Include Figure 4.3-1.	Figure 4.3-1 is referenced in TS 4.3.1.1.f and 4.3.1.1.g. NUREG-2194, Revision 0 included Figure 4.3-1 (refer to ML16111A239), as does current VEGP Unit 3 TS.
TS 5.1.1	Correct indentation of 2nd paragraph	This is a format correction.
TS 5.2.2.b	Reference to "5.2.2.f" to be revised to "5.2.2.e"	In NUREG-2194 Revision 0, TS 5.5.2.d was deleted and 5.2.2.f renumbered to 5.2.2.e (see ML16111A242); however, the 5.5.2.b reference was not updated.
TS 5.5.4 and TSTF-577	Consider revising TS 5.5.4 to reflect changes from TSTF-577	NUREG-2194 Revision 0 incorporated TSTF-510. Since then, TSTF-577 has proposed additional changes to TS 5.5.4, Steam Generator (SG) Program. TSTF-577 is showing approved for all PWROGs, but not for AP1000. VEGP has a future plan to evaluate these TSTFs for adoption.
TS 5.5.12.c	Regulatory Guide 1.197 should be cited as "Revision 0"	Draft TS 5.5.12.c cites Regulatory Guide 1.197 as "Revision 1"; however, currently the issued revision is still Revision 0.

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Attachment 2

NUREG-2194 Volume 2, Technical Specification Bases (TSB) Comments

Item	Comment	Justification
General	Consider removing editorial and/or presentation preference changes made to NUREG-2194 Revision 0 as shown in draft NUREG-2194 Revision 1.	Many Technical Specification (TS) Bases (TSB) changes from NUREG-2194 Revision 0 appear to be editorial and/or presentation preference type changes. Since there was no markup of the NUREG showing the changes, it was difficult to identify and evaluate each and every change. Furthermore, there are no discussions or justifications provided for changes, so evaluating the appropriateness of the change is also difficult in many cases. A number of these changes depart from other Standard Technical Specification (STS) NUREGs (e.g., NUREG-1431) and from Vogtle Electric Generating Plant (VEGP) Unit 3. For example, NUREG-2194 Volume 2 (TSB) Revision 1 has removed “at least” from the discussions of Actions that refer to a required shutdown to “at least MODE ... .” This phrase continues to be found in all STS NUREGs as well as VEGP Unit 3 TSB. This kind of disconnect will lead to future work to justify differences when proposing to incorporate approved TSTF changes where these differences arise.
Various	Delete numerous blank pages throughout Volume 2.	Blank pages provide a misleading suggesting that there is an intended format to include blank pages.
B 2.1.1 (p. 2) APPLICABLE SAFETY ANALYSES	Items “a” and “b”: Revise “hot” to “hottest”	Editorial correction. Intent is “hottest” and not just any “hot” fuel rod or fuel pellet
B 2.1.1 (p. 2) SAFETY LIMITS	Items ”a” and ”b: Revise “hot” to “hottest”	Editorial correction. Intent is “hottest” and not just any “hot” fuel rod or fuel pellet
B 3.0 (p. 6) LCO 3.0.5	Incorporate changes from TSTF-529	In most cases NUREG-2194 draft Revision 1 has incorporated TSTF-529 (as applicable to AP1000 (even though the TSTF was not applicable to AP1000 at the time of approval). It is likely that the LCO 3.0.5 Bases changes were overlooked.
B 3.1.4 (p. 7) B.3.1.1. and B.3.1.2	Delete “but” from the first sentence in the second paragraph	Editorial correction. The word “but” was inappropriately added to read, “Power operation may continue with one control rod <u>but</u> misaligned, …”
B 3.1.4 (p. 7) ACTIONS	Revise Action B Bases to align with comment in Attachment 1 for LCO 3.1.4 for Required Action B.x series	If Attachment 1 comment is not incorporated, the Bases require (1) Additional Bases for Required Action B.1.1 including basis for the Completion Time, and (2) editorial corrections to the header for the B.x series; the spaces and periods in this heading need to be corrected to read, “B.3.2, B.3.3.1, B.3.3.2.1, B.3.3.2.2, B.3.3.2.3, and B.3.4”.

Item	Comment	Justification
B 3.1.4 (p. 7) B.3.2, B.3.3.1, …	Revise third paragraph, 1st sentence to read: "… SDM and core margin to thermal limits." Revise third paragraph, 2nd sentence to read, "… verification of ~~SDM~~ these parameters is required."	These changes were added in VEGP Unit 3 TS Bases Revision 48 as a clarification to include that misaligned rods have a potential to impact core margin to thermal limits as well as shutdown margin.
B 3.1.4 (p. 8) C.1	Revise the first sentence under C.1 to read, "When Required Actions for a single misaligned control rod cannot be completed …"	Clarification change for consistency. LCO 3.1.4 Condition C states, "Required Action and associated Completion Time of Condition B not met." Condition B states, "One rod not within alignment limits." The change makes it clear Required Action C.1 involves a single rod misaligned. This change was made in VEGP Unit 3 TS Bases Revision 48
B 3.1.4 (p. 9) D.2	Revise the first paragraph, third sentence by deleting the word "or" after "misalignment."	Editorial correction. The word "or" was added to the NUREG, so that the sentence does not make grammatical sense. The first "or" should be deleted as follows: "Since automatic bank sequencing could continue to cause misalignment, ~~or~~ the unit must be brought to a MODE or Condition in which the LCO requirements are not applicable."
B 3.1.4 (p. 10) SR 3.1.4.3	In the last sentence of the first paragraph, replace "3.1.4.2" to "3.1.4.3."	Editorial correction. The Surveillance being addressed is SR 3.1.4.3 and reference to SR 3.1.4.2 is not an appropriate basis for the requirements of SR 3.1.4.3. VEGP Unit 3 TS Bases Revision 32 made the correct changes to this sentence.
B 3.1.5 (p. 1) BACKGROUND	Third paragraph "rod cluster control assemblies (RCCAs)" to be replaced with "control rods"	Control banks consist of both RCCAs and gray rod cluster assemblies (GRCAs), therefore the reference to "RCCAs" is not correct. VEGP Unit 3 TS Bases Revision 48 made this correction.
B 3.1.6 (p. 3) APPLICABLE SAFETY ANALYSES	At the end of the first paragraph, add the following sentence: "In addition, when the OPDMS is not monitoring parameters, the applicable control bank insertion limits are required to maintain SHUTDOWN MARGIN."	This sentence provides additional detail on the role of LCO 3.1.6 limits in the event OPDMS is not monitoring SDM. This detail was added in VEGP Unit 3 TS Bases Revision 48.
B 3.1.9 (p. 1) APPLICABLE SAFETY ANALYSES	Define the abbreviation "AOO" at the end of the first paragraph, as "anticipated operational occurrence (AOO)."	Editorial change to define abbreviations/acronyms when first used. (VEGP Unit 3 TS Bases Revision 70 made this change)

Item	Comment	Justification
B 3.1.9 (p. 2) LCO	Add the following sentence after the first sentence in the LCO section: The requirement that at least two CVS makeup isolation valves (CVS-PL-V090 and V091) be OPERABLE also assures that there will be redundant means available to terminate CVS makeup to the RCS during a non-LOCA event or a steam generator tube rupture accident should that become necessary to provide protection from overfilling the pressurizer or steam generator.	DCD GTS LCO 3.4.17, Chemical and Volume Control System (CVS) Makeup Isolation Valves, was combined with LCO 3.1.9, Chemical and Volume Control System (CVS) Demineralized Water Isolation Valves and Makeup Line Isolation Valves in NUREG-2194 Revision 0. LCO 3.4.17 required CVS Makeup Valve operability to protect from overfill, while LCO 3.1.9 required operability to protect from boron dilution events. However, when combining applicable Bases from LCO 3.4.17 the appropriate LCO Bases were inadvertently not updated. The change adds the appropriate LCO Bases discussion of CVS makeup isolation valves operability requirement to terminate CVS makeup to the RCS during a non-LOCA event or a steam generator tube rupture accident to provide protection from overfilling the pressurizer or steam generator. (VEGP Unit 3 TS Bases Revision 70 made this change)
B 3.1.9 (p. 2) APPLICABILITY	In the first paragraph, second and third sentences, delete “also” (2 places). In the fourth sentence, change “In the …” to read, “In these …” The pressurizer overfill event is ~~also~~ possible in MODES 1, 2, and 3, and MODE 4 with all four cold leg temperatures > 275°F. The steam generator tube rupture (SGTR) event is ~~also~~ possible in MODES 1, 2, and 3, and in MODE 4 at an RCS temperature ≥ 350°F. In MODE 4 with an RCS temperature < 350°F and MODES 5 and 6, the RCS pressure and temperature are reduced and an SGTR is not credible. In these applicable MODES,	Editorial / grammatical changes. (VEGP Unit 3 TS Bases Revision 70 made these changes)

Item	Comment	Justification
B 3.1.9 (p. 2) APPLICABILITY	Relocate the following text from the second and third paragraphs to the first paragraph after the current first sentence. Start a new second paragraph beginning with the current second sentence in the APPLICABILITY section: In MODES 1 and 2, the detection and mitigation of a boron dilution event does not assume the detection of the event by the source range instrumentation. In these MODES, the event would be signaled by an intermediate range trip, a trip on the Power Range Neutron Flux -High (low setpoint nominally at 25% RTP), or Overtemperature delta T. The two demineralized water isolation valves close automatically upon reactor trip. In MODE 6, a dilution event is precluded by the requirement in LCO 3.9.2 to close, lock and secure at least one valve in each unborated water source flow path.	Editorial change to improve reader understanding. (VEGP Unit 3 TS Bases Revision 70 made these changes)

Item	Comment	Justification
B 3.1.9 (p. 3) ACTIONS A.1	Change the first sentence from: "If only one of the demineralized water isolation valve and/or the makeup line isolation valve is/are OPERABLE, the redundant valve must be restored to OPERABLE status in 72 hours." To read: "If only one demineralized water isolation valve and/or only one makeup line isolation valve are/is OPERABLE, the redundant valve(s) must be restored to OPERABLE status in 72 hours." Also, change the second sentence by adding "and/or RCS makeup" after "clean water source."	Editorial change to improve reader understanding and more accurately reflect the TS requirements. (VEGP Unit 3 TS Bases Revision 70 made these changes)
B 3.2.1 (p. 3) LCO	Change the second sentence in the fourth paragraph by replacing F(Z) with $F^M/_Q(Z)$	$F^M/_Q(Z)$ is defined as the measured value of the heat flux hot channel factor $F_Q(Z)$. NUREG-2194, Rev. 0, correctly used $F^M/_Q(Z)$ in this. F(Z) is not a defined term.
B 3.2.2 (p. 6) SURVEILLANCE REQUIREMENTS	Change the first paragraph (2 places) for SR 3.2.2.1 and SR 3.2.2.2 by replacing "flux distribution map" with "data."	This discussion refers to the incore detector system providing a flux distribution map. The incore detector system provides data, which then could be used to create a flux distribution map. (VEGP Unit 3 TS Bases Revision 48 made these changes)

Item	Comment	Justification
B 3.2.3 (p. 7) SURVEILLANCE REQUIREMENTS	Change the first and second sentences in the first paragraph for SR 3.2.3.3 by replacing text referring to a "flux map" with text referring to the measurements that are taken, as follows: "Measurement of the target flux difference is ~~accomplished by taking a flux map when the core is~~ determined from an incore power distribution measurement at, or very near equilibrium xenon conditions, preferably at high power levels with the control banks at a reference position. This ~~flux map~~ power distribution measurement provides the equilibrium xenon axial power distribution from which the target value can be determined."	The surveillance requirement is to "Determine, by measurement, the target flux difference." A flux map is the product that is created from the power distribution measurement. (VEGP Unit 3 TS Bases Revision 48 made these changes)
B 3.2.4 (p. 2) LCO	In the last sentence, change "F" to "$F^N_{\Delta H}$."	Editorial correction. $F^N_{\Delta H}$ is defined as the ratio of the integral of the linear power along the fuel rod with the highest integrated power to the average integrated fuel rod power. NUREG-2194, Rev. 0, correctly used $F^N/_{\Delta H}(Z)$ in this occurrence.
B 3.2.5 (p. 4) APPLICABLE SAFETY ANALYSES	In the first paragraph after the lettered bullets, change "kW/ft" to "linear heat rate."	The units for linear heat rate is "kW/ft." Because this sentence is discussing the parameter, in this context it would be more appropriate to use the term "linear heat rate." (VEGP Unit 3 TS Bases Revision 48 made these changes)
B 3.2.5 (p. 5) LCO	In the second sentence in last paragraph for LCO, add "any of" before "the three parameters."	Editorial clarification.
B 3.2.5 (p. 5) APPLICABILITY	First paragraph, second sentence: Add space between "1" and "with."	Editorial correction.

Item	Comment	Justification
B 3.2.5 (p. 7) SURVEILLANCE REQUIREMENTS	Revise the third sentence to include "or SDM" after the parenthetical, as follows: "The first alarm provides a warning before these parameters (peak linear heat rate, $F^N/_{\Delta H}$, and DNBR) or SDM exceed their limits."	This is an editorial correction to provide consistency with the first sentence in this paragraph, which includes SDM as one of the OPDMS monitoring parameters. (VEGP Unit 3 TS Bases Revision 48 made these changes)
B 3.3.1 (p. 28,31,33) B 3.3.2 (p. 5) B 3.3.3 (p. 4,5) SURVEILLANCE REQUIREMENTS SR 3.3.1.5 SR 3.3.1.6 SR 3.3.2.2 SR 3.3.3.2	Relocate the lead in sentence (below) regarding CHANNEL CALIBRATION from p. B 3.3.1-28, p. B 3.3.2-5, p. B 3.3.3-4 to the end of the first paragraph for each individual SR discussion of CHANNEL CALIBRATION for the following SRs: SR 3.3.1.5 (p. 3.3.1-31); SR 3.3.1.6 (p. 3.3.1-33); SR 3.3.2.2 (p. 3.3.2-5); and SR 3.3.3.2 (p. 3.3.3.5). The CHANNEL CALIBRATION is performed in a manner that is consistent with the assumptions used in analytically calculating the required channel accuracies.	The lead-in for the Surveillance Requirements Bases for TS 3.3.1, 3.3.2, and 3.3.3 contain an informational sentence for the CHANNEL CALIBRATION. This is an inappropriate location; it should be included with the associated CHANNEL CALIBRATION SR Bases. (VEGP Unit 3 TS Bases Revision 70 made these changes)

Item	Comment	Justification
B 3.3.1 (p. 28,34,36) B 3.3.2 (p. 5,6,7) B 3.3.3 (p. 4,6,7) B 3.3.4 (p. 4,5) B 3.3.8 (p. 63-65) B 3.3.10 (p. 6,7) B 3.3.11 (p. 3,4) B 3.3.13 (p. 6,7) B 3.3.14 (p. 5,6) SURVEILLANCE REQUIREMENTS SR 3.3.1.8 SR 3.3.2.3 (*) SR 3.3.3.3 (*) SR 3.3.4.1 SR 3.3.8.3 SR 3.3.10.2 SR 3.3.11.2 SR 3.3.13.2 SR 3.3.14.2 REFERENCES	Delete the final two sentences in the lead in regarding Surveillance Requirement response time testing for the SR Bases for TS 3.3.1, TS 3.3.2, and TS 3.3.3. Revise individual SR Bases listed to remove references to, and discussion of use of, WCAP-13632-P-A and WCAP-13787. For individual response time testing SR Bases listed (except as noted with "(*)"), edits are made as shown in VEGP Unit 3 TS Bases Revision 70 for the following: • Add new Reference citation following "allocated values" where the new Reference is: Safety Evaluation by the Office of Nuclear Reactor Regulation related to Amendment Nos. 168 and 166 to the Combined License Nos. NPF-91 and NPF-92, respectively, Vogtle Electric Generating Plant Units 3 and 4, Docket Nos. 52-025 and 52-026, dated November 21, 2019 [ML19297C988 (Proprietary) and ML19297D159 (non-proprietary)] • References to response times being "measured" are revised to "verified." • References to "summation" of response times is removed. • References to "allocated response times" are revised to include the modifier "where approved."	The lead-in for the Surveillance Requirements Bases for TS 3.3.1, 3.3.2, and 3.3.3 contain two informational sentences related to response time testing. This is an inappropriate location; the topic should be included with the associated response time testing SR Bases. Removal of SR 3.3.1.8 references to, and discussion of use of, WCAP-13632-P-A and WCAP-13787 is made since the sensors used in the AP1000 design are not included in the scope of these WCAPs, and therefore, not appropriate for reference in the Bases. • For NRC accepted applications for "allocated values" reference to the approval is appropriate (similar to the intent of the current WCAP references). • References to response times being "measured" are revised to "verified" consistent with the allowance for some response times to be based on allocations • References to "summation" of response times are removed since summations are not required if the channel is allotted specific response time limits whose sum meets the channel response time requirement. If each individual portion of the channel meets its allotment, the total channel response time will also meet its limit • Bases references to allocated response times, are revised to include the modifier of "where approved" consistent with the existing statement in TS Bases for SR 3.3.4.1 and the requirement that such allocations must be previously approved. These changes are made for consistency and to improve reader understanding. (VEGP Unit 3 TS Bases Revision 70 made these changes based on Safety Evaluation by the Office of Nuclear Reactor Regulation related to Amendment Nos. 168 and 166 to the Combined License Nos. NPF-91 and NPF-92, respectively, Vogtle Electric Generating Plant Units 3 and 4, Docket Nos. 52-025 and 52-026, dated November 21, 2019 [ML19297C988 (Proprietary) and ML19297D159 (non-proprietary)].)

Item	Comment	Justification
B 3.3.1 (p. 35) SR 3.3.1.8	Insert paragraph prior to paragraph beginning “Each division response...”: The Passive Residual Heat Removal (PRHR) Actuation Function RTS RESPONSE TIME is the time interval between input of a PRHR discharge valve not-fully-closed position feedback signal and the loss of gripper coil voltage. The RTS RESPONSE TIME for the PRHR actuation does not include testing actuation of the discharge valves by ESFAS instrumentation signals because it cannot be tested if an ESFAS function (e.g., CMT Actuation) has already caused a reactor trip.	The change is consistent with UFSAR Subsection 15.1.6.1 and the definition of RTS RESPONSE TIME in the TS. (VEGP Unit 3 Bases Revision 43 made this change)
B 3.3.6 (p. 2) ACTIONS	In C.1, remove the duplicated phrase “nor will it cause the protective function”	Edit to avoid duplication
B 3.3.7 (p. 1) APPLICABLE SAFETY ANALYSES	For Function 1 revise “Figure 7.1-7” reference to “Figure 7.2-1”	The circuit breaker arrangement is shown in DCD (i.e., “FSAR”) Figure 7.2-1. There is no Figure 7.1-7.
B 3.3.8 (p. 53) ASA, LCO, and APPLICABILITY	Last paragraph of Function 24, second sentence, add verb “are” between “Additionally, these channels” and “required”	Editorial change to correct grammar.
B 3.3.8 (p. 14) ASA, LCO, and APPLICABILITY	First paragraph after the bullets, add “or” to read “to energize or de-energize or open or close contacts.”	Editorial change to correct grammar. This change will restore wording to match NUREG-2194 Revision 0 and VEGP Unit 3 Bases
B 3.3.8 (p. 17) ASA, LCO, and APPLICABILITY	First paragraph after the bullets, add “and” between “Low – 2” and “Feedwater isolation signals….”	Editorial change to correct grammar.
B 3.3.8 (p. 40) ASA, LCO, and APPLICABILITY	Last paragraph for Function 7, “RCS VENTED” should be “RCS not VENTED”	Change to match TS Function 7 Mode 5 Applicability

Item	Comment	Justification
B 3.3.8 (p. 62) SR 3.3.8.2	Second sentence, add “and the IPC” after “including the sensor”	This phrase is appropriate and was consistently applied for all ESFAS CHANNEL CALIBRATION SRs in NUREG-2194 Revision 0 (i.e., what are currently SRs 3.3.10.1, 3.3.11.1, 3.3.13.1, and 3.3.14.1).
B 3.3.9 (p. 3) APPLICABLE SAFETY ANALYSES	Delete “valve[s]” in phrase “CMT valve[s]” (3 places)	“CMT Valve Actuation” and “actuation of the CMT valves” is not the name of the function and is only found in these three locations. “CMT Actuation” is used throughout TS, TS Bases and DCD. These deletions were made in VEGP Unit 3 TS Bases Revision 43.
B 3.3.9 (p. 8) APPLICABLE SAFETY ANALYSES	Function 13 first sentence delete definition of acronym PXS.	PXS acronym was defined earlier in Function 12 (same page).
B 3.3.9 (p. 9) APPLICABLE SAFETY ANALYSES	Function 14 third paragraph second line insert “with the RCS cooling not being provided by the RNS” after “and in MODE 4.” Begin a new sentence with, “In MODE 4 with an RCS temperature …”	The TS Applicability for MODE 4 is with the RCS cooling not being provided by the RNS. These TS Bases were correct in NUREG-2194, Revision 0, however, draft Revision 1 omits this phrase leaving a disconnect with the actual requirement.
B 3.3.9 (p. 12) ACTIONS	Actions G.1 and G.2 first sentence replace “or for one or both of Functions 2 and 9 in MODE 5 with the RCS pressure boundary intact” with “..., Function 2 in MODE 5 with the RCS not VENTED, or ~~and~~ Function 9 in MODE 5 with the RCS pressure boundary intact” Also, in the same sentence, change “Mode 4” to “MODE 4.”	VEGP Unit 3 Amendment 118 (ML18075A094 – Cover Letter) revised the Applicability for Function 2 MODE 5, which is shown in NUREG-2194 draft Revision 1. TS Bases changes are required to align with the TS requirement. The change from Mode 4 to MODE 4 to present the defined term “MODE” in all capital letters.

Item	Comment	Justification
B 3.3.9 (p. 12) APPLICABLE SAFETY ANALYSES	Actions H.1 and H.2 first sentence replace "Function 6 in MODE 5 with RCS pressure boundary intact and with pressurizer level ≥ 20%" with "Function 6 in MODE 5 with the RCS not VENTED"	VEGP Unit 3 Amendment 118 (ML18075A094 – Cover Letter) revised the Applicability for Function 6 MODE 5, which is shown in NUREG-2194 draft Revision 1. TS Bases changes are required to align with the TS requirement.
B 3.3.9 (p. 13) APPLICABLE SAFETY ANALYSES	Actions J.1, J.2, and J.3 first sentence replace "Function 1 in MODE 5" with "Functions 1, 12, and 13 in MODE 5"	The TS for Functions 12 and 13 also apply Action J for MODE 5. This is not discussed in the Bases. TS Bases changes are required to align with the TS requirement.
B 3.3.9 (p. 13) ACTIONS	Actions J.1, J.3, and J.3: Revise "6.0 MWt" to "7.0 MWt"	This change aligns with TS changes made in VEGP Unit 3 Amendment 126 (ML18100A069), which is also shown in NUREG-2194 draft Revision 1. TS Bases changes are required to align with the TS requirement.
B 3.3.9 (p. 14) ACTIONS	Action K.1 and K.2: Revise "6.0 MWt" to "7.0 MWt"	This change aligns with TS changes made in VEGP Unit 3 Amendment 126 (ML18100A069), which is also shown in NUREG-2194 draft Revision 1. TS Bases changes are required to align with the TS requirement.
B 3.3.12, (p. 3) ACTIONS B.1, B.2 and B.3	EDIT – Second paragraph is odd font, and fourth sentence separate B.1 from is.	Editorial suggestions
B 3.3.13 (p. 3) ACTIONS B.1 and B.2	Second paragraph revise first "OPERABLE" to "functional"	TS 3.3.13 Required Action B.2 requires controls to be verified "functional." Bases revised to align with the TS. (VEGP Unit 3 TS Bases Revision 70 made this change)
B 3.3.13 (p. 6) SR 3.3.13.1	Second sentence, add "and the IPC" after "including the sensor"	This phrase is appropriate and was consistently applied for all ESFAS CHANNEL CALIBRATION SRs in NUREG-2194 Revision 0 (i.e., what are currently SRs 3.3.10.1, 3.3.11.1, 3.3.13.1, and3.3.14.1).
B 3.3.16 (p. 2) ASA LCO and APPLICABILITY	Revise LCO 3.3.13 title in last paragraph of item "a" and last paragraph of item "b" to "Engineered Safety Feature Actuation System (ESFAS) Main Control Room Isolation, Air Supply Initiation, and Electrical Load De-energization"	Change aligns the title with that in TS LCO 3.3.13. This title was revised in VEGP Unit 3 Amendment No. 123 [ML18085A620].

Item	Comment	Justification
B 3.3.16 (p. 5) SR 3.3.16.2	In last sentence, delete “above the P-12 (Pressurizer Level) interlock”	This criterion is not consistent with the described TS Note for MODE 6.
B 3.3.17 (p. 1) BACKGROUND	Add at the end of third paragraph: The two OPERABLE channels must be from PMS Divisions B and C, except for valves and electrical breakers powered from the 24 hour battery supplies of the Class 1E dc and uninterruptible power supply system. Once the 24 hour battery supply associated with the actuation signal for these valves and electrical breakers has been exhausted, remote capability for changing the position of these components is lost, and there is no need for further position monitoring	The lead-in “The two OPERABLE channels must be from PMS Divisions B and C,” is clarifying design information. This change was made in VEGP Unit 3 TS Bases Revision 3. The remainder of the addition further clarifies the design. This change was made in VEGP Unit 3 TS Bases Revision 33.
B 3.3.17 (p. 3) LCO	For Function 5 combine and edit first two sentences to read: RCS Subcooling is calculated from core exit temperature and RCS wide range pressure. ~~from pressurizer pressure and RCS hot leg temperature. The~~ RCS Subcooling is provided for verification of core cooling Function 5 also delete last sentence: ~~Inputs to the RCS Subcooling are pressurizer pressure and RCS hot leg temperature.~~	These changes clarify the design. These changes were made in VEGP Unit 3 TS Bases Revision 33.
B 3.3.17 (p. 4) LCO	For Function 10 add last sentence: The pressurizer instruments for RCS wide range pressure and pressurizer pressure also provide input to compensate the level signal.	This change clarifies the design. This change was made in VEGP Unit 3 TS Bases Revision 33.

Item	Comment	Justification
B 3.3.17 (p. 4) LCO	For Function 11 add “and downspouts” to the end of the first paragraph.	This change was approved in association with VEGP Unit 3 Amendment No. 72
B 3.3.17 (p. 5) LCO	For Function 12 second paragraph is replaced with: Alternatively, two channels of not closed position indication for the PRHR HX control valves are also provided to monitor primary system heat removal during accident conditions when the steam generators are not available. These two channels, along with the confirmation that the PRHR HX inlet isolation valve is open per SR 3.5.4.2, are sufficient to verify that PRHR heat removal is fulfilled. The PRHR HX control valves are redundant to each other; they are located in parallel flow paths and only one valve is required to open to satisfy the heat sink function. Note also that the flow channels and valve position channels cannot be mixed..	The position indicators on the PRHR HX inlet isolation valve and the PRHR control valves are used as diverse variables to determine whether there is flow through the PRHR HX. This change was approved in VEGP Unit 3 Amendment No. 162 [ML19133A167]. (VEGP Unit 3 made this change in Bases Revision 52)

Item	Comment	Justification
B 3.3.17 (p. 6) LCO	For Function 17 third and fourth sentences revised to read: The PCS flow instrument on the lowest standpipe, which is also an input to the summation representing total PCS flow, provides a diverse indication of the PCS heat removal capability. The lowest standpipe indication can be used to satisfy one of the two required channels when the PCS level channel in the same electrical division is inoperable. For Function 17 add last sentence: When available, the flow from the other three standpipes is combined with the lowest standpipe to provide a total flow measurement.	These changes clarify the design. These changes were made in VEGP Unit 3 TS Bases Revision 33.
B 3.3.17 (p. 7) LCO	For Function 19 revised to read: The position of the two motor-operated valves in the line from the IRWST to the RNS pump suction header is monitored to verify that the ~~valve is closed~~ flow path is isolated following postulated events. The ~~valve must be closed~~ flow path must be isolated to prevent loss of IRWST inventory into the RNS. Valve position indication is provided from the external stem-mounted limit switch on the motor-operated valve in the line from the IRWST to the RNS pump suction header located inside reactor containment. Valve position indication is provided from the internal limit switch on the motor-operated valve in the line from the IRWST to the RNS pump suction header located outside reactor containment.	Additional clarity and design detail changes to indicate the use of the external stem mounted limit switch (position indicator) on the valve located inside containment, and the internal limit switch on the valve located outside containment, to satisfy the 2-channel requirement. Additionally, clarify that the position of the motor-operated valves is monitored to verify that the “flow path” is isolated following postulated events. (This clarification was made in VEGP Unit 3 Bases Revision 52)

Item	Comment	Justification
B 3.3.17 (p. 10) SR 3.3.17.2	Replace LCO 3.3.1, “Reactor Trip System (RTS) Instrumentation” with LCO 3.3.3, "Reactor Trip System (RTS) Intermediate Range	TS Function 1 is for the Intermediate Range function, which is addressed in LCO 3.3.3 (and not LCO 3.3.1). This correction was made in VEGP Unit 3 TS Bases Revision 33.
B 3.3.19 (p. 1,4) BACKGROUND, REFERENCES	Remove Background first sentence citation “(Ref. 1)” Delete Reference 1 Renumber remaining References	Reference 1 is FSAR Chapter 19. Note that the AP1000 PRA and FSAR Chapter 19 are not the same document. FSAR Chapter 19 only provides a description and summary of results. It is not the same level of detail as the PRA documentation, which is the focus of the Background first sentence.
B 3.4.4 (p. 2) APPLICABLE SAFETY ANALYSIS	Delete sentence in second paragraph: The value for the accident analysis setpoint of the nuclear overpower (high flux) trip is 118% and is based on an analysis assumption that bounds possible instrumentation errors.	The Power Range High Neutron Flux - High Setpoint trip being discussed in this sentence does not provide adequate reactor protection so that the acceptance limit of 118% RTP is not exceeded, as discussed in the NRC Safety Evaluation for VEGP Unit 3 License Amendment No. 144. (VEGP Unit 3 TS Bases Revision 36 reflected this deletion)
B 3.4.4 (p. 2) APPLICABLE SAFETY ANALYSIS	MODES 3, 4, and 5 second sentence delete ending “with the breakers closed or open”	VEGP Unit 3 License Amendment No. 13 revised the Applicability for both TS 3.4.4 and TS 3.4.8 to remove a distinction between reactor trip breakers being open or closed. The deleted phrase in the Bases for 3.4.4 was inadvertently not deleted when implementing that Amendment. (VEGP Unit 3 Bases were later updated with this change in Revision 3)
B 3.4.7 (p. 5) SR 3.4.7.1	Delete last two paragraphs on page 5: The containment atmosphere F18 particulate radioactivity LEAKAGE measurement is valid only for plant power > 20% RTP. The containment sump level change method of detecting leaks during MODES 1, 2, 3, and 4 is not valid during extremely cold outside ambient conditions when frost is forming in the interior of the containment vessel.	The first paragraph reflects the Applicability details in another TS, i.e., TS 3.4.9 Applicability Note 2, and is therefore removed from TS 3.4.7 Bases. The second paragraph is not consistent with the Applicability of TS 3.4.9 (governing the operability of the containment sump level instruments). Furthermore, analyses have shown that frost is not expected to form on the inside of the containment vessel. Therefore, this statement is irrelevant and removed.
B 3.4.7 (p. 6) References	Revise Regulatory Guide 1.45 from Revision 1 to Revision 0	AP1000 design is per Revision 0, and “May 1973” is the date for Revision 0.

Item	Comment	Justification
B 3.4.9 (p. 7) References	Revise Regulatory Guide 1.45 from Revision 1, May 2008 to Revision 0, May 1973	AP1000 design is per Revision 0.
B 3.4.11 (p. 2) BACKGROUND	In 4th paragraph, revise 40 and 100 to 48 and 120	This reflects design changes consistent with VEGP Unit 3 Amendment No. 176 [ML20049A655].
B 3.4.11 (p. 5) SR 3.4.11.2	Delete "(Ref. 4)"	The SR 3.4.11.2 referenced Inservice Testing Program is not the same document as the description of testing in UFSAR Section 3.9.6 (i.e., Ref. 4). Furthermore, the sentence is describing the TS Frequency, which does not contain a Reference.
B 3.4.11 (p. 5) SR 3.4.11.3	Revise second paragraph to replace "ISTC 4.6, Inservice Tests for Category D Explosively Actuated Valves" with "ITSC-5260" and delete third sentence.	The correct ASME Code reference is provided. (VEGP Unit 3 made this change in Bases Revision 59)
B 3.4.11 (p. 6) SR 3.4.11.4	Delete from second sentence "ESFAS ACTUATION LOGIC OUTPUT TEST and"	VEGP Unit 3 Amendment No. 168 [ML19297C791] removed ESFAS Actuation Logic Output Testing requirements. (VEGP Unit 3 made these changes in Bases Revision 56)
B 3.4.11 (p. 6) SR 3.4.11.5	Insert following first sentence "The actual or simulated signal is processed through the component interface module to verify the continuity between the output of the component interface module and the valves. The ADS and IRWST injection blocking device ACTUATION LOGIC TEST provides overlap with this Surveillance."	VEGP Unit 3 Amendment No. 168 [ML19297C791] removed ESFAS Actuation Logic Output Testing requirements. (VEGP Unit 3 made these changes in Bases Revision 56)
B 3.4.11 (p. 7) REFERENCES	Revise Reference 3 to "AP1000 Probabilistic Risk Assessment."	The Background (p. 2) cites Reference 3 for "The PRA…" Note that the AP1000 PRA and FSAR Chapter 19 are not the same document. FSAR Chapter 19 only provides a description and summary of results. It is not the same level of detail as the PRA documentation.
B 3.4.12 (p. 3) ACTIONS	Add "required" prior to "flow path(s)" in each of RA B.1, RA C.1 and RA D.1.	The modifier "required" is needed to align with the TS requirements presented in Conditions B, C, and D. Not all ADS valves are required under all APPLICABILITY situations. This is consistent with changes approved in VEGP Unit 3 Amendment No. 118 (ML18075A094 – Cover Letter).

Item	Comment	Justification
B3.4.12 (p. 3) ACTIONS	Move the first paragraph of D.1 to be the last paragraph of C.1.	Since Action C could involve three or more inoperable flow paths, the clarification is appropriate for the C.1 Bases. This is consistent with the changes shown in the request approved in VEGP Unit 3 Amendment No. 118 (ML18075A094 – Cover Letter). (VEGP Unit 3 made these changes in Bases Revision 23)
B 3.4.14 (p. 3) APPLICABLE SAFETY ANALYSES	Add the following in the ASA under the RNS Suction Relief Valve Performance, next to last sentence: "will lift at its lift setting and the larger RNS suction relief valve"	Omitted text makes the statement incorrect, now indicating that the smaller RNS suction relief valve will remain closed when in fact, it would lift and the larger valve will remain closed.
B 3.4.14 (p. 4) APPLICABLE SAFETY ANALYSES	Revise "The required vent area may be obtained by opening one ADS Stage 2, 3, or 4 flow path" to reference "…one ADS Stage 1, 2, or 3 flow path. " (i.e., delete reference to Stage 4)	Reference to opening Stage 4 squib valve is not a practical option. (VEGP removed reference to ADS Stage 4 in Bases Revision 39).
B 3.4.14 (p. 5) LCO	Add "OPERABLE" to "b" header prior to "RCS vent"	The change provides consistency with the heading for "a" matching the TS requirement to be operable.
B 3.4.14 (p. 9) SR 3.4.14.5	Delete "This Surveillance is only required to be performed if the RNS suction relief valves are being used to meet this LCO."	Duplicates final sentence of the paragraph
B 3.4.15 (p. 2) BACKGROUND	Revise "four" to "Five" in first line of the fourth paragraph Add "the zinc supply line," in the fourth paragraph, third sentence after "hydrogen supply line"	Revision to include a fifth CVS high pressure/low pressure connection with the RCS by adding the zinc supply line to the list of CVS lines that penetrate containment is consistent with changes approved in VEGP Unit 3 Amendment No. 12 [ML13172A18], which separated the zinc and hydrogen injection lines. (This change was made in VEGP Unit 3 Bases Revision 1)
B 3.4.15 (p. 3) LCO	Revise last two sentences to read: "In such cases, the observed leakage rate at lower differential pressures shall be adjusted to the maximum pressure differential assuming leakage is directly proportional to the pressure differential to the one-half power."	Change is consistent with the ASME Operations and Maintenance (OM) Code and applicable addenda regarding the need to adjust the measured valve leak rate based on the ratio of the maximum operating differential pressure to the test differential pressure. (This change was made in VEGP Unit 3 in Bases Revision 54)

Item	Comment	Justification
B 3.4.17 (p. 5) ACTIONS	For A.1 and A.2 second line, add “repair” between “tube” and “criteria”	The change aligns with the TS requirement. The AP1000 GTS Bases included “repair.” The apparent inadvertent omission occurred in NUREG-2194 Revision 0.
B 3.5.1 (p. 7) References	Revise Reference 4 to “AP1000 Probabilistic Risk Assessment.”	Background (p. 2) cites Reference 4 for “The probabilistic risk assessment (PRA).” Note that the AP1000 PRA and FSAR Chapter 19 are not the same document. FSAR Chapter 19 only provides a description and summary of results. It is not the same level of detail as the PRA documentation.
B 3.5.2 (p. 2) APPLICABLE SAFETY ANALYSES	Revise reference to CVS being “inoperable” to “unavailable or insufficient”	The use of “inoperable” is not appropriate for non-TS systems. Since CVS is a non-TS system the term is revised to “unavailable or insufficient.” (VEGP Unit 3 TS Bases Revision 70 made this change)
B 3.5.2 (p. 8) References	Revise Reference 3 to “AP1000 Probabilistic Risk Assessment.”	Background (p. 1) cites Reference 3 for “The probabilistic risk assessment (PRA).” Note that the AP1000 PRA and FSAR Chapter 19 are not the same document. FSAR Chapter 19 only provides a description and summary of results. It is not the same level of detail as the PRA documentation.
B 3.5.3 (p. 4) SR 3.5.3.1	Revise reference to SR 3.5.2.8 to SR 3.5.2.7	There is no SR 3.5.2.8. This change is consistent with revisions made in VEGP Unit 3 Amendment No. 176 [ML20049A655].
B 3.5.3 (p. 4) References	Revise Reference 2 to “AP1000 Probabilistic Risk Assessment.”	Action D.1 (p. 3) cites Reference 2 for “The probabilistic risk assessment (PRA).” Note that the AP1000 PRA and FSAR Chapter 19 are not the same document. FSAR Chapter 19 only provides a description and summary of results. It is not the same level of detail as the PRA documentation.
B 3.5.4 (p. 1) BACKGROUND	Second paragraph change “principle” to “principal”	Grammar appropriately corrected. (VEGP Unit 3 TS Bases Revision 70 made this change)
B 3.5.4 (p. 3) APPLICABILITY	Revise first paragraph “MODES 1, 2, 3, and in 4” to “MODES 1, 2, and 3, and in MODE 4”	Editorial correction
B 3.5.4 (p. 5) ACTIONS	Add missing “pumps” in first paragraph to read “Possible means include two main feedwater pumps (with two condensate…”	Editorial – missing word

Item	Comment	Justification
B 3.5.4 (p. 8) References	Revise Reference 3 to "AP1000 Probabilistic Risk Assessment."	Background (p. 1) cites Reference 3 for "The probabilistic risk assessment (PRA)." Note that the AP1000 PRA and FSAR Chapter 19 are not the same document. FSAR Chapter 19 only provides a description and summary of results. It is not the same level of detail as the PRA documentation.
B 3.5.5 (p. 2) APPLICABILITY	Revise third paragraph "MODES 1, 2, 3, and in 4" to "MODES 1, 2, and 3, and in MODE 4"	Editorial correction
B 3.5.6 (p. 9) References	Revise Reference 3 to "AP1000 Probabilistic Risk Assessment"	Action D.1 (p. 5) cites Reference 3 for "probabilistic risk assessment (PRA) success criteria." Note that the AP1000 PRA and FSAR Chapter 19 are not the same document. Ch 19 only provides a description and summary of results. It is not the same level of detail as the PRA documentation.
B 3.6.7 (p. 1) BACKGROUND	First paragraph second sentence move phrase "within containment" to the end of the sentence. First paragraph add after 3rd sentence and move current last sentence to begin second paragraph: Since there are no unique MODES 5 and 6 containment pressurization response analyses, containment pressurization is assumed to be bounded by the design basis accident containment response. Therefore, containment closure must be capable of maintaining containment isolation at the containment design pressure of 59 psig (Ref. 1) to prevent gross failure of containment opening barriers that would challenge maintaining long-term core cooling water inventory.	Grammatical clarification and additional design clarification. (VEGP Unit 3 TS Bases Revision 70 made these changes) Note that Reference 1 is intended to cite FSAR Chapter 19 (Shutdown Evaluation); therefore, the NUREG-2194 Reference 1 is an appropriate reference.

Item	Comment	Justification
B 3.6.7 (p. 2,7) BACKGROUND REFERENCES	Revise the Tables 54-1 and 54-4 reference to "Reference 1" (in first full paragraph and next to last paragraph) to Reference 2. Add new Reference 2 citing "AP1000 PRA" and renumber current Reference 2 to Reference 3. Revise Background page 2 second full paragraph "(Ref. 2)" to "(Ref. 3)"	Tables 54-1 and 54-4 do not exist in Reference 1 (i.e., FSAR Chapter 19). Tables 54-1 and 54-4 are in reference to the Generic AP1000 PRA.
B 3.7.3 APPLICABILITY	Add APPLICABILITY section	APPLICABILITY section (as presented in NUREG-2194, Revision 0) is missing.
B SR 3.7.3.1 (p. 5)	Add the following as new second sentence in the first paragraph: "The actual or simulated signal is processed through the component interface module to verify the continuity between the output of the component interface module and the valves."	This sentence was added in VEGP Bases Revision 56 during implementation of Unit 3 License Amendment No. 168 [ML19297C791] for additional clarification, which is based on the same change acknowledged in the Amendment Safety Evaluation for TS SRs 3.1.9.3 and 3.6.3.5.
B SR 3.7.3.1 (p. 5)	SR 3.7.3.1 Bases last paragraph replaced with: The SR is modified by a note which states that the SR is only required to be performed prior to entry into MODE 2. This allows the option to perform testing in MODES 3 or 4. Also delete last sentence of SR 3.7.3.1 Bases first paragraph ("This is consistent with the ASME OM Code (Ref. 2) quarterly stroke requirements during operation in MODES 1 and 2")	Paragraph revised to more accurately describe the associated TS SR Note, which allows the option to defer testing until entering the TS Applicability and achieving MODE 3 or 4 (i.e., prior to entering Mode 2). Sentence describing consistency with ASME OM quarterly stroke requirements is misleading since these valves are not tested quarterly and ASME OM does not directly provide the exception, but allows a utility to justify a cold shutdown exception. VEGP Unit 3 Bases Revision 59 made these changes.
B 3.7.6 (p. 7) APPLICABILITY	Add APPLICABILITY section divider and header	APPLICABILITY section divider and header is missing for what is now last two paragraphs of LCO Bases.

Item	Comment	Justification
B SR 3.7.6.3 (p. 13)	Remove ", which each require quarterly testing (per UFSAR Table 3.9-16 and Note 38)"	The NUREG-2194 Revision 1 draft changes mimic changes made by VEGP Unit 3 in Revision 61. However, the text ", which each require quarterly testing (per UFSAR Table 3.9-16 and Note 38)" is not found in VEGP TS Bases. This UFSAR table has been removed since its purpose was to present a operational information that now resides in the Inservice Testing Program and controlled under 10 CFR 50.55a.
B SR 3.7.6.10 (p. 15)	After "in accordance with" add "the FSAR Appendix 1A position for" in reference to conformance with Regulatory Guide 1.52."	The AP1000 testing has exceptions to this RG as identified in DCD Appendix 1A. This clarification was adopted by VEGP Unit 3 in Revision 67.
B 3.7.7 (p. 1) APPLICABLE SAFETY ANALYSES	First paragraph replace ending "for a large FLB" with "inside containment. It is also based on the analysis for a large FLB and a steam generator tube rupture."	NUREG-2194 Revision 0 provided an appropriate first paragraph, which matches the content of VEGP Unit 3. The draft Revision 1 paragraph is incomplete.
B 3.7.7 (p. 2) APPLICABLE SAFETY ANALYSES	Delete "and control" in first and second paragraph	The control valves are not containment isolation valves. Note that they are not listed in DCD Tier 2 (or VEGP UFSAR) Table 6.2.3-1.
B SR 3.7.7.2 (p. 4)	Add the following as new second sentence in the first paragraph: "The actual or simulated signal is processed through the component interface module to verify the continuity between the output of the component interface module and the valves."	This sentence was added in VEGP Bases Revision 56 during implementation of Unit 3 License Amendment No. 168 [ML19297C791] for additional clarification, which is based on the same change acknowledged in the Amendment Safety Evaluation for TS SRs 3.1.9.3 and 3.6.3.5.
B 3.7.9 (p. 2) APPLICABLE SAFETY ANALYSES	Next to last paragraph title of LCO 3.6.6 as "Passive Containment Cooling System – Operating" delete "- Operating"	Inclusion of "- Operating" does not match TS 3.6.6 title.
B 3.7.10 (p. 1) BACKGROUND	SGS-PLV233A & B should be SGS-PL-V233A & B	Editorial correction of missing hyphen after "PL"
B 3.7.13 (p. 1) BACKGROUND	Revise title of LCO in reference to LCO 3.3.14 to ESFAS IRWST and Spent Fuel Pool Level ~~Refueling Cavity and Spent Fuel Pool Cooling System (SFS) Isolation~~ Instrumentation..	Correct Title

Item	Comment	Justification
B 3.8.1 (p. 2) BACKGROUND	Revise last paragraph 2nd sentence as follows: The battery terminal minimum established float voltage limit is 2.20 ~~2.13~~ V per cell, which corresponds to a total minimum voltage output of 264 ~~2.56~~ V per battery	Voltage limits revised consistent with licensing basis and vendor recommendation for minimum established float voltage. (VEGP Unit 3 TS Bases Revision 68 made these changes)
B 3.8.3 (p. 2) LCO	Revise the paragraph beginning "An inverter is OPERABLE when…" to begin "OPERABLE inverters require…"	This change is recommended as the sentence may not contain EVERYTHING it takes for the inverter to considered OPERABLE.
B 3.8.4 (p. 2) LCO	The sentence beginning "OPERABILITY of the inverters requires…" has been revised to begin "An inverter is OPERABLE when…"	This change is not recommended as the sentence may not contain EVERYTHING it takes for the inverter to considered OPERABLE.
B 3.8.7 (p. 3,4) ACTIONS	Move header for Required Actions C.1, C.2 and C.3 up one paragraph	Last paragraph on page B 3.8.7-3 begins the discussion of Required Actions C.1, C.2, and C.3. The "C.1, C.2 and C.3" header belongs prior to this paragraph.
B 3.9.3 (p. 3) REFERENCES	Swap References 1 and 2	Initial fuel loading is addressed in Chapter 14 which is cited as Ref. 1 in the Applicable Safety Analyses (ASA) subsection, and the boron dilution accident is addressed in Chapter 15 which is cited as Ref 2 ASA subsection.
B 3.9.3 (p. 3) SR 3.9.3.1	Add Bases for SR 3.9.3.1 Channel Check	Channel Check SR Bases is missing. Refer to Comment on NUREG-2194 Volume 1, Technical Specification, to add SR to TS
B 3.9.5 (p. 1) BACKGROUND	Delete "(Ref. 3)" in final sentence. Alternatively, add new Reference 3 to REFERENCES.	There is no Ref. 3 provided in these Bases Reference subsection.