

May 11, 2016

Enclosure 4

APOG Comment Disposition

FEBRUARY 25, 2015 MEETING WITH THE
WESTINGHOUSE ADVANCED PASSIVE 1000
OWNERS GROUP (APOG)

The APOG comment letter was put in ADAMS on 9/22/14 – ML14265A493

Draft comment resolutions completed and documented in Rev. 0 of this document dated 2/10/15 - ML15055A292

Meeting Outcome Categories – by agenda item, discussion topic, or comment

These categories apply to APOG-2014-008 comments listed in the meeting topics for the 2/25/15 meeting between representatives of the AP1000 utilities and the NRC/NRO/DSRA/SPSB staff. They also apply to other APOG-2014-008 comments that were added during the meeting discussion.

- A** APOG agrees with SPSB proposed change to APOG-2014-008 comment: SPSB will implement its proposed change in STS Rev 0.
- B1** APOG does not agree with SPSB proposed change to APOG-2014-008 comment: SPSB will implement its proposed change in STS Rev 0.
- B2** APOG does not agree with SPSB proposed change to APOG-2014-008 comment: SPSB will withdraw its proposed change and implement in STS Rev 0 the change proposed by the APOG-2014-008 comment.
- C1** Item resolved: SPSB action
- C2** Item resolved: APOG action
- D1** Item open, but resolution needed for STS Rev 0: SPSB action
- D2** Item open, but resolution needed for STS Rev 0: APOG action
- E1** Item open, but may be considered for subsequent STS revision: SPSB action
- E2** Item open, but may be considered for subsequent STS revision: APOG action

The following applies to all APOG-2014-008 comments:

An SPSB or APOG proposed GTS change that meets one or more of the following conditions, will be implemented in STS Rev. 0:

- (1) An SPSB proposed change to GTS (as presented in Rev. 0 of the GTSTs) will be implemented in STS Rev 0 provided
 - APOG agrees with the change as indicated by no APOG-2014-008 comment opposing the change.
- (2) An SPSB proposed change (as presented in the draft resolutions to APOG-2014-008 comments) to an APOG-2014-008 comment will be implemented in STS Rev 0 provided
 - APOG agrees with the change as affirmed during the meeting; or
 - The change is editorial (typographical errors in spelling, punctuation, capitalization, or grammar) and SPSB concludes it would require no additional APOG or NRC review to determine that it does not alter the meaning of the subject passage.
- (3) An APOG-2014-008 comment proposed change to GTS, or to an SPSB GTS change proposed in Rev. 0 of the GTSTs, will be implemented in the STS Rev 0 provided
 - SPSB agrees with the change as indicated by no comment opposing the change (as stated in the draft resolutions to APOG-2014-008 comments); or
 - SPSB agrees with the change as affirmed during the meeting.

Any SPSB or APOG proposed GTS change that meets none of the above conditions, will not be implemented in STS Rev. 0. Most such SPSB proposed changes are identified as “withdrawn” in the updated resolutions to APOG-2014-008 comments (this document). The Action column is updated for each change with the outcome of the 2/15/15 meeting and the

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
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- P1 Unique Format Convention
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3/26/15 teleconference between representatives of the AP1000 utilities and the NRC/NRO/DSRA/SPSB staff. Withdrawn changes are preceded by Withdrawn with the text lined out and colored violet.

Comments listed in the meeting topics for the 2/25/15 meeting are shown in **bold** font in the following table; associated topic numbers are provided in superscripts. Comment numbers in italics and underlined were not originally selected for discussion during the 2/25/15 meeting.

	¹ 1	¹ 2	³ 3	⁴ 4	¹² 5	⁶ 6	⁷ 7	⁸ 8	⁹ 9
10	²³ 11	²³ 12	¹³ 13	³ 14	² 15	^{12 4} 16	¹⁷ 17	¹⁸ 18	⁵ 19
20	21	22	23	² 24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	⁶ 48	49
⁷ 50	51	52	53	54	55	⁶ 56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118	^{6 11} 119
120	121	122	123	⁸ 124	125	126	⁸ 127	⁹ 128	^{6 10 11} 129
¹¹ 130	131	132	133	¹¹ 134	¹¹ 135	^{6 12} 136	⁶ 137	138	139
140	141	142	143	^{6 11} 144	145	146	147	148	149
150	151	⁶ 152	153	154	155	156	157	158	159
160	161	162	163	164	165	166	167	168	169
170	171	^{11 13} 172	173	174	175	¹¹ 176	177	^{6 11 13.5 13.6} 178	179
180	181	182	183	184	185	186	187	^{13.5} 188	189
190	^{13.5} 191	192	^{13.6} 193	194	^{13.5} 195	196	^{13.5} 197	198	199
200	201	^{6 11 13.5 13.6} 202	203	204	205	206	^{13.5 13.6} 207	208	209
210	211	212	213	214	215	216	217	218	219
220	221	222	223	224	225	226	227	228	229
230	231	232	233	234	235	236	237	238	¹⁴ 239
⁶ 240	241	¹⁵ 242	243	244	¹⁶ 245	246	¹⁶ 247	248	249
250	251	¹⁷ 252	¹⁴ 253	254	¹⁶ 255	256	257	^{6 16} 258	259
^{6 16} 260	261	262	263	264	265	266	267	268	^{6 11} 269

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270	¹⁸ 271	272	273	274	275	²⁰ 276	277	278	279
280	281	282	283	284	285	286	287	²⁵ 288	289
290	291	¹² 292	⁶ 293	294	^{5 6} 295	296	⁶ 297	298	299
⁶ 300	301	302	303	304	305	306	307	308	309
^{6 11} 310	311	312	313	314	315	⁶ 316	317	318	^{6 11} 319
320	321	322	323	324	⁶ 325	326	⁶ 327	²⁰ 328	329
330	331	332	^{6 20} 333	⁶ 334	335	⁶ 336	337	338	339
340	341	342	¹⁹ 343	¹⁹ 344	¹⁹ 345	346	347	348	349
350	351	⁶ 352	^{6 25} 353	354	355	356	357	358	359
⁶ 360	⁶ 361	362	363	364	365	366	367	368	369
^{6 20} 370	371	372	373	374	375	376	^{6 20} 377	²¹ 378	379
^{4 6} 380	^{4 6} 381	382	383	384	385	386	387	388	389
390	391	⁶ 392	393	394	395	396	397	398	399
400	401	402	403	404	^{13.3 13.4} 405	406	407	408	409
410	411	412	413	414	415	416	417	418	²² 419
²² 420	421	²² 422	²² 423	²³ 424	^{13.3 13.4 23} 425	426	427	428	429
430	431	⁶ 432	433	434	435	436	437	^{6 13.3 13.4 23 24 25} 438	²³ 439
440	441	442	443	⁶ 444	445	446	447	448	449
450	451	452	453	454	455	⁶ 456	²⁵ 457	458	459
460	461	462	463	²⁵ 464	^{25 27} 465	^{6 25} 466	^{6 25 26 27} 467	468	469
470	²⁵ 471	472	473	^{25 27} 474	475	^{6 11} 476	⁶ 477	^{4 6} 478	479
^{4 6} 480	^{4 6} 481	482	483	484	485	⁶ 486	487	488	489
490	⁶ 491	¹¹ 492	493	494	495	496	497	498	499
500	501	502	503	504	505	²⁸ 506	507	508	509
510	511	512	513	514	¹² 515	¹² 516	¹² 517	518	519
520	⁶ 521	522	523	524	525	526	527	528	529
530	531	532	533	²⁹ 534*	535*				

* comment added by SPSB staff

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
1	_Disposition of TSTF Changes	Approved TSTF-522 is not dispositioned in the material provided to support the GTSTs.	Include TSTF-522 in the reference disposition tables, as "TSTF already Included in GTS Rev. 19 with variation." Note that minor changes to the Bases are as appropriate to the AP1000 design.	T3	SPSB agrees.	<p>A <u>APOG discussion topic</u></p> <p>Add TSTF-522-A to reference disposition table for GTS SR 3.7.6.4 as TSTF already Included in GTS Rev. 19 with variation. GTS SR 3.7.6.4, to operate VES for ≥ 15 minutes with a 31 day Frequency, matches the changed approved in this traveler for Westinghouse STS SR 3.7.10, except that SR 3.7.6.4 does not include the word "continuous" before "minutes."</p> <p>Since GTS Subsection 3.9.6 is relocated from PTS by Amendment 13 to VEGP 3 and 4 COLs, Add TSTF-522-A to reference disposition table for GTS 3.9.6 as TSTF not applicable to AP1000 design or GTS Rev. 19.</p> <p>In GTST Sections IV and VIII, describe APOG comment and its resolution.</p>	ANL GTST A25 complete ORNL GTST O46 complete
2	_Disposition of TSTF Changes	Approved TSTF-523 is not dispositioned in the material provided to support the GTSTs.	Include TSTF-523 in the reference disposition tables, as "TSTF deferred for future consideration"	T2 T3	SPSB disagrees; concerns of traveler already addressed by GTS Rev 19.	<p>A <u>APOG discussion topic</u></p> <p>E1 LCO 3.5.3 needs a Condition like LCO 3.5.2 Condition D</p> <p>Add traveler to reference disposition tables as not applicable to GTS.</p> <p>Add traveler to GTST for GTS Subsections listed below and explain why not applicable in Section III.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <hr/> <p>Affected GTSTs (by Section or Subsection) are the following: 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, 3.5.7, 3.5.8</p>	PNNL GTSTs P02, P03, P04, P05, P06, P07, and P08 complete

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3	_Generic	Throughout the Bases, references to Sections and Chapters of the FSAR (or AP1000 DCD) do not state the "FSAR" (or DCD) clarifier. Since these Section and Chapter references are to an external document, it is appropriate to include the "FSAR" modifier. This was done in VEGP LAR; refer to DOC A003.	Add "FSAR" before each Bases reference to "Section" and/or "Chapter," including each Reference Section listing.	A5	SPSB agrees	<p>Potentially applies to all GTSTs for TS Chapters 2 and 3, because they have Bases. Each Lab to identify all instances in the Bases where the proposed action applies, and include it in the associated GTST in Section IV, as being based on VEGP TSU LAR DOC A003. Same description paragraph should be used in all applicable GTSTs.</p> <hr/> <p>Affected GTSTs (by Section or Subsection) are the following:</p> <ul style="list-style-type: none"> • Subsection 3.3.1 (pages 64/110, 74/121, 76/122) • Subsection 3.3.2 (pages 31/45, 36/50, 37/51) • Subsection 3.3.3 (pages 26/39, 30/44, 31/45) • Subsection 3.3.7 (pages 24/31) • Subsection 3.3.8 (pages 110/177 113/178) • Subsection 3.3.9 (pages 48/70) • Subsection 3.3.10 (pages 32/49, 33/50) • Subsection 3.3.11 (pages 24/34, 25/35) • Subsection 3.3.12 (pages 21/27) • Subsection 3.3.13 (pages 25/36, 26/37) • Subsection 3.3.14 (pages 23/33, 24/34) • Subsection 3.3.15 (pages 38/48) • Subsection 3.3.16 (pages 39/51) • Subsection 3.3.19 (pages 16/25, 17/26, 20/29) <ul style="list-style-type: none"> • Subsection 3.4.1 (pages 19/28) • Subsection 3.4.2 (pages 15/20) • Subsection 3.4.4 (pages 22/32) • Subsection 3.4.5 (pages 14/19, 16/21) • Subsection 3.4.6 (pages 15/23, 18/26) • Subsection 3.4.7 (pages 16/27, 21/32) • Subsection 3.4.9 (pages 20/31, 25/35) • Subsection 3.4.10 (pages 17/25, 18/26, 21/28) • Subsection 3.4.11 (pages 22/32) • Subsection 3.4.12 (pages 18/25) • Subsection 3.4.13 (pages 19/27) • Subsection 3.4.14 (pages 29/44) • Subsection 3.4.15 (pages 14/22, 15/23) • Subsection 3.4.16 (pages 17/22) <p style="text-align: right;">continued</p>	<p>ANL Affected GTSTs complete</p> <p>BNL Affected GTSTs complete</p> <p>ORNL Affected GTSTs complete</p> <p>PNNL Affected GTSTs complete</p>

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3	_Generic	Throughout the Bases, references to Sections and Chapters of the FSAR (or AP1000 DCD) do not state the "FSAR" (or DCD) clarifier. Since these Section and Chapter references are to an external document, it is appropriate to include the "FSAR" modifier. This was done in VEGP LAR; refer to DOC A003.	Add "FSAR" before each Bases reference to "Section" and/or "Chapter," including each Reference Section listing.	A5	SPSB agrees	Continued from previous page Affected GTSTs (by Section or Subsection) are the following: (continued) <ul style="list-style-type: none"> • Subsection 3.5.1 (pages 21/32) • Subsection 3.5.2 (pages 27/39) • Subsection 3.5.3 (pages 18/25) • Subsection 3.5.4 (pages 26/39) • Subsection 3.5.6 (pages 26/40) • Subsection 3.6.1 (pages 16/22) • Subsection 3.6.2 (pages 22/34) • Subsection 3.6.3 (pages 26/40) • Subsection 3.6.4 (pages 18/25) • Subsection 3.6.5 (pages 20/28) • Subsection 3.6.6 (pages 27/40) • Subsection 3.6.8 (pages 17/23) [GTS 3.6.9] • Subsection 3.6.9 (pages 20/29) [GTS 3.6.10] • Subsection 3.7.1 (pages 20/34, 21/35, 27/40) • Subsection 3.7.2 (pages 22/39, 23/40, 31/47, 31/48) • Subsection 3.7.3 (pages 23/31) • Subsection 3.7.4 (pages 13/18, 14/19, 15/20) • Subsection 3.7.5 (pages 13/18, 15/20) • Subsection 3.7.6 (pages 28/47) • Subsection 3.7.7 (pages 21/29) • Subsection 3.7.8 (pages 13/18, 15/20) • Subsection 3.7.9 (pages 17/27, 21/31) • Subsection 3.7.10 (pages 20/31, 26/36, 26/36) • Subsection 3.7.11 (pages 16/22) • Subsection 3.7.12 (pages 17/23) • Subsection 3.8.1 (pages 27/45, 38/55) • Subsection 3.8.2 (pages 24/35, 30/40) • Subsection 3.8.3 (pages 15/23, 16/24, 19/27) • Subsection 3.8.4 (pages 17/25, 21/29) • Subsection 3.8.5 (pages 20/35, 21/36, 30/43) • Subsection 3.8.6 (pages 17/24, 20/27) • Subsection 3.8.7 (pages 24/38, 32/45) <p style="text-align: right;">continued</p>	ANL Affected GTSTs complete BNL Affected GTSTs complete ORNL Affected GTSTs complete PNNL Affected GTSTs complete

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3	_Generic	<i>Throughout the Bases, references to Sections and Chapters of the FSAR (or AP1000 DCD) do not state the "FSAR" (or DCD) clarifier. Since these Section and Chapter references are to an external document, it is appropriate to include the "FSAR" modifier. This was done in VEGP LAR; refer to DOC A003.</i>	<i>Add "FSAR" before each Bases reference to "Section" and/or "Chapter," including each Reference Section listing.</i>	A5	SPSB agrees	Continued from previous page Affected GTSTs (by Section or Subsection) are the following: (continued) <ul style="list-style-type: none"> • Subsection 3.9.1 (pages 14/20, 17/23) • Subsection 3.9.2 (pages 17/22) • Subsection 3.9.3 (pages 18/25) • Subsection 3.9.4 (pages 14/18, 15/19) • Subsection 3.9.7 (pages 14/18, 15/19) • Section 5.5 	ANL Affected GTSTs complete BNL Affected GTSTs complete ORNL Affected GTSTs complete PNNL Affected GTSTs complete
4	_Generic	The construction of NOTE(S) is modified from the AP1000 GTS. The Writer's Guide for Plant-Specific Improved Technical Specifications, TSTF-GG-05-01, Revision 1, provides for use of Note format as presented in GTS. Consistency with GTS and issued COL TS is desired.	Revert Note format to match that used in GTS	A4	SPSB disagrees Note format of all STS NUREGs ought to be the same. It has no impact on plant-specific TS meaning of notes, which can be reformatted easily.	None	Closed

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5	_Generic	TSTF-51-A made two changes: it changed Applicabilities and Actions from “movement of irradiated fuel” to “movement of recently irradiated fuel” and removed most uses of the defined term Core Alterations. This change has the effect of removing the Applicability of the affected TS after a specified decay time (i.e., beyond “recently”) has occurred. Only the second change to delete Core Alterations was incorporated into the AP1000 STS. Further clarification of the full scope of TSTF-51 should be addressed; that is to acknowledge it is deferred to a future consideration.	Include the addition of “recently” from TSTF-51 in the reference disposition tables, as “TSTF deferred for future consideration”	T2 T3	SPSB agrees Withdrawn SPSB disagrees, but with modification of proposal. This change is not applicable to GTS Rev 19.	B2 Include the addition of “recently” from TSTF-51 in the reference disposition tables, as “TSTF deferred for future consideration” APOG asserted that the existence of the specification STS 3.9.5, “Decay Time,” does not necessarily obviate the purpose of using “recently” as a modifier to “irradiated fuel movement.” Withdrawn Add discussion in the reference disposition tables, comments field, to say that the addition of “recently irradiated fuel” is a change from TSTF-51 which does not apply, since AP1000 GTS Subsection 3.9.7, Decay Time, provides the necessary constraint on the initiation of irradiated fuel movement in the reactor vessel. <hr/> Potentially affected GTSTs (by Section or Subsection) are the following: <ul style="list-style-type: none"> • Subsection 3.7.6 • Subsection 3.8.2, 3.8.4, 3.8.6 • Subsection 3.9.4 	ANL, BNL, ORNL Affected GTSTs complete
6	_Generic	The GTST sections often repeat VEGP LAR DOCs, which reference “existing” and “current” requirements. The inclusion in the GTST of references to “existing” and “current,” are not always valid in the context of the GTS.	Each occurrence of “existing” and “current” should be revised to be clear and specific to GTS, MTS, or VEGP COL TS (or other), as appropriate.	A3	SPSB agrees	Search all GTSTs Sections III, IV, V, VI, and VII for noted ambiguities or inaccuracies, and correct them. <hr/> Affected GTSTs (by Section or Subsection) are the following: 3.4.3,	ANL, BNL, PNNL Affected GTSTs complete ORNL GTSTs O24, O30 complete

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7	_Generic	Section VII, GTST Safety Evaluation, inconsistently completes the subsection "References to Previous NRC Safety Evaluation Reports (SERs)." When technical changes are made based on VEGP LAR, citing the associated SER is not always done. It is not clear whether there is a substantive intended difference when omitting the citation.	Evaluate consistent citations within the subsection "References to Previous NRC Safety Evaluation Reports (SERs)"	A3	SPSB agrees	Examine all GTSTs that reference the SE for VEGP 3&4 COL Amendment 13 in GTST Section VII, and remove the reference, but make sure the technical evaluation refers to this SE reference in GTST Section X. The convention should be that the SE for VEGP 3&4 COL Amendment 13 should not be listed as a reference in Section VII, since it is listed in Section X. The Section VII references are for previous NRC SEs related to adoption of TSTF changes. C1 Describe APOG comment and its resolution in GTST Section VIII <u>Affected GTSTs (by Section or Subsection) are the following: GTST AP1000 O42 3.7.2</u>	ANL, BNL, PNNL Affected GTSTs complete ORNL GTSTs O24, O34 complete
8	_Generic	In section II, subsection titled, "RCOL PTS Change Number and Title," there are inconsistent titles given (between the various GTST sections) for the various TSU LAR DOCs.	Suggest making DOC titles consistent between GTST sections.	A3	SPSB disagrees	C1 Ignore this comment since titles for DOCs are only intended to briefly describe the changes associated with the Subsection.	ANL, BNL, ORNL, PNNL No action taken.

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- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
9	_TSTF-071 _TSTF-494	<p>TSTF-071-A, Rev. 2, was incorporated in Revision 2 of the WOG NUREG; however, TSTF-071-A was not included in the AP1000 GTS. The GTST proposes to add it.</p> <p>This Bases-only change is generally not adopted by most plant-specific ISTS conversions (for example, it is currently not in VEGP Units 1 and 2 Bases). The Bases examples are not considered to be helpful, especially given the plant-specific details provided in procedures.</p> <p>Since neither issued COL Bases for VEGP or V.C. Summer include this portion of the Bases, and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COL Bases.</p> <p>Similarly, TSTF-494 is not appropriate to be included.</p>	Remove TSTF-071 and TSTF-494 from GTST	T5 P5	SPSB agrees	<p>Remove TSTF-071-A and TSTF-494-T from GTST for LCO 3.0.6. Revise the reference disposition tables to indicate that these TSTFs are not applicable to GTS Rev 19.</p> <p>C1 Describe APOG comment and its resolution in GTST Section VIII</p> <hr/> <p>Affected GTSTs (by Section or Subsection) are the following:</p> <ul style="list-style-type: none"> Subsection 3.0, LCO 3.0.6 	ORNL GTST O01 complete
10	_TSTF-165	<p>TSTF-165 made several changes to the LCO 3.0.5 Bases, which are not incorporated in the AP1000 GTS, and not evaluated in the GTST. Generally, TSTF-165 replaces the phrase “Surveillance Requirements” or “SRs” with “required testing.” This change corrects an inconsistency with LCO 3.0.5.</p>	Incorporate the changes approved in TSTF-165 into the Bases for LCO 3.0.5.	A5 T3	SPSB agrees	<p>Add traveler to reference disposition tables Add traveler to GTST for Subsection 3.0 LCO</p> <p>C1 Describe APOG comment and its resolution in GTST Section VIII</p> <hr/> <p>Affected GTSTs (by Section or Subsection) are the following:</p> <ul style="list-style-type: none"> Subsection 3.0 LCO 3.0.5 	ORNL GTST O01 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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- P3 Use of Bracketed Information and Reviewer’s Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
11	_TSTF-359	The GTST incorporates TSTF-359-A, Rev. 9. The justification for TSTF-359 was based on vendor-specific evaluations. For Westinghouse plants, that evaluation was in MUHP-3015, "Qualitative Risk Assessment Supporting Increased Flexibility in Mode Restraints," January 2002. This report evaluated "the key plant changes that occur during the mode changes so it is possible to identify the initiating events that can occur and systems available for event detection, actuation, and mitigation." It also considered initiating events and equipment available to mitigate those events. Based on that evaluation, Notes were proposed for several systems to prohibit the use of LCO 3.0.4.b. These Notes were applied to LTOP, ECCS-Shutdown, AFW, and AC Sources – Operating. TSTF-359-A also removed existing Notes from the ISTS and revised SR 3.0.4. There is no technical basis for concluding that the analysis performed in support of TSTF-359-A and the high-risk configurations addressed by the Notes are applicable to AP1000 plants.	Remove TSTF-359-A from the GTST. Include TSTF-359-A in the reference disposition tables, as "TSTF deferred for future consideration" Note: also reinstate LCO 3.0.4 "not applicable" Notes deleted in various Specifications as a result of incorporating TSTF-359.	T2 T5	SPSB agrees	<p>C1 Remove from affected GTSTs all changes based on TSTF-359-A. In Section III of affected GTSTs, incorporate this comment's discussion to explain why this traveler is not proposed for inclusion in AP1000 STS.</p> <p>C1 In the reference disposition tables, change the disposition of this traveler to "TSTF deferred for future consideration."</p> <p>C1 Describe APOG comment and its resolution in GTST Section VIII</p> <p>E2 APOG is requested to verify disposition (addition or removal) of Notes regarding exceptions to LCO 3.0.4 when TSTF-359 is adopted in a future revision of STS.</p> <hr/> <p>Affected GTSTs (by Section or Subsection) are the following:</p> <ul style="list-style-type: none"> • Subsection 3.0 LCO • Subsection 3.0 SR • Subsection 3.3.17 • Subsection 3.3.18 • Subsection 3.4.9 • Subsection 3.4.10 • Subsection 3.4.14 • Subsection 3.5.3 • Subsection 3.5.4 • Subsection 3.7.10 <hr/> <p>E1, E2 Add to list of APOG discussion topics the meaning of the phrase "TSTF deferred for future consideration." Does it mean creating a new AP1000-specific topical report (to justify AP1000-specific changes) in place of the topical report referenced in the traveler? And does it mean an AP1000-specific TSTF needs to be submitted? SPSB and APOG agreed to defer this item until after issuance of AP1000 STS Rev 0.</p>	ORNL GTSTs O01, O11, O70, O71, O30, O31, O35, O50 complete PNNL GTSTs P03, P04 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
12	_TSTF-372	TSTF-372-A adds LCO 3.0.8, which provides a delay time in declaring a supported system inoperable when a required snubber cannot perform its function. It is a risk-informed change, which evaluated a loss of offsite power due to a seismic event. This analysis (both system configuration and assumed limiting earthquake frequencies) may not be applicable to the AP1000.	Remove TSTF-372-A from the GTST. Include TSTF-372 in the reference disposition tables, as "TSTF deferred for future consideration"	T5 P5	SPSB agrees <u>Withdrawn</u> SPSB disagrees	<p>Add this comment to list of <u>APOG discussion topics</u>.</p> <p>C1 Remove TSTF-372-A from the GTST.</p> <p>C1 Include TSTF-372 in the reference disposition tables, as "TSTF deferred for future consideration"</p> <p>C1 Describe APOG comment and its resolution in GTST Section VIII</p> <p>E2 APOG will consider proposing an AP1000 version of TSTF-372 for a subsequent revision of the STS</p> <p><u>Withdrawn</u> SPSB thinks the analysis supporting this traveler is general enough to be applicable to AP1000.</p> <hr/> <p>Affected GTSTs (by Section or Subsection) are the following:</p> <ul style="list-style-type: none"> Subsection 3.0 LCO 	ORNL GTST O01 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
13	_TSTF-425	<p>GTST evaluated this TSTF with the following note:</p> <p>Risk-informed TS changes will be considered at a later time for application to the AP1000 STS.</p> <p>The NRC approval of TSTF-425, and model safety evaluation provided in the CLIIP for TSTF-425, are generically applicable to any design's Technical Specifications. As such, the replacement of certain Frequencies with a Surveillance Frequency Control Program should be included in the GTST for AP1000 STS NUREG.</p> <p>However, implementation in the AP1000 STS should not reflect optional (i.e., bracketed) material showing retention of fixed Surveillance Frequencies where relocation to a Surveillance Frequency Control Program is acceptable. Since each represented AP1000 Utility is committed to maintaining standardization, there is no rationale for an AP1000 STS that includes bracketed options.</p>	Consistent with TSTF-425 criteria, replace applicable Surveillance Frequencies with "In accordance with the Surveillance Frequency control Program" and add that Program as new AP1000 STS Specification 5.5.15	A5 T3	SPSB Disagrees	<p>Add this comment to list of <u>APOG discussion topics</u>.</p> <p>SPSB to discuss with 4LC why consideration of C1 Include TSTF-425-A is not included in Sections I and III of GTSTs for STS Sections 3.1, 3.2, 3.8, and 3.9, as indicated by the reference disposition tables, <u>that show a disposition of "TSTF deferred for future consideration."</u></p> <p>C1 Describe APOG comment and its resolution in GTST Section VIII</p> <p>E2 Although SPSB APOG thinks the analysis supporting this traveler is general enough to be applicable to AP1000, SPSB thinks an AP1000-specific proposal from APOG is needed to identify any GTS SRs that should be excluded. Also, with the adoption of a Surveillance Frequency Control Program (SFCP) in the AP1000 STS, bracketed Frequencies, which provide a choice between the GTS Frequency and the SFCP Frequency, are needed because the NRC will use the AP1000 STS as a reference, and to be consistent with NUREG-1431, Rev. 4. <u>APOG was requested to consider proposing an AP1000 version of TSTF-425 for a subsequent revision of the STS</u></p> <hr/> <p><u>Affected GTSTs (by Section or Subsection) are the following:</u></p> <ul style="list-style-type: none"> All GTSTs for Sections 3.1, and 3.3 through 3.8 GTST for Section 5.5 	<p>ANL GTST for Section 5.5 complete</p> <p>BNL GTSTs for Sections 3.1, 3.8 complete</p> <p>ORNL GTSTs for Sections 3.3, 3.4, 3.7 complete</p> <p>PNNL GTSTs for Sections 3.5, 3.6 complete</p>

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
14	_TSTF-427	TSTF-427-A adds LCO 3.0.9, which provides a delay time in declaring a supported system inoperable when a barrier cannot perform its function. It is a risk-informed change, which evaluated a number of initiators (LOCA, HELB, RCP seal failures, feedline and steamline breaks, flooding, turbine missile, tornados). This analysis may not be applicable to the AP1000.	Remove TSTF-427-A from the GTST. Include TSTF-427-A in the reference disposition tables, as "TSTF deferred for future consideration"	T5 P5	SPSB agrees <u>Withdrawn</u> SPSB Disagrees	<p>Add to list of APOG discussion topics.</p> <p>C1 Remove TSTF-427 changes from the GTST.</p> <p>C1 Include TSTF-427 in the reference disposition tables, as "TSTF deferred for future consideration"</p> <p>C1 Include TSTF-427 in Sections I and III of GTST for STS Section 3.0 LCO as indicated by the reference disposition tables, that show a disposition of "TSTF deferred for future consideration."</p> <p>C1 Describe APOG comment and its resolution in GTST Section VIII</p> <p>E2 APOG was requested to consider proposing an AP1000 version of TSTF-372 for a subsequent revision of the STS</p> <p><u>Withdrawn</u> SPSB thinks the analysis supporting this traveler is general enough to be applicable to AP1000.</p> <hr/> <p>Affected GTSTs (by Section or Subsection) are the following:</p> <ul style="list-style-type: none"> Section 3.0 LCO 	ORNL GTST O01 complete

Administrative Types:

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- A3 Editorial clarification or correction
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
15	_TSTF-437	<p>TSTF-437 was drafted against NUREG-1431, Revision 2. However, it was not adopted by the NRC in NUREG-1431 Revision 3 or Revision 4. Since then, TSTF-547 is drafted and under NRC review and makes different changes from that in TSTF-437. This change also does not currently exist for AP1000 plants.</p> <p>Since neither issued COL TS for VEGP or V.C. Summer include this option, and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs.</p> <p>It is appropriate for the AP1000 NUREG to remain consistent with the GTS (and issued COLs) until TSTF-547 is dispositioned. At that time, a subsequent GTST can be considered for the AP1000 NUREG.</p>	Remove TSTF-437 from GTST. Include TSTF-437 in the reference disposition tables, as "TSTF deferred for future consideration"	A5 T5	SPSB agrees	<p>Remove from affected GTSTs all changes based on TSTF-437-T. In Section III of affected GTST, incorporate this comment's discussion to explain why this traveler is not proposed for inclusion in AP1000 STS.</p> <p>In the reference disposition tables, change the disposition of this traveler to "TSTF deferred for future consideration."</p> <hr/> <p>Affected GTST (by Subsection) is the following:</p> <ul style="list-style-type: none"> Subsection 3.1.7 	BNL GTST B17 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
16	_TSTF-500	<p>As noted in the GTST analysis for TSTF-500, the AP1000 DC system design differs from the design assumed for the standard plant basis for TSTF-500. As such, the changes and possible options provided in TSTF-500 are not necessarily applicable to the AP1000 design.</p> <p>Since each represented AP1000 Utility is committed to maintaining a standard design, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs. Any future DC electrical power source design changes would also be anticipated to become a standard AP1000 design, and at that time, a design-specific review would be performed for the appropriate AP1000 STS change.</p> <p>Furthermore, TSTF-500 is itself out of date in being based on RG 1.129 Revision 2 and its endorsement of IEEE-450-2002. RG 1.129 Revision 3 now endorses IEEE-450-2010.</p>	Remove TSTF-500 from the AP1000 STS and supporting GTSTs.	T5 P5	<p>SPSB agrees to withdraw TSTF-500 related changes, which were proposed in the GTSTs, that are not appropriate.</p> <p>C1 Withdrawn SPSB Disagrees</p> <p>B1 See comment 478 for SPSB clarifying edits</p>	<p>C1 Remove TSTF-500 related changes from the AP1000 STS and supporting GTSTs that are not appropriate:</p> <p><u>Subsection 3.8.1</u></p> <ul style="list-style-type: none"> Change in Completion time from “7 days” to “[72] hours” for Required Action B.3 and associated Bases; and addition of associated Reviewer’s Note in Bases for Required Action B.3 that discusses conditions for changing the Completion Time from “72 hours” to “7 days.” (Completion Time values were finalized in AP1000 DCD Rev. 19.) Addition of Brackets around the following provisions in the ACTIONS table and associated Bases: ACTIONS C and D; Completion Times for Required Actions C.1 and D.1. (Completion Time values were finalized in AP1000 DCD Rev. 19.) Addition of discussions justifying the use of 2 amps value in Bases for Required Actions A.2 and B.2; for example: <p>Required Action B.2 requires that the battery float current be verified as less than or equal to 2 amps. This indicates that, if the battery had been discharged as the result of the inoperable battery charger, it has-is now been-fully recharged-capable of supplying the maximum expected load requirement. The 2 amp value is based on returning the battery to 95% charge and assumes a 5% design margin for the battery. If at the expiration of the initial 24 hour period the battery float current is not less than or equal to 2 amps this indicates there may be additional battery problems and the battery must be declared inoperable.</p> Addition of the phrase “considering the risk of operation with one or more battery charger[s] in one division inoperable” in discussion justifying 7 day Completion Time in Bases for Required Actions A.3 and B.3. Addition to Bases for Required Action D.1 of a Reviewer’s Note regarding different completion times for restoring an inoperable battery and an inoperable battery charger to operable status. (Completion Time value was approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) <p style="text-align: right;">continued</p>	<p>BNL GTSTs B81, B82, B87 complete</p> <p>ANL GTST A34 complete</p>

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
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- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
16	_TSTF-500	<p>As noted in the GTST analysis for TSTF-500, the AP1000 DC system design differs from the design assumed for the standard plant basis for TSTF-500. As such, the changes and possible options provided in TSTF-500 are not necessarily applicable to the AP1000 design.</p> <p>Since each represented AP1000 Utility is committed to maintaining a standard design, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs. Any future DC electrical power source design changes would also be anticipated to become a standard AP1000 design, and at that time, a design-specific review would be performed for the appropriate AP1000 STS change.</p> <p>Furthermore, TSTF-500 is itself out of date in being based on RG 1.129 Revision 2 and its endorsement of IEEE-450-2002. RG 1.129 Revision 3 now endorses IEEE-450-2010.</p>	Remove TSTF-500 from the AP1000 STS and supporting GTSTs.	T5 P5	<p>SPSB agrees to withdraw TSTF-500 related changes, which were proposed in the GTSTs, that are not appropriate.</p> <p>C1 Withdrawn SPSB Disagrees</p> <p>B1 See comment 478 for SPSB clarifying edits</p>	<p>Continued from previous page</p> <p><u>Subsection 3.8.2</u></p> <ul style="list-style-type: none"> ■ Addition of Reviewer’s Note to Bases for new Required Action A.3 that discusses conditions for changing the Completion Time from “72 hours” to “7 days.” Completion Time value was approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) ■ In ACTIONS table, the addition of brackets around (1) Action A, (2) float current value of 2 amps in Required Action A.2, and (3) the 72 hour Completion Time of Required Action A.3. (ACTION A was approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) ■ Addition of brackets to the float current value of 2 amps in Bases for Required Action A.2, and the 72-hour Completion Time value in the Bases for Required Action A.3. (Bases match values approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) <p><u>Subsection 3.8.7</u></p> <ul style="list-style-type: none"> ■ Revise LCO statement to say “Battery Parameters for Division A, B, C, and D DC electrical power subsystem batteries” instead of just “Battery Parameters for Division A, B, C, and D batteries.” (Although added by TSTF-360, AP1000 nomenclature for the DC electrical power subsystem makes the suggested change unnecessary.) ■ Addition of brackets around the value for battery cell float voltage (e.g., [2.07] V) whenever the cell float voltage is stated in the Specification, Bases, or both. The battery cell float voltage is specified in Conditions, Required Actions, Surveillance Requirements, and in the Bases. (Minimum battery cell float voltage value was finalized in AP1000 DCD Rev. 19.) ■ Addition of brackets around the value for battery float current (e.g., [2] amps) whenever the battery float current is stated in the Specification, Bases, or both. The battery float current is specified in Conditions, Required Actions, Surveillance Requirements, and in the Bases. (Battery float current value was finalized in AP1000 DCD Rev. 19.) <p style="text-align: right;">continued</p>	<p>BNL GTSTs B81, B82, B87 complete</p> <p>ANL GTST A34 complete</p>

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
16	_TSTF-500	<p>As noted in the GTST analysis for TSTF-500, the AP1000 DC system design differs from the design assumed for the standard plant basis for TSTF-500. As such, the changes and possible options provided in TSTF-500 are not necessarily applicable to the AP1000 design.</p> <p>Since each represented AP1000 Utility is committed to maintaining a standard design, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs. Any future DC electrical power source design changes would also be anticipated to become a standard AP1000 design, and at that time, a design-specific review would be performed for the appropriate AP1000 STS change.</p> <p>Furthermore, TSTF-500 is itself out of date in being based on RG 1.129 Revision 2 and its endorsement of IEEE-450-2002. RG 1.129 Revision 3 now endorses IEEE-450-2010.</p>	Remove TSTF-500 from the AP1000 STS and supporting GTSTs.	T5 P5	<p>SPSB agrees to withdraw TSTF-500 related changes, which were proposed in the GTSTs, that are not appropriate.</p> <p>C1 Withdrawn SPSB Disagrees</p> <p>B1 See comment 478 for SPSB clarifying edits</p>	<p>Continued from previous page</p> <p>The following GTST proposed changes, which were based on TSTF 500, should not be withdrawn because they are appropriate. These changes are the following:</p> <p>A Subsection 3.8.1</p> <ul style="list-style-type: none"> In the "References" section of the Bases, Reference 8 (IEEE 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead Acid Batteries for Stationary Applications," Institute of Electrical and Electronic Engineers, June 1986.) is deleted; References 9, 10, and 11 are renumbered 8, 9, and 10. Reference to IEEE-450 (Ref. 8) in the Bases for SR 3.8.1.1 is also deleted. References to renumbered references in Bases for Required Action F.1, SR 3.8.1.2, and SR 3.8.1.3 are also renumbered. (AP1000 STS should reference NRC endorsed version of IEEE-450.) <p>A Subsection 3.8.2</p> <ul style="list-style-type: none"> Addition of new Condition A for "One or more required battery chargers in one division inoperable." The TSTF-500 brackets around ACTION A are omitted. (ACTION A was approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) Note that this change is based on VEGP 3 and 4 Amendment 13, but is consistent with TSTF-500 changes to LCO 3.8.5 in NUREG-1431 Rev. 3, except brackets are not used because it will not be an optional provision for AP1000 licensees to adopt. Addition of Required Actions A.1, A.2, and A.3. The TSTF-500 brackets around the Required Action A.2 value for battery float current (≤ 2 amps), and the Required Action A.3 Completion Time (72 hours) are omitted. (Battery float current value was finalized in AP1000 DCD Rev. 19.) (Required Action A.3 Completion Time value was approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) Renumbering of GTS 3.8.2 Condition A and associated Required Actions A.1 and A.2 (A.2.1 through A.2.5) as STS 3.8.2 Condition B and Required Actions B.1 and B.2 (B.2.1 through B.2.4). Note that GTS 3.8.2 Required Action A.2.1 (suspend Core Alterations) is deleted in accordance with TSTF-471. (ACTION A and renumbering were approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) <p style="text-align: right;">continued</p>	<p>BNL GTSTs B81, B82, B87 complete</p> <p>ANL GTST A34 complete</p>

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
16	_TSTF-500	<p>As noted in the GTST analysis for TSTF-500, the AP1000 DC system design differs from the design assumed for the standard plant basis for TSTF-500. As such, the changes and possible options provided in TSTF-500 are not necessarily applicable to the AP1000 design.</p> <p>Since each represented AP1000 Utility is committed to maintaining a standard design, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs. Any future DC electrical power source design changes would also be anticipated to become a standard AP1000 design, and at that time, a design-specific review would be performed for the appropriate AP1000 STS change.</p> <p>Furthermore, TSTF-500 is itself out of date in being based on RG 1.129 Revision 2 and its endorsement of IEEE-450-2002. RG 1.129 Revision 3 now endorses IEEE-450-2010.</p>	Remove TSTF-500 from the AP1000 STS and supporting GTSTs.	T5 P5	<p>SPSB agrees to withdraw TSTF-500 related changes, which were proposed in the GTSTs, that are not appropriate.</p> <p>C1 <u>Withdrawn</u> SPSB Disagrees</p> <p>B1 See comment 478 for SPSB clarifying edits</p>	<p>Continued from previous page</p> <p>A <u>Subsection 3.8.2</u> (continued)</p> <ul style="list-style-type: none"> Revision to GTS 3.8.2 Condition A (denoted here by italics) to account for the new Condition A, so that STS 3.8.2 Condition B states "One or more required DC electrical power subsystems inoperable for reasons other than Condition A. OR Required Action and associated Completion Time of Condition A not met." The TSTF-500 brackets around the added text are omitted. (ACTION B, as renumbered, was approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) Revision of the "Actions" section of the Bases to address new Required Actions A.1, A.2, and A.3, renumbered Required Actions B.1 and B.2 (B.2.1 through B.2.4), and Condition B as revised. (Bases match action requirement changes approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) <p>A <u>Subsection 3.8.7</u></p> <ul style="list-style-type: none"> Removal of Note to SR 3.8.7.6 (Approved in VEGP Units 3 and 4 plant-specific TS in Amendment 13.) <p>B1 <u>Subsection 5.5.11</u></p> <ul style="list-style-type: none"> The Battery Monitoring and Maintenance Program is revised to reference IEEE-450-2002 and Regulatory Guide 1.129, Revision 2 (with exceptions), to require actions to equalize and test battery cells when the electrolyte level drops below the top of plates instead of when the electrolyte level drops below the minimum established design limit, to require actions to verify that the voltages of remaining cells are > 2.07 V when one or more cells have been found with voltages < 2.13 V. The Battery Monitoring and Maintenance Program is also revised to state the license controlled program will contain limits on average electrolyte temperature, battery connection resistance, and battery terminal voltage; and a requirement to obtain specific gravity readings of all cells at each discharge test, consistent with manufacturer recommendations. (AP1000 STS should reference NRC endorsed version of IEEE-450, and have a program specification that is consistent with it.) <p style="text-align: right;">continued</p>	<p>BNL GTSTs B81, B82, B87 complete</p> <p>ANL GTST A34 complete</p>

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16	_TSTF-500	<p>As noted in the GTST analysis for TSTF-500, the AP1000 DC system design differs from the design assumed for the standard plant basis for TSTF-500. As such, the changes and possible options provided in TSTF-500 are not necessarily applicable to the AP1000 design.</p> <p>Since each represented AP1000 Utility is committed to maintaining a standard design, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs. Any future DC electrical power source design changes would also be anticipated to become a standard AP1000 design, and at that time, a design-specific review would be performed for the appropriate AP1000 STS change.</p> <p>Furthermore, TSTF-500 is itself out of date in being based on RG 1.129 Revision 2 and its endorsement of IEEE-450-2002. RG 1.129 Revision 3 now endorses IEEE-450-2010.</p>	Remove TSTF-500 from the AP1000 STS and supporting GTSTs.	T5 P5	<p>SPSB agrees to withdraw TSTF-500 related changes, which were proposed in the GTSTs, that are not appropriate.</p> <p>C1 Withdrawn SPSB Disagrees</p> <p>B1 See comment 478 for SPSB clarifying edits</p>	<p>Continued from previous page</p> <p>C1 Add this comment to list of <u>APOG discussion topics</u>.</p> <p>Withdrawn SPSB asserts that the affected GTSTs can be updated to reflect RG 1.129 Rev 3 as a future AP1000-specific upgrade of TSTF-500-A.</p> <p>Withdrawn The use of brackets on the return to service value of float current for monitoring battery state of charge is not appropriate for AP1000, since this Subsection 5.5.11 COL item is completed with a 2 ampere value for all AP1000 units. BNL will revise Sections III, IV, V, VI, and VII as appropriate (for GTSTs listed below) to delete this use of brackets and the adoption of TSTF-500</p> <hr/> <p>Affected GTSTs (by Section or Subsection) are the following:</p> <ul style="list-style-type: none"> Subsection 3.8.1 Subsection 3.8.2 Subsection 3.8.7 Subsection 5.5.11 	<p>BNL GTSTs B81, B82, B87 complete</p> <p>ANL GTST A34 complete</p>
17 ¹	1.1 Pg 03	Fourth paragraph discussion of TSTF-419-A incorrectly states “As proposed by VEGP LAR DOC L04, VEGP Units 3 and 4 COL Amendment 13 removed the last sentence of the PTLR definition in PTS Section 1.1, consistent with TSTF-419-A, Rev. 0.” VEGP LAR DOC A004 made this deletion.	Revise discussion to replace reference to “DOC L04” with reference to “DOC A004”	A3	<p>SPSB agrees*</p> <p>*assuming comment is correct</p>	<p>Revise discussion to replace reference to “DOC L04” with reference to “DOC A004”</p> <p>Include in GTST Section VIII this comment and a description of the changes to the GTST for Section 1.1 that are associated with its resolution.</p>	ANL GTST A11 complete
18	1.1 Pg 11	Last paragraph on page just states that “Similar changes are suggested for Specifications 3.1.8, 3.3.1, and 5.5.14.” However, the previous three paragraphs do not explain any change other than the deletion of RTCOT.	For the three specs referenced, it should state “Similar changes are made for Specifications 3.1.8, 3.3.1, and 5.5.14. Specifically, the definition of RTCOT is replaced with ACTUATION LOGIC TEST or CHANNEL OPERATIONAL TEST, as appropriate.”	A3	SPSB agrees	<p>Revise discussion to state “Similar changes are made for Specifications 3.1.8, 3.3.1, and 5.5.14. Specifically, the definition of RTCOT is replaced with ACTUATION LOGIC TEST or CHANNEL OPERATIONAL TEST, as appropriate.”</p> <p>Include in GTST Section VIII this comment and a description of the changes to the GTST for Section 1.1 that are associated with its resolution.</p>	ANL GTST A11 complete

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19	1.1 Pg 11	It appears that the last two full paragraphs on page 11, describing the rationale for the revised PTS Section 1.1 definitions of ACTUATION LOGIC TEST (reference DOC A001 and DOC L01) and CHANNEL OPERATIONAL TEST (reference DOC A001), were inserted in the discussion of DOC M01.	Move the two paragraphs describing the revised PTS Section 1.1 definitions of ACTUATION LOGIC TEST and CHANNEL OPERATIONAL TEST. It appears that the DOC A00x and DOC L0x changes are intended to be discussed prior to the DOC M0x change(s).	A3	SPSB agrees	Revise discussion by moving the two paragraphs describing the revised PTS Section 1.1 definitions of ACTUATION LOGIC TEST and CHANNEL OPERATIONAL TEST. It appears that the DOC A00x and DOC L0x changes are intended to be discussed prior to the DOC M0x change(s). Include in GTST Section VIII this comment and a description of the changes to the GTST for Section 1.1 that are associated with its resolution.	ANL GTST A11 complete
20	1.1 Pg 13	GTST Safety Evaluation for Section 1.1 does not provide a conclusion for the administrative changes that were incorporated.	Add the following paragraph at the end of the Safety Evaluation section: "The remaining changes are editorial, clarifying, grammatical, or otherwise considered administrative. These changes do not affect the technical content, but improve the readability, implementation, and understanding of the requirements, and are therefore acceptable."	A3	SPSB agrees	Add the following paragraph at the end of the Safety Evaluation section: "The remaining changes are editorial, clarifying, grammatical, or otherwise considered administrative. These changes do not affect the technical content, but improve the readability, implementation, and understanding of the requirements, and are therefore acceptable." Since this a part of the standard content of the AP1000 GTSTs, which was inadvertently omitted, no entry in GTST Section VIII is needed.	ANL GTST A11 complete
21	1.1 Pg 14	GTST 1.1 Section VIII, Evaluator Comments contain an "evaluation" drawing a conclusion regarding the acceptability of the AP1000 GTS Rev. 19 difference from WOG STS. This is inconsistent with other uses of this section. Furthermore, given the approval of the AP1000 GTS in Part 52, Appendix D, additional conclusions regarding the acceptability of the GTS are not appropriate.	Delete evaluation of the AP1000 GTS difference from WOG STS.	A3	SPSB agrees	In GTST for Section 1.1, Section VIII, delete evaluation of difference between GTS and WOG STS definition of LEAKAGE.	ANL GTST A11 complete

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22	1.1 Pg 18	The Channel Calibration definition has unnecessary differences from the NUREG-1431 definition. The NUREG wording was approved as part of TSTF-205, however, in the second sentence, the AP1000 GTS omitted the word "channel" prior to "OPERABILITY"	The second sentence should be revised to add the word "channel," as shown, "The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY."	A3	SPSB agrees	In GTST for Section 1.1, Sections XI and XII, revise second sentence of definition by adding the word "channel," so that it states: "The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY." Remove any other discussion in the GTST for Section 1.1 that addresses the omission of this word in this sentence.	ANL GTST A11 complete
23	1.1 Pg 19 & 28	The change to the PTS definition of CHANNEL OPERATIONAL TEST (COT) is not reflected in the GTST definition.	Revise the GTST definition to delete "the" prior to OPERABILITY in the first sentence such that it reads "A COT shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify the OPERABILITY of all devices in the channel required for channel OPERABILITY."	A3	SPSB agrees	In GTST for Section 1.1, Sections XI and XII, revise first sentence of definition by removing the word "the" prior to OPERABILITY so that it states: "A COT shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify the OPERABILITY of all devices in the channel required for channel OPERABILITY." Remove any discussion in the GTST for Section 1.1 that addresses the inclusion of this word in this sentence. Describe this comment and the change to resolve it in GTST Section VIII.	ANL GTST A11 complete
24	1.1 Pg 20	The GTS includes a definition of Dose Equivalent XE-133, which is proposed to be revised by the GTST in the AP1000 STS. The changes are not needed. The GTS definition is consistent with the DCD licensing basis and is specific to the AP1000 plants. Furthermore, the GTST proposed change is based on TSTF-490, Rev. 0. However, in a March 14, 2012 memorandum (Accession No. ML12039A201), the NRC Staff effectively withdrew the approval of TSTF-490, Rev. 0.	Remove changes to Dose Equivalent XE-133 definition.	A5 T5	SPSB agrees	C1 <ul style="list-style-type: none"> Remove changes to Dose Equivalent Xe-133 definition that were based on consideration of TSTF-490-A from GTST for Section 1.1. Modify all GTST Section III, Section V, Section VI, and Section VII discussions to indicate new definition of Dose Equivalent Xe-133 is not adopted. Describe this comment and the change to resolve it in GTST Section VIII. Revise GTST Sections XI and XII to show no change to GTS definition of Dose Equivalent Xe-133. Also, GTST for LCO 3.4.10 needs to discuss non adoption of TSTF-490 in Section III Status TSTF-490 disposition as future consideration 	ANL GTST A11 complete ORNL GTST O31 complete

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25	1.1 Pg 22 & 31	Text added to the definition of PHYSICS TESTS by VEGP TSU DOC A003 is missing a comma that should be inserted following the FSAR Chapter title.	Insert a comma following "...Initial Test Program" as shown in VEGP DOC A003.	A3	SPSB agrees	In the definition of PHYSICS TESTS in GTST Sections XI and XII, insert a comma following "...Initial Test Program" as shown in VEGP TSU LAR DOC A003.	ANL GTST A11 complete
26	1.1 Pg 25 & 33	The GTST inappropriately adds brackets around the AVERAGE REACTOR COOLANT TEMPERATURE (°F) values in Table 1.1-1. There are no options (and no Reviewer's Notes) associated with or applicable to these MODE definition break points. Furthermore, there is no change justification provided by the GTST.	Remove brackets from the AVERAGE REACTOR COOLANT TEMPERATURE (°F) values in Table 1.1-1.	A3 P3	SPSB agrees	Remove brackets from the AVERAGE REACTOR COOLANT TEMPERATURE (°F) values in Table 1.1-1 in GTST Sections XI and XII. Remove any related discussion of these brackets that may occur in the GTST.	ANL GTST A11 complete
27	1.1 Pg 32	The definition of STAGGERED TEST BASIS is missing from the clean typed pages (but is correctly shown in the mark-up pages).	Include the GTS definition of STAGGERED TEST BASIS.	A3	SPSB agrees	Correct GTST Section XII to include GTS definition of STAGGERED TEST BASIS. Since this definition is a part of the GTS, which was inadvertently omitted, no entry in GTST Section VIII is needed.	ANL GTST A11 complete
28	1.2 ² Pg 17	In Example 1.2-1 the indentation of Required Action A.1 text is not aligned with the indentation of the Required Action A.2 text. It is extremely important that the "Logical Connectors" section accurately portray the proper format.	Revise Example 1.2-1 to correctly indent the Required Action text.	A1	SPSB agrees	Correct error in GTST Sections XI and XII. Since this error was inadvertent, no entry in GTST Section VIII is needed.	ANL GTST A12 complete
29	1.2 Pg 18	In Example 1.2-2 the indentation of the logical connectors does not match the Writer's Guide for Plant-Specific Improved Technical Specifications, TSTF-GG-05-01, Revision 1, section 2.1.5.c.	Revise Example 1.2-2 logical connectors to be consistent with NUREG-1431 and Writer's Guide for Plant-Specific Improved Technical Specifications, TSTF-GG-05-01, Revision 1, section 2.1.5.c.	A2	SPSB agrees	C1 Correct error in GTST Sections XI and XII. Since this error was inadvertent, no entry in Section VIII is needed Add this comment to list of APOG discussion topics: How to use Word to implement the 2.1.5.c guidance regarding logical connector indentation? "Primary-level logical connectors are flush left. Subsequent levels are indented to align all levels, except the primary-level, with the numerical digit associated with that nesting level."	ANL GTST A12 complete

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30	1.3 ³ Pg 28	There are unnecessary differences in the DESCRIPTION section of Section 1.3 from NUREG-1431. In the paragraph labeled "a.", underline the word "first"	Revise the Description section of Specification 1.3 to underline "first"	A5	SPSB agrees	Correct error in GTST Sections XI and XII. Since this error was inadvertent, no entry in GTST Section VIII is needed.	ANL GTST A13 complete
31	1.3 Pg 30	The clean-typed Example 1.3-2, Condition A is not properly aligned.	Correct formatting of Example 1.3-2 Condition A.	A1	SPSB agrees	Correct error in GTST Section XII. Since this error was inadvertent, no entry in GTST Section VIII is needed.	ANL GTST A13 complete
32	1.3 Pg 30	In the first paragraph of Example 1.3-2, last sentence, change "Condition A and B" to "Conditions A and B". Use of "and" leads to plural "Conditions"	In the first paragraph of Example 1.3-2, last sentence, change "Condition A and B" to "Conditions A and B" (plural "Conditions")	A1	SPSB agrees	Correct error in GTST Sections XI and XII. Since this error was inadvertent, no entry in GTST Section IV or VIII is needed.	ANL GTST A13 complete
33	1.3 Pg 34	In the third paragraph, add a paragraph break before the last sentence, as the sentence conveys a different thought than the third paragraph. This is consistent with NUREG-1431.	Add the paragraph break	A3 A5	SPSB agrees	Correct error in GTST Sections XI and XII. Since this error was inadvertent, no entry in GTST Section VIII is needed.	ANL GTST A13 complete
34	1.3 Pg 35	Example 1.3-6, first paragraph, second sentence, change the phrase "The initial 8 hours interval" to "The initial 8 hour interval" for appropriate presentation. This is consistent with NUREG-1431.	Change "hours" to "hour"	A1	SPSB agrees	Correct error in GTST Sections XI and XII. Since this error was inadvertent, no entry in GTST Section VIII is needed.	ANL GTST A13 complete
35	1.4 ⁴ Pg 24	In the Section 1.4, Description, first paragraph, second line, capitalize the word "surveillance." This is consistent with Surveillance being a capitalized term.	Section 1.4, Description, first paragraph, second line, capitalize the word "surveillance"	A5	SPSB agrees	Make proposed change in GTST Sections XI and XII. Describe comment and its resolution in GTST Section VIII.	ANL GTST A14 complete

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36	1.4 Pg 26	Correct typographical errors in the Section 1.4, Example 1.4-1 discussion: <ul style="list-style-type: none"> First paragraph, third and fourth line, capitalize the word "surveillance." First paragraph, tenth line, do not capitalize the word "Unit" 	Section 1.4, Example 1.4-1 discussion, first paragraph, third and fourth line, capitalize the word "surveillance"; and first paragraph, tenth line, do not capitalize the word "Unit"	A5	SPSB agrees	Correct errors in GTST Sections XI and XII. Since this error was inadvertent, no entry in GTST Section VIII is needed.	ANL GTST A14 complete
37	1.4 Pg 27	In the Section 1.4, Example 1.4-2 discussion, first paragraph, fifth line, capitalize the word "surveillance." This is consistent with Surveillance being a capitalized term.	Section 1.4, Example 1.4-2 discussion, first paragraph, fifth line, capitalize the word "surveillance"	A5	SPSB agrees	Make proposed change in GTST Sections XI and XII. Describe comment and its resolution in GTST Section VIII.	ANL GTST A14 complete
38	1.4 Pg 28	Example 1.4-3, second paragraph, first line does not have "performance" underlined as it is in GTS and NUREG-1431.	Example 1.4-3, second paragraph, first line, underline "performance"	A5	SPSB agrees	Make proposed change in GTST Sections XI and XII. Since this error was inadvertent, no entry in GTST Section VIII is needed.	ANL GTST A14 complete
39 ⁵	2.0 Pg 13 & 21	The GTST Header inconsistently uses "2.0" and "2.1" on different pages.	Evaluate consistent numbering.	A1	SPSB agrees	Correct error in header to use "GTST AP1000-B01-2.0" on GTST pages 13 to 18, and pages 21 to 26 in Sections XI and XII. Since this error was inadvertent, no entry in GTST Section VIII is needed.	BNL GTST B01 complete
40	2.0 Pg 25	The Applicable Safety Analyses "a" list item should be the lead-in for the list and not a listed item.	Move List item "a" as a lead-in paragraph	A3	SPSB agrees	Make the proposed changes to correct error in GTST Section XI on page 17 and Section XII on page 25. Since this error was inadvertent, no entry in GTST Section VIII is needed.	BNL GTST B01 complete

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41	2.1.02 Pg 25	Clarify GTST 2.1.2 Bases for Applicable Safety Analysis to relate the equivalency of RCS depressurization valves and ADS valves. The AP1000 DCD Figure 7.2-1, sheet 15, which shows the actuation logic for ADS valves, is titled "Automatic RCS Depressurization Valve Sequencing." Similarly, AP1000 DCD 10.4.4 supports the equivalency of the terms Turbine Bypass System and Steam Dump System.	Make the following changes to Applicable Safety Analysis: a. RCS depressurization valves (Automatic Depressurization System [ADS] valves); b. Steam line relief valves (SG PORVs); c. Turbine Bypass System (Steam Dump System);	A3	SPSB agrees	Make the proposed changes to "Applicable Safety Analysis" section of the Bases for SL 2.1.2 in GTST Sections XI on page 17 and Section XII on page 25. Describe comment and its resolution in GTST Section VIII. Describe bases change in Section IV under new heading: "AP1000 Owners Group (APOG) Recommended Changes to Improve the Bases" Describe bases change in Sections V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B01 complete
42 ⁶	3.0 LCO Pg 27	TSTF-122-A was incorporated with minor errors. The following changes would correct the errors. In the LCO 3.0.2 Bases, 3 rd paragraph on mark-up page 27: <ul style="list-style-type: none"> Following the struck term "Alternatives that" delete the word "not" Place a comma prior to the inserted word "alternatives" 	In the LCO 3.0.2 Bases, 5 th paragraph, following the struck term "Alternatives that" delete the word "not". Also, place a comma prior to the inserted word "alternatives"	A3	SPSB agrees	Revise subject sentence on GTST page 27 so it states: Additionally, if intentional entry into ACTIONS Alternatives that would not result in redundant equipment being inoperable, alternatives should be used instead. Revise subject sentence on GTST page 53 so it states: Additionally, if intentional entry into ACTIONS would result in redundant equipment being inoperable, alternatives should be used instead. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O01 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
43	3.0 LCO Pg 37	A typographical error was made in incorporating TSTF-273 in the last sentence of the LCO 3.0.6 Bases. The sentence should state (emphasis added; revise "support" to "supported"): "When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported system."	The last sentence in the LCO 3.0.6 Bases should be revised to match TSTF-273.	A3 A5 T1	SPSB agrees	<p>Revise subject sentence on GTST page 37 so it states: When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported system.</p> <p>Revise subject sentence on GTST page 62 so it states: When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported system.</p> <p>Revise discussion of TSTF-273-A in GTST Section III to point out that TSTF-273-A was incorrectly incorporated into the last sentence of the Bases for GTS LCO 3.0.6, and that this GTST corrects the error.</p> <p>Revise GTST Sections IV, V, VI, and VII to include discussion of TSTF-273-A and the correction to the Bases for LCO 3.0.6.</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Revise the reference disposition table to change the TSTF-273-A entry for AP1000 STS Subsection 3.0 LCO to indicate that for LCO 3.0.6, "TSTF proposed for inclusion in AP1000 STS", with a comment explaining the error in the Bases for GTS LCO 3.0.6.</p>	ORNL GTST O01 complete
44	3.0 LCO Pg 48	There is an editorial error in LCO 3.0.2, first paragraph, third line, where the word "LCO" should be added before "3.0.5." Adding "LCO" would be consistent with NUREG-1431.	LCO 3.0.2, first paragraph, third line, add "LCO" before "3.0.5"	A5	SPSB agrees; note that 3.0.5 should be 3.0.6.	<p>In GTST Section XI on page 22 and in Section XII on page 48, for LCO 3.0.2, first paragraph, third line, add "LCO" before "3.0.6"</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Specification"</p>	ORNL GTST O01 complete
45	3.0 LCO Pg 49	In LCO 3.0.5, last sentence, change "test" to "testing" to be consistent with the first sentence. This is consistent with NUREG-1431.	LCO 3.0.5, last sentence, change "test" to "testing"	A5	SPSB agrees	<p>In GTST Section XI on page 23 and in Section XII on page 49, for LCO 3.0.5, last sentence, change "test" to "testing"</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Specification"</p>	ORNL GTST O01 complete

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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
46	3.0 LCO Pg 52	In the Bases for LCO 3.0.1, add a coma after "i.e." for editorial correctness.	In the Bases for LCO 3.0.1, add a coma after "i.e."	A3	SPSB agrees	In GTST Section XI on page 26 and in Section XII on page 52, for the Bases for LCO 3.0.1, add a coma after "i.e." Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O01 complete
47	3.0 LCO Pg 52	In the Bases for LCO 3.0.2, first paragraph, last line, capitalize "specification." This is consistent with Specification being a capitalized term.	In the Bases for LCO 3.0.2, first paragraph, last line, capitalize "specification"	A5	SPSB agrees	In GTST Section XI on page 26 and in Section XII on page 52, for the Bases for LCO 3.0.2, first paragraph, last line, capitalize "specification" Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O01 complete
48	3.0 LCO Pg 53	In the Bases for LCO 3.0.2, third paragraph, twelfth line, the word "could" should be revised to "may" for consistency with the mark-up (page 27) and with the TSTF-122 change.	In the Bases for LCO 3.0.2, third paragraph, twelfth line, revise the word "could" to "may"	A3	SPSB disagrees; the comment is mistaken in saying "could" should be replaced by "may"	Add this comment to list of <u>APOG discussion topics</u> A In GTST Section XI on page 27 and in Section XII on page 53, in the Bases for LCO 3.0.2, third paragraph on the page, the sixth sentence contains the word "could" because it is included in that sentence in the Bases for GTS LCO 3.0.2; however, this word has never been in the same sentence in the Bases for WOG STS LCO 3.0.2. The markup of the sentence in the GTS, with the TSTF-122 change applied and the word "could" highlighted, says: Doing so limits the time both subsystems/trains of a safety function are inoperable and limits the time other conditions could exist which may result in LCO 3.0.3 being entered. A Does the APOG want to remove the word "could" from the GTS Bases sentence to be consistent with the sentence in NUREG-1431, Rev. 4? That sentence states: Doing so limits the time both subsystems/trains of a safety function are inoperable and limits the time conditions exist which may result in LCO 3.0.3 being entered.	ORNL GTST O01 complete

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49	3.0 LCO Pg 54	In the Bases for LCO 3.0.3, for editorial correctness: <ul style="list-style-type: none"> • First paragraph, remove the semicolon after “met” • Fifth paragraph, first line, remove the word “into” • Sixth paragraph, remove the coma after “terminated” • Last two paragraphs labeled “a.” and “b.” should be ended in a semicolon, not a period This is consistent with NUREG-1431.	In the Bases for LCO 3.0.3 make the changes outlined in the Comments.	A1 A2 A5	SPSB agrees	In GTST Section XI on page 28 and in Section XII on page 54, in the Bases for LCO 3.0.3 make the suggested changes outlined in the Comment, <u>with the following exception</u> : Revise last two paragraphs on the page so that the paragraph labeled “a” ends in a semicolon, and the paragraph labeled “b.” ends with “; or”; these two paragraphs should state (in conformance with WG paragraph 2.1.3.c, and WOG STS Rev. 4, except that the WOG STS uses commas instead of semicolons): <ul style="list-style-type: none"> a. The LCO is now met;,- b. A Condition exists for which the Required Actions have now been performed;,- or Describe comment and its resolution in GTST Section VIII. Describe changes in Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O01 complete
50	3.0 LCO Pg 55	Revise LCO 3.0.3 Bases to clarify that compliance with Actions of LCO 3.0.3 do not depend solely on use of safety-related or TS-required systems. The shutdown and cooldown for compliance with TS can/will utilize normal plant operating systems, which are nonsafety-related systems and not governed by TS LCOs.	Make the following changes to LCO 3.0.3 Bases discussion: . . . less than the total time allowed. <u>Compliance with the time limits of Specification 3.0.3 rely on the use of nonsafety-related systems, which are not governed by Technical Specification LCOs.</u> In MODES 1, 2, 3, and 4, LCO 3.0.3 provides actions for Conditions . . .	T4	SPSB agrees but suggests using “may rely” <u>Withdrawn</u> SPSB agrees on the condition that the TSTF endorses this AP1000-specific technical improvement to the Bases for GTS LCO 3.0.3	Add this comment to list of <u>APOG discussion topics</u> C1 In GTST Section XI on page 29 and in Section XII on page 55, in the Bases for LCO 3.0.3, to the end of the paragraph after the paragraph labeled “c.” on the page, add the following sentence: Compliance with the time limits of Specification 3.0.3 Withdrawn relies may rely on the use of nonsafety-related systems, which are not governed by Technical Specification LCOs. Describe comment and its resolution in GTST Section VIII. Describe changes in Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases” <hr/> E2 APOG to consider adding a similar sentence to Bases for all other shutdown required action completion times following STS Rev 0.	ORNL GTST O01 complete

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51	3.0 LCO Pg 55	In the Bases for LCO 3.0.3, for editorial correctness: <ul style="list-style-type: none"> Second paragraph, first line, change "Specification 3.0.3" to "LCO 3.0.3" Last paragraph, first line, change "Exceptions to 3.0.3" to "Exceptions to LCO 3.0.3" Last paragraph, second line, delete the comma after "LCO 3.0.3" This is consistent with NUREG-1431.	In the Bases for LCO 3.0.3 make the changes outlined in the Comments.	A3 A5	SPSB agrees	In GTST Section XI on page 29 and in Section XII on page 55, in the Bases for LCO 3.0.3, make the suggested edits, <u>with the following exception</u> : In the last paragraph, first sentence, insert a comma after the word "shutdown" so that the sentence states (identical to WOG STS Rev. 4): <p>Exceptions to LCO 3.0.3 are provided in instances where requiring a unit shutdown, in accordance with LCO 3.0.3, would not provide appropriate remedial measures for the associated condition of the unit.</p> Describe comment and its resolution in GTST Section VIII. <p>Describe changes in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O01 complete
52	3.0 LCO Pg 55	In the third paragraph, delete the last sentence, which states, "In MODES 5 and 6, LCO 3.0.8 provides actions for Conditions not covered in other Specifications." LCO 3.0.8 has been deleted.	Delete the third paragraph last sentence	A3	SPSB agrees	In GTST Section XI on page 29 and in Section XII on page 55, in the Bases for LCO 3.0.3, make the suggested edit. <p>Describe comment and its resolution in GTST Section VIII.</p> Describe change in Sections III, V, VI, and VII (as appropriate) as part of VEGP TSU LAR DOC L05 to delete LCO 3.0.8.	ORNL GTST O01 complete
53	3.0 LCO Pg 58	In the Bases for LCO 3.0.4, for editorial correctness: <ul style="list-style-type: none"> Third paragraph, fifth line, change "results" to "result" 	In the Bases for LCO 3.0.4, third paragraph, fifth line, change "results" to "result"	A1	SPSB agrees	In GTST Section XI on page 32 and in Section XII on page 58, in the Bases for LCO 3.0.4, make the suggested edit <u>to the existing text</u> in the Bases for GTS LCO 3.0.4. <p>Describe comment and its resolution in GTST Section VIII.</p> Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O01 complete

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54	3.0 LCO Pg 59	In the Bases for LCO 3.0.5, for editorial correctness: <ul style="list-style-type: none"> First paragraph, first sentence, change “allowance of restoring” to “allowance for restoring” Fourth paragraph, fourth line, change “specification” to “Specification” 	In the Bases for LCO 3.0.5 make the changes outlined in the Comments	A1 A2	SPSB agrees	In GTST Section XI on page 34 and in Section XII on page 59, in the Bases for LCO 3.0.5, make the suggested edits. Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O01 complete
55	3.0 LCO Pg 60	Revise LCO 3.0.6 Bases to add a factual statement (“There are no support system LCO requirements for offsite power based on the safety-related passive design”). This clarifies the preceding mention that operations are being restricted in accordance with the Actions of the support system.	Make the following changes to LCO 3.0.6 Bases discussion: ... resulting temporary loss of redundancy or single failure protection is taken into account. <u>There are no support system LCO requirements for offsite power based on the safety-related passive design.</u>	A3 T4	SPSB agrees; this is an appropriate clarification to reflect the AP1000 passive design	In GTST Section XI on page 37 and in Section XII on page 60, in the Bases for LCO 3.0.5, first paragraph on the page, make the suggested edit. Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O01 complete
56	3.0 LCO Pg 60	Delete the LCO 3.0.6 Bases statement retained from NUREG-1431 Bases that cites “pump suction” as an example of a TS support system. This example is not applicable to the passive AP1000 design. Deleting this TS Bases example has no impact on compliance with the TS requirements.	Make the following changes to LCO 3.0.6 Bases discussion: ... (e.g., loss of automatic start due to inoperable instrumentation, or loss of pump suction source due to low tank level) . . .	A4 T4	SPSB agrees; this is an appropriate clarification to reflect the AP1000 passive design, but an additional edit is suggested by SPSB	Add this comment to list of <u>APOG discussion topics</u> A In GTST Section XI on page 37 and in Section XII on page 60, in the Bases for LCO 3.0.6, second paragraph on the page, make the suggested edit, <u>except</u> also replace the word “start” with the words “actuation capability” Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O01 complete
57 ⁷	3.0 SR Pg 24	In SR 3.0.1, fourth line, capitalize “surveillance” for editorial correctness.	In SR 3.0.1, fourth line, capitalize “surveillance”	A5	SPSB agrees	In GTST Section XI on page 15 and in Section XII on page 24, for SR 3.0.1, second sentence, fourth line, capitalize “specification” Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O11 complete

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58	3.0 SR Pg 24	In SR 3.0.3, change first paragraph, fourth line, "which ever" to "whichever" for editorial correctness.	In SR 3.0.3, change first paragraph, fourth line, "which ever" to "whichever"	A3	SPSB agrees	In GTST Section XI on page 15 and in Section XII on page 24, for SR 3.0.3, first paragraph, fourth line, first sentence, change "which ever" to "whichever" Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O11 complete
59	3.0 SR Pg 27	In the Bases for SR 3.0.2, third paragraph, fourth line, change "surveillance" to "Surveillance" for editorial correctness.	In the Bases for SR 3.0.2, third paragraph, fourth line, change "surveillance" to "Surveillance"	A5	SPSB agrees	In GTST Section XI on page 18 and in Section XII on page 27, for the Bases for GTS SR 3.0.2, third paragraph, fourth line, change "surveillance" to "Surveillance" Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O11 complete
60	3.0 SR Pg 28	In the Bases for SR 3.0.2, second paragraph, fifth line, change "remedial action" to "other remedial action" for consistency with other STS NUREGs.	In the Bases for SR 3.0.2, second paragraph, fifth line, change "remedial action" to "other remedial action"	A5	SPSB agrees	In GTST Section XI on page 19 and in Section XII on page 28, for the Bases for GTS SR 3.0.2, second paragraph, fifth line, change "remedial action" to "other remedial action" Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O11 complete
61	3.0 SR Pg 28	In the Bases for SR 3.0.3: <ul style="list-style-type: none"> First paragraph, last sentence, remove comma after "not been performed" Second paragraph, third line, change "compliance" to "complying" Third paragraph, first line, change "Conditions" to "conditions" These changes provide editorial correctness and consistency with NUREG-1431.	In the Bases for SR 3.0.3, make the changes outlined in the Comments	A5	SPSB agrees	In GTST Section XI on page 19 and in Section XII on page 28, for the Bases for GTS SR 3.0.3, make suggested changes. Describe comment and its resolution in GTST Section VIII. Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O11 complete

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62	3.0 SR Pg 29	<p>In the Bases for SR 3.0.3.</p> <ul style="list-style-type: none"> First paragraph, insert a paragraph break before, "When a Surveillance with a Frequency based not on time intervals" First paragraph, change "unit <u>Conditions or operational situations</u>" to "unit <u>conditions, operating situations</u>" Second paragraph, place a paragraph break before "SR 3.0.3 provides a time limit for, and allowances for ..." Second paragraph, change from single quotes to double quotes around the title of Regulatory Guide 1.182 <p>These changes provide editorial correctness and consistency with NUREG-1431.</p>	In the Bases for SR 3.0.3, make the changes outlined in the Comments	A3 A5	SPSB agrees	<p>In GTST Section XI on page 20 and in Section XII on page 29, in the Bases for SR 3.0.3, make the following changes:</p> <ul style="list-style-type: none"> First paragraph, insert a paragraph break before, "When a Surveillance with a Frequency based not on time intervals" First paragraph, change "unit Conditions or operational situations" to "unit conditions, operating situations" [after above paragraph break] Second paragraph, place a paragraph break before "SR 3.0.3 provides a time limit for, and allowances for ..." [before above paragraph breaks] Second paragraph, change from single quotes to double quotes around the title of Regulatory Guide 1.182 <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O11 complete
63	3.0 SR Pg 31	<p>In the Bases for SR 3.0.3:</p> <ul style="list-style-type: none"> First paragraph, lines three and seven, add "the" before "Completion Times" Second paragraph, second line, change "specification" to "Specification" Second paragraph, second line, add a comma after "ACTIONS" <p>These changes provide editorial correctness and consistency with NUREG-1431.</p>	In the Bases for SR 3.0.3, make the changes outlined in the Comments	A3 A5	SPSB agrees	<p>In GTST Section XI on page 21 and in Section XII on page 31, in the Bases for SR 3.0.3, make the suggested changes:</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O11 complete

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64	3.0 SR Pg 31	In the Bases for SR 3.0.4: <ul style="list-style-type: none"> • First paragraph, first sentence, change “changes in MODES” to “entry into MODES” • First paragraph, second sentence, change “LCO 3.0.4” to “SR 3.0.4” • Second paragraph, eighth line, remove the comma after “Surveillance” • Second paragraph, eleventh line, change “NOTE” to “Note” <p>These changes provide editorial correctness and consistency with NUREG-1431 prior to the incorporation of TSTF-359.</p>	In the Bases for SR 3.0.4, make the changes outlined in the Comments	A5	SPSB agrees	In GTST Section XI on page 22 and in Section XII on page 31, in the Bases for SR 3.0.4, make the following changes to the existing GTS Bases text: <ul style="list-style-type: none"> • First paragraph [which begins on page 22], first sentence, change “The provisions of SR 3.0.4 shall not prevent changes in MODES . . .” to “ The provisions of SR 3.0.4 shall not prevent entry into MODES . . .” • First paragraph, second sentence, change “LCO 3.0.4” to “SR 3.0.4” • Second paragraph, eighth line, remove the comma after “Surveillance” • Second paragraph, eleventh line, change “NOTE” to “Note” <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O11 complete
65	3.1.01 Pg 07	Second paragraph under “Technical Analysis” states “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.” The intent of this sentence is not apparent. Sufficient information is provided in the rest of the paragraph to justify the change.	Delete sentence stating “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.”	T4	SPSB agrees	In GTST Section VII on page 7 under Technical Analysis, delete first sentence of second paragraph. Describe comment and its resolution in GTST Section VIII.	BNL GTST B11 complete

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66 ⁸	3.1.01 Pg 25	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes to the 2 nd paragraph of SR 3.1.1.1 Surveillance Requirements Bases: In <u>MODE 2 with keff < 1.0 and in MODES 3, 4, and 5</u> , the SDM is verified by performing a reactivity balance calculation, considering at least the listed reactivity effects:	T4	SPSB agrees	In GTST Section XI on page 17 and in Section XII on page 25, make the suggested change to the Bases for GTS SR 3.1.1.1. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B11 complete
67 ⁹	3.1.02 Pg 25	Revise TS 3.1.2 Bases Background last paragraph to provide a more complete description of core reactivity. The paragraph does not include description of burnable absorbers depletion and the fact that boron concentration may actually increase at BOC (as shown in AP1000 DCD Figure 4.3-3). Note that this wording is also found in other plant-specific TS Bases.	Make the following changes to the last paragraph of the Background: When the core is producing THERMAL POWER, the fuel <u>and burnable absorbers are</u> is being depleted and excess reactivity <u>(except possibly near beginning of cycle (BOC))</u> is decreasing. As the fuel <u>and burnable absorber</u> depletes, the RCS boron concentration is reduced <u>adjusted</u> to compensate <u>for the net core reactivity change while and</u> maintaining constant THERMAL POWER.	T4	SPSB agrees	In GTST Section XI on page 16 and in Section XII on page 25, make the suggested change to the "Background" section of the Bases for GTS Subsection 3.1.2. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B12 complete
68	3.1.02 Pg 25	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to the Applicable Safety Analyses: If the measured and predicted RCS boron concentrations for identical core conditions at beginning of cycle (BOC) do not agree, then . . .	A2	SPSB agrees	In GTST Section XI on page 16 and in Section XII on page 25, make the suggested change to the "Applicable Safety Analyses" section of the Bases for GTS Subsection 3.1.2. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B12 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T3 Add Traveler
- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

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- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
69	3.1.02 Pg 28	Revise TS 3.1.2 Required Action B.1 Bases to replace "SR 3.1.1.1" with "LCO 3.1.1 Required Action A.1." Page B 3.1.2-5 states "If the SDM for MODE 3 is not met, then the boration required by SR 3.1.1.1 would occur." Note that SR 3.1.1.1 does not require boration but Required Action A.1 for TS 3.1.1 does. Revised to correctly refer to Required Action A.1.	Make the following replacement under Action B.1 Bases: If the SDM for MODE 3 is not met, then the boration required by SR 3.1.1.1 LCO 3.1.1 Required Action A.1 would occur.	T1	SPSB agrees	In GTST Section XI on page 19 and in Section XII on page 28, make the suggested change to the "Actions" section of the Bases for GTS Subsection 3.1.2, Required Action B.1. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B12 complete
70	3.1.02 Pg 28	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to SR 3.1.2.1 Surveillance Requirements Bases: ... performed prior to entering MODE 1 as an initial check on core conditions and design calculations at BOC. The SR is modified by a Note. The Note indicates that the normalization ...	A3	SPSB agrees	In GTST Section XI on page 19 and in Section XII on page 28, make the suggested change to the "Surveillance Requirements" section of the Bases for GTS Subsection 3.1.2, SR 3.1.2.1 Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B12 complete
71 ¹⁰	3.1.03 Pg 26	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following additions to the last sentence of the Bases Background: ... since this coefficient changes slowly due principally to the RCS boron concentration changes associated with fuel burnup and burnable absorbers depletion .	A3	SPSB agrees	In GTST Section XI on page 17 and in Section XII on page 26, make the suggested change to the "Background" section of the Bases for GTS Subsection 3.1.3. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B13 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
72	3.1.03 Pg 27	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to the second paragraph in the Bases Applicability: In MODE 2, with the reactor critical, the upper limit must also be maintained to ensure that startup and subcritical accidents (such as the uncontrolled CONTROL ROD-assembly <u>control rod</u> or <u>control rod</u> group withdrawal) will not violate the assumptions of . . .	A3	SPSB agrees	In GTST Section XI on page 18 and in Section XII on page 27, make the suggested change to the "Applicability" section of the Bases for GTS Subsection 3.1.3. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B13 complete
73	3.1.03 Pg 29	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.1.3.1 Bases: This SR requires measurement of the MTC <u>once</u> at BOC prior to entering MODE 1. . .	A3	SPSB agrees	In GTST Section XI on page 20 and in Section XII on page 29, make the suggested change to the "Surveillance Requirements" section of the Bases for GTS Subsection 3.1.3, SR 3.1.3.1 Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B13 complete
74	3.1.03 Pg 30	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.1.3.2 Bases: Because the MTC changes slowly with core depletion, the <u>second</u> Frequency of 14 . . .	A3	SPSB agrees	In GTST Section XI on page 21 and in Section XII on page 30, make the suggested change to the "Surveillance Requirements" section of the Bases for GTS Subsection 3.1.3, SR 3.1.3.2 Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B13 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
75 ¹¹	3.1.04 Pg 08	The first paragraph under “Replacing “OPDMS Operable” and “OPDMS inoperable” respectively with “OPDMS monitoring parameters” and “OPDMS not monitoring parameters”” states “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.” The intent of this sentence is not apparent. Sufficient information is provided in the rest of the paragraph to justify the change.	Delete sentence stating “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.”	T4	SPSB agrees	In GTST Section VII on page 8 under Technical Analysis, delete first sentence of first paragraph, as suggested. Describe comment and its resolution in GTST Section VIII.	BNL GTST B14 complete
76	3.1.04 Pg 35	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to the Bases Background: These The 16 GRCAs have been subdivided into what has been termed as MA, MB, MC, and MD Banks with 4 GRCAs in each.	A3	SPSB agrees	In GTST Section XI on page 19 and in Section XII on page 35, make the suggested change to the “Background” section of the Bases for GTS Subsection 3.1.4. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B14 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
77	3.1.04 Pg 39	Additional clarifying information is included consistent with the TS being addressed. Note that this information is copied from LCO 3.1.6 Applicability Bases.	Make the following additions to the last paragraph of the LCO Bases: The LCO is modified by a Note to relax the rod alignment limit on GRCA's during GRCA bank sequence exchange operations. The two exchanging banks will move out of sequence and overlap limits for several minutes during the sequence exchange. This operation which occurs frequently throughout the fuel cycle would normally violate the LCO. GRCA bank sequence exchange is only allowed with the OPDMS OPERABLE to monitor the parameters of LCO 3.2.5, "On-Line Power Distribution Monitoring System (OPDMS) - Monitored Parameters."	T4	SPSB agrees	In GTST Section XI on page 17 and in Section XII on page 39 make the suggested change to the "LCO" section of the Bases for GTS Subsection 3.1.4. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B14 complete
78 ¹²	3.1.05 Pg 19	The GTS Applicability for LCO 3.1.5 has a Note that is not captured in the GTST Section XI or in Section XII Specification pages. This appears to be an oversight.	Include the Applicability Note from GTS LCO 3.1.5.	A3	SPSB agrees	In GTST Section XI on page 12 and in Section XII on page 19 include the Applicability Note from GTS Subsection 3.1.5. Describe comment and its resolution in GTST Section VIII.	BNL GTST B15 complete
79	3.1.05 Pg 20	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Break the fourth paragraph in Bases Background into two paragraphs: . . . capable of adding a large amount of positive reactivity. Boration or dilution of the Reactor Coolant System (RCS) compensates for the reactivity changes associated with large changes in RCS temperature.	A3	SPSB agrees	In GTST Section XI on page 13 and in Section XII on page 20, make the suggested change to the "Background" section of the Bases for GTS Subsection 3.1.5. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
80 ¹³	3.1.06 Pg 08	The first paragraph under “Replacing “OPDMS Operable” and “OPDMS inoperable” respectively with “OPDMS monitoring parameters” and “OPDMS not monitoring parameters”” states “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.” The intent of this sentence is not apparent. Sufficient information is provided in the rest of the paragraph to justify the change.	Delete sentence stating “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.”	T4	SPSB agrees	In GTST Section VII on page 8 under Technical Analysis, delete first sentence of first paragraph, as suggested. Describe comment and its resolution in GTST Section VIII.	BNL GTST B16 complete
81	3.1.06 Pg 13	The GTS Applicability for LCO 3.1.6 has two Notes that are not captured in the GTST Section XI or in Section XII Specification pages. This appears to be an oversight.	Include the Applicability Note from GTS LCO 3.1.6 with the change described in GTST Section V, “Applicability”	A3	SPSB agrees	In GTST Section XI on page 13 and in Section XII on page 22 include the Applicability Notes from GTS Subsection 3.1.6 with the change described in GTST Section V, “Applicability”. Describe comment and its resolution in GTST Section VIII.	BNL GTST B16 complete
82	3.1.06 Pg 24	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Split the first sentence of the Bases third Background paragraph into two sentences: The rod cluster control assemblies (RCCAs) are divided among control banks and shutdown banks. Gray rod cluster assemblies (GRCA) are limited to control banks.	A3	SPSB agrees	In GTST Section XI on page 15 and in Section XII on page 24, make the suggested change to the “Background” section of the Bases for GTS Subsection 3.1.6. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B16 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
83	3.1.06 Pg 26	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following capitalization in the Bases Applicable Safety Analyses: 1. s pecified fuel design limits, or	A2 A3	SPSB agrees	In GTST Section XI on page 17 and in Section XII on page 26, make the suggested change to the "Applicable Safety Analyses" section of the Bases for GTS Subsection 3.1.6. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B16 complete
84 ¹⁴	3.1.07 Pg 25	LCO 3.1.7, Required Action B.4 Completion Time is "24 hours" in GTS. The Section GTST Section XI and Section XII pages reflect "8 hours" for this Completion Time. There is no discussion of this difference. The "8 hours" appears to be a typographical oversight.	Revise GTST LCO 3.1.7, Required Action B.4 Completion Time to "24 hours"	A1	SPSB agrees	In GTST Section XI on page 14 and in Section XII on page 25, change the Completion Time for Required Action B.4 to 24 hours. Describe comment and its resolution in GTST Section VIII.	BNL GTST B17 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
85 ¹⁵	3.1.08 Pg 07	DOC M01 description, last paragraph uses phrase "new" in front of three renumbered SRs (3.3.1.6, 3.3.1.7, and 3.3.3.2). Other places call this MTS in lieu of new.	Establish and apply consistent terminology to each specific TS reference	A3	SPSB agrees	In GTST Section VI on page 7, replace "new" with "renumbered and revised" so that the sentence in question states: "SR 3.1.8.1 is revised to reference renumbered and revised surveillances for the following reactor trip instrumentation functions: (GTS SR 3.3.1.8) SR 3.3.1.6, COT for Power Range Neutron Flux High Positive Rate Power Range Neutron Flux High Setpoint Overtemperature ΔT Overpower ΔT Pressurizer Pressure Low Setpoint Pressurizer Pressure High Setpoint Pressurizer Water Level – High 3 Reactor Coolant Flow – Low Reactor Coolant Pump (RCP) Bearing Water Temperature – High RCP Speed – Low Steam Generator (SG) Narrow Range Water Level – Low Steam Generator (SG) Narrow Range Water Level – High 2 (GTS SR 3.3.1.9) SR 3.3.1.7, COT for Power Range Neutron Flux Low Setpoint (GTS SR 3.3.1.9) SR 3.3.3.2, COT for Intermediate Range Neutron Flux" Describe comment and its resolution in GTST Section VIII.	BNL GTST B18 complete
86	3.1.08 Pg 27	Revise TS 3.1.8 Bases Background sentence to accurately state the role of 10 CFR 50.59. The sentence incorrectly states that 10 CFR 50.59 requires notifying the NRC of tests and experiments.	Make the following changes to the Bases Background: Requirements for notification of prior approval by the NRC, for the purpose of conducting tests and experiments not described in the FSAR , are specified in 10 CFR 50.59 (Ref. 2).	A3	SPSB agrees	In GTST Section XI on page 16 and in Section XII on page 27, make the suggested change to the "Background" section of the Bases for GTS Subsection 3.1.8. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B18 complete

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87	3.1.08 Pg 30	Correct TS 3.1.8 Bases for Applicable Safety Analysis reference to title of LCO 3.4.2 for consistency with TS title.	Add "RCS" to LCO 3.4.2 title: LCO 3.4.2 " RCS Minimum Temperature for Criticality,"	A3	SPSB agrees	In GTST Section XI on page 19 and in Section XII on page 30, make the suggested change to the "Background" section of the Bases for GTS Subsection 3.1.8. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B18 complete
88	3.1.08 Pg 30 Pg 34	Delete TS 3.1.8 Bases for Applicable Safety Analyses last sentence. Reference 7 (i.e., WCAP-11618) is the MERITS Topical Report and was never "NRC Approved." Furthermore, a WCAP could never "allow" any TS provision. As such, the paragraph contains misleading information and should be deleted. Also delete the corresponding Reference on GTST page 34.	Delete the last paragraph of Bases Applicable Safety Analyses: Reference 7 allows special test exceptions (STE) to be included as part of the LCO that they affect. It was decided, however, to retain this STE as a separate LCO because it was less cumbersome and provided additional clarity. Delete the corresponding Bases REFERENCE: 7. WCAP-11618, including Addendum 1, April 1989.	A3	SPSB agrees	In GTST Section XI on pages 19 and 23 and in Section XII on pages 30 and 34, make the suggested changes to the "Applicable Safety Analyses" and "References" sections of the Bases for GTS Subsection 3.1.8. Describe comment and its resolution in GTST Section VIII. Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B18 complete
89	3.1.08 Pg 31	Revise TS 3.1.8 LCO Bases to add information consistent with the TS requirement being addressed. This is also consistent with NUREG-1431 Bases content.	Make the following additions to Bases LCO discussion: The requirements of LCO 3.1.3, LCO 3.1.4, LCO 3.1.5, LCO 3.1.6, and LCO 3.4.2 may be suspended <u>and the number of required channels for LCO 3.3.1, "Reactor Trip System (RTS) Instrumentation," Functions 1, 2, and 3 may be reduced to 3 required channels</u> during the performance of PHYSICS TESTS provided:	A3 A5	SPSB agrees	In GTST Section XI on page 20 and in Section XII on page 31, make the suggested change to the "LCO" section of the Bases for GTS Subsection 3.1.8. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B18 complete

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90	3.1.08 Pg 32	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.1.8.1 Bases: ... and LCO 3.3.3, "Reactor Trip System (RTS) Intermediate Range Instrumentation."	A3	SPSB agrees	In GTST Section XI on page 21 and in Section XII on page 32, make the suggested change to the "Surveillance Requirements" section of the Bases for GTS Subsection 3.1.8, SR 3.1.8.1, as indicated: ... and LCO 3.3.3, "Reactor Trip System (RTS) Intermediate Range Instrumentation." Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B18 complete
91 ¹⁶	3.1.09 Pg 17	SR 3.1.9.2 states "Verify the closure time of each CVS makeup isolation valve is within limits on an actual or simulated actuation signal." However, the philosophy of TSTF-GG-05-01, as stated in paragraph 3.1.1.e.3, is to minimize the use of articles in table entries and tabular instructions unless a passage cannot be clearly understood without articles. The proposed SR 3.1.9.2 is easily understood without using "the." Therefore, the text of SR 3.1.9.2 should state "Verify closure time of each CVS makeup isolation valve is within limits on an actual or simulated actuation signal." This would also align the text with the VEGP TSU LAR text.	Delete "the" from the SR 3.1.9.2 text	A2	SPSB agrees	In GTST Section XI on page 17 and in Section XII on page 25, make the suggested change to SR 3.1.9.2. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases".	BNL GTST B19 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
92	3.1.09 Pg 26	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to the Bases Background: The safety related functions provided by the CVS include containment isolation of chemical and volume control system CVS lines penetrating containment, termination	A3	SPSB agrees	In GTST Section XI on page 18 and in Section XII on page 26, make the suggested change to the "Background" section of the Bases for GTS Subsection 3.1.9. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B19 complete
93	3.1.09 Pg 27	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to LCO Bases: The requirement that at least two CVS demineralized water isolation valves (CVS-PL-V136A and V136B) and two CVS makeup line isolation valves (CVS-PL-V090 and V091) be OPERABLE	A3	SPSB agrees	In GTST Section XI on page 19 and in Section XII on page 27, make the suggested change to the "LCO" section of the Bases for GTS Subsection 3.1.9. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B19 complete
94	3.1.09 Pg 08	In section titled, "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes," subsection, "VEGP LAR DOC L01," second paragraph, last sentence, "CVS" is missing from "For SR 3.1.9.3, the verification that each demineralized water isolation valve actuates to the isolation position in an actual or simulated signal is conducted at 24 months interval." Addition is suggested for consistency with SR wording.	Add "CVS" so sentence reads, "For SR 3.1.9.3, the verification that each CVS demineralized water isolation valve actuates to the isolation position in an actual or simulated signal is conducted at 24 months interval."	A3	SPSB agrees	In GTST Section VI, on page 8, make the suggested change to the last sentence of the second paragraph under the discussion of DOC L01. Describe comment and its resolution in GTST Section VIII.	BNL GTST B19 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
95 ¹⁷	3.2.01 Pg 10	The second paragraph under “Replacing “OPDMS inoperable” with “OPDMS not monitoring parameters”” states “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.” The intent of this sentence is not apparent. Sufficient information is provided in the rest of the paragraph to justify the change.	Delete sentence stating “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.”	T4	SPSB agrees	In GTST Section VII on page 10 under Technical Analysis, delete first sentence of second paragraph. Describe comment and its resolution in GTST Section VIII.	BNL GTST B21 complete
96	3.2.01 Pg 41	Editorial change for clarity.	Make the following changes to LCO Bases: The actual values of CFQ are given in the COLR; however, CFQ is normally a number on the order of 2.60. For the AP1000, the normalized . . .	A3	SPSB agrees	In GTST Section XI on page 19 and in Section XII on page 41, make the suggested change to the “LCO” section of the Bases for GTS Subsection 3.2.1. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B21 complete
97	3.2.01 Pg 43	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. This corrects an obvious misstatement and reduces potential for misunderstanding and misapplication. The TS requirement is 72 hours.	Correct the following typo in the Bases Actions discussion for A.2: . . . Power Range Neutron Flux - High trip setpoint reductions within 8 72 hours of the F ₀ ^c (Z) determination, if necessary to comply with the decreased maximum allowable . . .	A3	SPSB agrees	In GTST Section XI on page 26 and in Section XII on page 43, make the suggested change to the “Actions” section of the Bases for GTS Subsection 3.2.1, Required Action A.2. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B21 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
98 ¹⁸	3.2.02 Pg 09	The second paragraph under “Replacing “OPDMS inoperable” with “OPDMS not monitoring parameters”” states “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.” The intent of this sentence is not apparent. Sufficient information is provided in the rest of the paragraph to justify the change.	Delete sentence stating “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.”	T4	SPSB agrees	In GTST Section VII on page 9 under Technical Analysis, delete first sentence of second paragraph. Describe comment and its resolution in GTST Section VIII.	BNL GTST B22 complete
99	3.2.02 Pg 31	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following correction to the Bases Applicable Safety Analyses discussion: . . . Without the OPDMS, core monitoring and control under transient conditions (Condition I+ events) are accomplished . . .	A3	SPSB agrees	In GTST Section XI on page 20 and in Section XII on page 31, make the suggested change to the “Applicable Safety Analyses” section of the Bases for GTS Subsection 3.2.2. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B22 complete
100	3.2.02 Pg 33	Revise TS 3.2.2 Bases for Required Action A.2 to delete assumption that power was reduced to < 50% by Required Action A.1.2.1. This may not be correct. Action A.1.1 could have been performed, while the Condition A Note continues to ensure that Required Action A.2 is performed. The TS Bases change clarifies the information consistent with the actual TS requirements.	Make the following changes to the Bases Actions discussion for A.2: Once the power level has been reduced to < 50% RTP per Required Action A.1.2.1 Condition A is entered, an incore flux map (SR 3.2.2.1) must be obtained and the measured value of $F_{\Delta H}^N$ verified not to exceed the allowed limit at the lower power level.	A3	SPSB agrees	In GTST Section XI on page 22 and in Section XII on page 33, make the suggested change to the “Actions” section of the Bases for GTS Subsection 3.2.2, Required Action A.2 Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B22 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
101 19	3.2.03 Pg 08	The second paragraph under “Replacing “OPDMS inoperable” with “OPDMS not monitoring parameters”” states “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.” The intent of this sentence is not apparent. Sufficient information is provided in the rest of the paragraph to justify the change.	Delete sentence stating “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.”	T4	SPSB agrees	In GTST Section VII on page 8 under Technical Analysis, delete first sentence of second paragraph. Describe comment and its resolution in GTST Section VIII.	BNL GTST B23 complete
102	3.2.03 Pg 21	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Remove the inadvertently added word from the Bases Applicable Safety Analyses: The AFD is a measure of the axial power distribution skewing SAFETY to either the top or bottom half of the core.	A1	SPSB agrees	In GTST Section XI on page 15 and in Section XII on page 21, make the suggested change to the “Applicable Safety Analyses” section of the Bases for GTS Subsection 3.2.3. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B23 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
103	3.2.03 Pg 21	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability. See AP1000 DCD Chapter 15 for proper format.	Correct the numeric formatting in the Bases Applicable Safety Analyses: ...initial conditions in the analyses of Condition II2 , 3III , or IV4 events. This ensures that the fuel cladding integrity is maintained for these postulated accidents. The most important Condition 4IV event is the LOCA. The most important Condition III3 event is the loss of flow accident. The most important Condition 2II events are uncontrolled bank withdrawal and boration or dilution accidents. Condition II2 accidents . . .	A3	SPSB agrees	In GTST Section XI on page 15 and in Section XII on page 21, make the suggested change to the “Applicable Safety Analyses” section of the Bases for GTS Subsection 3.2.3. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B23 complete
104	3.2.03 Pg 22	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability. See AP1000 DCD Chapter 15 for proper format.	Correct the numeric formatting in the Bases LCO discussion: ...with the OPDMS inoperable, could produce unacceptable consequences if a Condition II , III , or IV2- 3 or 4 event occurs while the AFD is outside its. . .	A3	SPSB agrees	In GTST Section XI on page 16 and in Section XII on page 22, make the suggested change to the “LCO” section of the Bases for GTS Subsection 3.2.3. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B23 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
105 20	3.2.04 Pg 07	VEGP LAR DOC A021, first paragraph, includes a parenthetical statement "(revised to "not monitoring parameters")." This implies that the change is part of VEGP LAR DOC A021. However, this change is discussed in VEGP LAR DOC A011.	Add to the end of the parenthetical statement (i.e., inside the parentheses) "as discussed in VEGP LAR DOC A011"	A3	SPSB agrees	In GTST Section VI on page 7 under "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes," add to the end of the parenthetical statement (i.e., inside the parentheses) "as discussed in VEGP LAR DOC A011" such that the sentence states: TS 3.2.4, and therefore its SRs, are currently only applicable when the Online Power Distribution Monitoring System (OPDMS) is "inoperable" (revised to "not monitoring parameters" as discussed in VEGP LAR DOC A011). Describe comment and its resolution in GTST Section VIII.	BNL GTST B24 complete
106	3.2.04 Pg 08	The second paragraph under "Replacing "OPDMS inoperable" with "OPDMS not monitoring parameters"" states "The use of the term "OPDMS operable" and "OPDMS inoperable" is not appropriate since only monitoring of the parameters by the system is implied." The intent of this sentence is not apparent. Sufficient information is provided in the rest of the paragraph to justify the change.	Delete sentence stating "The use of the term "OPDMS operable" and "OPDMS inoperable" is not appropriate since only monitoring of the parameters by the system is implied."	T4	SPSB agrees	In GTST Section VII on page 8 under Technical Analysis, delete first sentence of second paragraph. Describe comment and its resolution in GTST Section VIII.	BNL GTST B24 complete
107	3.2.04 Pg 27	Correct TS 3.2.4 Bases Background reference to title of LCO 3.1.6 for consistency with TS title.	Change the title for LCO 3.1.6 in the Bases Background: ... and LCO 3.1.6, "Control Red Bank Insertion Limits," provide limits . . .	A3	SPSB agrees	In GTST Section XI on page 16 and in Section XII on page 27, make the suggested change to second paragraph of the "Background" section of the Bases for GTS Subsection 3.2.4. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B24 complete

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108	3.2.04 Pg 28	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Split the last sentence of the first paragraph in Bases Applicability into two sentences: Therefore, QPTR must be monitored. And the limits on QPTR ensure that peaking factors will be within design limits	A3	SPSB agrees	In GTST Section XI on page 17 and in Section XII on page 28, make the suggested change to first paragraph of the "Applicability" section of the Bases for GTS Subsection 3.2.4. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B24 complete
109	3.2.04 Pg 31	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes to the Bases Actions discussion for A.6: Required Action A.6 is modified by a Note that states that the peaking factor surveillances may only be done after the excore detectors have been <u>normalized to restore QPTR to within limit</u> calibrated to show zero tilt (i.e., Required Action A.5).	A3	SPSB agrees	In GTST Section XI on page 20 and in Section XII on page 31, make the suggested change to second paragraph of the "Actions" section of the Bases for GTS Subsection 3.2.4, Required Action A.6. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B24 complete
110	3.2.04 Pg 32	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.2.4.1 Bases: SR 3.2.4.1 is modified by two Notes. Note 1 allows QPTR to be calculated with three p Power r ange <u>Neutron Flux</u> channels if THERMAL . . .	A3	SPSB agrees	In GTST Section XI on page 21 and in Section XII on page 32, make the suggested change to first paragraph of the "Surveillance Requirements" section of the Bases for GTS Subsection 3.2.4, SR 3.2.4.1. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B24 complete

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111	3.2.04 Pg 32 – 33	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.2.4.2 Bases: With a PMS p Power r Range <u>Neutron Flux</u> channel inoperable, tilt monitoring for a portion of the reactor core becomes degraded. For purposes of monitoring the QPTR when one p Power r Range <u>Neutron Flux</u> channel is With the OPDMS <u>not monitoring parameters</u> and one PMS channel inoperable . . .	A3	SPSB agrees	In GTST Section XI on pages 21 and 22, and in Section XII on pages 32 and 33, make the suggested changes to the “Surveillance Requirements” section of the Bases for GTS Subsection 3.2.4, SR 3.2.4.2. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases” <hr/> <u>Add following to list of APOG discussion items:</u> C1 Comment 119 suggest removing “PMS” as a modifier to the nuclear instrumentation. Why not also remove it from the Bases for STS SR 3.2.4.2?	BNL GTST B24 complete
112 21	3.2.05 Pg 06	Description of VEGP LAR DOC A023 change. The words in the quote state “If the power distribution parameters are restored to within the limits...” The phrase “the limits” is actually “their limits” in TS 3.2.5 Required Action B.1 Note.	Change “the limits” to “their limits.”	A1	SPSB agrees	In GTST Section VI, under discussion of DOC A023, make the suggested correction to this typographical error. Describe comment and its resolution in GTST Section VIII.	BNL GTST B25 complete

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113	3.2.05 Pg 09	In the justification for deleting the Note in Required Action B.1 (which is VEGP LAR DOC A023), the last paragraph states that it is not agreed that the change is administrative. However, in approving VEGP Amendment 13, the NRC Staff presented this as an administrative change. It is not clear why the classification of this change was revised. No justification beyond what was provided in VEGP LAR DOC A023 is provided.	Remove opinion that the VEGP TSU approved change A023 is not “administrative.” Otherwise, include additional discussion of the appropriate classification (since not “administrative”) and include additional justification, as appropriate, for the technical change identified.	A3	SPSB agrees	In GTST Section VII, under discussion of deleting the Note in Required Action B.1 (which is VEGP LAR DOC A023), make the following changes to the last two sentences: If the Note is applied, then it is not clear when the plant will be allowed to increase the power level. However, it is not agreed that this change is an administrative change. It is nevertheless Removing this Note is administrative because the Note does not modify the restrictions and allowances provided by LCO 3.0.2. This change only clarifies Required Action B.1 and is therefore acceptable and will provide clarity to the Required Action in TS 3.2.5. Describe comment and its resolution in GTST Section VIII.	BNL GTST B25 complete
114	3.2.05 Pg 09	The second paragraph under “Replacing “OPDMS inoperable” with “OPDMS not monitoring parameters”” states “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.” The intent of this sentence is not apparent. Sufficient information is provided in the rest of the paragraph to justify the change.	Delete sentence stating “The use of the term “OPDMS operable” and “OPDMS inoperable” is not appropriate since only monitoring of the parameters by the system is implied.”	T4	SPSB agrees	In GTST Section VII on page 9 under “Replacing ‘OPDMS inoperable’ with ‘OPDMS not monitoring parameters’ delete first sentence of second paragraph. Describe comment and its resolution in GTST Section VIII.	BNL GTST B25 complete
115	3.2.05 Pg 26	Editorial change for clarity.	Make the following changes to Bases Background: The On-line Power Distribution Monitoring System (OPDMS) for the AP1000 is an advanced core monitoring and support package.	A3	SPSB agrees	In GTST Section XI on page 17 and in Section XII on page 26, make the suggested change to first paragraph of the “Background” section of the Bases for GTS Subsection 3.2.5. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B25 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
116 22	3.3.01 Pg 011	Rationale for Changes section, 1 st paragraph, mentions A028. This DOC is for changes to ESFAS TS and does not affect 3.3.1. Note that it is not mentioned anywhere else in this section. This is also stated in Section 3.3.2 through 3.3.7.	Change "DOCs A024 and A028" to "DOC A024" in GTST 3.3.1 through 3.3.7	A3	SPSB agrees	In GTST Section VI on page 11 under "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes," change first sentence by replacing "DOCs A024 and A028" to "DOC A024" in the GTSTs for STS Subsections 3.3.1; and also for 3.3.2 (pg 9), 3.3.3 (pg 9), 3.3.4 (pg 9), 3.3.5 (pg 9), 3.3.6 (pg 9), and 3.3.7 (pg 9) Describe comment and its resolution in GTST Section VIII.	ORNL GTST O54 complete GTST O55 complete GTST O56 complete
117	3.3.01 Pg 014	In section titled, "VII. GTST Safety Evaluation," fifth paragraph states, "With the VEGP LAR DOC L01 changes, an RTCOT is not required by the TS. Therefore, the Section 1.1 RTCOT definition is deleted." The definition of RTCOT is deleted for a series of reasons as described in DOC M01.	Replace sentences with "Current section 1.1 definition of RTCOT is deleted per TSU LAR DOC M01."	A1 A3	SPSB agrees	In GTST Section VII on page 14 replace fifth paragraph, with The GTS/PTS Section 1.1 definition of RTCOT is deleted for a series of reasons as described in VEGP LAR DOC M01. Changes made by DOC M01 result in consistency with the use of Actuation Logic Test and COT in other TS requirements, are consistent with the intent of the required TS testing, and are consistent with NUREG-1431, Rev.4. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O54 complete
118	3.3.01 Pg 014	DOC M01 technical analysis, 5 th paragraph, first sentence, states "With the VEGP LAR DOC L01 changes..." The reference to DOC L01 is not correct. It appears to be a typographical error and should be "DOC M01."	Change "L01" to "M01"	A1	SPSB agrees	Changes to GTST Section VII on page 14 replace fifth paragraph resolve this typographical error. Describe comment and its resolution in GTST Section VIII (suggest discussing comment nos. 117 and 118 together).	ORNL GTST O54 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.01 Pg 043	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3 A4	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3;</p> <p>C1 however, the initial use of Protection and Safety Monitoring System (PMS) in the Bases for an STS Subsection should be retained</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p> <p>C1 SPSB further proposes to remove "interlock" after P-6 and P-10—except when used to refer to the interlock and not the setpoint—an to be consistent with TS wording.</p> <p>C1 SPSB also proposes to use phrase "respective PMS division Withdrawn division's Source Range Neutron Flux channel" on pp 43, 95</p>	<p>Add to list of APOG discussion topics</p> <p>In GTST Section XI on pages 43, 44, 46, 47, 48, 49, 50, and 60, and in Section XII on page 95, 96, 97, 98, 99, 100, 101, 102, and 109, delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range" from the Bases for STS Subsection 3.3.1.</p> <p>A Also, use "Power Range Neutron Flux," "Intermediate Range Neutron Flux," and "Source Range Neutron Flux" in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p> <p>See markups of affected discussions from Bases for STS Subsection 3.3.1 below</p> <hr/> <p>For each STS subsection with changes related to Comment 119, describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p> <hr/> <p>C1 In GTST Section XI on pages 43 and in Section XII on page 95, in "ASA, LCO, and Applicability" section of the Bases for STS Subsection 3.3.1, under heading of "Intermediate Range Neutron Flux, P-6"</p> <ul style="list-style-type: none"> • revise first paragraph as indicated: <p>The Intermediate Range Neutron Flux, P-6 interlock is actuated when the respective PMS Withdrawn division's division Intermediate Range Neutron Flux channel increases to approximately one decade above the channel lower range limit. The P-6 interlock ensures that the following are performed:</p> <p style="text-align: right;">continued</p>	ORNL GTST O54 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.01 Pg 043	The modifier “PMS” for “power range detectors,” “Intermediate Range Neutron Flux,” and “Source Range, Neutron Flux,” is unnecessary. Inclusion of “PMS” in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete “PMS” as a modifier to “power range,” “Intermediate Range,” and “Source Range,” throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3;</p> <p>C1 however, the initial use of Protection and Safety Monitoring System (PMS) in the Bases for an STS Subsection should be retained</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p> <p>C1 SPSB further proposes to remove “interlock” after P-6 and P-10—except when used to refer to the interlock and not the setpoint—an to be consistent with TS wording.</p> <p>C1 SPSB also proposes to use phrase “respective PMS division Withdrawn division’s Source Range Neutron Flux channel” on pp 43, 95</p>	<p>Continued from previous page</p> <p>C1 In GTST Section XI on pages 43 and in Section XII on page 95/96, in “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under heading of “Intermediate Range Neutron Flux, P-6”</p> <ul style="list-style-type: none"> • C1 revise paragraph (1) as indicated: On increasing power, the P-6 interlock allows the manual block of the respective PMS division Withdrawn division’s Source Range Neutron Flux – High Setpoint reactor trip Function channel. This prevents a premature block of the source-range Source Range Neutron Flux – High reactor trip Function channel and allows the operator to ensure that the intermediate range Intermediate Range Neutron Flux – High reactor trip Function channels are is OPERABLE prior to leaving the source range. When the a source-range Source Range Neutron Flux – High reactor trip Function channel is blocked, the high voltage to the Withdrawn channel’s detector of the Source Range Neutron Flux channel detectors is also removed. • C1 revise paragraph (2) as indicated: On decreasing power, the P-6 interlock automatically energizes the respective PMS-source-range division Withdrawn division’s Source Range Neutron Flux detectors and enables the respective PMS division Withdrawn division’s Source Range Neutron Flux – High reactor trip Function channel. • C1 revise paragraph (3) as indicated: On increasing power, the P-6 interlock provides a backup block signal to automatically block the respective PMS division C1 Withdrawn division’s source-range neutron flux doubling Source Range Neutron Flux Doubling Engineered Safety Feature Actuation System (ESFAS) Function channel-circuit. Normally, this Boron Dilution Block ESFAS Function is manually blocked by the main control room operator during the reactor startup. <p>SEE INSERT 1 at end of this comment table for additional STS Subsection 3.3.1 Bases markups</p> <p style="text-align: right;">continued</p>	ORNL GTST O54 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T2 Defer Consideration of Traveler
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- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.02	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3;</p> <p>C1 however, the initial use of Protection and Safety Monitoring System (PMS) in the Bases for an STS Subsection should be retained See comment 144</p> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors</p>	<p>Continued from previous page</p> <p>In GTST Section XI on page 26 and Section XII on page 42, in "ASA, LCO, and Applicability" section of the Bases for STS Subsection 3.3.2,</p> <ul style="list-style-type: none"> • C1 revise second and third paragraphs as indicated: <p>The RTS Source Range Neutron Flux – High reactor trip Function provides protection against an uncontrolled bank rod withdrawal accident from a subcritical condition during startup. This reactor trip Function provides redundant protection to the Power Range Neutron Flux – Low Setpoint and Intermediate Range Neutron Flux reactor trip Functions. In MODES 3, 4, and 5, administrative controls also prevent the uncontrolled withdrawal of rods. The Protection and Safety Monitoring System (PMS) source-range Source Range Neutron Flux detectors are located external to the reactor vessel and measure neutrons leaking from the core. The safety analyses do not take credit for the Source Range Neutron Flux – High reactor trip Function. Even though the safety analyses take no credit for the Source Range Neutron Flux this reactor trip Function, the functional capability at the specified Trip Setpoint is assumed to be available and the this reactor trip Function is implicitly assumed in the safety analyses.</p> <p>The Trip Setpoint reflects only steady state instrument uncertainties as the Source Range Neutron Flux detectors do not provide primary protection for any events that result in a harsh environment. This reactor trip Function can be manually blocked by the main control room operator when above the P-6 setpoint (Intermediate Range Neutron Flux interlock) and is automatically unblocked when below the P-6 setpoint. The manual block of the Source Range Neutron Flux reactor trip Function function also de-energizes the source-range Source Range Neutron Flux detectors. The source-range Source Range Neutron Flux detectors are automatically re-energized when below the P-6 setpoint. The This reactor trip Function is automatically blocked when above the P-10 setpoint (Power Range Neutron Flux interlock). The Source Range Neutron Flux reactor trip Function is the only RTS automatic protective Function required in MODES 3, 4, and 5. Therefore, the functional capability at the specified Trip Setpoint is assumed to be available.</p> <p style="text-align: right;">Continued</p>	ORNL GTST O55-3.3.2 complete

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T2 Defer Consideration of Traveler
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AP1000 STS NUREG Policy Types:

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.02	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3;</p> <p>C1 however, the initial use of Protection and Safety Monitoring System (PMS) in the Bases for an STS Subsection should be retained See comment 144</p> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors</p> <p>C1 Insert missing reference information in 7th paragraph of ASA, LCO, and Applicability section of Bases for 3.3.2</p>	<p>Continued from previous page</p> <p>C1 In GTST Section XI on page 26/27 and Section XII on page 42/43, in "ASA, LCO, and Applicability" section of the Bases for STS Subsection 3.3.2, revise fourth paragraph as indicated (existing GTS markup shown in black), or bold dark red if lined out)</p> <p>The LCO requires four channels of the Source Range Neutron Flux – High reactor trip Function to be OPERABLE in MODE 2 below P-6 and in MODE 3, 4, or 5 Withdrawn MODES 3, 4, and 5 with RTBs closed and the Plant Control Rod-Drive System (PLS) capable of rod withdrawal or one or more rods not fully inserted. Four channels are provided to permit one channel to be in trip or bypass indefinitely and still ensure no single random failure will disable this reactor trip Function. In MODE 3, 4, or 5 with the Plant Control System (PLS) PLS incapable of rod withdrawal and all rods fully inserted RTBs open, the LCO does not require the Source Range Neutron Flux – High channels for reactor trip Functions to be OPERABLE.</p> <p>C1 In GTST Section XI on page 27 and Section XII on page 43, in "ASA, LCO, and Applicability" section of the Bases for STS Subsection 3.3.2, revise fifth, sixth, and seventh paragraphs as indicated (existing GTS markup shown in black, or bold dark red if lined out)</p> <p>In MODE 2 when below the P-6 setpoint during a reactor startup, the Source Range Neutron Flux – High reactor trip Function must be OPERABLE. Above the P-6 setpoint, the Intermediate Range Neutron Flux – High trip and the Power Range Neutron Flux – Low Setpoint reactor trip Functions will provide core protection for reactivity accidents. Above the P-6 setpoint, the PMS source-range Source Range Neutron Flux detectors are de-energized and inoperable as described above.</p> <p>In MODE 3, 4, or 5 with the reactor shutdown, the Source Range Neutron Flux – High reactor trip Function must also be OPERABLE. If the PLS is capable of rod withdrawal or one or more rods are not fully inserted, the Source Range Neutron Flux – High reactor trip Function must be OPERABLE to provide core protection against a rod withdrawal accident. If the PLS is not capable of rod withdrawal, the source-range Source Range Neutron Flux detectors are required to be OPERABLE to provide monitoring of neutron flux levels and provide protection for events like an inadvertent boron dilution. These Functions are addressed in LCO 3.3.8, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Function 17, "Source Range Neutron Flux Doubling," LCO 3.3.15, "Engineered Safety Feature Actuation System (ESFAS) Actuation Logic – Operating," and LCO 3.3.16, "Engineered Safety Feature Actuation System (ESFAS) Actuation Logic – Shutdown." The requirements for the PMS Source Range Neutron Flux detectors in MODE 6 are addressed in LCO 3.9.3, "Nuclear Instrumentation."</p> <p>The RTS Source Range Neutron Flux instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). Continued</p>	ORNL GTST O55-3.3.2 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.02	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3 C1 SPSB further proposes to uniformly use <ul style="list-style-type: none"> Power Range Neutron Flux, Intermediate Range Neutron Flux, and Source Range Neutron Flux in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors	Continued from previous page In GTST Section XI on page 28 and Section XII on page 44, in the "Actions" section of the Bases for STS Subsection 3.3.2, <ul style="list-style-type: none"> C1 revise the first paragraph as indicated: In the event a channels Source Range Neutron Flux – High reactor trip Function channel withdrawn channel's as-found condition trip setting is outside the as-found tolerance described in the SP, or the channel is not functioning as required, or the transmitter, instrument loop, signal processing electronics, or trip output is found inoperable, then all affected Functions provided by that channel must be declared inoperable and the LCO Condition(s) entered for the protection Function(s) affected. C1 revise the paragraph under heading "A.1" as indicated (existing GTS markup shown in black, or bold dark red if lined out): Condition A addresses the situation where one source-range instrumentation Source Range Neutron Flux – High reactor trip Function channel is inoperable in MODE 2. With one channel inoperable, the inoperable channel must be placed in a bypass or trip condition within two hours. If one channel is bypassed, the logic becomes two-out-of-three, while still meeting the single failure criterion. (A failure in one of the three remaining channels will not prevent the protective function.) If one channel is tripped, the logic becomes one-out-of-three, while still meeting the single failure criterion. (A failure in one of the three remaining channels will not prevent the protective function). The 2 hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is consistent with the Required Action Completion Times for an inoperable channel of the Intermediate Range Neutron Flux – High reactor trip Function instrumentation-Completion Times provided in LCO 3.3.3. C1 revise the paragraph under heading "B.1 and B.2" as indicated (existing GTS markup shown in black, or bold dark red if lined out): Condition B addresses the situation where two source-range instrumentation Source Range Neutron Flux – High reactor trip Function channels are inoperable in MODE 2. With two channels inoperable, one affected channel must be placed in a bypass condition within 2 hours and one affected channel must be placed in a trip condition within 2 hours. If one channel is bypassed and one channel is tripped, the logic becomes one-out-of-two, while still meeting the single failure criterion. The 2 hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is consistent with the Required Action Completion Times for an inoperable channel of the Intermediate Range Neutron Flux – High reactor trip Function instrumentation-Completion Times provided in LCO 3.3.3. continued	ORNL GTST O55-3.3.2 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
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- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.02	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3 C1 SPSB further proposes to uniformly use <ul style="list-style-type: none"> Power Range Neutron Flux, Intermediate Range Neutron Flux, and Source Range Neutron Flux in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors	Continued from previous page In GTST Section XI on page 28/29 and Section XII on page 44/45, in the "Actions" section of the Bases for STS Subsection 3.3.2, <ul style="list-style-type: none"> C1 revise the paragraph under heading "C.1" as indicated (existing GTS markup shown in black, or bold dark red if lined out): Condition C is entered when any Required Action and associated Completion Time of Conditions Condition A or B is are not met. If the inoperable Source Range Neutron Flux – High reactor trip Function channel(s) is not restored to OPERABLE status or placed in trip or bypass, as applicable, within the allowed Completion Time, Required Action C.1 requires immediate suspension of positive reactivity additions that could result in a loss of required SDM. C1 revise the paragraph under heading "D.1" as indicated (existing GTS markup shown in black, or bold dark red if lined out): Condition D addresses the situations where one or two source-range instrumentation Source Range Neutron Flux – High reactor trip Function channels are inoperable in MODE 3, 4, or 5. With one or two source-range instrumentation Source Range Neutron Flux – High reactor trip Function channels inoperable, three of the four required channels must be restored to OPERABLE status within 48 hours. The Completion Time of 48 hours to restore three of four source-range instrumentation Source Range Neutron Flux – High reactor trip Function channels to OPERABLE status is justified in Reference 2. C1 revise the paragraph under heading "E.1 and E.2" as indicated (existing GTS markup shown in black, or bold dark red if lined out): Condition E is entered when the Required Action and associated Completion Time of Condition D is are not met. If three of the four required source-range instrumentation Source Range Neutron Flux – High reactor trip Function channels are not restored to OPERABLE status within the allowed Completion Time, Required Action E.1 requires that action be initiated to fully insert all rods within 1 hour, and Required Action E.2 requires that the PLS be placed in a condition incapable of rod withdrawal within 1 hour. The allowed Completion Times are is reasonable, based on operating experience, to reach the specified condition in an orderly manner and without challenging plant systems. C1 revise the paragraph under heading "F.1" as indicated (existing GTS markup shown in black, or bold dark red if lined out): Condition F addresses the situation where three or more source range instrumentation Source Range Neutron Flux – High reactor trip Function channels are inoperable. With three or more channels inoperable, the single failure criterion cannot be met and the reactor trip breakers must be opened immediately. continued	ORNL GTST O55-3.3.2 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.02	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3</p> <p>C1 however, the initial use of Protection and Safety Monitoring System (PMS) in the Bases for an STS Subsection should be retained</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p> <hr/> <p>B1 SPSB proposes inserting "as-left" in phrase "within the allowed as-left tolerance"</p>	<p>Continued from previous page</p> <p>In GTST Section XI on page 32 and Section XII on page 46, in the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.2, SR 3.3.2.2 (existing GTS markup shown in black, or bold dark red if lined out):</p> <ul style="list-style-type: none"> • C1, B1 revise first paragraph as indicated <p>SR 3.3.2.2 is the performance of a RTCOT. The test is performed in accordance with the SP. If the actual trip setting of the channel is found to be outside the as-found as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the C1 Withdrawn channel setpoint channel's channel Trip Setpoint to the NTS (within the allowed as-left tolerance), and evaluating the C1 Withdrawn channels channel's channel response. . .</p> <ul style="list-style-type: none"> • C1 revise third paragraph, first sentence, as indicated <p>A test subsystem is provided with the protection and safety monitoring system PMS to aid the plant staff in performing the RTCOT.</p> <p>In GTST Section XI on page 33 and Section XII on page 47, in the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.2, SR 3.3.2.2 (existing GTS markup shown in black):</p> <ul style="list-style-type: none"> • C1 revise sixth paragraph, first sentence, under heading "SR 3.3.2.2" as indicated <p>To the extent possible, protection and safety monitoring system PMS functional testing is accomplished with continuous system self-checking features and the continuous functional testing features.</p> <ul style="list-style-type: none"> • C1 revise ninth paragraph, first sentence, under heading "SR 3.3.2.2" as indicated <p>This The test frequency COT Surveillance Frequency of 92 days is justified based on Reference 2 (which refers to this test as "RTCOT") and the use of continuous diagnostic test features, such as deadman timers, cross-check of redundant channels, memory checks, numeric coprocessor checks, and tests of timers, counters and crystal time bases, which will report a failure within the protection and safety monitoring system PMS cabinets to the C1 Withdrawn control room operator within 10 minutes of a detectable failure.</p> <p style="text-align: right;">continued</p>	ORNL GTST O55-3.3.2 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.02	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases		<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p> <hr/> <p>See comment 145</p>	<p>Continued from previous page</p> <p>C1 In GTST Section XI on page 34 and Section XII on page 48, in the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.2, SR 3.3.2.2, revise the last two paragraphs of the Bases for SR 3.3.2.2, for consistency with Bases for SR 3.3.1.7 and SR 3.3.3.2, as indicated:</p> <p>The Frequency is modified by a Note that allows this surveillance to be satisfied if it has been performed within 92 days of the Frequencies prior to reactor startup and four hours after reducing power below P-6. The Frequency of prior to reactor startup ensures this surveillance is performed prior to critical operations, and applies to the Source Range Neutron Flux – High, Intermediate Range Neutron Flux – High (SR 3.3.3.2), and Power Range Neutron Flux – Low Setpoint (SR 3.3.1.7) reactor trip Function instrument channels. The Frequency of 4 hours after reducing power below P-6 allows a normal shutdown to be completed and the unit removed from the MODE of Applicability for this surveillance without a delay to perform the testing required by this surveillance. The Frequency of every 92 days thereafter applies if the plant unit remains in the MODE of Applicability after the initial performances of prior to reactor startup and four 4 hours after reducing power below P-6. The MODE of Applicability for this surveillance is < P-6. Once the unit is in MODE 3, this surveillance is no longer required. If power is to be maintained < below P-6 for more than 4 four hours, then the testing required by this surveillance must be performed prior to the expiration of the 4 four hour limit. Four hours is a reasonable time to complete the required testing or place the unit in a MODE where this surveillance is no longer required. The Surveillance Frequencies for this COT ensure This test ensures that the NIS source-range Source Range Neutron Flux – High reactor trip Function instrumentation channels are OPERABLE prior to taking the reactor critical and after reducing power into the applicable MODE (< P-6) for periods >4 of greater than four hours.</p> <p>During the RTCOT, the protection and safety monitoring system PMS cabinets in the division under test may be placed in bypass.</p> <p style="text-align: right;">continued</p>	ORNL GTST O55-3.3.2 complete

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- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.02	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors</p> <hr/> <p>B1 SPSB proposes inserting "as-left" in phrase "within the allowed as-left tolerance"</p>	<p>Continued from previous page</p> <p>C1, B1 In GTST Section XI on page 34/35 and Section XII on page 49, in the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.2, under heading for SR 3.3.2.3, revise first three paragraphs as indicated, and move last two sentences of paragraph 1 to beginning of paragraph 2 for consistency with Bases for STS SR 3.3.1.8:</p> <p>SR 3.3.2.3 is the performance of a A CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. This SR is modified by a Note stating that neutron detectors are excluded from the CHANNEL CALIBRATION. The test is performed in accordance with the SP. If the actual setting of the channel is found to be outside the as found tolerance, the channel is considered inoperable.</p> <p>The test CHANNEL CALIBRATION is performed in accordance with the SP. If the actual trip setting of the channel is found to be outside the as found as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the channel setpoint channel Trip Setpoint to the NTS (within the allowed as-left tolerance), and evaluating the C1 Withdrawn channels-channel's channel response. If the channel is functioning as required and is expected to pass the next surveillance, then the channel is OPERABLE and can be restored to service at the completion of the surveillance. After the surveillance is completed, the channel as-found condition will be entered into the Corrective Action Program for further evaluation.</p> <p>The CHANNEL CALIBRATION for the source range neutron Source Range Neutron Flux detectors consists of obtaining the preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data.</p> <p style="text-align: right;">continued</p>	ORNL GTST O55-3.3.2 complete;

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Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.03	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3;</p> <p>C1 however, the initial use of Protection and Safety Monitoring System (PMS) in the Bases for an STS Subsection should be retained</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors</p> <p>C1 SPSB further proposes to remove "interlock" after P-6 and P-10—except when used to refer to the interlock and not the setpoint—an to be consistent with TS wording.</p> <p>C1 SPSB also proposes to use phrase "PMS division Withdrawn division's Power Range Neutron Flux channel" on page 22 and page 36</p>	<p>Continued from previous page</p> <p>In GTST Section XI and Section XII, regarding STS Subsection 3.3.3 Bases, replace "PMS intermediate range detectors [channels]" with "Intermediate Range Neutron Flux detectors [channels]" and make other related changes (suggested by SPSB) on the following GTST pages:</p> <ul style="list-style-type: none"> • C1 Page 22 and 36, "ASA, LCO, and Applicability" section of Bases <p>. . . The Protection and Safety Monitoring System (PMS) intermediate range Intermediate Range Neutron Flux detectors are located external to the reactor vessel and measure neutrons leaking from the core. . . . This trip Function can be manually blocked by the main control room operator when above the P-10 setpoint, which is the respective PMS division C1 Withdrawn division's power range Power Range Neutron Flux channel greater than 10% power, and is automatically unblocked when below the P-10 setpoint, which is the respective PMS division C1 Withdrawn division's power range Power Range Neutron Flux channel less than 10% power.</p> • C1 Page 23 and 37, "ASA, LCO, and Applicability" section of Bases <p>In MODE 6, all rods are fully inserted and the core has a required increased SDM. Also, the PMS intermediate range Intermediate Range Neutron Flux detectors cannot detect neutron flux levels present in this MODE.</p> • C1 Page 23 and 37, "Actions" section of Bases, Required Actions A.1, A.2, and A.3, first paragraph <p>Condition A addresses the situation where one intermediate range Intermediate Range Neutron Flux – High reactor trip Function instrumentation channel is inoperable with THERMAL POWER greater than or equal to the P-6 interlock setpoint. With one or two channels inoperable, one the affected channel must be placed in a bypass or trip condition within 2 hours, or THERMAL POWER must be either reduced below the P-6 interlock setpoint or increased above the P-10 interlock setpoint within 2 hours. . . .</p> <p style="text-align: right;">continued</p> 	ORNL GTST O56-3.3.3 complete;

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- A3 Editorial clarification or correction
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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.03	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> Power Range Neutron Flux, Intermediate Range Neutron Flux, and Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p>	<p>Continued from previous page</p> <p>In GTST Section XI and Section XII, regarding STS Subsection 3.3.3 Bases, replace "PMS intermediate range detectors [channels]" with "Intermediate Range Neutron Flux detectors [channels]" and make other related changes (suggested by SPSB) on the following GTST pages:</p> <ul style="list-style-type: none"> C1 Page 24 and 38, "Actions" section of Bases, Required Actions A.1, A.2, and A.3, second paragraph <p>As an alternative to placing the inoperable channel(±) in bypass or trip if THERMAL POWER is greater than the P-6 setpoint but less than the P-10 setpoint, 2 hours are allowed to reduce THERMAL POWER below the P-6 setpoint or to increase the THERMAL POWER above the P-10 setpoint. The Intermediate Range Neutron Flux channels must be OPERABLE when the power level is above the capability of the source range Source Range Neutron Flux detectors, P-6, and below the capability of the power range Power Range Neutron Flux detectors, P-10. If THERMAL POWER is greater than the P-10 setpoint, the PMS power range Power Range Neutron Flux channels detectors perform the monitoring and protective functions and the intermediate range Intermediate Range Neutron Flux channels are is not required. The Completion Times allow for a slow and controlled power adjustment below P-6, and takes into account the redundant capability afforded by the two three remaining OPERABLE Intermediate Range Neutron Flux – High reactor trip Function channels and the low probability of their failure during this period.</p> <p style="text-align: right;">continued</p>	ORNL GTST O56-3.3.3 complete;

Administrative Types:

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- A3 Editorial clarification or correction
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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.03	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p> <p>C1 SPSB further proposes to remove "interlock" after P-6 and P-10—except when used to refer to the interlock and not the setpoint—an to be consistent with TS wording.</p>	<p>Continued from previous page</p> <p>In GTST Section XI and Section XII, regarding STS Subsection 3.3.3 Bases, replace "PMS intermediate range detectors [channels]" with "Intermediate Range Neutron Flux detectors [channels]" and make other related changes (suggested by SPSB) on the following GTST pages:</p> <ul style="list-style-type: none"> • C1 Page 24 and 38, "Actions" section of Bases, Required Actions B.1.1, B.1.2, B.2, and B.3 <p>Condition B addresses the situation where two intermediate range instrumentation Intermediate Range Neutron Flux – High channels are inoperable with THERMAL POWER greater than or equal to the P-6 interlock setpoint. With two intermediate range Intermediate Range Neutron Flux – High channels inoperable, one inoperable channel must be placed in a bypass condition and one inoperable channel must be placed in a trip condition within 2 hours, or THERMAL POWER must be either reduced below the P-6 interlock setpoint or increased above the P-10 interlock setpoint within 2 hours. . . .</p> <p>. . . The Intermediate Range Neutron Flux channels must be OPERABLE when the power level is above the capability of the source-range Source Range Neutron Flux detectors, P-6, and below the capability of the power-range Power Range Neutron Flux detectors, P-10. If THERMAL POWER is greater than the P-10 setpoint, the PMS-power-range Power Range Neutron Flux channels detectors perform the monitoring and protective functions and the intermediate range Intermediate Range Neutron Flux channels are is not required. . . .</p> <p style="text-align: right;">continued</p>	ORNL GTST O56-3.3.3 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.03	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> Power Range Neutron Flux, Intermediate Range Neutron Flux, and Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p> <p>C1 SPSB further proposes to remove "interlock" after P-6 and P-10—except when used to refer to the interlock and not the setpoint—an to be consistent with TS wording.</p>	<p>Continued from previous page</p> <p>In GTST Section XI and Section XII, regarding STS Subsection 3.3.3 Bases, replace "intermediate range detectors [channels]" with "Intermediate Range Neutron Flux detectors [channels]" and make other related changes (suggested by SPSB) on the following GTST pages:</p> <ul style="list-style-type: none"> C1 Page 25 and 39, "Actions" section of Bases, Required Action C.1 <p>Condition C addresses the situation of one or two intermediate range instrumentation Intermediate Range Neutron Flux – High reactor trip Function channels are inoperable with THERMAL POWER below the P-6 interlock setpoint. Below P-6, the Source Range Neutron Flux channels will be able to monitor the core power level. With one or two intermediate range instrumentation Intermediate Range Neutron Flux – High reactor trip Function channels inoperable, three of the four required channels must be restored to OPERABLE status prior to increasing THERMAL POWER above the P-6 setpoint. With the unit in this condition, below P-6, the Source Range Neutron Flux channels perform the monitoring and protection functions.</p> <ul style="list-style-type: none"> C1 Page 39, "Actions" section of Bases, Required Actions D.1, D.2, and D.3 for STS 3.3.3 (existing markup shown in bold black font) <p>Condition D addresses the situations where three or more intermediate range instrumentation Intermediate Range Neutron Flux – High reactor trip Function channels are inoperable. With three or more channels inoperable, positive reactivity additions that could result in a loss of required SDM must be suspended immediately. This will preclude any power level increase since there are insufficient OPERABLE Intermediate Range Neutron Flux – High reactor trip Function channels to adequately monitor power escalation. In addition, THERMAL POWER must be reduced below the P-6 interlock setpoint within 2 hours, and the plant must be placed in MODE 3 within 7 hours. The allowed Completion Times for Required Actions D.2 and D.3 are reasonable, based on operating experience, to reach the specified condition from full power conditions in an orderly manner and without challenging plant systems.</p> <p style="text-align: right;">continued</p>	ORNL GTST O56-3.3.3 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.03	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> Power Range Neutron Flux, Intermediate Range Neutron Flux, and Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p> <p>C1 SPSB further proposes to remove "interlock" after P-6 and P-10—except when used to refer to the interlock and not the setpoint—an to be consistent with TS wording.</p>	<p>Continued from previous page</p> <ul style="list-style-type: none"> C1 GTST Page 25, "Actions" section of Bases, Required Actions D.1, D.2, and D.3 for STS 3.3.3. Following is a black and white markup from GTST Rev. 0 Section XI of the Bases for MTS Subsection 3.3.3 Action D, marked up again using dark red double strikethrough for deleted text and blue bold for additions. In some cases, previous changes are reversed. <p><u>D.1, D.2, and D.3 D-2</u></p> <p>Condition D addresses the situation where applies to three or more intermediate range instrumentation Intermediate Range Neutron Flux trip Intermediate Range Neutron Flux trip Intermediate Range Neutron Flux – High reactor trip Function channels are inoperable in MODE 2 above the P-6 setpoint and below the P-10 setpoint. With three or more channels inoperable, positive reactivity additions that could result in a loss of required SDM must be suspended immediately. This will preclude any power level increase since there are insufficient OPERABLE Intermediate Range Neutron Flux – High reactor trip Function channels to adequately monitor power escalation. In addition, THERMAL POWER must be reduced below the P-6 interlock setpoint within 2 hours, and the plant must be placed in MODE 3 within 7 hours. The allowed Completion Times for Required Actions D.2 and D.3 are reasonable, based on operating experience, to reach the specified condition from full power conditions in an orderly manner and without challenging plant systems. Required Actions specified in this Condition are only applicable when channel failures do not result in reactor trip. Above the P-6 setpoint and below the P-10 setpoint, the PMS intermediate range detector performs the monitoring Functions. With only one intermediate range channel OPERABLE, the Required Actions are to suspend operations involving positive reactivity additions immediately. This will preclude any power level increase since there are insufficient OPERABLE Intermediate Range Neutron Flux channels to adequately monitor the power escalation. The operator must also reduce THERMAL POWER below the P-6 setpoint within 2 hours. Below P-6, the Source Range Neutron Flux channels will be able to monitor the core power level. The Completion Time of 2 hours will allow a slow and controlled power reduction to less than the P-6 setpoint and takes into account the low probability of occurrence of an event during this period that may require the protection afforded by the PMS Intermediate Range Neutron Flux trip.</p> <p style="text-align: right;">continued</p>	ORNL GTST O56-3.3.3 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.03	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3 C1 SPSB further proposes to uniformly use <ul style="list-style-type: none"> Power Range Neutron Flux, Intermediate Range Neutron Flux, and Source Range Neutron Flux in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors. See Comment 152	Continued from previous page In GTST Section XI and Section XII, regarding STS Subsection 3.3.3 Bases, replace "intermediate range detectors [channels]" with "Intermediate Range Neutron Flux detectors [channels]" and make other related changes (suggested by SPSB) on the following GTST pages (existing GTS markup shown in black, or bold dark red if lined out): <ul style="list-style-type: none"> C1 Under heading "SR 3.3.3.2", 1st paragraph on GTST Page 27 and 1st paragraph under heading "SR 3.3.3.2" on Page 40, SR 3.3.3.2 is the performance of a RTCOT. The test is performed in accordance with the SP. If the actual trip setting of the channel is found to be outside the as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the Withdrawn channel setpoint channel's channel Trip Setpoint to the NTS (within the allowed as-left tolerance), and evaluating the channels channel response. . . . C1 Under heading "SR 3.3.3.2", 3rd paragraph on GTST Page 27 and 1st paragraph on GTST Page 41, A test subsystem is provided with the protection and safety monitoring system Protection and Safety Monitoring System (PMS) to aid the plant staff in performing the RTCOT. C1 Under heading "SR 3.3.3.2", 3rd paragraph on GTST Page 28 and 1st paragraph on GTST Page 42, This The test frequency COT Surveillance Frequency of 92 days is justified based on Reference 2 (which refers to this test as "RTCOT") and the use of continuous diagnostic test features, such as deadman timers, cross-check of redundant channels, memory checks, numeric coprocessor checks, and tests of timers, counters and crystal time bases, which will report a failure within the Protection and Safety Monitoring System PMS cabinets to the B2 Withdrawn control room operator within 10 minutes of a detectable failure. C1 Under heading "SR 3.3.3.2", 4th paragraph on GTST Page 28, and 2nd paragraph on GTST Page 42, – revise paragraph and added sentence, as indicated SR 3.3.3.2 is modified by two a Notes The first Note states that this test shall include verification that the P-6 and P-10 interlocks are in their required state for the existing unit condition. The second Note allows this surveillance to be satisfied if it has been performed within 92 days of the Frequencies of prior to reactor startup and four4 hours after reducing power below P-10. <p style="text-align: right;">continued</p>	ORNL GTST O56-3.3.3 complete

Administrative Types:

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- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
119	3.3.03	The modifier "PMS" for "power range detectors," "Intermediate Range Neutron Flux," and "Source Range, Neutron Flux," is unnecessary. Inclusion of "PMS" in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.	Delete "PMS" as a modifier to "power range," "Intermediate Range," and "Source Range," throughout the Bases	A3	<p>SPSB agrees; this comment also applies to STS Subsections 3.3.2, 3.3.3, 3.3.8, and 3.9.3</p> <hr/> <p>C1 SPSB further proposes to uniformly use</p> <ul style="list-style-type: none"> Power Range Neutron Flux, Intermediate Range Neutron Flux, and Source Range Neutron Flux <p>in place of other phrases that refer to power, intermediate, and source range instrumentation channels or detectors.</p>	<p>Continued from previous page</p> <ul style="list-style-type: none"> C1 GTST Page 28/29 and 42, "Surveillance Requirements" section of Bases, SR 3.3.3.2, last paragraph beginning on page 28, third paragraph on page 42, first and last sentences <p>The Frequency of prior to reactor startup ensures this surveillance is performed prior to critical operations and applies to the source Source Range Neutron Flux – High (SR 3.3.2.2), intermediate Intermediate Range Neutron Flux – High and power range low Power Range Neutron Flux – Low Setpoint (SR 3.3.1.7) reactor trip Function instrument channels. . . . This test ensures that the NIS intermediate range instrumentation Intermediate Range Neutron Flux – High reactor trip Function instrument channels are OPERABLE prior to taking the reactor critical and after reducing power into the applicable MODE (< P-10) for periods >4 of greater than four hours.</p> <ul style="list-style-type: none"> C1 GTST Page 29/30 and 43, "Surveillance Requirements" section of Bases, under heading for SR 3.3.3.3, revise first three paragraphs as indicated, and move last two sentences of paragraph 1 to beginning of paragraph 2 for consistency with Bases for STS SR 3.3.1.8: SR-3.3.3.3 is the performance of a A CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. This SR is modified by a Note stating that neutron detectors are excluded from the CHANNEL CALIBRATION. The test is performed in accordance with the SP. If the actual setting of the channel is found to be outside the as found tolerance, the channel is considered inoperable. The CHANNEL CALIBRATION is performed in accordance with the SP. If the actual trip setting of the channel is found to be outside the as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the channel setpoint channel Trip Setpoint to the NTS (within the allowed as-left tolerance), and evaluating the Withdrawn channels channel's channel response. <p>The CHANNEL CALIBRATION for the intermediate range neutron Intermediate Range Neutron Flux detectors consists of obtaining the detector plateau curves, evaluating those curves, and comparing the curves to the manufacturer's data. This Surveillance is not required for the intermediate range Intermediate Range Neutron Flux detectors for entry into MODE 2, because the plant must be in at least MODE 2 to perform the test.</p> <p>-- END OF RESPONSE TO COMMENT 119 (pages 55 to 70) --</p>	ORNL GTST O56-3.3.3 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
120	3.3.01 Pg 060	Paragraph from STS LCO 3.3.1, Required Action A.1 Bases is applicable to the STS LCO 3.3.3, Required Action A.1 Bases, which is already captured in those Bases. Recommend deleting this paragraph from the STS LCO 3.3.1, Required Action A.1 Bases:	Delete the commented paragraph from the STS LCO 3.3.1, Required Action A.1 Bases As an alternative to placing the inoperable channel(s) in bypass or trip if THERMAL POWER is greater than the P-6 setpoint but less than the P-10 setpoint, 2 hours are allowed to reduce THERMAL POWER below the P-6 setpoint or to increase the THERMAL POWER above the P-10 setpoint. The Intermediate Range Neutron Flux channels must be OPERABLE when the power level is above the capability of the source range, P-6, and below the capability of the power range, P-10. If THERMAL POWER is greater than the P-10 setpoint, the PMS power range detectors perform the monitoring and protective functions and the intermediate range is not required. The Completion Times allow for a slow and controlled power adjustment below P-6, and takes into account the redundant capability afforded by the two remaining OPERABLE channels and the low probability of their failure during this period.	A3	SPSB agrees	In GTST Section XI on page 60 and in Section XII on page 109, in the "Actions" section of the Bases for STS Subsection 3.3.1, remove the second paragraph of the discussion under Required Action A.1, because it is not relevant to the RTS Instrumentation Functions listed in STS Table 3.3.1-1. Describe comment and its resolution in GTST Section VIII (there is no need to quote the paragraph being removed). Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O54 complete
121	3.3.01 Pg 083 – 084	GTST Section XI and Section XII, Table 3.3.1-1, Item 3, REQUIRED CHANNELS states "4", whereas GTS states "4 (2/loop)". There is no discussion of change. This appears to be a typographical oversight.	Replace "4" with "4 (2/loop)" in Table 3.3.1-1, Item 3 Required Channels	A1	SPSB agrees	In GTST Section XI on page 31 and in Section XII on page 84, in STS Table 3.3.1-1, revise the Required Channels for Function 3, Overtemperature ΔT, to state, "4 (2/loop)" Describe comment and its resolution in GTST Section VIII .	ORNL GTST O54 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
122	3.3.01 Pg 086	Bases, last paragraph, statement concerning NTS states "...the NTS assured that the SLs are not exceeded." The tense of the verb assure should be changed to be "assures," not "assured."	Change "assured" to "assures"	A1	SPSB agrees	In GTST Section XI on page 33 57 and in Section XII on page 86 , in the "Background" section of the Bases for STS Subsection 3.3.1, in the last paragraph, last sentence, change "assured" to "assures" Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O54 complete
123	3.3.01 Pg 089	Bases, next to last bullet on the page uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)."	A2	SPSB agrees	In GTST Section XI on page 36 61 and in Section XII on page 89, in the "Background" section of the Bases for STS Subsection 3.3.1, in the next to last bullet on the page, change "ESF" to "Engineered Safety Features (ESF)." Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O54 complete
124	3.3.01 Pg 091	Bases, first and second paragraph of NTS section uses the term "±" ("i.e., ± rack calibration accuracy") without using a value with the term. Term should be "plus or minus" to align with Writer's Guide convention.	Change "±" to "plus or minus"	A4	SPSB agrees to change; SPSB disagrees that it aligns with writer's guide convention for use of "plus or minus" instead of "±"; the WG is silent about that.	Add comment to list of <u>APOG discussion topics</u> . C1 In GTST Section XI on page 38 62 & 63 and in Section XII on page 91, in the "Background" section of the Bases for STS Subsection 3.3.1, under the Nominal Trip Setpoint (NTS) heading, first paragraph, second sentence, and second paragraph, last sentence, change "±" to "plus or minus" Describe comment and its resolution in GTST Section VIII. Refer to NOT conforming to convention of NUREG-1431, Rev. 4; see page B 3.3.1A-6. [Note that the writers guide does not specifically address using "plus or minus" in place of "±"] Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O54 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
125	3.3.01 Pg 091	Revise TS 3.3.1 Bases Background under Reactor Trip Switchgear Interface section to include additional clarifying information for the reactor trip switchgear voting logic consistent with the design as described in AP1000 DCD section 7.2.1.1.7.	Add phrase “, which allows RTB closure” to the end of the first sentence of the section	T4	SPSB agrees	<p>In GTST Section XI on page 38 and in Section XII on page 91, in the “Background” section of the Bases for STS Subsection 3.3.1, under the heading “Reactor Trip Switchgear Interface,” add the phrase “, which allows RTB closure” to the end of the first sentence, so that it states:</p> <p>The final stage of the voting logic provides the signal to energize the undervoltage trip attachment on each RTB within the reactor trip switchgear, which allows RTB closure.</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O54 complete
126	3.3.01 Pg 094	First sentence of ASA, LCO, and Applicability states “The RTS functions to maintain the SLs...” A more correct statement would be that RTS functions to “maintain compliance with” the SLs. This change is also applicable to Section 3.3.02, Pg 042, Section 3.3.03, Pg 036, Section 3.3.04, Pg 031, Section 3.3.05, Pg 028, Section 3.3.06, Pg 027, and Section 3.3.07, Pg 028.	Add phrase “compliance with”	A3	SPSB agrees	<p>In the “ASA, LCO, and Applicability” section of the Bases for the listed STS Subsections</p> <ul style="list-style-type: none"> • 3.3.1, in GTST Section XI on page 41 and Section XII on page 94; • 3.3.2, in GTST Section XI on page 26 and Section XII on page 42; • 3.3.3, in GTST Section XI on page 22 and Section XII on page 36; • 3.3.4, in GTST Section XI on page xx and Section XII on page 31; • 3.3.5, in GTST Section XI on page xx and Section XII on page 28; • 3.3.6, in GTST Section XI on page xx and Section XII on page 27; and • 3.3.7, in GTST Section XI on page xx and Section XII on page 28, <p>revise the first sentence, so that it states:</p> <p>The RTS functions to maintain compliance with the SLs during all AOOs and mitigates the consequences of DBAs in all MODES in which the RTBs are closed.</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL: GTSTs O54-3.3.1 complete O55-3.3.2 complete O56-3.3.3 complete O57-3.3.4 complete O58-3.3.5 complete O59-3.3.6 complete O60-3.3.7 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
127	3.3.01 Pg 094	Last paragraph uses the term “±” without using a value with the term. Term should be “plus or minus.” This change is also applicable to Section 3.3.08, Pg 131, second paragraph.	Change “±” to “plus or minus”	A4 P4	SPSB agrees to changes; SPSB disagrees that it aligns with writer’s guide convention for use of “plus or minus” instead of “±”; the WG is silent about that.	Add to list of APOG discussion topics C1 In the “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, in GTST Section XI on page 44 63 and in Section XII on page 94, in the last paragraph on the page, change “± the PMS rack calibration accuracy” to “plus or minus the PMS rack calibration accuracy” In the “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.8, in GTST Section XI on page 58 65 and in Section XII on page 131, in the second paragraph on the page, change “± the PMS rack calibration accuracy “ to “plus or minus the PMS rack calibration accuracy” Describe comment and its resolution in GTST Section VIII. Refer to NOT conforming to convention of NUREG-1431, Rev. 4; see page B 3.3.1A-6. [Note that the writers guide does not specifically address using “plus or minus” in place of “±”] Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O54 complete
128	3.3.01 Pg 096	Bases, under Power Range Neutron Flux, P-10 section, item (1), first word “on” should be initial cap (“On”).	Change “on” to “On”	A2 A4 P4	SPSB agrees	Add to list of APOG discussion topics In GTST Section XI on page 33 and in Section XII on page 96, in the “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under subsection heading of “Power Range Neutron Flux, P-10”, in list item “(1)” change “on” to “On” C1, E2 Describe comment and its resolution in GTST Section VIII. Reference Writers Guide 2.1.3.b.1, but point out that use of digits in parenthesis is contrary to WG for primary level ordered list enumeration, which uses lower case letters. <u>However, this change makes the bases discussion of P-10 consistent with that of P-6, and with NUREG-1431, Rev. 4, and so is acceptable.</u> Finally, the WG does not directly discuss ordered list enumeration convention for the “ASA, LCO, and Applicability” section of the Bases for Section 3.3. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O54 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
129	3.3.01 Pg 097	Bases, first paragraph in the Pressurizer Pressure, P-11 section, the symbol ">" is used but the term following the symbol is not a value.	Change ">" to "greater than the"	A4 A5	<p>SPSB agrees, except include "the" and "Function"</p> <hr/> <p>E2 All instances in GTS Bases where the symbols < > = ≥ ≤ are used with</p> <ul style="list-style-type: none"> • P-6 or P-10 to indicate reactor power above, below, or equal to one of these setpoints; or • P-11 to indicate pressurizer pressure above, below, or equal to this setpoint; or • P-12 to indicate pressurizer level above, below, or equal to this setpoint, <p>should be revised as proposed by this comment.</p> <hr/> <p>There is also no rationale for capitalizing "trip"</p> <p>SPSB proposes to add "Function"</p>	<p>Add to list of APOG discussion topics</p> <p>C1 In GTST Section XI on page 34 and in Section XII on page 97, in the "ASA, LCO, and Applicability" section of the Bases for STS Subsection 3.3.1, under subsection heading of "Pressurizer Pressure, P-11", change ">" to "greater than the" so that the sentence states:</p> <p style="padding-left: 40px;">With pressurizer pressure channels greater than the P-11 setpoint, the Steam Generator Narrow Range Water Level – High 2 reactor trip Function is automatically enabled.</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p> <hr/> <p>E2 Notice that this change appears to be inconsistent with NUREG-1431, Rev 4, as depicted on page B 3.3.1A-56 in the Bases for SR 3.3.1.8 by the following sentences:</p> <p style="padding-left: 40px;">The MODE of Applicability for this surveillance is < P-10 for the power range low and intermediate range channels and < P-6 for the source range channels. Once the unit is in MODE 3, this surveillance is no longer required. If power is to be maintained < P-10 for more than [12] hours or < P-6 for more than 4 hours, then the testing required by this surveillance must be performed prior to the expiration of the time limit. . . .</p> <p style="padding-left: 40px;">This test ensures that the NIS source, intermediate, and power range low channels are OPERABLE prior to taking the reactor critical and after reducing power into the applicable MODE (< P-10 or < P 6) for periods > [12] and 4 hours, respectively.</p> <p>But note the sentences on page B 3.3.1A-38 in the Bases for Required Actions F.1 and F.2:</p> <p style="padding-left: 40px;">"If THERMAL POWER is greater than the P-6 setpoint but less than the P-10 setpoint, 24 hours is allowed to reduce THERMAL POWER below the P-6 setpoint or increase to THERMAL POWER above the P-10 setpoint."</p>	ORNL GTST O54 complete

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
130	3.3.01 Pg 097	<p>Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Revise the Applicable Safety Analyses, LCOs, and Applicability for the P-10 interlock:</p> <p>(5) . . . the following Functions: · Pressurizer Pressure - Low Setpoint.</p> <p>(6) . . . P-10 interlock automatically enables the Power Range Neutron Flux - Low Setpoint reactor trip</p>	Make the commented change to Applicable Safety Analyses, LCOs, and Applicability for the P-10 interlock	A3 A4	<p>SPSB agrees to change and notes that it makes the supported RTS Function names in the Bases for P-10 the same as the supported RTS Function names in Table 3.3.1-1.</p> <p>C1 SPSB proposes to add “respective division,” “respective,” and “channel” to emphasize the divisional implementation of the P-10 interlock</p>	<p>Add to list of APOG discussion topics: consistency among RTS trip function names in FSAR Chapter 7, STS, and STS Bases</p> <p>C1 In GTST Section XI on page 34 and in Section XII on page 97, in the “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under the discussion on Power Range Neutron Flux, P-10, make the following edits as indicated:</p> <p>(5) On decreasing power, the P-10 interlock automatically blocks reactor trips on the following Functions:</p> <ul style="list-style-type: none"> • Pressurizer Pressure – Low Setpoint, • Pressurizer Water Level – High 3, • Reactor Coolant Flow – Low, and • RCP Speed – Low. <p>(6) On decreasing power, the respective division P-10 interlock channel automatically enables the respective Power Range Neutron Flux – Low Setpoint reactor trip channel and the respective Intermediate Range Neutron Flux – High reactor trip (and rod stop) channel.</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O54 complete
131	3.3.01 Pg 107	Bases, first paragraph of Function 11, first line, the word “range” should be initial cap. Second paragraph, phrase “2 per SG” should be “(2 per SG)”	Change “range” to “Range” and “2 per SG” to “(2 per SG)”	A3	SPSB agrees	<p>In GTST Section XI on page 55 80 & 81 and in Section XII on page 107, in the “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under the discussion of Function 11, SG Narrow Range Water Level – High 2, in the first paragraph, first sentence, change “range” to “Range”; in the second paragraph, change “2 per SG” to “(2 per SG)”</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O54 complete

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132	3.3.01 Pg 109	Bases, Action A.1 section, a second paragraph is included, which discusses a 2 hour Required Action. This entire paragraph is not consistent with the TS Action A and needs to be deleted.	Delete second paragraph for Action A.1 Bases.	A3	SPSB agrees This comment is duplicate of 120	In GTST Section XI on page 60 and in Section XII on page 109, in the "Actions" section of the Bases for STS Subsection 3.3.1, remove the second paragraph of the discussion under Required Action A.1, because it is not relevant to the RTS Instrumentation Functions listed in STS Table 3.3.1-1. Describe comment and its resolution in GTST Section VIII (there is no need to quote the paragraph being removed). Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O54 complete
133	3.3.01 Pg 111	Bases SR 3.3.1.1, has a paragraph that lists the channels that are to be checked by the SR. This information is already provided in the Function column of the TS Table 3.3.1-1 and does not need to be repeated in the Bases. Including these functions is not consistent with other SR Bases.	Delete the Bases paragraph listing the channel titles.	A2 A5	SPSB agrees	In GTST Section XI on page 65 and in Section XII on page 111, in the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.1, SR 3.3.1.1, remove the Bases paragraph listing the RTS Function titles of the channels "to be checked" Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O54 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
134	3.3.01 Pg 114	Bases, SR 3.3.1.4, first paragraph, there is an extra period at end of last sentence.	Delete extra period.	A1 A3 A4	SPSB agrees, but proposes to B1 add "excore" and "nuclear instrument" and "Power Range Neutron Flux detectors" for consistency	<p>In GTST Section XI on page 67 and in Section XII on page 114, In the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.1,</p> <ul style="list-style-type: none"> • B1 Under SR 3.3.1.4, modify last sentence of first paragraph to say: SR 3.3.1.4 compares the AXIAL FLUX DIFFERENCE determined using the incore neutron flux detector system to the excore nuclear instrument channel AXIAL FLUX DIFFERENCE every 31 effective full power days (EFPD) and adjusts the excore nuclear instrument channel if the absolute difference between the incore and excore AFD is ≥ 3% AFD. • B1 Under SR 3.3.1.4, add "excore" to the second paragraph, so it says: If the absolute difference is ≥ 3% AFD the excore nuclear instrument channel is still OPERABLE, but must be readjusted. If the excore nuclear instrument channel cannot be properly readjusted, the channel is declared inoperable. This surveillance is performed to verify the f(ΔI) input to the overtemperature ΔT reactor trip Function. • B1 Under SR 3.3.1.5, add "nuclear instrument" to 1st paragraph, so it says: SR 3.3.1.5 is a calibration of the excore nuclear instrument channels (Power Range Neutron Flux) detectors to the incore neutron flux channels detectors. If the measurements do not agree, the excore nuclear instrument channels are not declared inoperable but must be adjusted to agree with the incore neutron flux detector measurements. If the excore nuclear instrument channels cannot be adjusted, the excore nuclear instrument channels are declared inoperable. This Surveillance is performed to verify the f(ΔI) input to the overtemperature ΔT reactor trip Function. <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O54 complete

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135	3.3.01 Pg 117 3.3.02 Pg 48 3.3.03 Pg 42	Bases, SR 3.3.1.7, third paragraph, states that the Frequency is "prior to startup." The TS SR 3.3.1.7 Frequency is actually "prior to reactor startup"	Change "prior to startup" to "prior to reactor startup"	A3	SPSB agrees C1 but adds additional clarifying edits B2 Withdrawn However, the sentence also needs revising to reflect DOC A024. A similar sentence modification is needed for Bases of STS SR 3.3.2.2 and STS SR 3.3.3.2.	Add comment to list of <u>APOG discussion topics</u> . C1 In GTST Section XI on page 71 and in Section XII on page 117, in the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.1, under SR 3.3.1.7, third paragraph, first sentence, change the first sentence as indicated: The Frequency of prior to reactor startup ensures this surveillance is performed prior to critical operations and applies to the source, intermediate and Power Range Neutron Flux – Low Setpoint instrument channels. B2 Withdrawn (Similarly, this Frequency is also specified by SR 3.3.2.2, COT for the Source Range Neutron Flux – High Setpoint instrument channels, and SR 3.3.3.2, COT for the Intermediate Range Neutron Flux – High instrument channels.) <hr/> C1 In GTST Section XI on page 34 and in Section XII on page 48, in the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.2, under SR 3.3.2.2, third paragraph on the page, change the second sentence as indicated: The Frequency of prior to reactor startup ensures this surveillance is performed prior to critical operations and applies to the Source Range Neutron Flux – High Setpoint instrument channels. B2 Withdrawn (Similarly, this Frequency is also specified by SR 3.3.3.2, COT for the Intermediate Range Neutron Flux – High instrument channels, and SR 3.3.1.7, COT for the Power Range Neutron Flux – Low Setpoint instrument channels.) <hr/> C1 In GTST Section XI on page 28 and in Section XII on page 42, in the "Surveillance Requirements" section of the Bases for STS Subsection 3.3.3, under SR 3.3.3.2, third paragraph on the page, first sentence, change the first sentence as indicated: The Frequency of prior to reactor startup ensures this surveillance is performed prior to critical operations and applies to the source, intermediate and Power Range Neutron Flux – High and power range low instrument channels. B2 Withdrawn (Similarly, this Frequency is also specified by SR 3.3.2.2, COT for the Source Range Neutron Flux – High Setpoint instrument channels, and SR 3.3.1.7, COT for the Power Range Neutron Flux – Low Setpoint instrument channels.) <hr/> Describe comment and its resolution in Section VIII of the GTSTs for STS Subsections 3.3.1, 3.3.2, and 3.3.3. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under DOC A024.	ORNL: GTST O54-3.3.1 complete O55-3.3.2 complete O56-3.3.3 complete

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136	3.3.01 Pg 119	Bases, SR 3.3.1.9, third paragraph includes a closing sentence that states an exception for entering Modes 1 and 2, and that the plant must be in MODE 1 to perform the test. This provision is not in accordance with the actual SR.	Delete SR 3.3.1.9 Bases, third paragraph, final sentence	T1	SPSB agrees C1 but suggests additional clarifying edits. E2 SPSB questions whether the PRHR Actuation reactor trip Function should be assigned SR 3.3.1.9, Channel Calibration.	C1 In GTST for Subsection 3.3.1, Section XI on page 73 and Section XII on pages 119 and 120, in "SRs" section of Bases, under heading "SR 3.3.1.9," revise third paragraph, as indicated: The-This Surveillance does not include the CHANNEL CALIBRATION for the power-range neutron Power Range Neutron Flux detectors, Withdrawn which is specified by SR 3.3.1.5 and which consists of a normalization of the detectors based on a power calorimetric and flux map that should be performed above 20% RTP. Below 20% RTP, the design of the incore detector system, low core power density, and detector accuracy make use of the incore detectors inadequate for use as a reference standard for comparison to the excore Power Range Neutron Flux detectors-channels. This Surveillance is not required for the power-range detectors for entry into MODES 2 and 1 because the plant must be in at least MODE 1 to perform the test. E2 Add the Bases for STS SR 3.3.1.9 to list of <u>APOG discussion topics</u> . Since STS SR 3.3.1.9, Channel Calibration, is specified for STS Table 3.3.1-1 Function 12, PRHR Actuation reactor trip function (one or both PRHR HX discharge valves not fully closed), the Bases for this SR ought to explicitly discuss what a "calibration" of the PRHR HX discharge valve position indicators (four per valve) entails. Request APOG to provide such a description or explain how the definition of Channel Calibration captures it. In addition, why is SR 3.3.1.5 only specified for OTΔT reactor trip Function?	ORNL GTST O54 complete
137	3.3.01 Pg 121	Bases, SR 3.3.1.11, last paragraph, first two sentences state the same thing. Combine them into a single sentence for clarity	Delete first two sentences and replace with: SR 3.3.1.11 is modified by a Note indicating that neutron detectors may be excluded from RTS RESPONSE TIME testing.	A3	SPSB agrees, except that "may be" should be "are"	C1 In GTST Section XI on page 75 and Section XII on page 121, last paragraph on the page, replace first two sentences with: "SR 3.3.1.11 is modified by a Note indicating that neutron detectors are excluded from RTS RESPONSE TIME testing." Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O54 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
138	3.3.01 Pg 121	Bases, first paragraph, references "DCD" Chapter 7 response time. This should be "FSAR," not "DCD"	Change "DCD" to "FSAR"	A5	SPSB agrees Duplicate of Comment 3	In GTST Section XI on page 74 and Section XII on page 121, second paragraph under SR 3.3.1.11, first sentence, replace "DCD" with "FSAR" Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O54 complete
139 23	3.3.02 Pg 06	First paragraph parenthetical "STS 3.3.3 Condition F" is incorrect and should be "STS 3.3.2, Condition F"	Change 3.3.3 to 3.3.2	A1	SPSB agrees	In GTST Section V under heading "Changes to the Generic TS and Bases:" correct typographical errors: <ul style="list-style-type: none"> on page 5, first paragraph fourth line, change MTS 3.3.3 to MTS 3.3.2; and on page 6, first paragraph on page, change (STS 3.3.3 Condition F) to (STS 3.3.2 Condition F) on page 6, before the "Changes to Condition" table, change "(MTS) 3.3.3 and as further changed, STS 3.3.3" to "(MTS) 3.3.2 and as further changed, STS 3.3.2" Describe comment and its resolution in GTST Section VIII	ORNL GTST O55 complete
140	3.3.02 Pg 06	On page 6 and 12, the discussion states the Required Action is changed to state, "Suspend positive reactivity additions that could result in a loss of SDM," consistent with TSTF-469-T. TSTF-469-T and the AP1000 STS markups state, "Suspend positive reactivity additions that could result in a loss of <i>required</i> SDM."	Revise the discussions to add the word "required" to be consistent with the TS markups.	A1	SPSB agrees	In GTST Section V under heading "Changes to the Generic TS and Bases:" on page 6, second paragraph, change first sentence as indicated:, "Suspend positive reactivity additions that could result in a loss of required SDM." <hr/> In GTST Section VII under heading "Technical Analysis:" on page 12, first paragraph, change first sentence as indicated:, "Suspend positive reactivity additions that could result in a loss of required SDM." Describe comment and its resolution in GTST Section VIII	ORNL GTST O55 complete

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141	3.3.02 Pg 07	First Table on the page, GTS 3.3.1 Condition column lists two Condition "Q" items. The second one of these items identifies the STS 3.3.2 Condition as "E" and the Additional DOC Changes as "M02." The DOC change should be "L07" just like the previous Condition Q item.	Change M02 to L07	A1	SPSB agrees	In GTST Section V under heading "Changes to the Generic TS and Bases:" on page 7, in the "Changes to Condition" table, in row with STS 3.3.2 Condition E, change DOC M02 to L07 Describe comment and its resolution in GTST Section VIII	ORNL GTST O55 complete
142	3.3.02 Pg 12	In section titled, "VII. GTST Safety Evaluation," sixth paragraph states, "Based on the VEGP LAR DOC L01 changes, an RTCOT is not required by the TS. Therefore, the Section 1.1 RTCOT definition is deleted." The definition of RTCOT is deleted for a series of reasons as described in DOC M01.	Replace sentences with "Current section 1.1 definition of RTCOT is deleted per TSU LAR DOC M01"	A1 A3	SPSB agrees Duplicate of Comment 117	In GTST Section VII on page 12 replace sixth paragraph, with: The GTS/PTS Section 1.1 definition of RTCOT is deleted for a series of reasons as described in VEGP LAR DOC M01. Changes made by DOC M01 result in consistency with the use of Actuation Logic Test and COT in other TS requirements, is consistent with the intent of the required TS testing, and is consistent with NUREG-1431, Rev. 4. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O55 complete
143	3.3.02 Pg 12	DOC M01 technical analysis, 5 th paragraph (6 th paragraph on the page), first sentence, states "With the VEGP LAR DOC L01 changes..." The reference to DOC L01 is not correct. It appears to be a typographical error and should be "DOC M01"	Change "L01" to "M01"	A1	SPSB agrees	The Action for Comment No. 142 corrects the noted typographical error.	ORNL GTST O55 complete

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144	3.3.02 Pg 43	<p>Bases, third paragraph, discusses other LCOs where the source range detectors are addressed. LCO 3.3.15, Engineered Safety Feature Actuation System (ESFAS) Actuation Logic – Operating,” should be identified since Source Range Monitors are required by LCO 3.3.8 in MODE 2, 3, and 4.</p> <hr/> <p>From comment 119: <i>The modifier “PMS” for “power range detectors,” “Intermediate Range Neutron Flux,” and “Source Range, Neutron Flux,” is unnecessary. Inclusion of “PMS” in the Bases is inconsistent with other PMS instruments, with the LCO requirement nomenclature, and the general AP1000 DCD presentation.</i></p>	<p>Add LCO 3.3.15 into the listing</p> <hr/> <p>Delete “PMS” as a modifier to “power range,” “Intermediate Range,” and “Source Range,” throughout the Bases</p>	A3	<p>SPSB agrees</p> <hr/> <p>A See comment 119 about SPSB proposal for uniform use of</p> <ul style="list-style-type: none"> • Power Range Neutron Flux, • Intermediate Range Neutron Flux, and • Source Range Neutron Flux in place of other phrases that refer to power, intermediate, and source range instrumentation, trip function, reactor trip, channel, setpoint, detector. 	<p>Add to list of APOG discussion topics</p> <p>A In GTST Section XI on page 27 and Section XII on page 43, in “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.2, fifth paragraph (second on the page) revise the last sentence, and sixth paragraph (third on the page), revise last two sentences as indicated:</p> <p>. . . Above the P-6 setpoint, the PMS-source-range Source Range Neutron Flux detectors are de-energized and inoperable as described above.</p> <p>. . . These Functions are addressed in LCO 3.3.8, “Engineered Safety Feature Actuation System (ESFAS) Instrumentation,” Function 17, “Source Range Neutron Flux Doubling,” LCO 3.3.15, “Engineered Safety Feature Actuation System (ESFAS) Actuation Logic – Operating,” and LCO 3.3.16, “Engineered Safety Feature Actuation System (ESFAS) Actuation Logic – Shutdown.” The requirements for the PMS-Source Range Neutron Flux detectors in MODE 6 are addressed in LCO 3.9.3, “Nuclear Instrumentation.”</p> <hr/> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O55 complete
145	3.3.02 Pg 48	<p>Bases, third paragraph, first sentence repeats a Note (i.e., provides a new description of the note), which is already described in the previous paragraph.</p>	<p>Delete the first sentence of this paragraph</p>	A3	<p>SPSB agrees</p> <hr/> <p>See other SPSB proposed changes to this paragraph in Comment 119</p>	<p>In GTST Section XI on page 34 and in Section XII on page 48, in the “Surveillance Requirements” section of the Bases for STS Subsection 3.3.2, SR 3.3.2.2, remove the first sentence of the next to last paragraph of the Bases for SR 3.3.2.2.</p> <p>The Frequency is modified by a Note that allows this surveillance to be satisfied if it has been performed within 92 days of the Frequencies prior to reactor startup and four hours after reducing power below P-6-. . .</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O55 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
146	3.3.02 Pg 50	Bases, second paragraph in SR 3.3.2.4, references "DCD" Chapter 7 response time. This should be "FSAR," not "DCD"	Change "DCD" to "FSAR"	A5	SPSB agrees Duplicate of Comment 3	In GTST Section XI on page 36 and Section XII on page 50, second paragraph under SR 3.3.2.4, first sentence, replace "DCD" with "FSAR"; also add FSAR to Reference 1 on page 37/51 Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O55 complete
147 24	3.3.03 Pg 09	Discussion of VEGP LAR DOC M02 addresses the fact that MTS 3.3.3 "does not specify Actions for inoperability of more than two inoperable intermediate range channels with power above P-6..." The VEGP DOC also discussed that there are no Actions for this condition when below P-6. This portion of the change needs to be described here. By deleting the phrase "with power above P-6," it would apply both above and below P-6.	Delete the phrase "with power above P-6"	A3	SPSB agrees, C1 but suggests additional clarification to correctly describe the GTS 3.3.1 action requirements. Also, the rationale discussion for DOC M02 needs correction.	C1 In GTST Section VI on page 9 under heading "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes:", replace the description of DOC M02 with the following: VEGP LAR DOC M02 addresses the fact that MTS 3.3.3, "Reactor Trip System (RTS) Intermediate Range Instrumentation," does not specify Actions for inoperability of more than three inoperable Intermediate Range Neutron Flux channels with power above P-6, or more than two inoperable Intermediate Range Neutron Flux channels below P-6. This results in entry into LCO 3.0.3 when additional channels are inoperable. C1 In GTST Section VI on page 10 under heading "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes:", replace the rationale for DOC M02 with the following: VEGP LAR DOC M02 directly provides for the default Actions of LCO 3.0.3 in STS 3.3.3.Required Action D.3 by allowing 7 hours to be in MODE 3 in the event three or more Intermediate Range Neutron Flux channels are inoperable, regardless of whether power is above or below P-6. This is more restrictive because Required Action D.3 does not explicitly specify the 1 hour delay in commencing the power reduction that LCO 3.0.3 permits. This simplified presentation clarifies the shutdown actions making them easier to implement by the unit operator. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O56 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
148	3.3.03 Pg 11	In section titled, "VII. GTST Safety Evaluation," sixth paragraph states, "Based on the VEGP LAR DOC L01 changes, an RTCOT is not required by the TS. Therefore, the Section 1.1 RTCOT definition is deleted." The definition of RTCOT is deleted for a series of reasons as described in DOC M01.	Replace sentences with "Current section 1.1 definition of RTCOT is deleted per TSU LAR DOC M01"	A1 A3	SPSB agrees Duplicate of Comments 117, 142	In GTST Section VII on page 11 replace sixth paragraph, with: The GTS/PTS Section 1.1 definition of RTCOT is deleted for a series of reasons as described in VEGP LAR DOC M01. Changes made by DOC M01 result in consistency with the use of Actuation Logic Test and COT in other TS requirements, is consistent with the intent of the required TS testing, and is consistent with NUREG-1431, Rev. 4. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O56 complete
149	3.3.03 Pg 11	DOC M01 technical analysis, 5 th paragraph (6 th paragraph on the page), first sentence, states "With the VEGP LAR DOC L01 changes..." The reference to DOC L01 is not correct. It appears to be a typographical error and should be "DOC M01"	Change "L01" to "M01"	A1	SPSB agrees	The Action for Comment No. 148 corrects the noted typographical error.	ORNL GTST O56 complete
150	3.3.03 Pg 11	The discussion states the Required Action is changed to state, "Suspend positive reactivity additions that could result in a loss of SDM," consistent with TSTF-469-T. TSTF-469-T and the AP1000 STS markups state, "Suspend positive reactivity additions that could result in a loss of required SDM."	Revise the discussions to add the word "required" to be consistent with the TS markups.	A1	SPSB agrees Duplicate of Comment 140	In GTST Section VII under heading "Technical Analysis:" on page 11, first paragraph, change first sentence as indicated:, "Suspend positive reactivity additions that could result in a loss of required SDM." Describe comment and its resolution in GTST Section VIII	ORNL GTST O56 complete
151	3.3.03 Pg 33	"OR" between Required Actions A.1 and A.2 is not underlined.	Underline "OR" between Required Actions A.1 and A.2	A1	SPSB agrees	In Sections XI on page 19 and XII on page 33, underline logical connector "OR" between Required Actions A.1 and A.2. Describe comment and its resolution in GTST Section VIII	ORNL GTST O56 complete

Administrative Types:

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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
152	3.3.03 Pg 42	Bases, second paragraph, states there are two Notes to SR 3.3.3.2. The first note described concerning P-6 and P-10 interlocks is not in the actual SR 3.3.3.2. Delete references to the first Note. There is only one Note that needs to be described.	Replace paragraph with: <u>“SR 3.3.3.2 is modified by a Note. The Note allows this surveillance to be satisfied if it has been performed within 92 days of the Frequencies prior to reactor startup and four hours after reducing power below P-10.”</u>	A3	SPSB agrees, but offers additional edits See Comment 119 on page 59 of this table, last bullet in Action column	<p>B1 In Section XI on page 28 (next to last paragraph on page) replace the markup paragraph with the following; additional edits shown:</p> <p>SR 3.3.3.2 is modified by a Note that this test shall include verification that the P-6 and P-10 interlocks are in their required state for the existing unit condition. The Note allows this surveillance to be satisfied if it has been performed within 92 days of the Frequencies of prior to reactor startup and 4 hours after reducing power below P-10.</p> <p>B1 In Section XII on page 42 (second paragraph on page), replace paragraph with the following; additional edits shown:</p> <p>SR 3.3.3.2 is modified by a Note. The Note allows this surveillance to be satisfied if it has been performed within 92 days of the Frequencies of prior to reactor startup and four4 hours after reducing power below P-10.</p> <p>Describe comment and its resolution in GTST Section VIII</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O56 complete
153	3.3.03 Pg 44	Bases, second paragraph in SR 3.3.3.4, references “DCD” Chapter 7 response time. This should be “FSAR,” not “DCD”	Change “DCD” to “FSAR”	A5	SPSB agrees Duplicate of Comment 3	<p>In GTST Section XI on page 30 and Section XII on page 44, second paragraph under SR 3.3.2.4, first sentence, replace “DCD” with “FSAR”; also add FSAR to Reference 1 on page 31/45</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O56 complete

Administrative Types:

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- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
154 25	3.3.04 Pg 11	Last paragraph, first line, repeats the phrase "Conditions B and D"; however, the correct phrase is to include only "Condition B." The second sentence appropriately deals with Condition D.	Revise first sentence as shown: ... Conditions B and D-Conditions B-and-D-lead-to leads to a new default actions	A3	SPSB agrees Associated with comment 155	Replace last paragraph on Page 11 of GTST for STS Subsection 3.3.4 with the following paragraph: STS 3.3.4, Condition B leads to a new default action to be in Mode 3 in 6 hours (from Mode 1 or 2), which is more restrictive than the time allowed by LCO 3.0.3. Further default actions of Condition D require initiating action to fully insert all rods within 1 hour and placing the Plant Control System in a condition incapable of rod withdrawal within 1 hour (from MODE 3, 4, or 5), which are actions not required by LCO 3.0.3. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O57 complete
155	3.3.04 Pg 11	Last paragraph, second sentence states that the default actions require fully inserting all rods and placing the Plant Control System in a condition incapable of rod withdrawal must be done in 6 hours. The time for these Actions is 1 hour. In addition, the first action is not to require "fully inserting" all rods, but to "initiating action to fully insert" all rods. This sentence should also clarify that the default action being discussed is Condition D.	Revise the second sentence to state: Further default actions of Condition D require fully inserting initiating action to fully insert all rods within 6 hours-1 hour and placing the Plant Control System in a condition incapable of rod withdrawal within 6-hours-1 hour	A3	SPSB agrees Associated with comment 154	Replace last paragraph on Page 11 of GTST for STS Subsection 3.3.4 with the following paragraph: STS 3.3.4, Condition B leads to a new default action to be in Mode 3 in 6 hours (from Mode 1 or 2), which is more restrictive than the time allowed by LCO 3.0.3. Further default actions of Condition D require initiating action to fully insert all rods within 1 hour and placing the Plant Control System in a condition incapable of rod withdrawal within 1 hour (from MODE 3, 4, or 5), which are actions not required by LCO 3.0.3. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O57 complete
156	3.3.04 Pg 30	Table 3.3.4-1 is incorrectly numbered "(page 0 of 1)"	Change Page numbering to "(page 1 of 1)"	A1	SPSB agrees	Correct pagination of Table 3.3.4-1 on Section XII on GTST Page 30 Describe comment and its resolution in GTST Section VIII.	ORNL GTST O57 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

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- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
157	3.3.04 Pg 32	Bases, ASA, LCO, and Applicability section is missing a statement concerning what criterion of 10 CFR 50.36 is met.	Add the following statement to the end of this Bases section: <u>The RTS ESFAS instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).</u>	A3	SPSB agrees	In GTST for Subsection 3.3.4, add following at end of "ASA, LCO, and Applicability" section of Bases in Section XI page 22 and Section XII page 32: The RTS ESFAS instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O57 complete
158 26	3.3.05 Pg 10	Last paragraph, first sentence incorrectly cites both Conditions B and C. The correct citation is to only "Condition B." The second sentence appropriately deals with Condition C. Also, the second sentence states that the default actions require fully inserting all rods and placing the Plant Control System in a condition incapable of rod withdrawal must be done in 6 hours. The time for these Actions is actually 1 hour. In addition, the first action is not to require "fully inserting" all rods, but to "initiating action to fully insert" all rods.	Revise first sentence as shown: ... Conditions B and D Conditions B and D lead to <u>leads to a</u> new default actions Revise the second sentence to state: Further default actions of <u>Condition C</u> require fully inserting initiating action to fully insert all rods within 6 hours <u>1 hour</u> and placing the Plant Control System in a condition incapable of rod withdrawal within 6 hours <u>1 hour</u> ...	A3	SPSB agrees	Replace last paragraph on Page 10 of GTST for STS Subsection 3.3.5 with the following paragraph: STS 3.3.5, Condition B leads to a new default action to be in Mode 3 in 6 hours (from Mode 1 or 2), which is more restrictive than the time allowed by LCO 3.0.3. Further default actions of Condition C require initiating action to fully insert all rods within 1 hour and placing the Plant Control System in a condition incapable of rod withdrawal within 1 hour (from MODE 3, 4, or 5), which are actions not required by LCO 3.0.3. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O58 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
159	3.3.05 Pg 31	Bases, first paragraph under SR 3.3.5.1, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2	SPSB agrees	In GTST for Subsection 3.3.5, in Section XI on page 23, and in Section XII on page 31, revise the first sentence under the heading "SR 3.3.5.1" as indicated: SR 3.3.5.1 is the performance of a TADOT of the RTS inputs for Manual Reactor Trip, and from the ESF Engineered Safety Features (ESF) logic for Safeguards Actuation, ADS Stage 1, 2, and 3 Actuation, and CMT Actuation. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O58 complete
160 27	3.3.06 Pg 11	Last paragraph, first sentence incorrectly cites both Conditions B and D. The correct citation is to only "Condition B." The second sentence appropriately deals with Condition D. Also, the second sentence states that the default actions require fully inserting all rods and placing the Plant Control System in a condition incapable of rod withdrawal must be done in 6 hours. The time for these Actions is actually 1 hour. In addition, the first action is not to require "fully inserting" all rods, but to "initiating action to fully insert" all rods.	Revise first sentence as shown: ... Conditions B and D lead to <u>leads to a</u> new default actions Revise the second sentence to state: Further default actions of <u>Condition D</u> require fully inserting initiating action to fully insert all rods within 6 hours <u>1 hour</u> and placing the Plant Control System in a condition incapable of rod withdrawal within 6 hours <u>1 hour</u> ...	A3	SPSB agrees	Replace last paragraph on Page 11 of GTST for STS Subsection 3.3.6 with the following paragraph: STS 3.3.6, Condition B leads to a new default action to be in Mode 3 in 6 hours (from Mode 1 or 2), which is more restrictive than the time allowed by LCO 3.0.3. Further default actions of Condition D require initiating action to fully insert all rods within 1 hour and placing the Plant Control System in a condition incapable of rod withdrawal within 1 hour (from MODE 3, 4, or 5), which are actions not required by LCO 3.0.3. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O59 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
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- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
161	3.3.06 Pg 27	Bases, fourth paragraph under ASA, LCO, Applicability section, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2 A1	SPSB agrees, C1 and adds an additional correction to Bases for SR 3.3.6.1	In GTST for Subsection 3.3.6, in "ASA, LCO, and Applicability" section of Bases in Section XI page 20 (fourth paragraph) and Section XII page 27 (fourth paragraph), replace fourth paragraph with: The automatic trip logic includes the ESF Engineered Safety Features (ESF) coincidence logic and the voting logic. C1 In GTST for Subsection 3.3.6, in "Surveillance Requirements" section of Bases in Section XI page 22 (first paragraph) and Section XII page 29 (first paragraph), replace "SR 3.3.1.7" with "SR 3.3.6.1" Describe comments and their resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O59 complete
162 28	3.3.07 Pg 11	Last paragraph, first sentence incorrectly cites both Conditions C and D. The correct citation is to only "Condition C." The second sentence appropriately deals with Condition D. Also, the second sentence states that the default actions require "fully inserting all rods..." This action is not to require "fully inserting" all rods, but to "initiating action to fully insert" all rods.	Revise first sentence as shown: ... Conditions C and D lead to leads to a new default actions Revise the second sentence to state: Further default actions of Condition D require fully inserting initiating action to fully insert all rods within 6 hours 1 hour and placing the Plant Control System in a condition incapable of rod withdrawal within 6 hours 1 hour ...	A3	SPSB agrees	Replace last paragraph on Page 11 of GTST for STS Subsection 3.3.6 with the following paragraph: STS 3.3.7, Condition C leads to a new default action to be in Mode 3 in 6 hours (from Mode 1 or 2), which is more restrictive than the time allowed by LCO 3.0.3. Further default actions of Condition D require initiating action to fully insert all rods within 1 hour and placing the Plant Control System in a condition incapable of rod withdrawal within 1 hour (from MODE 3, 4, or 5), which are actions not required by LCO 3.0.3. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O60 complete
163 29	3.3.08 Pg 012	First paragraph states that Condition C is revised by adding a second condition that states "one or more Functions with more than two channels inoperable." The Condition actually reads "one or more Functions with three or more channels inoperable"	Change sentence to read "...one or more Functions with three or more channels inoperable"	A3	SPSB agrees	In Section V of GTST for Subsection 3.3.8, revise first paragraph on GTST page 12, regarding change made by VEGP Amendment 13, DOC M02, so that first sentence states: MTS 3.3.8 Condition C is revised by adding a second condition statement for the condition "one or more Functions with three or more than two three or more channels inoperable." Describe comment and its resolution in GTST Section VIII.	ORNL GTST O61 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
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- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
164	3.3.08 Pg 015	Changes to Functions Table, Function 13.b (first entry) – Additional DOC column should specify A032 and L12, just like Function 14.b.	Add A032 and L12 to column.	A3	SPSB agrees	In Section V of GTST for Subsection 3.3.8, on GTST page 15, revise Function table for GTS 3.3.2 Function 13.b (first entry) by adding DOCs A032 and L12 to column labeled “Additional DOC Changes”; also add closing square bracket to applicable mode list for this function. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O61 complete
165	3.3.08 Pg 020	Rationale for Changes section, 1 st paragraph, mentions A024. This DOC is for changes to RTS TS and does not affect 3.3.8. Note that it is not mentioned anywhere else in this section.	Change “DOCs A024 and A028” to “DOC A028” in GTST 3.3.8 through 3.3.18	A3	SPSB agrees	In GTST Section VI on page 20 under “Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes,” change first sentence by replacing “DOCs A024 and A028” to “DOC A028” in the GTSTs for STS Subsections 3.3.8; and also for 3.3.9 (pg 14), 3.3.10 (pg 10), 3.3.11 (pg 9), 3.3.12 (pg 10), 3.3.13 (pg 9), 3.3.14 (pg 8), 3.3.15 (pg 16), 3.3.16 (pg 16), 3.3.17 (pg 9), and 3.3.18 (pg 7). Describe comment and its resolution in GTST Section VIII.	ORNL GTST O61 complete
166	3.3.08 Pg 051	Bases, first paragraph, statement concerning NTS states “...the NTS assured that the SLs are not exceeded.” The tense of the verb assure should be changed to be “assures” not “assured”	Change “assured” to “assures”	A1	SPSB agrees	In GTST for STS 3.3.8, Section XI on page 51 and Section XII on page 124, in “Background” section of Bases, revise next to last sentence of first paragraph on GTST Page 51/124, by changing “assured” to “assures” Describe comment and its resolution in GTST Section VIII.	ORNL GTST O61 complete
167	3.3.08 Pg 121	Table 3.3.8-1 first page number states “(page -2 of 2)”; it should be “(page 1 of 2)”; and second page states “(page -1 of 2)”; it should be “(page 2 of 2)”	Correct page Table 3.3.8-1 page numbering	A1	SPSB agrees	In GTST for STS 3.3.8, Section XII on page 121, correct pagination in title for Table 3.3.8-1. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O61 complete BNL
168	3.3.08 Pg 121	Table 3.3.8-1, Function 7, APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS states “4(d), 5(e)”, whereas VEGP TSU Amendment page states “4(d), 5(e)(f)”. Bases support the “(e)” and the “(f)” footnotes, as do the GTS (i.e., with footnotes “(b)” and “(l)”). There is no GTST discussion that evaluates the revised Applicability; it therefore, appears to be a typographical oversight.	Include footnote “(f)” for Function 7 MODE 5 Applicability	A1	SPSB agrees	In GTST for STS 3.3.8, Section XI on page 45 and Section XII on page 121, in Table 3.3.8-1, STS 3.3.8 Function 7 (core makeup tank actuation on pressurizer water level – low 2), add footnote (f) to MODE 5 applicability. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O61 complete

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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
169	3.3.08 Pg 122	Table 3.3.8-1, Function 17, APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS has parentheses after "4" with no corresponding note. VEGP TSU Amended page has no parenthetical note after "4". The mark up on page 47 deletes the footnote, but failed to mark out the parentheses.	Delete parentheses on page 47 and 122	A1	SPSB agrees	In GTST for STS 3.3.8, Section XI on page 47 and Section XII on page 122, in Table 3.3.8-1, STS 3.3.8 Function 17 (Boron Dilution Block on Source Range Neutron Flux Doubling), delete parentheses associated with deleted footnote (I) to MODE 4 applicability. Describe comment and its resolution in GTST Section VIII.	ORNL GTST O61 complete
170	3.3.08 Pg 126	Bases, last line on the page, word "bases" should be "basis"	Change "bases" to "basis"	A3	SPSB agrees but notes that verb must also change to match single subject.	In GTST for STS 3.3.8, Section XI on page 53 and Section XII on page 126, "Background" section of Bases for Subsection 3.3.8, last line on the page, change "The bases of the setpoints are described in References 2 and 6." To " The basis of the setpoints is described in References 2 and 6." Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O61 complete
171	3.3.08 Pg 131	Bases, second paragraph, last sentence, include the phrase "...values must be confirmed to be operating within the assumptions..." The word "operating" is incorrect, as the values should be "within" the assumptions.	Delete the word "operating"	A3	SPSB agrees	In GTST for STS 3.3.8, Section XI on page 58 and Section XII on page 131, "ASA, LCO, and Applicability" section of Bases for Subsection 3.3.8, last sentence of second paragraph on the page, delete the word "operating." Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O61 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
172	3.3.08 Pg 133	The Bases for the interlock functions include a discussion of Applicability and operability requirements. However, VEGP TSU DOC L10 relocated Applicability and operability requirements. The appropriate discussion of the Applicability and operability requirements is found in the Bases for the COT (SR 3.3.8.2, page 175, third paragraph).	<ul style="list-style-type: none"> Delete page 133 last two paragraphs for P-4 interlock. Delete page 134 last sentence for the P-6 interlock. Delete page 135 last paragraph for interlock P-11. Delete page 135 last sentence of the P-12 interlock. Delete page 136 last sentence of the first paragraph for the P-19 interlock. 	T4	<p>B2 Withdrawn SPSB disagrees</p> <p>B1 SPSB suggests additional clarifying changes.</p> <p>E1, E2 Withdrawn use of "division's" and "channel's", addition of "control room"</p>	<p>Add comment to list of APOG discussion topics.</p> <p>B2 Withdrawn In GTST for STS 3.3.8, in the "ASA, LCO, and Applicability" section of Bases for Subsection 3.3.8, the <i>Applicability discussions for the ESFAS interlocks provide information that clarifies the role of these functions in supporting their dependent ESFAS Functions:</i></p> <ul style="list-style-type: none"> o P-4 (Section XI on page 60 and Section XII on page 133) o P-6 (Section XI on page 61 and Section XII on page 134) o P-11 (Section XI on page 62 and Section XII on page 135) o P-12 (Section XI on page 62 and Section XII on page 135) o P-19 (Section XI on page 63 and Section XII on page 136) <p>The discussion on GTST page 175 for SR 3.3.8.2 is appropriate but <i>not sufficiently detailed</i>. Since NRC staff did not approve Bases discussions for the interlocks after relocation of their explicit operability, action, and surveillance requirements in accordance with DOC L10, VEGP Units 3 and 4 COL Amendment 13 is <i>not justification for omitting the subject discussions based on the GTS Bases</i>.</p> <p>However, the inherited discussions for P-4, P-6, and P-11, may be further revised for better consistency by including the phrase "in the correct state"; and approximate values of interlock setpoints, (if applicable), as indicated:</p> <p>B1 o P-4 (Section XI on page 60 and Section XII on page 133) last paragraph, first sentence, insert a comma after "Function 17"</p> <p>B1 o P-4 (Section XI on page 59 and Section XII on page 132) first paragraph, first bullet, append list of actuated components on a turbine trip: "(closes turbine stop valves, control valves, reheat stop valves, intercept valves, extraction steam shutoff and non-return valves, and opens automatic steam line drain valves)"</p> <p style="text-align: right;">continued</p>	ORNL GTST O61 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
172	3.3.08 Pg 133	<i>The Bases for the interlock functions include a discussion of Applicability and operability requirements. However, VEGP TSU DOC L10 relocated Applicability and operability requirements. The appropriate discussion of the Applicability and operability requirements is found in the Bases for the COT (SR 3.3.8.2, page 175, third paragraph).</i>	<ul style="list-style-type: none"> • Delete page 133 last two paragraphs for P-4 interlock. • Delete page 134 last sentence for the P-6 interlock. • Delete page 135 last paragraph for interlock P-11. • Delete page 135 last sentence of the P-12 interlock. • Delete page 136 last sentence of the first paragraph for the P-19 interlock. 	T4	<p>B2 Withdrawn SPSB disagrees</p> <p>B1 SPSB suggests additional clarifying changes.</p> <p>E1, E2 Withdrawn use of "division's" and "channel's", addition of "control room"</p>	<p>Continued from previous page</p> <ul style="list-style-type: none"> o B1, B2 P-6 (Section XI on page 61 and Section XII on page 134) For consistency with proposed edits to Bases for Subsections 3.3.1, 3.3.2, and 3.3.3, suggest revising paragraph as indicated (previous markup shown in black) (See comment 119.): <p>The Intermediate Range Neutron Flux, P-6 interlock is automatically enabled actuated when the respective PMS division Withdrawn division's NIS intermediate range Intermediate Range Neutron Flux channel increases to approximately one decade above the channel lower range limit. Below the setpoint, the P-6 interlock is automatically disabled, which unblocks the Source Range Neutron Flux Doubling instrument Function, permitting the automatic block of boron dilution. Normally, this Function is blocked by the main control room operator during reactor startup. after the NIS Intermediate Range Neutron Flux instrument indicates that reactor power exceeds the P-6 interlock setpoint because above the setpoint the block of boron dilution is not needed. The P-6 interlock is required to be OPERABLE in MODE 2 to support the Source Range Neutron Flux Doubling instrument Function to initiate CVS makeup isolation and align the boric acid tank to the CVS makeup pumps, which terminates a boron dilution event. This Function is required to be OPERABLE in MODE 2.</p> <p style="text-align: right;">continued</p>	ORNL GTST O61 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
172	3.3.08 Pg 133	The Bases for the interlock functions include a discussion of Applicability and operability requirements. However, VEGP TSU DOC L10 relocated Applicability and operability requirements. The appropriate discussion of the Applicability and operability requirements is found in the Bases for the COT (SR 3.3.8.2, page 175, third paragraph).	<ul style="list-style-type: none"> Delete page 133 last two paragraphs for P-4 interlock. Delete page 134 last sentence for the P-6 interlock. Delete page 135 last paragraph for interlock P-11. Delete page 135 last sentence of the P-12 interlock. Delete page 136 last sentence of the first paragraph for the P-19 interlock. 	T4	<p>B2 Withdrawn SPSB disagrees</p> <p>B1 SPSB suggests additional clarifying changes.</p> <p>E1, E2 Withdrawn use of "division's" and "channel's", addition of "control room", addition of nominal actuation setting values</p>	<p>Continued from previous page</p> <ul style="list-style-type: none"> B1, B2 P-11 (Section XI on page 61/62 and Section XII on page 134/135) For consistency and clarity, suggest revising first paragraph as indicated (previous markup shown in black) (See comment 119.): <p>The P-11 interlock permits a normal unit cooldown and depressurization without Safeguards Actuation or main steam line and feedwater isolation. With pressurizer pressure channels less than the P-11 setpoint Withdrawn (approximately 1870 psig), the Withdrawn control room operator can manually block the following listed ESFAS instrument Functions, which initiate these ESF actuation and isolation Functions, by manually blocking the initiation signal from the ESFAS instrument channel in at least three PMS divisions:</p> <ul style="list-style-type: none"> Safeguards Actuation on manually block initiation the <ul style="list-style-type: none"> Pressurizer Pressure pressure – Low (Table 3.3.8-1, Function 5), Steam Line Pressure – Low (Table 3.3.8-1, Function 24), and or T_{cold} – Low (Table 3.3.8-1, Function 11). by manually block initiation Safeguards Actuation signals and Steam Line Isolation on the <ul style="list-style-type: none"> Steam Line Pressure – Low (Table 3.3.8-1, Function 24) and or T_{cold} – Low (Table 3.3.8-1, Function 11). <p>Manually blocking steam line isolation signals When the Steam Line Pressure – Low ESFAS instrument channels is manually blocked, a main steam isolation enables the ESF Function of Main Steam Isolation signal on Steam Line Pressure-Negative Rate – High (Table 3.3.8-1, Function 25) is enabled. This provides protection for an SLB by closure of the main steam isolation valves. Manual block of</p> Feedwater Isolation feedwater isolation on <ul style="list-style-type: none"> T_{avg} – Low 1 (Table 3.3.8-1, Function 12), T_{avg} – Low 2 (Table 3.3.8-1, Function 13), and T_{cold} – Low (Table 3.3.8-1, Function 11) is also permitted below P-11. <p>With pressurizer pressure channels \geq greater than or equal to the P-11 setpoint, the Safeguards Actuation signals on Pressurizer Pressure – Low, Steam Line Pressure – Low, and T_{cold} – Low, Safeguards Actuation signals and the Steam Line Isolation signals on Steam Line Pressure – Low and T_{cold} – Low, steam line isolation signals are automatically enabled. The and the Feedwater Isolation feedwater isolation signals on T_{cold} – Low, T_{avg} – Low 1, and T_{avg} – Low 2 are also automatically enabled above P-11. The Withdrawn control room operator can also manually enable these signals by use of the respective PMS division Withdrawn division's manual reset buttons for these ESFAS instrument Functions.</p> <p style="text-align: right;">continued</p>	ORNL GTST O61 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
172	3.3.08 Pg 133	The Bases for the interlock functions include a discussion of Applicability and operability requirements. However, VEGP TSU DOC L10 relocated Applicability and operability requirements. The appropriate discussion of the Applicability and operability requirements is found in the Bases for the COT (SR 3.3.8.2, page 175, third paragraph).	<ul style="list-style-type: none"> Delete page 133 last two paragraphs for P-4 interlock. Delete page 134 last sentence for the P-6 interlock. Delete page 135 last paragraph for interlock P-11. Delete page 135 last sentence of the P-12 interlock. Delete page 136 last sentence of the first paragraph for the P-19 interlock. 	T4	<p>B2 Withdrawn SPSB disagrees</p> <p>B1 SPSB suggests additional clarifying changes.</p> <p>E1, E2 Withdrawn use of "division's" and "channel's", addition of "control room", addition of nominal actuation setting values</p>	<p>Continued from previous page</p> <p>With pressurizer pressure channels greater than or equal to the P-11 setpoint, the Steam Line Isolation signal on Steam Line Pressure-Negative Rate – High is automatically blocked.</p> <hr/> <p>B2 Withdrawn The inherited discussions for P-12 and P-19 may be further revised for better consistency by including the phrase "and in the correct state" and also by adding approximate values of interlock setpoints, as indicated:</p> <ul style="list-style-type: none"> P-12 (Section XI on page 62 and Section XII on page 135) last sentence: <p>B2 Withdrawn This interlock Function is required to be OPERABLE and in the correct state (enabled below P-12 setpoint, disabled above) in MODES 1, 2, 3, 4, 5, and 6.</p> <p>B1, B2 Also revise second sentence as indicated:</p> <p>With pressurizer level channels less than the P-12 setpoint Withdrawn (approximately 16% pressurizer level), the operator can manually block the Pressurizer Water Level – Low 1 and Pressurizer Water Level – Low 2 signals low-pressurizer level signal used for these actuations.</p> P-19 (Section XI on page 63 and Section XII on page 136) last two sentences: <p>B2 Withdrawn This interlock Function is required to be OPERABLE and in the correct state (enabled below P-19 setpoint, disabled above) IN in MODES 1, 2, 3, and 4 with the RCS not being cooled by the RNS. When the RNS is cooled by the RNS, the RNS suction relief valve provides the required overpressure protection (LCO 3.4.14).</p> <p>B1, B2 Also revise second sentence as indicated:</p> <p>With RCS pressure below the P-19 setpoint Withdrawn (approximately 700 psig RCS wide range pressure), the operator can manually block CVS isolation on Pressurizer Water Level - High 2 (Table 3.3.8-1 Function 9) pressurizer water level, and block Passive RHRPRHR actuation and Pressurizer Heater Trip on Pressurizer Water Level - High 3 (Table 3.3.8-1 Function 10) pressurizer water level.</p> <p style="text-align: right;">continued</p>	ORNL GTST O61 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
172	3.3.08 Pg 133	The Bases for the interlock functions include a discussion of Applicability and operability requirements. However, VEGP TSU DOC L10 relocated Applicability and operability requirements. The appropriate discussion of the Applicability and operability requirements is found in the Bases for the COT (SR 3.3.8.2, page 175, third paragraph).	<ul style="list-style-type: none"> Delete page 133 last two paragraphs for P-4 interlock. Delete page 134 last sentence for the P-6 interlock. Delete page 135 last paragraph for interlock P-11. Delete page 135 last sentence of the P-12 interlock. Delete page 136 last sentence of the first paragraph for the P-19 interlock. 	T4	E2 Withdrawn SPSB disagrees	<p>Continued from previous page</p> <p>Additional APOG Discussion Topics / Questions for APOG:</p> <p>E2 Withdrawn 1. Regarding P-19 state—AP1000 Functional-Diagram APP-PMS-J1-106 shows that the output of the RCS Hot Leg Pressure channel is logically reversed, so that if RCS wide range pressure is above the P-19 setpoint, the detector output is TRUE; but this is made FALSE by a NOT gate. What is the correct way to describe the state of P-19 above its setpoint? Enabled or disabled? As depicted on APP PMS J1-111, this same question applies to P-11</p> <p>E2 Withdrawn 2. Why is interlock P-9 (RCS Average Temperature) not described in Bases, despite its support function, when in the disabled state above its ~200°F setpoint, to automatically unblock (on a divisional basis) many ESFAS Functions and also automatically unblock the Reactor Trip on Steam Generator Narrow Range Level — Low 2?</p> <p>E2 Withdrawn 3. Suggest that the <u>Reactor Trip, P-4</u> interlock discussion in the “ASA, LCO, and Applicability” section of Bases for Subsection 3.3.8 include a statement to make clear <i>which of the four ESFAS Actuation Divisions</i> are used in the actuation logic for the turbine trip on a reactor trip (P-4) actuation signal. Alternatively, such information can be provided in the <u>Turbine Trip</u> discussion for each of the three turbine trip actuation signals:</p> <ul style="list-style-type: none"> Reactor Trip (P-4) (LCO 3.3.12) Feedwater Isolation — Manual Initiation (Table 3.3.9-1, Function 5) SG Narrow Range Water Level — High 2 (Table 3.3.8-1, Function 23) <p>Adding such information in the discussion of each ESF Actuation Function would be beneficial for understanding which ESF components would be disabled by an inoperable or bypassed ESFAS Actuation Division.</p> <p style="text-align: right;">continued</p>	ORNL GTST O61 not applicable

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- A3 Editorial clarification or correction
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status																																
172	3.3.08 Pg 133	<i>The Bases for the interlock functions include a discussion of Applicability and operability requirements. However, VEGP TSU DOC L10 relocated Applicability and operability requirements. The appropriate discussion of the Applicability and operability requirements is found in the Bases for the COT (SR 3.3.8.2, page 175, third paragraph).</i>	<ul style="list-style-type: none"> • Delete page 133 last two paragraphs for P-4 interlock. • Delete page 134 last sentence for the P-6 interlock. • Delete page 135 last paragraph for interlock P-11. • Delete page 135 last sentence of the P-12 interlock. • Delete page 136 last sentence of the first paragraph for the P-19 interlock. 	T4	<p>E2 Withdrawn SPSB disagrees</p> <p>B2 Withdrawn SPSB suggests additional clarifying changes.</p> <p>B2 Withdrawn See comment 178 regarding suggested implementation of APOG discussion topic 172-5</p> <hr/> <p>See comment 202</p>	<p>Continued from previous page</p> <p>Additional APOG Discussion Topics / Questions for APOG:</p> <p>E2 Withdrawn 4. The VEGP 3&4 TS Section 3.3 titles for various instrumentation functions do not match the titles provided by plant design drawings and functional diagrams. For examples, see list below. Does SNC plan to make titles of TS-required instrument functions consistent with FSAR, plant procedures, and design documents?</p> <table border="0"> <tr> <td><u>Tech Spec title</u></td> <td><u>Design title</u></td> </tr> <tr> <td>CMT Level – Low 1</td> <td>CMT Level – Low 3</td> </tr> <tr> <td>CMT Level – Low 2</td> <td>CMT Level – Low 6</td> </tr> <tr> <td>Hot Leg Level – Low 1</td> <td>Hot Leg Level – Low 2</td> </tr> <tr> <td>Hot Leg Level – Low 2</td> <td>Hot Leg Level – Low 4</td> </tr> <tr> <td>SG NR Water Level – High 2</td> <td>SG NR Water Level – High 3</td> </tr> <tr> <td>SG NR Water Level – Low</td> <td>SG NR Water Level – Low 2</td> </tr> <tr> <td>SG WR Water Level – Low</td> <td>SG WR Water Level – Low 2</td> </tr> <tr> <td>Startup Feedwater Flow – Low</td> <td>Startup Feedwater Flow – Low 2</td> </tr> <tr> <td>Cold Leg Temperature – Low</td> <td>Cold Leg Temperature – Low 2</td> </tr> <tr> <td>Steam Line Pressure – Low</td> <td>Steam Line Pressure – Low 2</td> </tr> <tr> <td>Pressurizer Pressure – High</td> <td>Pressurizer Pressure – High 2</td> </tr> <tr> <td>Pressurizer Pressure – Low</td> <td>Pressurizer Pressure – Low 2</td> </tr> <tr> <td>Reactor Coolant Flow – Low</td> <td>Reactor Coolant Flow – Low 2</td> </tr> <tr> <td>RCP Bearing Water Temp – High</td> <td>RCP Bearing Water Temp – High 2</td> </tr> <tr> <td>RCP Speed – Low</td> <td>RCP Speed – Low 2</td> </tr> </table> <p>B2 Withdrawn 5. Regarding the Channel Operational Test (COT) Bases discussion of the role of interlocks, suggest adding the following sentence (shown as a markup of the second sentence) after the fourth sentence: "This portion of the COT also ensures the associated Function is not enabled bypassed when required to be blocked enabled by verifying the capability to manually bypass the Function as permitted by the interlock." The proposed sentence is complementary to the second sentence and clarifies that the COT verifies both the enabling and blocking roles of the interlocks.</p> <p>B2 Withdrawn Global Edit: Insert the suggested sentence in every Bases discussion of COT, CHANNEL CALIBRATION, and ACTUATION LOGIC TEST: This portion of the COT [CHANNEL CALIBRATION][ACTUATION LOGIC TEST] also ensures the associated Function is not enabled when required to be blocked by verifying the capability to manually bypass the Function as permitted by the interlock.</p> <p>Describe comment and its resolution in GTST Section VIII as NRC comment to clarify implementation of paragraph added by DOC L10</p> <p>Describe addition of this sentence in GTST Sections IV, V, VI, and VII (as appropriate)</p>	<u>Tech Spec title</u>	<u>Design title</u>	CMT Level – Low 1	CMT Level – Low 3	CMT Level – Low 2	CMT Level – Low 6	Hot Leg Level – Low 1	Hot Leg Level – Low 2	Hot Leg Level – Low 2	Hot Leg Level – Low 4	SG NR Water Level – High 2	SG NR Water Level – High 3	SG NR Water Level – Low	SG NR Water Level – Low 2	SG WR Water Level – Low	SG WR Water Level – Low 2	Startup Feedwater Flow – Low	Startup Feedwater Flow – Low 2	Cold Leg Temperature – Low	Cold Leg Temperature – Low 2	Steam Line Pressure – Low	Steam Line Pressure – Low 2	Pressurizer Pressure – High	Pressurizer Pressure – High 2	Pressurizer Pressure – Low	Pressurizer Pressure – Low 2	Reactor Coolant Flow – Low	Reactor Coolant Flow – Low 2	RCP Bearing Water Temp – High	RCP Bearing Water Temp – High 2	RCP Speed – Low	RCP Speed – Low 2	ORNL GTST O61 not applicable
<u>Tech Spec title</u>	<u>Design title</u>																																						
CMT Level – Low 1	CMT Level – Low 3																																						
CMT Level – Low 2	CMT Level – Low 6																																						
Hot Leg Level – Low 1	Hot Leg Level – Low 2																																						
Hot Leg Level – Low 2	Hot Leg Level – Low 4																																						
SG NR Water Level – High 2	SG NR Water Level – High 3																																						
SG NR Water Level – Low	SG NR Water Level – Low 2																																						
SG WR Water Level – Low	SG WR Water Level – Low 2																																						
Startup Feedwater Flow – Low	Startup Feedwater Flow – Low 2																																						
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Steam Line Pressure – Low	Steam Line Pressure – Low 2																																						
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
173	3.3.08 Pg 140	Bases, SG Blowdown Isolation section, first paragraph, states: "The primary Function of the steam generator blowdown isolation is to ensure that sufficient water inventory is present in the steam generators to remove the excess heat..." For clarity and to be more accurate, the statement should be changed to read: "The primary Function of the steam generator blowdown isolation is to preserve water inventory in the steam generators to support removing the excess heat..." The blowdown isolation by itself does not ensure sufficient water inventory.	Change sentence to read as described in the comment field	A3	SPSB agrees	In Section XI on page 68 and Section XII on page 140, in "ASA, LCO, and Applicability" section of Bases for STS 3.3.8, revise first paragraph under heading "Steam Generator Blowdown Isolation," as indicated: The primary Function of the steam generator blowdown isolation is to ensure that sufficient preserve water inventory is present in the steam generators to remove support removing the excess heat being generated until the decay heat has decreased to within the PRHR HX capability. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O61 complete
174	3.3.08 Pg 146	Bases, Passive Containment Cooling Action section, first paragraph, last sentence states "Heat removal is initiated ..." This sentence is discussing "PCS" heat removal. The modifier "PCS" should be added because there is more than one type of heat removal method.	Add "PCS" in front of the word "Heat" and de-capitalize the word "heat"	A3	SPSB agrees	In Section XI on page 74 and Section XII on page 146, in "ASA, LCO, and Applicability" section of Bases for STS 3.3.8, revise first paragraph, last sentence under heading "Passive Containment Cooling Actuation," as indicated: PCS heat Heat removal is initiated automatically in response to a Containment Pressure – High 2 signal or manually. Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O61 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
175	3.3.08 Pg 153	Bases, last paragraph of Containment radioactivity – High 1 Functions, states that the Function is not required under certain conditions “because any DBA release of radioactivity into the containment in these MODES would not require containment isolation. For clarity and to be more correct, the statement should be a new sentence that reads “Any DBA release of radioactivity into the containment in these conditions would not require this containment isolation function.” The conditions described are not all MODES and the discussion is about this specific containment isolation function, not all containment isolations.	Change as described in the comment section.	A3	SPSB agrees, C1 but suggests capitalizing “function”, using “the” in place of “this” and additional edits for clarity	<p>C1 In Section XI on page 82 and Section XII on page 153, in “ASA, LCO, and Applicability” section of Bases for STS 3.3.8, revise last paragraph, last sentence under heading “Containment Radioactivity – High 1,” as indicated:</p> <p>This Function is not required to be OPERABLE in MODE 4 with the RCS being cooled by the RNS, or MODES 5, and MODE 6. because any Any DBA release of radioactivity into the containment in these MODES-conditions would not require the containment isolation Containment Air Filtration System Isolation Function.</p> <p>Describe comment and its resolution in GTST Section VIII.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O61 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
176	3.3.08 Pg 156	Bases, Pressurizer Water Level – High 2 Function, first paragraph should be revised to correct a typographical error regarding the automatic blocking. The TS Bases reference to the P-11 permissive (saying that it is automatically blocked) should be the P-19 permissive (saying that it can be manually blocked) per FSAR Section 7.3.1.2.15. Note that in the TS itself, the Function (TS 3.3.8, Function 9) has footnote (g), which indicates “Above the P-19 (RCS Pressure) interlock...”	Change the phrase “is automatically” to “can be manually” and the interlock number from “11” to “19”	A3 T1	SPSB agrees, C1 but suggests additional clarifying edits	In Section XI on page 85/86 and Section XII on page 156/157, in “ASA, LCO, and Applicability” section of Bases for STS 3.3.8, under heading “Pressurizer Water Level – High 2,” o C1 revise first paragraph, third and fourth sentences as indicated: ... This Function is automatically can be manually blocked when the pressurizer pressure is below the P-11 permissive P-19 (RCS Pressure) setpoint to permit pressurizer water solid conditions with the plant cold and to permit level makeup during plant cooldowns. This Function is automatically unblocked when RCS pressure is above the P-19 (RCS Pressure) setpoint. o C1 revise third paragraph, as indicated: This Function is required to be OPERABLE in MODES 1, 2, and 3 and in MODE 4 when above the P-19 interlock with and the RCS is not being cooled by the RNS. This Function is not required to be OPERABLE in MODE 4—either below the P-19 setpoint or with the RCS being cooled by the RNS, or both—and in MODES 5 and 6. Because it The CVS Makeup Isolation on Pressurizer Water Level – High 2 ESFAS Function is not required to mitigate a DBA in these conditions MODES . Describe comment and its resolution in GTST Section VIII. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O61 complete
177	3.3.08 Pg 169	Bases, Actions F.1 and F.2 are typographically mis-identified as “FG.1” and “FG.2”	Delete the G from “FG.1” and “FG.2”	A1	SPSB agrees	In Section XI on page 99 and Section XII on page 169, in “Actions” section of Bases for STS 3.3.8, under heading “FG.1 and FG.2,” revise the heading to “F.1 and F.2” Describe comment and its resolution in GTST Section VIII.	ORNL GTST O61 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
178	3.3.08 Pg 175	Bases, next to last paragraph for SR 3.3.8.2, last line uses the phrase "integrated protection cabinets." The Bases for SR 3.3.8.3, first paragraph uses the term "IPC," which is the acronym for integrated protection cabinets. The SR 3.3.8.2 Bases should be changed from "integrated protection cabinets" to "integrated protection cabinets (IPCs)." This change also applies to Section 3.3.10, Pg 47 (SR 3.3.10.2), Section 3.3.11, Pg 32 (SR 3.3.11.2), Section 3.3.13, Pg 34 (SR 3.3.13.2), and Section 3.3.14, Pg 31 (SR 3.3.14.2).	Add the acronym "(IPCs)" after the words "integrated protection cabinets" in SR 3.3.8.2 (and others identified in the Comments)	A3	SPSB agrees B1 SPSB suggests additional clarifying edits such as: C1 Using PMS everywhere following its definition in the "Background" section of the Bases in GTST pages 54/127 See comment 202	In "SRs" section of Bases for STS 3.3.8; SR 3.3.8.2, COT o B1, B2 GTST for Subsection 3.3.8, GTST Section XI on pages 107-109 and Section XII on pages 174-175, revise paragraphs one, three and six, as indicated SR 3.3.8.2 is the performance of a CHANNEL OPERATIONAL TEST (COT) every 92 days. The test is performed in accordance with the SP. If the actual setting of the channel is found to be outside the as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the channel setpoint to the NTS (within the allowed as-left tolerance), and evaluating the channel's response. If the channel is functioning as required and is expected to pass the next surveillance, then the channel is OPERABLE and can be restored to service at the completion of the surveillance. After the surveillance is completed, the Withdrawn channel channel's channel as-found condition will be entered into the Corrective Action Program for further evaluation. ... C1 A test subsystem is provided with the protection and safety monitoring system PMS to aid the plant staff in performing the COT. The test subsystem is designed to allow for complete functional testing by using a combination of system self-checking features, functional testing features, and other testing features. Successful functional testing consists of verifying that the capability of the system to perform the safety function has not failed or degraded. ... C1 To the extent possible, protection and safety monitoring system PMS functional testing is accomplished with continuous system self-checking features and the continuous functional testing features. The COT shall include a review of the operation of the test subsystem to verify the completeness and adequacy of the results. ... continued	ORNL GTST O61 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
178	3.3.08 Pg 175	Bases, next to last paragraph for SR 3.3.8.2, last line uses the phrase "integrated protection cabinets." The Bases for SR 3.3.8.3, first paragraph uses the term "IPC," which is the acronym for integrated protection cabinets. The SR 3.3.8.2 Bases should be changed from "integrated protection cabinets" to "integrated protection cabinets (IPCs)." This change also applies to Section 3.3.10, Pg 47 (SR 3.3.10.2), Section 3.3.11, Pg 32 (SR 3.3.11.2), Section 3.3.13, Pg 34 (SR 3.3.13.2), and Section 3.3.14, Pg 31 (SR 3.3.14.2).	Add the acronym "(IPCs)" after the words "integrated protection cabinets" in SR 3.3.8.2 (and others identified in the Comments)	A3 T4	SPSB agrees B1 SPSB suggests additional clarifying edits such as: C1 Using PMS everywhere following its definition in the "Background" section of the Bases of each subsection B2 Withdrawn See comment 172 APOG discussion topic 172-5 and associated global comment See comment 202	Continued from previous page o B1, B2 GTST for Subsection 3.3.8, GTST Section XI on pages 107-109 and Section XII on pages 174-175, revise last three two paragraphs as indicated (existing markup shown in black) Interlocks implicitly required to support the Function's OPERABILITY are also addressed by this COT. This portion of the COT ensures the associated Function is not bypassed when required to be enabled. This can be accomplished by ensuring the interlocks are calibrated properly in accordance with the SP. If the interlock is not automatically functioning as designed, the condition is entered into the Corrective Action Program and appropriate OPERABILITY evaluations performed for the affected Function. The affected Function's OPERABILITY can be met if the interlock is manually enforced to properly enable the affected Function. Withdrawn This portion of the COT also ensures the associated Function is not enabled when required to be blocked by verifying the capability to manually bypass the Function as permitted by the interlock. When an interlock is not supporting the associated Function's OPERABILITY at the existing plant conditions, the affected Function's channels must be declared inoperable and appropriate ACTIONS taken. B1 The 92-day Frequency is based on Reference 5 and the use of continuous diagnostic test features, such as deadman timers, crosscheck of redundant channels, memory checks, numeric coprocessor checks, and tests of timers, counters and crystal time bases, which will report a failure within the integrated protection cabinets (IPCs) to the operator. C1 During the COT, the protection and safety monitoring system PMS cabinets in the division under test may be placed in bypass.	ORNL GTST O61 complete

continued

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
178	3.3.8 Pg 175	Bases, next to last paragraph for SR 3.3.8.2, last line uses the phrase "integrated protection cabinets." The Bases for SR 3.3.8.3, first paragraph uses the term "IPC," which is the acronym for integrated protection cabinets. The SR 3.3.8.2 Bases should be changed from "integrated protection cabinets" to "integrated protection cabinets (IPCs)." This change also applies to Section 3.3.10, Pg 47 (SR 3.3.10.2), Section 3.3.11, Pg 32 (SR 3.3.11.2), Section 3.3.13, Pg 34 (SR 3.3.13.2), and Section 3.3.14, Pg 31 (SR 3.3.14.2).	Add the acronym "(IPCs)" after the words "integrated protection cabinets" in SR 3.3.8.2 (and others identified in the Comments)	A3 T4	SPSB agrees B1 SPSB suggests additional clarifying edits B2 <u>Withdrawn</u> See comment 172 APOG discussion topic 172- 5 and associated global comment See comment 202	Continued from previous page In "SRs" section of Bases for STS 3.3.8; SR 3.3.8.3, CHANNEL CALIBRATION o B1, B2 GTST for Subsection 3.3.8, GTST Section XI on page 109 and Section XII on pages 175-176, revise first paragraph as indicated SR 3.3.8.3 is the performance of a CHANNEL CALIBRATION every 24 months or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor and the IPC. The test is performed in accordance with the SP. If the actual setting of the channel is found to be outside the as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the channel setpoint to the NTS (within the allowed as-left tolerance), and evaluating the channel's response. If the channel is functioning as required and is expected to pass the next surveillance, then the channel is OPERABLE and can be restored to service at the completion of the surveillance. After the surveillance is completed, the <u>Withdrawn channel-channel's</u> channel as-found condition will be entered into the Corrective Action Program for further evaluation. Transmitter calibration must be performed consistent with the assumptions of the setpoint methodology. The difference between the current as-found values and the previous as-left values must be consistent with the transmitter drift allowance used in the setpoint methodology. o B2 GTST for Subsection 3.3.8, GTST Section XI on pages 109-110 and Section XII on pages 175-176, revise second paragraph as indicated (existing markup shown in black) Interlocks implicitly required to support the Function's OPERABILITY are also addressed by this CHANNEL CALIBRATION. This portion of the CHANNEL CALIBRATION ensures the associated Function is not bypassed when required to be enabled. This can be accomplished by ensuring the interlocks are calibrated properly in accordance with the SP. If the interlock is not automatically functioning as designed, the condition is entered into the Corrective Action Program and appropriate OPERABILITY evaluations performed for the affected Function. The affected Function's OPERABILITY can be met if the interlock is manually enforced to properly enable the affected Function. <u>Withdrawn This portion of the CHANNEL CALIBRATION also ensures the associated Function is not enabled when required to be blocked by verifying the capability to manually bypass the Function as permitted by the interlock.</u> When an interlock is not supporting the associated Function's OPERABILITY at the existing plant conditions, the affected Function's channels must be declared inoperable and appropriate ACTIONS taken. continued	ORNL GTST O61 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
178	3.3.10 Pg 47 SR 3.3.10.2 SR 3.3.10.3	Bases, next to last paragraph for SR 3.3.8.2, last line uses the phrase "integrated protection cabinets." The Bases for SR 3.3.8.3, first paragraph uses the term "IPC," which is the acronym for integrated protection cabinets. The SR 3.3.8.2 Bases should be changed from "integrated protection cabinets" to "integrated protection cabinets (IPCs)." This change also applies to Section 3.3.10, Pg 47 (SR 3.3.10.2), Section 3.3.11, Pg 32 (SR 3.3.11.2), Section 3.3.13, Pg 34 (SR 3.3.13.2), and Section 3.3.14, Pg 31 (SR 3.3.14.2).	Add the acronym "(IPCs)" after the words "integrated protection cabinets" in SR 3.3.8.2 (and others identified in the Comments)	A3 T4	SPSB agrees SPSB suggests additional clarifying edits B2 Withdrawn See comment 172 APOG discussion topic 172-5 and associated global comment See comment 202 See comment 193	Continued from previous page B2 Withdrawn Revise the GTSTs for Subsections 3.3.10, 3.3.11, 3.3.13, and 3.3.14, both Section XI and Section XII in the SR Bases for the COT and CHANNEL CALIBRATION consistent with the changes shown above for Subsection 3.3.8. In GTSTs for Subsections 3.3.8, 3.3.10, 3.3.11, 3.3.12, 3.3.13, and 3.3.14, – In GTST Section VIII, describe APOG comment and its resolution; also describe NRC staff suggested additional changes. – Describe APOG proposed changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" – Describe NRC staff suggested additional changes in GTST Sections IV, V, VI, and VII (as appropriate) <u>Add following to list of APOG discussion topics</u> E2 The Bases for STS SR 3.3.12.1, TADOT of P-4, is unclear. In particular, why are the [integrated protection cabinets] IPCs mentioned? Since P-4 supports several ESFAS functions by enabling them, as well as initiating other ESFAS functions – for those enabled functions, should not a COT include verification of the proper functioning of P-4?	ORNL GTST O61 complete GTST O63 complete GTST O64 complete GTST O65 complete GTST O66 complete GTST O67 complete
	3.3.11 Pg 32 SR 3.3.11.2 SR 3.3.11.3						
	3.3.12 Pg 26 SR 3.3.12.1						
	3.3.13 Pg 34 SR 3.3.13.2 SR 3.3.13.3						
	3.3.14 Pg 31 SR 3.3.14.2 SR 3.3.14.3						
179 30	3.3.09 Pg 02	In the RCOL PTS Change number and title section, VEGP LAR DOC A029 is identified as a "Revision of MTS 3.3.9 Required Action G.2 statement." This should either be "STS" 3.3.9 Required Action G.2 or MTS 3.3.9 Required Action "I.2"	Correctly identify the change using consistent terminology	A1	SPSB agrees	In GTST for Subsection 3.3.9, Section II, listing for DOC A029, change "G.2" to "I.2" In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O62 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
180	3.3.09 Pg 08	DOC M02 description (fifth paragraph below the table) states that Condition C is revised by adding a second condition that states "one or more Functions with more than two channels inoperable." The Condition actually reads "one or more Functions with two channels inoperable"	Change sentence to read "one or more Functions with two channels inoperable"	A1	SPSB agrees	In GTST for Subsection 3.3.9, Section V, description of changes to MTS Condition C associated with DOC M02, change "one or more Functions with more than two channels inoperable" to "one or more Functions with two channels inoperable" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O62 complete
181	3.3.09 Pg 17	4 th paragraph starts a description of the changes due to DOC M02. The third change is related to Action F. The first sentence states in a parenthetical that it is "MTS 3.3.9 revised Actions F, G, and H." However, the description of the new action is only for Action F. Neither Action G nor Action H are described.	Revise the parenthetical to delete reference to Actions G and H.	A3	SPSB disagrees, but suggests clarifying the replacement of MTS 3.3.9 Actions F, G, and H with STS 3.3.9 Action F	C1 In GTST for Subsection 3.3.9, Section V, page 17, in the fourth paragraph which contains a set of nested paragraphs, revise the third paragraph in the nested list, as indicated: Action F (which replaced MTS 3.3.9 revised Actions F, G, and H), which directs the operator to immediately, "Declare affected isolation valve(s) inoperable." (STS 3.3.9 Action F is also discussed under changes proposed in DOC L12.) For STS 3.3.9 manual initiation Function 4, 5, 10, or 11 with two channels inoperable (or one inoperable channel not restored within allowed time), Required Action F.1 will result in applying the applicable Conditions and Required Actions of STS 3.1.9, 3.6.3, 3.7.2, 3.7.3, and 3.7.7 (see Section V for details). These action requirements are more appropriate than the action requirements of <ul style="list-style-type: none"> – MTS 3.3.9 Condition F (applies to MTS Function 11, Normal Residual Heat Removal System Isolation – Manual Initiation); – MTS 3.3.9 Condition G (applies to MTS Function 10, Chemical Volume and Control System Makeup Isolation – Manual Initiation); and – MTS 3.3.9 Condition H (applies to MTS Function 4, Steam Line Isolation – Manual Initiation, and MTS Function 5, Main Feedwater Control Valve Isolation – Manual Initiation) In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O62 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
182	3.3.09 Pg 18	There is a fragment of a sentence (“which applies to STS 3.3.9 Functions 4, 5, 10, and 11”) following the first paragraph under the heading “VEGP LAR DOC L12, ...”	Add the additional text necessary to complete the sentence, or delete the fragment.	A3	SPSB agrees	<p>In GTST for Subsection 3.3.9, Section V, page 18, revise first paragraph of discussion of DOC L12 as indicated:</p> <p>VEGP LAR DOC L12 revises Actions related to Functions that result in valve isolation actuations (MTS 3.3.9 Functions 4, 5, 10, and 11). MTS 3.3.9 Actions F, G, and H (GTS 3.3.2 Conditions Actions Q, R and S), are revised replaced with STS 3.3.9 Action F and the more appropriate action requirements of STS Subsections 3.1.9, 3.6.3, 3.7.2, 3.7.3, and 3.7.7, which apply to the actuated devices; i.e., valves. STS 3.3.9 Required Action F.1 says: to immediately</p> <p>Declare affected isolation valve(s) inoperable. Immediately</p> <p>Associated with the changes in action requirements for MTS Functions 4, 5, 10, and 11, are changes in their Applicability. MTS Table 3.3.9-1 footnotes (d) and (e) (GTS Table 3.3.2-1 footnotes (e) and (h)) are deleted.</p> <p>With the deletion of MTS Table 3.3.9-1 footnote (d) “Not applicable for valve isolation Functions whose associated flow path is isolated.”</p> <ul style="list-style-type: none"> – MTS 3.3.9 Function 5, Main Feedwater Control Valve Isolation – Manual Initiation, will be required in Mode 4 regardless of whether the affected valve’s flow path is isolated, as well as in Modes 1, 2, and 3. – MTS 3.3.9 Function 10, CVS Makeup isolation – Manual Initiation, will be required in Modes 3 and 4 regardless of whether the affected valve’s flow path is isolated, as well as in Modes 1 and 2, and in Mode 4 with the RCS not being cooled by the RNS. – MTS 3.3.9 Function 11, RNS Isolation – Manual Initiation, will be required in Mode 3 regardless of whether the affected valve’s flow path is isolated, as well as in Modes 1 and 2. <p>With the deletion of MTS 3.3.9 Table 3.3.9-1 footnote (e) “Not applicable if all MSIVs are closed.”</p> <ul style="list-style-type: none"> – MTS 3.3.9 Function 4, Steam Line Isolation – Manual Initiation, will be required in Modes 2, 3, and 4 regardless of MSIV position, as well as in Mode 1. <p>Which applies to STS 3.3.9 Functions 4, 5, 10, and 11.</p> <p>In GTST Section VIII, describe APOG comment and its resolution</p>	ORNL GTST O62 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer’s Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
183	3.3.09 Pg 54	Table 3.3.9-1 first page number states "(page -1 of 2)"; it should be "(page 1 of 2)"; and second page states "(page 0 of 2)"; it should be "(page 2 of 2)"	Correct Table 3.3.9-1 page numbering	A1	SPSB agrees	In GTST Section XI on pages 54 and 55, fix pagination in title for Table 3.3.9-1 on both pages. In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O62 complete
184	3.3.09 Pg 56	GTST Bases ASA lead-in section has a bullet for "Main Feedwater Control Valve Isolation" and refers to LCO 3.3.8 Bases for details. However, the protective functions also include "Main Feedwater Pump Trip and Valve Isolation" as well as "Startup Feedwater Isolation." These two functions should be included in this list	Add bullets for: <ul style="list-style-type: none"> • Main Feedwater Pump Trip and Valve Isolation • Startup Feedwater Isolation 	T4	SPSB agrees, but suggests an alternative presentation	A In GTST Section XI page 33 and Section XII on page 56, in "ASA, LCO, and Applicability" section of Bases for Subsection 3.3.9, revise bullet for Main Feedwater Control Valve Isolation, as indicated: <ul style="list-style-type: none"> • Main Feedwater Control Valve Isolation <ul style="list-style-type: none"> – Main Feedwater Control Valve Isolation – Main Feedwater Pump Trip and Valve Isolation – Startup Feedwater Isolation In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O62 complete
185	3.3.09 Pg 57	Bases, last paragraph, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2 A3	SPSB agrees	In GTST Section XI page 34 and Section XII on page 57, in "ASA, LCO, and Applicability" section of Bases for Subsection 3.3.9, under heading " 1. Safeguards Actuation – Manual Initiation," last paragraph on page, replace 'ESF' with " Engineered Safety Features (ESF) " In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O62 complete
186 31	3.3.10 Pg 38	Table 3.3.10-1 first page number states "(page 0 of 1)"; it should be "(page 1 of 1)"	Correct Table 3.3.10-1 page numbering	A1	SPSB agrees	In GTST Section XII on page 39, fix pagination in title for Table 3.3.10-1. In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O63 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
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- T4 Technical Improvement
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
187	3.3.10 Pg 45	Bases, first paragraph is a continuation of Action E discussion. It describes what Required Action E.2.3 requires. However, there is no Required Action E.2.3.	Delete the entire paragraph discussing the nonexistent Required Action E.2.3.	A1	SPSB agrees	In GTST Section XI page 28 and Section XII on page 45, in the "Actions" section of Bases for Subsection 3.3.10, show deletion of erroneous paragraph for non-existent Required Action E.2.3 as a deleted MTS paragraph under Bases for MTS/STS Required Action F.1. In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate).	ORNL GTST O63 complete
188	3.3.10 Pg 46	Bases, second paragraph under SR 3.3.10.2, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2 A3	SPSB agrees B2 Withdrawn See comment 178	In GTST Section XI page 29 and Section XII on page 46 in the "SRs" section of Bases for Subsection 3.3.10, in second paragraph under heading "SR 3.3.10.2" COT, replace 'ESF' with " Engineered Safety Features (ESF) " B2 Withdrawn Apply changes to Bases for COT and CHANNEL CALIBRATION as described in comment 178 In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O63 complete
189 32	3.3.11 Pg 06	First paragraph states that Condition B is revised by adding a second condition that states "one or more Functions with more than two channels inoperable." The Condition actually reads "one or more startup feedwater lines with two channels inoperable"	Change sentence to read "one or more startup feedwater lines with two channels inoperable"	A1	SPSB agrees	In GTST for Subsection 3.3.11, Section V on page 6, revise first paragraph on page, as indicated: MTS 3.3.11 Condition B is revised by adding a second condition statement for the condition "one or more Functions startup feedwater lines with more than two channels inoperable." Otherwise, LCO 3.0.3 would apply when the LCO is not met and the associated Actions are not met or an associated Action is not provided. (DOC M02) In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O64 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
190	3.3.11 Pg 09	First paragraph states that MTS 3.3.11 "...does not specify Actions for inoperability of more than two inoperable automatic initiation channels. This results in entry into LCO 3.0.3 when three or more channels are inoperable." MTS 3.3.11 actually requires only two channels. The MTS did not have an Action for more than one channel. The description does not reflect the specific details of MTS 3.3.11.	Revise the discussion as follows: ... more than two <u>one</u> inoperable automatic initiation channels. This results in entry into LCO 3.0.3 when three or more <u>two</u> channels are inoperable	A3	SPSB agrees, B1 but suggests additional clarifying edits.	B1 In GTST for Subsection 3.3.11, Section VI, page 9, revise first paragraph on page, as indicated: VEGP LAR DOC M02 addresses the fact that MTS 3.3.11, "Engineered Safety Feature Actuation System (ESFAS) Startup Feedwater Flow Instrumentation," does not specify Actions for inoperability of more than two <u>one</u> inoperable automatic initiation channels in one or both startup feedwater lines . This results in entry into LCO 3.0.3 when three or more <u>two</u> channels are inoperable in one or both startup feedwater lines . In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O64 complete
191	3.3.11 Pg 31	Bases, second paragraph under SR 3.3.11.2, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2 A3	SPSB agrees B1 See comment 178	In GTST Section XI page 21 and Section XII on page 31 in the "SRs" section of Bases for Subsection 3.3.11, in second paragraph under heading "SR 3.3.11.2" COT, replace 'ESF' with " Engineered Safety Features (ESF) " B1 Apply changes to Bases for COT and CHANNEL CALIBRATION as described in comment 178 (" as-left ") In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O64 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
192 33	3.3.12 Pg 06	In section titled "Changes to the Generic Technical Specifications and Bases," last full paragraph on page 6 discusses changes GTS Specification 3.7.3, SR 3.7.3.1. Specifically, the discussion incorrectly quotes SR 3.7.3.1, as revised according to VEGP LAR DOC D09, (i.e., "Verify the closure time of each MFIV and MFCV is ≤ 5 seconds within limits on an actual or simulated actuation signal"). However, SR 3.7.3.1, as revised by VEGP LAR DOC D09 actually reads "Verify closure time of each MFIV and MFCV is within limits on an actual or simulated actuation signal."	Correct the quote of SR 3.7.3.1.	A1	SPSB agrees	In GTST for Subsection 3.3.12, Section V, page 6, revise last full paragraph on page, as indicated: In addition, GTS Specification 3.7.3, "Main Feedwater Isolation Valves (MFIVs) and Main Feedwater Control Valves (MFCVs)," specifies SR 3.7.3.1, which states (as revised according to VEGP LAR DOC D09), "Verify the closure time of each MFIV and MFCV is ≤ 5 seconds within limits on an actual or simulated actuation signal." With a Frequency of In accordance with the Inservice Testing Program. Since . . . In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O65 complete
193	3.3.12 Pg 26	Bases, second paragraph under SR 3.3.12.2, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2 A3	SPSB agrees, but notes that the comment references the wrong SR (which does not exist in STS 3.3.12) See comment 178	In GTST Section XI page 20 and Section XII on page 26 in the "SRs" section of Bases for Subsection 3.3.12, in second paragraph under heading "SR 3.3.12.1" TADOT, replace 'ESF' with "Engineered Safety Features (ESF)" C1 Apply changes to Bases, regarding defining IPC, as described in comment 178, to first paragraph of Bases for SR 3.3.12.1 – that is: SR 3.3.12.1 is the performance of a TADOT of the blocks for the reactor trip (P-4) input from the integrated protection cabinets (IPCs) . This TADOT is performed every 24 months. <u>Add following to list of APOG discussion topics</u> E2 The Bases for SR 3.3.12.1, TADOT of P-4, is unclear. In particular, why are the [integrated protection cabinets] IPCs mentioned? Since P-4 supports several ESFAS functions by enabling them, as well as initiating other ESFAS functions – for those enabled functions, should not a COT include verification of the proper functioning of P-4? In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O65 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
194 34	3.3.13 Pg 11	Last paragraph states that Condition C specifies Actions that <i>require placing</i> the unit in Mode 3 in 6 hours and Mode 4 in 12 hours. Condition C has the Mode 3 Action, but does not include the Mode 4 Action. It requires placing the unit in Mode 5 in 36 hours.	Change Mode “4” to Mode “5” and change “12” hours to “36” hours.	A1	SPSB agrees	In GTST for Subsection 3.3.13, Section VII, page 11, last paragraph on page, revise first sentence as indicated: STS 3.3.13, Conditions C (Required Action and associated Completion Time of Condition A [One required division inoperable.] not met. OR Two channels inoperable.) specifies Actions that require placing the unit in Mode 3 in 6 hours and Mode 4 5 in 12 36 hours, which is more restrictive than LCO 3.0.3. In GTST Section VIII, describe APOG comment and its resolution	ORNL
195	3.3.13 Pg 33	Bases, second paragraph under SR 3.3.13.2, uses the term “ESF.” ESF – Engineered Safety Features – has not been previously defined.	Change “ESF” to “Engineered Safety Features (ESF)”	A2 A3	SPSB agrees B1 See comment 178	In GTST Section XI page 23 and Section XII on page 33 in the “SRs” section of Bases for Subsection 3.3.13, in second paragraph under heading “SR 3.3.13.2” COT, replace ‘ESF’ with “ Engineered Safety Features (ESF) ” B1 Apply changes to Bases for COT and CHANNEL CALIBRATION as described in comment 178 In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O66 complete
196 35	3.3.14 Pg 29	Bases, first paragraph, first word should be “In,” not “n”	Change “n” to “In”	A1	SPSB agrees	In GTST Section XI page 19 and Section XII on page 29 in the “Actions” section of Bases for Subsection 3.3.14, change “n” to “In” In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O67 complete
197	3.3.14 Pg 30	Bases, second paragraph under SR 3.3.14.2, uses the term “ESF.” ESF – Engineered Safety Features – has not been previously defined.	Change “ESF” to “Engineered Safety Features (ESF)”	A2 A3	SPSB agrees B1 See comment 178	In GTST Section XI page 20 and Section XII on page 30 in the “SRs” section of Bases for Subsection 3.3.14, in second paragraph under heading “SR 3.3.14.2” COT, replace ‘ESF’ with “ Engineered Safety Features (ESF) ” B1 Apply changes to Bases for COT and CHANNEL CALIBRATION as described in comment 178 In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O67 complete

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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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198 36	3.3.15 Pg 12	Fourth paragraph below the Table discusses DOC M02 and states that Condition B is revised by adding a second condition that states “one or more Functions <u>with</u> two or more divisions inoperable.” The revised condition actually states “one or more Functions <u>within</u> two or more divisions inoperable.”	Change the word “with” to “within”	A1	SPSB agrees	In GTST for Subsection 3.3.15, Section V, on Page 12, fourth paragraph after table, revise first sentence as indicated: MTS 3.3.15 Condition B is revised by adding a second condition statement for the condition “one or more Functions with within two or more divisions inoperable.” In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O68 complete
199	3.3.15 Pg 15	Last paragraph and continues on next page. The description states that MTS 3.3.15 does not specify Actions for inoperability of one or more Functions “with” two or more divisions. The actual change relates to one or more Functions “within” two or more divisions.	Change the word “with” to “within”	A1	SPSB agrees with additional edits	In GTST for Subsection 3.3.15, Section VI, last paragraph that begins on page 15 and continues to page 16, revise first sentence as indicated: VEGP LAR DOC M02 addresses the fact that MTS 3.3.15, “Engineered Safety Feature Actuation System (ESFAS) Actuation Logic – Operating,” does not specify Actions for inoperability the condition of one or more Functions with within two or more divisions inoperable.” In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O68 complete
200	3.3.15 Pg 17	Fifth paragraph states “VEGP LAR DOC D03 provides design detail that is not necessary in the TS to protect the health and safety of the public.” VEGP LAR DOC D03 does not “provides” design details; it “removes” design detail.	Revise fifth paragraph to state “provides” to “removes”	A1	SPSB agrees	In GTST for Subsection 3.3.15, Section VI, fifth paragraph on page 17, revise first sentence as indicated: VEGP LAR DOC D03 provides removes design detail that is not necessary in the TS to protect the health and safety of the public. In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O68 complete
201	3.3.15 Pg 40	LCO 3.3.15, part a, ESF has not been previously defined.	Change “ESF” to “Engineered Safety Features (ESF)”	A2	SPSB agrees	In GTST Section XI on page 28 and Section XII on page 40, revise LCO 3.3.15.a by replacing “ESF” with “Engineered Safety Features (ESF)” In GTST Section VIII, describe APOG comment and its resolution. Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes	ORNL GTST O68 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
202	3.3.15 Pg 43	Bases, ASA, LCO, Applicability second paragraph, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2	<p>SPSB agrees</p> <hr/> <p>C1 Define first use of PMS in the Bases and use PMS after that – see comment 119</p> <p>B2 Withdrawn See comment 178; SPSB suggest making same change to inserted discussion of interlocks in Bases for ACTUATION LOGIC TEST</p>	<p>C1 In GTST Section XI on page 31 and Section XII on page 43 in the "ASA, LCO, and Applicability" section of Bases for Subsection 3.3.15, in second paragraph below heading "ESF Coincidence Logic" revise sentence as indicated:</p> <p>A description of the ESF Engineered Safety Features (ESF) Coincidence Logic is provided in the Bases for LCO 3.3.8.</p> <p>In GTST Section VIII, describe APOG comment and its resolution</p> <p>Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p> <hr/> <p>In GTST Section XI pages 33/34 and Section XII on pages 45/46 in the "SRs" section of Bases for Subsection 3.3.15,</p> <ul style="list-style-type: none"> C1 Revise first sentence of second paragraph under heading "SR 3.3.15.1" ACTUATION LOGIC TEST, as follows <p>A test subsystem is provided with the Protection and Safety Monitoring System (PMS) to aid the plant staff in performing the ACTUATION LOGIC TEST.</p> <ul style="list-style-type: none"> C1 Revise first sentence of fifth paragraph under heading "SR 3.3.15.1" ACTUATION LOGIC TEST, as follows <p>To the extent possible, Protection and Safety Monitoring System PMS functional testing is accomplished with continuous system self-checking features and the continuous functional testing features.</p> <p style="text-align: right;">continued</p>	ORNL GTST O68 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
202	3.3.15 Pg 43	Bases, ASA, LCO, Applicability second paragraph, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2	<p>SPSB agrees</p> <hr/> <p>B2 Withdrawn See comment 178; SPSB suggest making same change to inserted discussion of interlocks in Bases for ACTUATION LOGIC TEST</p> <p>B2 Withdrawn See comment 172 APOG discussion topic 172-5 and associated global comment</p>	<p>Continued from previous page</p> <ul style="list-style-type: none"> o B2 Revise seventh paragraph under heading "SR 3.3.15.1" ACTUATION LOGIC TEST, as follows (existing markup shown in black): <p>Interlocks implicitly required to support the Function's OPERABILITY are also addressed by this ACTUATION LOGIC TEST. This portion of the ACTUATION LOGIC TEST ensures the associated Function is not bypassed when required to be enabled. This can be accomplished by ensuring the interlocks are calibrated properly in accordance with the SP. If the interlock is not automatically functioning as designed, the condition is entered into the Corrective Action Program and appropriate OPERABILITY evaluations performed for the affected Function. The affected Function's OPERABILITY can be met if the interlock is manually enforced to properly enable the affected Function. Withdrawn This portion of the ACTUATION LOGIC TEST also ensures the associated Function is not enabled when required to be blocked by verifying the capability to manually bypass the Function as permitted by the interlock. When an interlock is not supporting the associated Function's OPERABILITY at the existing plant conditions, the affected Function's channels must be declared inoperable and appropriate ACTIONS taken.</p> <p>In GTST Section VIII, describe APOG comment and its resolution</p> <p>Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p> <p>Describe NRC staff suggested additional changes in GTST Sections IV, V, VI, and VII (as appropriate)</p> <hr/> <p><u>Add the following to the list of APOG discussion topics</u></p> <p>E2 Withdrawn Last sentence of last paragraph of STS Bases for SR 3.3.15.1 and SR 3.3.16.1 ends with phrase "which will report a failure within these cabinets to the operator"; what are "these cabinets" referring to?</p>	ORNL GTST O68 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
203 37	3.3.16 Pg 12	Fourth paragraph below the Table discusses DOC M02 and states that Conditions B, C, and D are revised by adding a second condition that states "one or more Functions <u>with</u> two or more divisions inoperable." The revised conditions actually state "one or more Functions <u>within</u> two or more divisions inoperable."	Change the word "with" to "within"	A1	SPSB agrees	In GTST for Subsection 3.3.16, Section V, on Page 12, fourth paragraph after table, revise first sentence as indicated: MTS 3.3.16 Conditions B, C, and D are revised by adding a second condition statement for the condition "one or more Functions with within two or more divisions inoperable." In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O69 complete
204	3.3.16 Pg 16	Third paragraph, the description states that MTS 3.3.16 does not specify Actions for inoperability of one or more Functions "with" two or more divisions. The actual change relates to one or more Functions "within" two or more divisions.	Change the word "with" to "within"	A1	SPSB agrees with additional edits	In GTST for Subsection 3.3.16, Section VI, third paragraph on page 16, revise first sentence as indicated: VEGP LAR DOC M02 addresses the fact that MTS 3.3.16, "Engineered Safety Feature Actuation System (ESFAS) Actuation Logic – Shutdown," does not specify Actions for inoperability the condition of one or more Functions with within two or more divisions inoperable." In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O69 complete
205	3.3.16 Pg 18	Last paragraph regarding STS 3.3.7 appears to be an editorial error. It is in the middle of the justification for MTS 3.3.16. STS 3.3.7 is the RTS Actuation Logic – Shutdown Specification. Does not seem to apply to this specific change.	Delete paragraph.	A1	SPSB agrees	In GTST for Subsection 3.3.16, Section VI, delete the last paragraph on page 18. In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O69 complete
206	3.3.16 Pg 41	LCO 3.3.16, part a, ESF has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2	SPSB agrees	In GTST Section XI on page 27 and Section XII on page 41, revise LCO 3.3.16.a by replacing "ESF" with "Engineered Safety Features (ESF)" In GTST Section VIII, describe APOG comment and its resolution. Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes	ORNL GTST O69 complete

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207	3.3.16 Pg 45	Bases, ASA, LCO, Applicability second paragraph, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2	SPSB agrees C1 Define first use of PMS in the Bases and use PMS after that – see comment 119	<p>In GTST Section XI on page 31 and Section XII on page 45 in the "ASA, LCO, and Applicability" section of Bases for Subsection 3.3.16, in second paragraph below heading "ESF Coincidence Logic" revise sentence as indicated:</p> <p>A description of the ESF Engineered Safety Features (ESF) Coincidence Logic is provided in the Bases for LCO 3.3.8.</p> <p>In GTST Section VIII, describe APOG comment and its resolution</p> <p>Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p> <hr/> <p>C1 In GTST Section XI on page 35/36 and Section XII on page 49/50 in the "SRs" section of Bases for Subsection 3.3.16,</p> <ul style="list-style-type: none"> ○ Revise first sentence of second paragraph under heading "SR 3.3.15.1" ACTUATION LOGIC TEST, as follows <p>A test subsystem is provided with the Protection and Safety Monitoring System (PMS) to aid the plant staff in performing the ACTUATION LOGIC TEST.</p> <ul style="list-style-type: none"> ○ Revise first sentence of fifth paragraph under heading "SR 3.3.16.1" ACTUATION LOGIC TEST, as follows <p>To the extent possible, Protection and Safety Monitoring System PMS functional testing is accomplished with continuous system self-checking features and the continuous functional testing features.</p> <p style="text-align: right;">continued</p>	ORNL GTST O69 complete

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207	3.3.16 Pg 45	Bases, ASA, LCO, Applicability second paragraph, uses the term "ESF." ESF – Engineered Safety Features – has not been previously defined.	Change "ESF" to "Engineered Safety Features (ESF)"	A2	SPSB agrees B2 Withdrawn See comment 178; SPSB suggest making same change to inserted discussion of interlocks in Bases for ACTUATION LOGIC TEST See comment 172 APOG discussion topic 172- 5 and associated global comment	Continued from previous page o B2 Withdrawn Revise seventh paragraph under heading "SR 3.3.16.1" ACTUATION LOGIC TEST, as follows (existing markup shown in black): Interlocks implicitly required to support the Function's OPERABILITY are also addressed by this ACTUATION LOGIC TEST. This portion of the ACTUATION LOGIC TEST ensures the associated Function is not bypassed when required to be enabled. This can be accomplished by ensuring the interlocks are calibrated properly in accordance with the SP. If the interlock is not automatically functioning as designed, the condition is entered into the Corrective Action Program and appropriate OPERABILITY evaluations performed for the affected Function. The affected Function's OPERABILITY can be met if the interlock is manually enforced to properly enable the affected Function. B2 Withdrawn This portion of the ACTUATION LOGIC TEST also ensures the associated Function is not enabled when required to be blocked by verifying the capability to manually bypass the Function as permitted by the interlock. When an interlock is not supporting the associated Function's OPERABILITY at the existing plant conditions, the affected Function's channels must be declared inoperable and appropriate ACTIONS taken. In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" Describe NRC staff suggested additional changes in GTST Sections IV, V, VI, and VII (as appropriate) <u>Add the following to the list of APOG discussion topics</u> E2 Withdrawn Last sentence of last paragraph of STS Bases for SR 3.3.15.1 and SR 3.3.16.1 ends with phrase "which will report a failure within these cabinets to the operator"; what are "these cabinets" referring to?	ORNL GTST O69 complete

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208 38	3.3.17 Pg 05	The discussion of the MTS Table 3.3.17-1 Function 12 title change under "Changes to the Generic Technical Specifications and Bases" states that the title is changed to "Passive Residual Heat Removal (PRHR)." However, the title is actually changed to "Passive Residual Heat Removal (PRHR) Heat Removal"	Revise title to add "Heat Removal"	A1	SPSB agrees	In GTST for Subsection 3.3.17, Section V, seventh paragraph under heading "Changes to the Generic Technical Specifications and Bases" on page 5, correct the title stated for PAM Function 12 to "Passive Residual Heat Removal (PRHR) Heat Removal" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O70 complete
209	3.3.17 Pg 05	The discussion of the MTS Table 3.3.17-1 Function 17 title change under "Changes to the Generic Technical Specifications and Bases" states that the title is changed to "Passive Containment Cooling System (PCS)." However, the title is actually changed to "Passive Containment Cooling System (PCS) Heat Removal"	Revise title to add "Heat Removal"	A1	SPSB agrees	In GTST for Subsection 3.3.17, Section V, eighth paragraph under heading "Changes to the Generic Technical Specifications and Bases" on page 5, correct the title stated for PAM Function 17 to "Passive Containment Cooling System (PCS) Heat Removal" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O70 complete
210	3.3.17 Pg 09	Fifth item under "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes" refers to "Passive Residual Heat Removal" where it should refer to "Passive Residual Heat Removal <u>Heat Removal</u> " as more appropriately describing Function 12.	Revise to "Passive Residual Heat Removal" to "Passive Residual Heat Removal Heat Removal"	A1	SPSB agrees	In GTST for Subsection 3.3.17, Section VI, fifth paragraph under heading "Changes to the Generic Technical Specifications and Bases" on page 9, correct the title stated for PAM Function 12 to "Passive Residual Heat Removal (PRHR) Heat Removal" and the title stated for PAM Function 17 to "Passive Containment Cooling System (PCS) Heat Removal" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O70 complete

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211	3.3.17 Pg 09	Fifth item under "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes" refers to "Passive Containment Cooling System" where it should refer to "Passive Containment Cooling System Heat Removal" as more appropriately describing Function 17.	Revise "Passive Containment Cooling System" to "Passive Containment Cooling System Heat Removal"	A1	SPSB agrees	In GTST for Subsection 3.3.17, Section VI, fifth paragraph under heading "Changes to the Generic Technical Specifications and Bases" on page 9, correct the title stated for PAM Function 12 to "Passive Residual Heat Removal (PRHR) Heat Removal" and the title stated for PAM Function 17 to "Passive Containment Cooling System (PCS) Heat Removal" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O70 complete
212	3.3.17 Pg 11	Paragraph describing changes resulting from LAR DOC L13 provides incorrect titles for Function 12 and Function 17 title revision.	Revise titles to "Passive Residual Heat Removal (PRHR) Heat Removal" and to "Passive Containment Cooling System (PCS) Heat Removal"	A1	SPSB agrees	In GTST for Subsection 3.3.17, Section VII, 13 th paragraph under heading "Technical Analysis:" on page 11, correct the title stated for PAM Function 12 to "Passive Residual Heat Removal (PRHR) Heat Removal" and the title stated for PAM Function 17 to "Passive Containment Cooling System (PCS) Heat Removal" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O70 complete
213	3.3.17 Pg 37	Bases Background section is missing NUREG-1431 discussion on basis for including Category 1 PAM instrumentation in TS. FSAR 7.5.2.2.1 supports the TS Bases addition for the first two bullets from the NUREG only. The third bullet found in NUREG-1431 is descriptive of Type E variables which are not required to be designed Category 1 to meet the VEGP licensing basis.	Insert at end of Bases Background [bullets added] Category 1 variables are the key variables deemed risk significant because they are needed to: <ul style="list-style-type: none"> Determine whether other systems important to safety are performing their intended functions; and Provide information to the operators that will enable them to determine the likelihood of a gross breach of the barriers to radioactivity release. 	A5 T4	SPSB agrees	In GTST for Subsection 3.3.17, Section XI on page 22 and Section XII on page 37, after the end of the "Background" section of the Bases add the following: Category 1 variables are the key variables deemed risk significant because they are needed to: <ul style="list-style-type: none"> Determine whether other systems important to safety are performing their intended functions; and Provide information to the operators that will enable them to determine the likelihood of a gross breach of the barriers to radioactivity release. In GTST Section VIII, describe APOG comment and its resolution Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O70 complete

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214 39 40	3.3.19 Pg 22	LCO 3.3.19 statement ends with a colon (:). It should be a period (.).	Revise LCO 3.3.19 statement to end with a period (.)	A1	SPSB agrees and notes an additional typographical error in Required Action C.1	In GTST for Subsection 3.3.19, in Section XI on page 13 and Section XII on page 22, replace colon with a period at end of LCO statement. Also replace Required Action C.1 statement so that it states: "Perform SR 3.3.15.1 and SR 3.3.16.1, as applicable." In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O72 complete
215	3.3.19 Pg 25 – 26	Bases, Background section, first paragraph, references "DCD" Chapter 15 analyses. In addition, last paragraph references "DCD" Section 8.3.2 and "DCD" Section 7.7.1.11 (on Pg 26). These should be "FSAR," not "DCD"	Change "DCD" to "FSAR"	A3	SPSB agrees and denotes an additional improvement	In GTST for Subsection 3.3.19, in Section XI on pages 16/17 and Section XII on pages 25/26, in "Background" section of Bases, first, third, and fourth paragraphs, replace "DCD" with "FSAR." Also in the first paragraph, define "PRA"; "Probabilistic Risk Assessment (PRA)" In GTST Section VIII, describe APOG comment and its resolution. Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O72 complete
216	3.3.19 Pg 26	Bases ASA section, second paragraph, references "DCD" Chapter 15 safety analyses. This should be "FSAR," not "DCD"	Change "DCD" to "FSAR"	A3	SPSB agrees	In GTST for Subsection 3.3.19, in Section XI on page 17 and Section XII on page 26, in "ASA" section of Bases, second paragraph, replace "DCD" with "FSAR." In GTST Section VIII, describe APOG comment and its resolution. Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O72 complete
217	3.3.19 Pg 27	Bases, Actions B.1 and B.2, second paragraph states "Required Action B.1 requires SR 3.3.1.6..." This should be SR 3.3.7.1, as specified in TS 3.3.19, Required Action B.1.	Change "3.3.1.6" to "3.3.7.1"	A1	SPSB agrees	In GTST for Subsection 3.3.19, in Section XI on page 17 and Section XII on page 27, in "Actions" section of Bases, second paragraph under "B.1 and B.2", first sentence, replace "SR 3.3.1.6" with "SR 3.3.7.1." In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O72 complete

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218 41	3.4.01 Pg 06	Description of changes section for VEGP LAR DOC A038 states that it revises SR 3.4.1.4. It actually revises SR 3.4.1.5.	Change "SR 3.4.1.4" to "SR 3.4.1.5"	A1	SPSB agrees	In GTST for Subsection 3.4.1, Section V, in description of change made based on DOC A038, replace "SR 3.4.1.4" with "SR 3.4.1.5." In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O22 complete
219	3.4.01 Pg 21	Heading in upper right corner has large space after "Temperature," and before "and Flow"	Delete extraneous space in header	A1	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on pages 12 through 19 and Section XII on pages 21 through 28, remove the extra space in specification title from header. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O22 complete
220	3.4.01 Pg 21	GTS LCO 3.4.1 Applicability has 2 Notes regarding Pressurizer pressure limits. GTST contains no evaluation discussing deletion of these Notes. This appears to be a typographical oversight omitting these Notes.	Include Applicability Notes as found in GTS 3.4.1	A1	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on page 12 and Section XII on page 21, restore the following GTS 3.4.1 Note beneath the Applicability, as shown: <hr/> <p>APPLICABILITY: MODE 1.</p> <p style="text-align: center;">-----NOTE-----</p> <p>Pressurizer pressure limit does not apply during:</p> <p style="margin-left: 40px;">a. THERMAL POWER ramp > 5% RTP per minute, or</p> <p style="margin-left: 40px;">b. THERMAL POWER step > 10% RTP.</p> <hr/> <p>In GTST Section VIII, describe APOG comment and its resolution.</p>	ORNL GTST O22 complete
221	3.4.01 Pg 23	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Correct the acronym in the following Background: A lower pressure will cause the reactor core to approach DNBR limits.	A3	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on page 14 and Section XII on page 23, in the "Background" section of the Bases, second paragraph, last sentence, replace "DNBR" with "DNB" for improved clarity. In GTST Section VIII, describe APOG comment and its resolution. Describe changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O22 complete

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222	3.4.01 Pg 23	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Use symbol in the following Background: The reactor coolant flow rate channels are normalized to these test measurements for 100% percent indication using these calibration coefficients and are frequently monitored to determine flow degradation.	A2	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on page 14 and Section XII on page 23, in the "Background" section of the Bases, fourth paragraph, next to last sentence, replace "100-percent" with "100%" In GTST Section VIII, describe APOG comment and its resolution. (This edit is consistent with Writer's Guide 3.3.4.d) Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O22 complete
223	3.4.01 Pg 24	Revise TS 3.4.1 Bases for Applicable Safety Analyses to include LCO 3.2.5, "On-Line Power Distribution Monitoring System (OPDMS)-Monitored Parameters." Discussion of the initial analyses assumptions matches NUREG-1431 in referencing LCOs 3.1.6, 3.2.3, and 3.2.4. However, for AP1000, OPDMS (LCO 3.2.5) provides an alternative to LCO 3.2.3 and LCO 3.2.4 when OPDMS is operable. TS Bases are clarified to more specifically acknowledge the actual TS requirements.	Make the following changes to the Applicable Safety Analyses: An assumption for the analysis of these events is that the core power distribution is within the limits of LCO 3.1.6, "Control Bank Insertion Limits," ÷ as well as within the limits of either LCO 3.2.3, "AXIAL FLUX DIFFERENCE (AFD)," ÷ and LCO 3.2.4, "QUADRANT POWER TILT RATIO (QPTR)," ÷ <u>Or within the limits of LCO 3.2.5, "On-Line Power Distribution Monitoring System (OPDMS) - Monitored Parameters."</u>	T4	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on page 15 and Section XII on page 24, in the "ASA" section of the Bases, revise first paragraph last sentence as indicated. An assumption for the analysis of these events is that the core power distribution is within the limits of LCO 3.1.6, "Control Bank Insertion Limits," ÷ as well as within the limits of either LCO 3.2.3, "AXIAL FLUX DIFFERENCE (AFD)," ÷ and LCO 3.2.4, "QUADRANT POWER TILT RATIO (QPTR)," ÷ Or within the limits of LCO 3.2.5, "On-Line Power Distribution Monitoring System (OPDMS) - Monitored Parameters." In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O22 complete
224	3.4.01 Pg 24	Editorial improvement. While the change departs from the NUREG-1431 wording (which matches the current VEGP TS Bases), the change is more grammatically correct.	Make the following changes to the LCO discussion: However, the minimum RCS flow, usually based on maximum analyzed steam generator tube plugging, is retained in the TS LCO.	A3	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on page 15 and Section XII on page 24, in the "LCO" section of the Bases, revise first paragraph third sentence as indicated. However, the minimum RCS flow, usually based on maximum analyzed steam generator tube plugging, is retained in the TS LCO. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O22 complete

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225	3.4.01 Pg 26	Revise SRs 3.4.1.1, 3.4.1.2, and 3.4.1.3 Bases to clarify the applicable Surveillance requirement. Currently, the SR Bases only discuss the Frequency and do not address the purpose of the Surveillance itself.	Add the following to the beginning of SR 3.4.1.1 Surveillance Requirements: <u>This surveillance demonstrates that the pressurizer pressure remains greater than or equal to the limit specified in the COLR.</u> Since Required Action A.1 allows a Completion Time of 2 hours to restore . . .	A5 T4	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on page 17 and Section XII on page 26, in the "SR" section of the Bases, revise first paragraph under "SR 3.4.1.1" by inserting the following sentence as indicated. This surveillance demonstrates that the pressurizer pressure remains greater than or equal to the limit specified in the COLR. Since Required Action A.1 allows a Completion Time of 2 hours to restore parameters that are not within limits, the 12 hour Surveillance Frequency of pressurizer pressure is sufficient to ensure the pressure can be restored to a normal operation, steady state condition following load changes and other expected transient operations. The 12 hour interval has been shown by operating practice to be sufficient to regularly assess for potential degradation and to verify operation is within safety analysis assumptions. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O22 complete
226	3.4.01 Pg 27	Revise SRs 3.4.1.1, 3.4.1.2, and 3.4.1.3 Bases to clarify the applicable Surveillance requirement. Currently, the SR Bases only discuss the Frequency and do not address the purpose of the Surveillance itself.	Add the following to the beginning of SR 3.4.1.2 Surveillance Requirements: <u>This surveillance demonstrates that the average RCS temperature remains less than or equal to the limit specified in the COLR.</u> Since Required Action A.1 . . .	A5 T4	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on page 18 and Section XII on page 27, in the "SR" section of the Bases, revise first paragraph under "SR 3.4.1.2" by inserting the following sentence as indicated. This surveillance demonstrates that the average RCS temperature remains less than or equal to the limit specified in the COLR. Since Required Action A.1 allows a Completion Time of 2 hours to restore parameters that are not within limits, the 12 hour Surveillance Frequency for RCS average temperature is sufficient to ensure the temperature can be restored to a normal operation, steady state condition following load changes and other expected transient operations. The 12 hour Frequency has been shown by operating practice to be sufficient to regularly assess for potential degradation and to verify operation is within safety analysis assumptions.. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O22 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
227	3.4.01 Pg 27	Revise SRs 3.4.1.1, 3.4.1.2, and 3.4.1.3 Bases to clarify the applicable Surveillance requirement. Currently, the SR Bases only discuss the Frequency and do not address the purpose of the Surveillance itself.	Add the following to the beginning of SR 3.4.1.3 Surveillance Requirements: <u>This surveillance demonstrates that the RCS total flow rate remains ≥ 301,670 gpm and greater than or equal to the limit specified in the COLR.</u> The 12 hour Surveillance Frequency for RCS total flow rate is . . .	A5 T4	SPSB agrees	In GTST for Subsection 3.4.1, Section XI on page 18 and Section XII on page 27, in the “SR” section of the Bases, revise first paragraph under “SR 3.4.1.3” by inserting the following sentence as indicated. This surveillance demonstrates that the RCS total flow rate remains ≥ 301,670 gpm and greater than or equal to the limit specified in the COLR. The 12 hour Surveillance Frequency for RCS total flow rate is performed using the installed differential pressure flow instrumentation. The 12 hour interval has been shown by operating practice to be sufficient to regularly assess potential degradation and to verify operation within safety analysis assumptions. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O22 complete
228 42	3.4.02 Pg 17	Heading in upper right corner has large space after “Temperature,” and before “for Criticality”	Delete extraneous space in header	A1	SPSB agrees	In GTST for Subsection 3.4.2, Section XI on pages 12 through 15 and Section XII on pages 17 through 20, remove the extra space in specification title from header. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O23 complete
229	3.4.02 Pg 19	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Spell out the symbol in the Applicable Safety Analyses: All low power safety analyses assume initial RCS loop temperatures <u>≥greater than or equal to</u> the HZP temperature of 557° F (Ref. 1).	A2	SPSB agrees with small grammatical change	In GTST for Subsection 3.4.2, Section XI on page 14 and Section XII on page 19, in the “ASA” section of the Bases, revise second paragraph first sentence as indicated. All low power safety analyses assume initial RCS loop temperatures <u>≥are greater than or equal to</u> the HZP temperature of 557°F (Ref. 1). In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O23 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
230 ⁴³	3.4.03 Pg 05	First paragraph of the Changes to the Generic Technical Specifications and Bases section identifies the changes made as a result of DOC M05. However, it does not discuss the change to the Completion Time of Required Action B.2. The Completion Time changed from 24 hours to 36 hours.	Add a new second sentence that states "The Completion Time for Required Action B.2 is also revised from 24 hours to 36 hours."	A3	SPSB agrees C1 but suggests additional edits.	C1 In GTST for Subsection 3.4.3, Section V on page 5, under heading "Affected Generic Technical Specifications and Bases," first paragraph, insert a sentence after the first sentence, as indicated: Required Action B.2 is revised from "Be in MODE 4 with RCS pressure < 500 psig," to "Be in MODE 5." The associated Completion Time for Required Action B.2 is also revised from 24 hours to 36 hours. This provides clarity for transition between Required Action B and required Action C. (DOC M05) In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O24 complete
231	3.4.03 Pg 08	First paragraph of Technical Analysis justifies the DOC M05 change. However, no mention is made of the Completion Time change associated with the Change to Required Action B.2	Add the following sentence to the end of the paragraph: "In addition to the change to the Required Action B.2 end state, this change revises the Completion Time to be consistent with NUREG-1431 and with other Completion Times in the GTS that are associated with placing the unit in Mode 5. This change in Completion Time is necessary to ensure a safe and orderly shutdown to Mode 5."	A3	SPSB agrees C1 but suggests additional edits.	C1 In GTST for Subsection 3.4.3, Section VII on page 8, under heading "Technical Analysis," first paragraph, add the following sentence to the end of the paragraph, as indicated: VEGP LAR DOC M05 revises Required Action B.2 from "Be in MODE 4 with RCS pressure < 500 psig," to "Be in MODE 5." As written, current Required Action B.2 allows the unit to remain in MODE 4 with RCS pressure < 500 psig. Condition C has no Required Actions if LCO is not met in MODES 1, 2, 3, or 4. Because Condition B is applicable in MODE 4, it should require the unit to exit MODE 4. The change ensures a proper progression between Condition B and Condition C, which is applicable if the requirements of the LCO are not met any time in other than MODE 1, 2, 3, or 4. In addition to the change to changing the Required Action B.2 end state, this change revises the associated Completion Time to be consistent with NUREG-1431 and with other Completion Times in the GTS that are associated with placing the unit in Mode 5. This change in Completion Time is necessary to ensure a safe and orderly shutdown to Mode 5. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O24 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
232	3.4.03 Pg 29	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Rewrite sentence in Background: The criticality limit curve includes the Reference 1 requirement that it to be ≥ 40° F above the heatup curve or the cooldown curve, and not less than the minimum permissible temperature for ISLH Testing per Reference 1 .	A3	SPSB agrees, C1 but notes an additional grammatical correction in fourth paragraph in the existing markup	<p>C1 In GTST for Subsection 3.4.3, Section XI on page 17 and Section XII on page 28, “Background” section of Bases, revise the fourth paragraph, last sentence, as indicated (existing markup shown in black):</p> <p>... The limits do not apply to the pressurizer or to and the pressurizer surge line, which has have different design characteristics and operating functions.</p> <p>In GTST Section VIII, describe SPSB comment and its resolution.</p> <p>Modify GTST Sections IV, V, VI, and VII (as appropriate).</p> <hr/> <p>C1 In GTST for Subsection 3.4.3, Section XI on page 18 and Section XII on page 29, “Background” section of Bases, revise the tenth paragraph, as indicated (existing markup shown in black; also includes markup based on comment 233):</p> <p>The criticality limit curve includes the Reference 1 requirement that itto be ≥ 40°F above the heatup curve or the cooldown curve, and not less than the minimum permissible temperature for RCS ISLH Testing testing per Reference 1.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	<p>ORNL GTST O24 complete</p> <hr/> <p>ORNL GTST O24 complete</p>
233	3.4.03 Pg 29	Editorial change for clarity.	Make the following changes to Background: ... heatup curve or the cooldown curve, and not less than the minimum permissible temperature for RCS ISLH T esting.	A3	SPSB agrees	<p>In GTST for Subsection 3.4.3, Section XI on page 18 and Section XII on page 29, “Background” section of Bases, revise the tenth paragraph, as indicated (existing markup shown in black; also includes markup based on comment 232):</p> <p>The criticality limit curve includes the Reference 1 requirement that itto be ≥ 40°F above the heatup curve or the cooldown curve, and not less than the minimum permissible temperature for RCS ISLH Testing testing per Reference 1.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	<p>ORNL GTST O24 complete</p>

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- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
234	3.4.03 Pg 30	Revise TS 3.4.3 Bases LCO to delete "and criticality." Consistent with Background next-to-last paragraph and SR 3.4.3.1 Bases discussion (and NUREG-1431), this Specification does not provide the criticality temperature limits.	Make the following changes in the LCO discussion: a. The limit curves for heatup, cooldown, and ISLH testing and criticality ; and	A3 A5 T1	SPSB agrees	In GTST for Subsection 3.4.3, Section XI on page 19 and Section XII on page 30, "LCO" section of Bases, revise element "a", as indicated (existing markup shown in black): The two elements of this LCO are: a. The limit curves for heatup, cooldown, and RCS ISLH testing and criticality ; and In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O24 complete
235	3.4.03 Pg 31	Delete TS 3.4.3 Actions Bases first paragraph (i.e., "...additional actions from emergency operating procedures"). Paragraph is inconsistent with NUREG-1431 and standard TS Bases content, and is therefore deleted. EOP actions are not appropriate to be referenced from TS Bases.	Remove the following from the Actions: The actions of this LCO consider the premise that a violation of the limits occurred during normal plant maneuvering. Severe violations caused by abnormal transients, at times accompanied by equipment failures, may also require additional actions from emergency operating procedures.	A5	SPSB agrees C1 but suggests an additional edit for clarity in the Applicability section	In GTST for Subsection 3.4.3, Section XI on page 20 and Section XII on page 30 • C1 In the "Applicability" section of Bases, revise last sentence of first paragraph, as indicated (existing markup shown in black): The limits do not apply to the pressurizer or and the pressurizer surge line. • In the "Actions" section of Bases, delete the first paragraph. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O24 complete
236	3.4.03 Pg 31	Delete TS 3.4.3 Bases sentence for Actions A.1 and A.2 (i.e., "Restoration is in the proper direction to reduce RCPB stress"). This sentence is not standard content in NUREG-1431 or other standard TS, and gives no guidance concerning "proper direction" of restoration and is not helpful to the operator.	Remove the following from the Actions: <u>A.1 and A.2</u> Operation outside the P/T limits must be restored to within the limits. The RCPB must be returned to a condition that has been verified by stress analyses. Restoration is in the proper direction to reduce RCPB stress.	A5	SPSB agrees	In GTST for Subsection 3.4.3, Section XI on page 21 and Section XII on page 31, in the "Actions" section of Bases, under heading of "A.1 and A.2", delete last sentence of first paragraph, as shown: Operation outside the P/T limits must be restored to within the limits. The RCPB must be returned to a condition that has been verified by stress analyses. Restoration is in the proper direction to reduce RCPB stress. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O24 complete

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- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
237 44	3.4.04 Pg 03	Last paragraph states that the NRC Staff RAIs are Reference 8 and the Southern Nuclear responses are Reference 9. The correct references are References 5 and 6.	Change Reference "8" to "5" and Reference "9" to "6"	A1	SPSB agrees	In GTST for Subsection 3.4.4, Section III, last paragraph, correct References 8 and 9 to References 5 and 6. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O25 complete
238	3.4.04 Pg 06	There are five instances on this page where the term VEGP LAR "DOC" is mistyped as VEGP LAR "DCO"	Correct "DCO" to "DOC"	A1	SPSB agrees	In GTST for Subsection 3.4.4, Section VI, Correct "DCO" to "DOC" everywhere on page 6 (five places) In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O25 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
239	3.4.04 Pg 28	Delete TS 3.4.4 Bases LCO discussion of 3,000 gpm and revise TS 3.4.8 Bases LCO to include the 3,000 gpm limit. Currently, there is no mention of 3,000 gpm in TS 3.4.8 Bases to align with the TS 3.4.8 LCO requirement.	Remove the following from the LCO Bases discussion: With the PLS not capable of rod withdrawal and all rods fully inserted only a minimum RCS flow of 3,000 gpm is necessary to ensure removal of decay heat from the core in accordance with LCO 3.4.8, Minimum RCS Flow.	A5	SPSB agrees B2 Withdrawn SPSB disagrees but suggests moving paragraph to "Applicability" section of Bases. See comment 253 C1 An edit to correct a grammatical error in the "ASA" section of the Bases is also suggested.	B2 In GTST for Subsection 3.4.4, Section XI on page 18 and Section XII on page 28, "LCO" section of Bases, Withdrawn-move delete the second paragraph to the end of the "Applicability" section (existing markup shown in black): Notice that the APOG markup is not a markup of the GTS, rather it is a markup of the Section XII revised paragraph. The GTST should show the GTS paragraph being lined out. With the RTBs in the open position, the PLS is not capable of rod withdrawal; therefore only a minimum RCS flow of 3,000 gpm is necessary to ensure removal of decay heat from the core in accordance with LCO 3.4.8, Minimum RCS Flow. Withdrawn With the RTBs in the open position, the PLS is not capable of rod withdrawal; therefore PLS not capable of rod withdrawal and all rods fully inserted only a minimum RCS flow of 3,000 gpm is necessary to ensure removal of decay heat from the core in accordance with LCO 3.4.8, Minimum RCS Flow. Withdrawn SPSB justification: Even though this statement does not directly relate to meeting LCO 3.4.4, it is appropriate to point out the RCS flow requirements when LCO 3.4.4 does not apply. To be consistent with Bases for Subsection 3.4.5, "RCS Loops — MODE 3" of NUREG 1431, Rev. 4, the appropriate location of this paragraph is in the "Applicability" section of the Bases for AP1000 STS 3.4.4. As suggested by comment 253, the Bases for LCO 3.4.8 also needs revising to explicitly address the 3000 gpm RCS minimum flow limit. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate). B2 Add to list of <u>APOG discussion topics</u> .	ORNL GTST O25 complete

continued

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
239	3.4.04 Pg 28	Delete TS 3.4.4 Bases LCO discussion of 3,000 gpm and revise TS 3.4.8 Bases LCO to include the 3,000 gpm limit. Currently, there is no mention of 3,000 gpm in TS 3.4.8 Bases to align with the TS 3.4.8 LCO requirement.	Remove the following from the LCO Bases discussion: <i>With the PLS not capable of rod withdrawal and all rods fully inserted only a minimum RCS flow of 3,000 gpm is necessary to ensure removal of decay heat from the core in accordance with LCO 3.4.8, Minimum RCS Flow.</i>	A1 A5	SPSB agrees B2 Withdrawn <i>SPSB disagrees but suggests moving paragraph to "Applicability" section of Bases. See comment 253</i> C1 An edit to correct a grammatical error in the "ASA" section of the Bases is also suggested.	Continued from previous page C1 In GTST for Subsection 3.4.4, Section XI on page 17 and Section XII on page 27, "ASA" section of Bases, third paragraph, revise last sentence as indicated: The DNBR limit defines a locus of pressure and temperature points which result that results in a minimum DNBR greater than or equal to the critical heat flux correlation limit. This grammatical error also exists in STS; for example, see "ASA" section of Bases for Subsection 3.4.5, "RCS Loops – MODE 3" of NUREG-1431, Rev. 4. In GTST Section VIII, describe SPSB comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate).	ORNL GTST O25 complete
240	3.4.04 Pg 31	Editorial change for clarity.	Make the following changes to Actions A.1, A.2, A.3, and A.4: ... the core heat removal needs and minimizes minimizing the possibility of violating DNB limits.	A3	SPSB agrees	In GTST for Subsection 3.4.4, Section XI on page 21 and Section XII on page 31, "Actions" section of Bases, first paragraph under heading "A.1, A.2, A.3, and A.4", revise last sentence as indicated (existing markup shown in black): This prevents startup of a RCP and the resulting circulation of cold and/or unborated water from an inactive loop into the core, precluding reactivity excursion events which are unanalyzed and This lowers power level; and thus reduces ing the core heat removal needs and minimizes minimizing the possibility of violating DNB limits. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O25 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
241 45 46	3.4.06 Pg 20	GTS LCO 3.4.6 has Applicability Notes that are mistakenly moved in the GTST as LCO Notes. The GTS evaluation and the corresponding Bases, continue to reflect the existence of Applicability Notes. The GTST Section XI and Section XII TS pages appear to have typographical errors in the placement of the Notes.	Revise Section XI and Section XII to present the LCO Notes as Applicability Notes	A1	SPSB agrees	In GTST for Subsection 3.4.6, Section XI on page 12 and Section XII on page 20, move the Note from after the LCO statement to after the Applicability statements. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O27 complete
242 47	3.4.07 Pg 26	Revise TS 3.4.7 Bases Background to add discussion about LCO 3.4.15, "RCS Pressure Isolation Valve (PIV) Integrity," consistent with NUREG-1431 LCO 3.4.14. The discussion regarding treatment of leakage through PIVs aids in more fully describing RCS operational leakage.	Add the following to the end of the Background: LCO 3.4.15, "RCS Pressure Isolation Valve (PIV) Integrity," measures leakage through each individual PIV and can impact this LCO. Of the two PIVs in series in each isolated line, leakage measured through one PIV does not result in RCS LEAKAGE when the other is leak tight. If both valves leak and result in a loss of mass from the RCS, the loss must be included in the allowable identified LEAKAGE.	A5	SPSB agrees B2 Withdrawn However, NUREG-1431, STS 3.4.13, "RCS Operational LEAKAGE," includes this paragraph in the "Applicability" section of Bases, not in the "Background" section. B2 Withdrawn SPSB also suggests edits to the proposed paragraph to improve consistency with the "Background" section of the Bases, second paragraph, of Subsection 3.4.14, "RCS Pressure Isolation Valve (PIV) Leakage," of NUREG-1431, Rev. 4	B2 In GTST for Subsection 3.4.7, "RCS Operational LEAKAGE ," Section XI on page 12 and Section XII on page 26 append the following paragraph to the " Background " section of the Bases: LCO 3.4.15, "RCS Pressure Isolation Valve (PIV) Integrity," measures leakage through each individual PIV and can impact this LCO. Of the two PIVs in series in each isolated line, leakage measured through one PIV does not result in RCS LEAKAGE when the other is leak tight. If both valves leak and result in a loss of mass from the RCS, the loss must be included in the allowable B2 Withdrawn allowable identified LEAKAGE. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" B2 Add to list of APOG discussion topics	ORNL GTST O28 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
243	3.4.07 Pg 27	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following editorial changes to LCO Bases: RCS operational LEAKAGE shall be limited to: Violation of this LCO could result in continued degradation of the RCPB. LEAKAGE past seals and gaskets are is not pressure boundary LEAKAGE.	A1	SPSB agrees	In GTST for Subsection 3.4.7, "RCS Operational LEAKAGE ," Section XI on page 13 and Section XII on page 27 in the "LCO" section of the Bases: o Change first sentence as indicated: RCS operation operational LEAKAGE shall be limited to: o Change pressure boundary LEAKAGE discussion as indicated: No pressure boundary LEAKAGE is allowed, being indicative of material deterioration. LEAKAGE of this type is unacceptable as the leak itself could cause further deterioration, resulting in higher LEAKAGE. Violation of this LCO could result in continued degradation of the RCPB. LEAKAGE past seals and gaskets are is not pressure boundary LEAKAGE. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O28 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
244	3.4.07 Pg 28	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following editorial changes to LCO Bases: If leaked <u>leakage is</u> through many cracks, <u>and</u> the cracks are very small, and then the above assumption is conservative.	A1	SPSB agrees	In GTST for Subsection 3.4.7, "RCS Operational LEAKAGE," Section XI on page 14 and Section XII on page 28 in the "LCO" section of the Bases: o Change discussion of LEAKAGE from primary to IRWST through the PRHR HX, as indicated: The 500 gpd limit from the PRHR HX is based on the assumption that a single crack leaking this amount would not lead to a PRHR HX tube rupture under the stress condition of an RCS pressure increase event. If leaked <u>the leakage is</u> through many cracks, <u>and</u> the cracks are very small, and then the above assumption is conservative. This is conservative because the thickness of the PRHR HX tubes is approximately 60% greater than the thickness of the SG tubes. Furthermore, a PRHR HX tube rupture would result in an isolable leak and would not lead to a direct release of radioactivity to the atmosphere. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O28 complete

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245	3.4.07 Pg 30	Revise TS 3.4.7 Bases and SR 3.4.7.1 Bases definition of "steady state" to match AP1000 DCD 5.2.5.3.2. Current Bases incorrectly defines steady state. There are no RCP seals, and no seal injection or seal return flow in the AP1000 design.	Make the following changes to Surveillance Requirements: Steady state operation is required to perform a proper inventory balance since calculations during maneuvering are not useful. For RCS operational LEAKAGE determination by inventory balance, steady state is defined as stable RCS pressure, temperature, power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels makeup tank levels, and with no makeup or letdown.	A1 T1 <hr/> T4	SPSB agrees – proposed change matches DCD Rev. 19 Section 5.2.5.3.2, second paragraph, third sentence: "Steady-state is defined as stable reactor coolant system pressure, temperature, power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels." See comment 258 E2 Withdrawn See alternate suggestion by SPSB.	In GTST for Subsection 3.4.7, "RCS Operational LEAKAGE," Section XI on page 19 and Section XII on page 30 in the "SRs" section of the Bases: o Change second paragraph under heading "SR 3.4.7.1" by changing "a RCS" to "an RCS" since the "R" is pronounced with a vowel sound. o Change fourth paragraph under heading "SR 3.4.7.1" as indicated: Steady state operation is required to perform a proper inventory balance since calculations during maneuvering are not useful. For RCS operational LEAKAGE determination by inventory balance, steady state is defined as stable RCS pressure, temperature, power level, pressurizer level, and makeup tank levels, and with no makeup or letdown reactor coolant drain tank and in-containment refueling water storage tank levels. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" <u>Add following to list of APOG discussion topics:</u> E2 Withdrawn SPSB suggests additional changes relating to description of "steady state operation" for both • RCS operational LEAKAGE determination by inventory balance, and • RCS primary to secondary LEAKAGE determination ... steady-state is defined as stable reactor coolant system RCS pressure, average temperature, and makeup and letdown flows, reactor power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels. <i>Since AP1000 controls pressurizer level in a band, letdown and makeup flow is infrequent compared to a 4-loop Westinghouse PWR; so those flows may not be needed in the description:</i> ... steady-state is defined as stable reactor coolant system RCS pressure and average temperature, reactor power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels; steady-state also means no makeup flow and no letdown flow.	ORNL GTST O28 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
246	3.4.07 Pg 30	Revise TS 3.4.9 Bases for Applicability to delete discussion of "RCS inventory monitoring via the pressurizer level changes." Monitoring pressurizer level changes is not part of RCS Leakage Detection Instrumentation. The indirect relation to RCS inventory balance is a discussion item for TS 3.4.7, "RCS Operational LEAKAGE." Therefore, move this TS Bases sentence to SR 3.4.7.1 Bases.	Add the following to Surveillance Requirements, immediately before paragraph beginning with "An early warning of pressure boundary . . .": <u>RCS inventory monitoring via the pressurizer level changes is valid in MODES 1, 2, 3, and 4 only when RCS conditions are stable, i.e., temperature is constant, pressure is constant, no makeup and no letdown.</u>	A3	SPSB agrees with moving the sentence, but suggests replacing the phrase "i.e., temperature is constant, pressure is constant, no makeup and no letdown" with "as described above" See comments 244, 247, and 257	In GTST for Subsection 3.4.7, "RCS Operational LEAKAGE," Section XI on page 19 and Section XII on page 30 in the "SRs" section of the Bases: o C1 Under heading "SR 3.4.7.1" insert the following sentence to beginning of fifth paragraph, as indicated: RCS inventory monitoring via pressurizer level changes is valid in MODES 1, 2, 3, and 4 only when RCS conditions are stable, as described above i.e., temperature is constant, pressure is constant, no makeup and no letdown. An early warning of pressure boundary LEAKAGE or unidentified LEAKAGE is provided by the automatic systems that monitor the containment atmosphere F18 particulate radioactivity and the containment sump level. It should be noted that LEAKAGE past seals and gaskets is not pressure boundary LEAKAGE. These LEAKAGE detection systems are specified in LCO 3.4.9, "RCS LEAKAGE Detection Instrumentation." In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O28 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
247	3.4.07 Pg 30	Revise TS 3.4.7 Bases and SR 3.4.7.1 Bases definition of "steady state" to match AP1000 DCD 5.2.5.3.2. Current Bases incorrectly defines steady state. There are no RCP seals, and no seal injection or seal return flow in the AP1000 design.	Make the following changes to Surveillance Requirements for SR 3.4.7.2: For RCS primary to secondary LEAKAGE determination, steady state is defined as stable RCS pressure, temperature, power level, pressurizer and reactor coolant drain tank and in-containment refueling water storage tank levels makeup tank levels, and makeup and letdown, and RCP seal injection and return flows.	A1 T1	SPSB agrees C1 with small difference – proposed change does not fully match DCD Rev. 19 Section 5.2.5.3.2, second paragraph, third sentence: "Steady-state is defined as stable reactor coolant system pressure, temperature, power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels." Withdrawn See comment 245	C1 In GTST for Subsection 3.4.7, "RCS Operational LEAKAGE," Section XI on page 20 and Section XII on page 31 in the "SRs" section of the Bases, change second paragraph under heading "SR 3.4.7.2" as indicated E2 Withdrawn (See alternate suggestion by SPSB in comment 245): The Surveillance is modified by a Note which states that the Surveillance is not required to be performed until 12 hours after establishment of steady state operation. For RCS primary to secondary LEAKAGE determination, steady state is defined as stable RCS pressure, temperature, power level, pressurizer level, and makeup tank levels, makeup and letdown, and RCP seal injection and return flows. reactor coolant drain tank and in-containment refueling water storage tank levels. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O28 complete
248 ⁴⁸	3.4.08 Pg 03	Last paragraph states that the NRC Staff RAIs are Reference 8 and the Southern Nuclear responses are Reference 9. The correct references are References 5 and 6.	Change Reference "8" to "5" and Reference "9" to "6"	A1	SPSB agrees	In GTST for Subsection 3.4.8, Section III, last paragraph, correct References 8 and 9 to References 5 and 6. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O29 complete
249	3.4.08 Pg 06	Under the Rationale for Changes section, VEGP LAR DOC A046 states that it provides clarification of "Note 4." DOC A046 affects "LCO Note 1," not "Note 4"	Change "Note 4" to "LCO Note 1"	A1	SPSB agrees	In GTST for Subsection 3.4.8, Section VI, on page 6, under heading "Rationale for Changes . . ." revise second paragraph, discussion of DOC A046, as indicated: VEGP LAR DOC A046 provides clarification of LCO Note 14 similar to TSTF-438-A. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O29 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
250	3.4.08 Pg 14	Markup of the GTS 3.4.8 Applicability statement is missing a comma separating "all rods fully inserted" from the remainder of the Applicability. Failure to include the comma results in a grammatically incorrect statement that could be misinterpreted.	Insert a comma after "all rods fully inserted"	A2	SPSB agrees	In GTST for Subsection 3.4.8, Section XI on page 14, revise Applicability statement by inserting a comma after "all rods fully inserted" (existing markup shown in black): MODES 3, 4, and 5, whenever the reactor trip breakers are open with Plant Control System incapable of rod withdrawal, all rods fully inserted, and with unborated water sources not isolated from the RCS. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes"	ORNL GTST O29 complete
251	3.4.08 Pg 22	STS 3.4.8 Applicability statement is missing a comma separating "all rods fully inserted" from the remainder of the Applicability. Failure to include the comma results in a grammatically incorrect statement that could be misinterpreted.	Insert a comma after "all rods fully inserted"	A2	SPSB agrees Duplicate of comment 250	In GTST for Subsection 3.4.8, Section XII on page 22, revise Applicability statement by inserting a comma after "all rods fully inserted": MODES 3, 4, and 5 with Plant Control System incapable of rod withdrawal, all rods fully inserted, and unborated water sources not isolated from the RCS.	ORNL GTST O29 complete
252	3.4.08 Pg 24	Revise TS 3.4.8 Bases Background to delete last paragraph. This paragraph contains a potentially misleading discussion of means to achieve RCS circulation beyond RCP forced circulation. Since these means are not appropriate for compliance with the LCO, this discussion is deleted.	Delete the following from Background: Within the RCS, coolant loop flow can be provided by the reactor coolant pumps, the Normal Residual Heat Removal System (RNS), and to a lesser degree when in the passive mode of operation, natural circulation.	T1 T4	SPSB agrees B2 Withdrawn but suggests a paragraph to state why the LCO requires one RCP to be in operation.	Add following to list of APOG discussion topics: In GTST for Subsection 3.4.8, Section XI on page 16 and Section XII on page 24, B2 Withdrawn revise delete the third paragraph of the "Background" section of the Bases, as indicated: B2 Withdrawn The purpose of this LCO is to ensure at least one RCP is in operation with a total flow through the core of at least 3,000 gpm, which is the minimum flow necessary to ensure adequate mixing of primary system coolant with makeup coolant inadvertently injected at boron concentrations less than required to maintain the specified SDM. Within the RCS, coolant loop flow can be provided by the reactor coolant pumps, the Normal Residual Heat Removal System (RNS), and to a lesser degree when in the passive mode of operation, natural circulation. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes"	ORNL GTST O29 complete

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253	3.4.08 Pg 25	<p>Revise TS 3.4.8 Bases LCO to include the 3,000 gpm limit. Currently, there is no mention of 3,000 gpm in TS 3.4.8 Bases to align with the TS 3.4.8 LCO requirement. This discussion was inappropriately provided in the Bases for LCO 3.4.4.</p> <p>Also, revise TS 3.4.8 Bases LCO to clarify that the intended Action entry is understood to encompass the condition of less than 3,000 gpm also. TS 3.4.8 requires both that one RCP be in operation and that it be providing at least 3,000 gpm. Condition A states only "No RCP in operation." That both conditions are included in the Action entry is clarified in the LCO Bases.</p>	<p>Make the following changes to LCO:</p> <p>The requirement that <u>at least one RCP be in operation with a minimum RGS core flow $\geq 3,000$ gpm be maintained</u> provides assurance that in the event of an inadvertent BDE, the diluted water will be properly mixed with the primary system coolant, and the increase in core reactivity will be detected by the source range instrumentation. <u>A core flow $< 3,000$ gpm is considered equivalent to no RCP in operation.</u></p>	A3 T4	<p>SPSB agrees, C1 but suggests inserting "of" before the symbols \geq and $<$ and "neutron flux" after "source range"</p> <p>See comment 239</p>	<p>C1 In GTST for Subsection 3.4.8, Section XI on page 17 and Section XII on page 25, revise the first paragraph of the "LCO" section of the Bases, as indicated:</p> <p>The requirement that at least one RCP be in operation with a minimum RGS core flow of $\geq 3,000$ gpm be maintained provides assurance that in the event of an inadvertent BDE, the diluted water will be properly mixed with the primary system coolant, and the increase in core reactivity will be detected by the source range neutron flux instrumentation. A core flow of $< 3,000$ gpm is considered equivalent to no RCP in operation.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O29 complete
254 49	3.4.09 Pg 05	In the Changes to the Generic Technical Specifications and Bases section, the DOC A048 description does not identify that changes were also made to the Surveillance Requirements.	Change the description of DOC A048 to include mention of "the Surveillance Requirements"	T4	SPSB agrees	<p>In GTST for Subsection 3.4.8, Section V on page 5, under heading "Changes to GTS and Bases", revise first paragraph as indicated:</p> <p>Equipment nomenclature is updated in the LCO statement, the Applicability Notes, and the Actions, and Surveillance Requirements. (DOC A048)</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p>	ORNL GTST O30 is complete

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255	3.4.09 Pg 27	GTS LCO 3.4.9 Applicability has 2 Notes. GTST contains no evaluation discussing deletion of these Notes. This appears to be a typographical oversight omitting these Notes.	Include Applicability Notes as found in GTS 3.4.9	A1	SPSB agrees, C1 and notes a typographical error correction and a consistency change	<p>C1 In GTST for Subsection 3.4.9, Section XI on page 16 and Section XII on page 27,</p> <ul style="list-style-type: none"> ○ Revise LCO 3.4.9 statement “b.” by removing extra space before period and after “monitor.” ○ C1 Restore the Notes inadvertently omitted from after the Applicability statement, and revise for consistency, as indicated. <hr/> <p>MODES 1, 2, 3, and 4.</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. The F18 particulate containment atmosphere radioactivity F18 particulate monitor is only required to be OPERABLE in MODE 1 with RTP > 20% THERMAL POWER > 20% RTP. 2. Containment sump level measurements cannot be used for leak detection if leakage is prevented from draining to the sump such as by redirection to the In-Containment Refueling Water Storage Tank (IRWST) by the containment shell gutter drains. <hr/> <p>In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate)</p>	ORNL GTST O30 is complete
256	3.4.09 Pg 31	Revise the TS 3.4.9 Bases for Applicable Safety Analyses reference to finding Leakage detection system response time and sensitivities in Chapter 15 to Chapter 5. The reference to Chapter 15 is not correct and Chapter 5 (Section 5.2) has the appropriate discussions.	<p>Make the following change to Applicable Safety Analyses:</p> <p>The system response times and sensitivities are described in FSAR Chapter 45 (Ref. 3).</p>	T1	SPSB agrees Duplicate of comment 262	<p>In GTST for Subsection 3.4.9, Section XI on pages 16 and 25, and Section XII on pages 31 and 35, in the “ASA” section of Bases, change “Chapter 15 (Ref. 3)” to “FSAR Chapter 5 (Ref. 3)”; and in the “References” section of the Bases, change “3. Chapter 15, “Accident Analysis” to “3. FSAR Chapter 5, “Reactor Coolant System and Connected Systems.”</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O30 is complete

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257	3.4.09 Pg 32	Revise TS 3.4.9 Bases for Applicability to delete discussion of "RCS inventory monitoring via the pressurizer level changes." Monitoring pressurizer level changes is not part of RCS Leakage Detection Instrumentation. The indirect relation to RCS inventory balance is a discussion item for TS 3.4.7, "RCS Operational LEAKAGE." Therefore, move this TS Bases sentence to SR 3.4.7.1 Bases.	Delete the following from Applicability: RCS inventory monitoring via the pressurizer level changes is valid in MODES 1, 2, 3, and 4 only when RCS conditions are stable, i.e., temperature is constant, pressure is constant, no makeup and no letdown.	A3	SPSB agrees See comment 246	In GTST for Subsection 3.4.9, Section XI on page 21 and Section XII on page 32, in the "Applicability" section of the Bases, remove the last sentence of the third paragraph Containment sump level monitoring is a valid method for detecting LEAKAGE in MODES 1, 2, 3, and 4. The containment atmosphere F18 particulate radioactivity LEAKAGE measurement during MODE 1 is valid only for reactor power > 20% RTP. RCS inventory monitoring via the pressurizer level changes is valid in MODES 1, 2, 3, and 4 only when RCS conditions are stable, i.e., temperature is constant, pressure is constant, no makeup and no letdown. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST 030 is complete

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258	3.4.09 Pg 33	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following change to Bases for both Actions A.1 and A.2, and for Actions B.1 and B.2: This time is acceptable, considering the frequency and adequacy of the monitoring of the change in integrated sump discharge required by Required Action A.1.	T1 A3	SPSB agrees C1 but suggests additional edits for clarity and consistency, and for technical accuracy. Revise language about "RCS steady state operation" to match DCD Rev. 19 Section 5.2.5.3.2, second paragraph, third sentence: "Steady-state is defined as stable reactor coolant system pressure, temperature, power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels." Withdrawn See comment 245 C1, E2 Withdrawn SPSB's suggested language to define "steady-state operation" is used in place of the phrasing in the Bases for GTS 3.4.9 Actions	<u>Add to list of APOG discussion topics</u> In GTST for Subsection 3.4.9, Section XI on pages 22 and 23, and Section XII on page 33, in the "Actions" section of the Bases, o C1 under heading "A.1 and A.2" revise the last sentence of the second paragraph, as indicated: Restoration of two containment sump level channels to OPERABLE status is required to regain the function sump level indication redundancy in a Completion Time of 14 days after the discovery of one sump level monitor's channel failure. This time is acceptable, considering the frequency and adequacy of the monitoring of the change in integrated containment sump discharge required by Required Action A.1. o C1 under heading "B.1 and B.2" revise the first and second paragraphs, as indicated: With two of the two both required containment sump level channels inoperable, no other form of sampling can provide the equivalent information; however, the containment atmosphere F18 particulate radioactivity monitor will provide indications of changes in LEAKAGE. Together with the containment atmosphere F18 particulate monitor, the periodic surveillance for RCS inventory balance, SR 3.4.7.1, must be performed at an increased frequency of once per 24 hours to provide information that is adequate to detect LEAKAGE. A Note is added provided for Required Action B.1 allowing that SR 3.4.7.1 is not required to be initially performed until 12 hours after establishing steady state operation (defined as stable RCS pressure, temperature, power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels). Withdrawn; and no makeup and letdown flow (stable temperature, power level, pressurizer and makeup tank levels, makeup and letdown). The 12 hour allowance provides sufficient time to collect and process all necessary data after stable plant conditions are established. Restoration of one containment sump level channel to OPERABLE status is required to regain the sump level indication function in a Completion Time of 72 hours after discovery of the second sump level monitor's channel failure. This time is acceptable, considering the frequency and adequacy of the RCS inventory balance required by Required Action B.1A.1 . In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O30 is complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
259	3.4.09 Pg 33	Editorial change is recommended to provide accuracy. Since there are two required channels inoperable, the 72-hours applies after the second monitor's failure. This kind of detail is not typical of STS Bases.	Delete the following from Bases Actions B.1 and B.2: Restoration of one sump channel to OPERABLE status is required to regain the function in a Completion Time of 72 hours after the monitor's failure.	A4	SPSB disagrees	C1 See comment 258	ORNL GTST O30 is complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
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260	3.4.09 Pg 33	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Delete the following from Bases Actions C.1.1, C.1.2, and C.2: With the F18 particulate containment atmosphere radioactivity-monitoring instrumentation channel inoperable, alternative action is required.	T1 A3	SPSB agrees, but suggests additional edits for clarity and consistency, and for technical accuracy. See comment 245; C1 Withdrawn SPSB's suggested language to define "steady-state operation" is used in place of the phrasing in the Bases for GTS 3.4.9 Actions C1 Revise language about "RCS steady state operation" to match DCD Rev. 19 Section 5.2.5.3.2, second paragraph, third sentence: "Steady-state is defined as stable reactor coolant system pressure, temperature, power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels."	<u>Add to list of APOG discussion topics</u> C1 In GTST for Subsection 3.4.9, Section XI on page 23, and Section XII on page 33, in the "Actions" section of the Bases, under heading "C.1.1, C.1.2, and C.2" revise the first, second, and third paragraphs, as indicated (existing markup shown in black): With the containment atmosphere F18 particulate monitoring instrumentation channel inoperable, alternative action is required. Either grab samples of the containment atmosphere must be taken and analyzed, or RCS inventory balances ed must be performed , in accordance with SR 3.4.7.1, to provide alternate periodic information. With a containment atmosphere sample obtained and analyzed or an RCS inventory balance performed every 24 hours, the reactor may be operated for up to 30 days to allow restoration of the F18 particulate radioactivity monitor to OPERABLE status . The 24 hours-hour interval for grab samples or RCS inventory balances balance provides periodic information that is adequate to detect LEAKAGE. A Note is added provided for Required Action C.1.2 allowing that SR 3.4.7.1 is not required to be C1 initially performed until 12 hours after establishing steady state operation (defined as stable RCS pressure, temperature, power level, pressurizer level, and reactor coolant drain tank and in-containment refueling water storage tank levels) (stable temperature, power level, pressurizer and makeup tank levels, and makeup and letdown). The 12 hour allowance provides sufficient time to collect and process all necessary data after stable plant conditions are established. The 30 day Completion Time recognizes that at least one other form of leak detection is available. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O30 is complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
261	3.4.09 Pg 34	Editorial change is recommended to provide better accuracy. There could be “automatic” means that are either inoperable or not required to be operable. More accurately, the Condition is entered when all LCO “required” means are inoperable.	Delete the following from Bases Actions E.1: With all required monitors inoperable, no automatic required means of monitoring leakage is available and plant shutdown in accordance with LCO 3.0.3 is required.	T1 A3	SPSB agrees, C1 but suggests a different way to convey the idea. There is no need to remove “automatic”	C1 In GTST for Subsection 3.4.9, Section XI on page 24, and Section XII on page 34, in the “Actions” section of the Bases, under the heading “E.1”, revise the sentence as indicated: With all required monitors inoperable, no LCO required automatic means of monitoring leakage is available and plant shutdown in accordance with LCO 3.0.3 is required. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate).	ORNL GTST O30 is complete
262	3.4.09 Pg 35	Revise the TS 3.4.9 Bases for Applicable Safety Analyses reference to finding Leakage detection system response time and sensitivities in Chapter 15 to Chapter 5. The reference to Chapter 15 is not correct and Chapter 5 (Section 5.2) has the appropriate discussions.	Make the following changes to References: 3. FSAR Chapter 15 , “ Reactor Coolant System and Connected Systems Accident Analysis .”	T1	SPSB agrees Duplicate of comment 256	In GTST for Subsection 3.4.9, Section XI on pages 16 and 25, and Section XII on pages 31 and 35, in the “ASA” section of Bases, change “Chapter 15 (Ref. 3)” to “FSAR Chapter 5 (Ref. 3)”; and in the “References” section of the Bases, change “3. Chapter 15, “Accident Analysis” to “3. FSAR Chapter 5, “Reactor Coolant System and Connected Systems.” In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O30 is complete
263	3.4.09 Pg 35	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Bases Surveillance Requirements SR 3.4.9.3 and SR 3.4.9.4: Again, o operating experience has proven that this Frequency is acceptable.	A3	SPSB agrees, C1 but suggests an additional edit for consistency and accuracy.	C1 In GTST for Subsection 3.4.9, Section XI on page 24, and Section XII on page 35, in the “SRs” section of the Bases, under the heading “SR 3.4.9.3 and SR 3.4.9.4”, revise the last sentence as indicated (existing markup shown in black): These SRs require the performance of a CHANNEL CALIBRATION for each of the required RCS Leakage detection instrumentation channels. The calibration verifies the accuracy of the instrument string, including the instruments located inside containment. The Frequency of 24 months is a typical refueling cycle and considers channel reliability. Again, operating Operating experience has proven shown that this Frequency is acceptable. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate).	ORNL GTST O30 is complete

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
264 50	3.4.10 Pg 25	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Use the symbol in Background: The LCO limits are established to be consistent with a fuel defect level of 0.25% percent and to ensure that	A1 A2 A4	SPSB agrees, but suggests an additional edit for consistency and accuracy.	In GTST for Subsection 3.4.10, o Section XI on page 16, and Section XII on page 24, in SR 3.4.10.1, replace “ ≤ ” with “ ≤ ”. o Section XI on page 17, and Section XII on page 25, in “Background” section of Bases, second sentence of second paragraph, replace “ 0.25 percent ” with “ 0.25% ” In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O31 complete
265	3.4.10 Pg 25	Delete TS 3.4.10 Bases Applicable Safety Analysis section, first paragraph, second half of statement beginning with “either.” The statement is confusing since both the Steam Generator Tube Rupture (SGTR) and the Steam Line Break (SLB) are fundamentally the same pathways to environment. This “either” distinction is not found in NUREG-1431. Deleting the statement avoids confusion without detracting from TS Bases intent.	Delete the following from the Applicable Safety Analyses: The LCO limits on the reactor coolant specific activity are a factor in accident analyses that assume a release of primary coolant to the environment either directly as in a Steam Generator Tube Rupture (SGTR) or indirectly by way of LEAKAGE to the secondary coolant system and then to the environment (the Steam Line Break).	A5 T4	SPSB agrees	In GTST for Subsection 3.4.10, Section XI on page 17, and Section XII on page 25, in “ASA” section of Bases, revise first paragraph as indicated: The LCO limits on the reactor coolant specific activity are a factor in accident analyses that assume a release of primary coolant to the environment either directly as in a Steam Generator Tube Rupture (SGTR) or indirectly by way of LEAKAGE to the secondary coolant system and then to the environment (the Steam Line Break). In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O31 complete
266 51	3.4.11 Pg 08	Last paragraph under “Technical Analysis” states that the changes (implied “all”) are editorial, clarifying, grammatical, or otherwise considered administrative.” However, the Technical Analysis discusses VEGP LAR DOC L01 as “less restrictive”	Revise the first sentence of the last paragraph to add “remaining” such that it states: “The remaining changes are editorial, clarifying, grammatical, or otherwise considered administrative”	A1	SPSB agrees	In GTST for Subsection 3.4.11, Section VII on page 8, revise last paragraph, first sentence, as indicated: The remaining changes are editorial, clarifying, grammatical, or otherwise considered administrative. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O32 complete

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267	3.4.11 Pg 20	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Move the last paragraph of Actions C.1 to be the first paragraph of D.1 and D.2:</p> <p>Condition D is applicable, if two stage 4 flow paths are inoperable, more than three flow paths are inoperable, or a combination of three flow paths not listed above (i.e., with a combined flow capacity greater than the largest capacity ADS division) is inoperable.</p> <p>D.1 and D.2</p> <p>Condition D is applicable if two stage 4 flow paths are inoperable, more than three flow paths are inoperable, or any combination of three flow paths not listed above (i.e., with a combined flow capacity greater than the largest capacity ADS division) is inoperable.</p>	A3	SPSB agrees and suggests an additional change similar to that of comment 271	<p>In GTST for Subsection 3.4.11, Section XI on page 20 and Section XII on page 30, in the "Actions" section of the Bases,</p> <ul style="list-style-type: none"> ○ move the heading "D.1 and D.2" to before the preceding paragraph. ○ in next paragraph under heading "D.1 and D.2", revise first sentence to make "Conditions" to be "Condition", as indicated (existing markup shown in black); <p>If the Required Actions and associated Completion Times of Conditions Condition A, B, or C are not met or the requirements of LCO 3.4.11 is are not met for reasons other than Condition A, B, or C, the plant must be brought to MODE 5 where the probability and consequences of an event are minimized. . . .</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O32 complete
268	3.4.11 Pg 31	Revise SR 3.4.11.3 and SR 3.5.6.8 Bases to make editorial improvements to more completely reference the stated ASME OM Code and add the Code as a Reference consistent with other TS Bases Specifications. The "paragraph 4.6" reference for squib valve testing is more specifically "paragraph ISTC 4.6," which is the applicable paragraph from ASME OM Code 1995, 1996 addenda, Subsection ISTC (refer to AP1000 DCD 3.9.6, and 3.9.9 Reference 2).	<p>Make the following additions to Surveillance Requirements discussion for SR 3.4.11.3:</p> <p>The squib valves will be tested in accordance with the ASME OM Code (Ref. 5). The applicable ASME OM Code squib valve requirements are specified in paragraph ISTC 4.6, Inservice Tests for Category D Explosively Actuated Valves.</p>	T4	SPSB agrees See comments 317 and 318	<p>In GTST for Subsection 3.4.11, Section XI on page 21 and Section XII on page 31, in the "SRs" section of the Bases, under the heading "SR 3.4.11.3" modify second paragraph as indicated:</p> <p>The squib valves will be tested in accordance with the ASME OM Code (Ref. 5). The applicable ASME OM Code squib valve requirements are specified in paragraph ISTC 4.6, Inservice Tests for Category D Explosively Actuated Valves. The requirements include actuation of a sample of the installed valves each 2 years and periodic replacement of charges.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O32 complete

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269	3.4.11 Pg 31	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Add the following to SR 3.4.11.5: The ACTUATION LOGIC TEST overlaps this Surveillance to provide complete testing of the assumed safety function. The OPERABILITY of the squib valves is checked by performing a continuity check of the circuit from the Protection Logic Cabinets to the squib valve.	T4	SPSB agrees C1 Withdrawn but suggests replacing "Protection" with "PMS" Withdrawn See comments 310 and 319	C1 In GTST for Subsection 3.4.11, Section XI on page 21 and Section XII on page 31, in the "SRs" section of the Bases, under the heading "SR 3.4.11.5" modify first paragraph as indicated (existing markup shown in black): This SR verifies that each Stage 4 ADS valve actuates to the correct position on an actual or simulated actuation signal. The ACTUATION LOGIC TEST overlaps this Surveillance to provide complete testing of the assumed safety function. The OPERABILITY of the squib valves is checked by performing a continuity check of the circuit from the Withdrawn Protection PMS Protection Logic Cabinets to the squib valve. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" <hr/> <u>Add this question to list of APOG discussion topics:</u> E2 How are PMS cabinets, integrated protection cabinets (IPCs), and Protection Logic Cabinets related?	ORNL GTST O32 complete
270	3.4.11 Pg 32	With the change to SR 3.4.11.3 and SR 3.5.6.8 Bases to include a Reference citation, include ASME OM Code as new Reference.	Add the following to LCO 3.4.11 Bases References: 5. ASME OM Code, "Code for Operation and Maintenance of Nuclear Power Plants."	T4	SPSB agrees See comment 268 See comments 317 and 318	In GTST for Subsection 3.4.11, Section XI on page 22 and Section XII on page 32, in the "References" section of the Bases, add a new reference, as indicated: 5. ASME OM Code, "Code for Operation and Maintenance of Nuclear Power Plants." In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O32 complete

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271 52	3.4.12 Pg 17	Consistency with Writer's Guide –When making an “or” statement, “Condition” is singular.	Do not make “Condition” plural for Action C.1 Bases: If the Required Actions and associated Completion Times of Conditions A, B, or C are not . . .	A3	SPSB agrees and suggests an additional change similar to that of comment 267	In GTST for Subsection 3.4.12, Section XI on page 17 and Section XII on page 24, in the “Actions” section of the Bases, ○ move the heading “D.1” to before the preceding paragraph. ○ in next paragraph under heading “D.1”, revise first sentence to make “Conditions” to be “Condition”, as indicated (existing markup shown in black); If the Required Actions and associated Completion Times of Conditions Condition A, B, or C are not met or the requirements of LCO 3.4.12 is are not met for reasons other than Condition A, B, or C, the plant must be placed in a MODE in which this LCO does not apply. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases” <u>Add to list of APOG discussion topics.</u> E2 In GTST for Subsection 3.4.12, Section XI on page 18 and Section XII on page 25, in the “References” section of the Bases, should Reference 1, “AP1000 Probabilistic Risk Assessment, Appendix A” be modified to reflect plant-specific version?	ORNL GTST O33 complete
272	3.4.12 Pg 24	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Format the list by adding bullets in Actions: • One stage 1, one stage 2 or 3, and one stage 4 • One stage 1 and two stage 2 or 3 • Two stage 1 and one stage 2, 3, or 4 • Two stage 2 or 3 and one stage 4 • Three stage 2 or 3	A3	SPSB agrees	In GTST for Subsection 3.4.12, Section XI on page 17 and Section XII on page 24, in the “Actions” section of the Bases, under heading “C.1” make the list of combinations of three inoperable flow paths to be a bulleted list, as indicated: • One stage 1, one stage 2 or 3, and one stage 4 • One stage 1 and two stage 2 or 3 • Two stage 1 and one stage 2, 3, or 4 • Two stage 2 or 3 and one stage 4 • Three stage 2 or 3 In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O33 complete

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273 53	3.4.13 Pg 04	The GTST Section IV discussion of VEGP LAR DOC A056 incorrectly describes a change to the Bases. The DOC does not address Bases changes. Furthermore, there are no differences in the AP1000 NUREG STS draft from the VEGP Amended TS or associated Bases changes. This Section IV discussion appears to be a mistake.	Remove the GTST Section IV discussion related to VEGP LAR DOC A056.	A3	SPSB agrees, C1 but retains the paragraph without reference to DOC A056	C1 In GTST for Subsection 3.4.13, Section IV on page 4, revise last paragraph, as indicated: DOC A056 revises the The discussion of SR 3.4.13.2 surveillance discussion in the "Surveillance Requirements" section of the bases Bases is clarified by replacing the phrase "...are applicable to the stage 4 ADS valves required to be OPERABLE." To with "...are applicable to the valves in the two stage 4 ADS flow paths valves required to be OPERABLE." This portion of the DOC A056 change is not implemented because surveillance requirements apply to system components; not flow paths. In GTST Section VIII, describe APOG comment and its resolution. Revise description of <u>Bases change</u> in GTST Sections IV, V, VI, and VII (as appropriate), including removal of references to DOC A056.	ORNL GTST O34 complete
274	3.4.13 Pg 14	Text added to first entry condition of Condition C incorrectly states plural "Conditions." The discussion of VEGP LAR DOC A059 states that the first entry condition of Condition C is revised by adding "of Condition A or B" (i.e., singular) to the condition statement.	Revise the added text by making "Conditions" singular.	A2	SPSB agrees	In GTST for Subsection 3.4.13, Section XI on page 14, and Section XII on page 22, revise Condition C and Condition D statements to say "... Condition A or B ..." In GTST Section VIII, describe APOG comment and its resolution. Revise description of changes in GTST Sections IV, V, VI, and VII (as appropriate).	ORNL GTST O34 complete
275	3.4.13 Pg 18	Consistency with Writer's Guide –When making an "or" statement, "Condition" is singular.	Do not make "Condition" plural for Action C.1 and C.2 or for D.1 and D.2: ... associated Completion Times of Conditions A, B, or C are not ...	A2	SPSB agrees	In GTST for Subsection 3.4.13, Section XI on page 18, and Section XII on page 26, in the "Actions" section of the Bases, revise discussions of Required Actions C..1 and C..2 and Required Actions D.1 and D.2 to say "... Condition A or B ..." instead of "... Conditions A or B ...", which is incorrect. In GTST Section VIII, describe APOG comment and its resolution. Revise description of changes in GTST Sections IV, V, VI, and VII (as appropriate).	ORNL GTST O34 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
276	3.4.13 Pg 26	Revise various TS Bases stating “withdrawal of reactivity control assemblies” to “withdrawal of control rods” for editorial improvement and consistency with other TS Bases discussions.	Make the following changes to Actions in two places, C.1 and C.2, as well as D.1 and D.2: Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control assemblies rods, and excessive cooling of the RCS.	A3	SPSB agrees	C1 In GTST for Subsection 3.4.13, Section XI on page 18, and Section XII on page 26, in the “Actions” section of the Bases, revise the second sentence in the second paragraph in the discussions of Required Actions C..1 and C..2 and Required Actions D.1 and D.2, as indicated: Additionally, action to suspend positive reactivity additions is required to ensure that the SDM is maintained. Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control rods assemblies, and excessive cooling of the RCS. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O34 complete
277 54	3.4.14 Pg 17 and 32	Condition C wording has a typo. The phrase “Conditions A or B” should be “Condition A or B.” Note that the clean typed version on Pg 32 has the same error.	Change “Conditions” to “Condition”	A2	SPSB agrees	In GTST for Subsection 3.4.14, Section XI on page 17, and Section XII on page 32, revise Condition C statement to say “. . . Condition A or B . . .” In GTST Section VIII, describe APOG comment and its resolution. Revise description of changes in GTST Sections IV, V, VI, and VII (as appropriate).	ORNL GTST O35 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
278	3.4.14 Pg 38	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Applicable Safety Analyses for RNS Suction Relief Valve Performance: ... the relief valve will pass flow greater than that required for the limiting LTOP transient while maintaining RCS pressure less than the minimum <u>lowest</u> of either the P/T limit curve, 110% percent of the ...	A2 A3	SPSB agrees, but suggests additional edits to use "RNS" and "pressure", and remove "either" Fix a typographical error in Bases Background	C1 In GTST for Subsection 3.4.14, Section XI on page 23, and Section XII on page 38, in the "ASA" section of the Bases, under the heading "RNS Suction Relief Valve Performance," revise the first sentence of first paragraph, as indicated (existing markup shown in black): Since the RNS suction relief valve does not have a variable P/T lift setpoint, the analysis must show that with the chosen setpoint, the relief valve will pass flow greater than that required for the limiting LTOP transient while maintaining RCS pressure less than the minimum lowest of either the P/T limit curve pressure , 110% percent of the RNS design pressure of the normal residual heat removal system , or the acceptable RNS relief valve inlet pressure. The current analysis shows that up to a temperature of 70°F, the mass input transient is limiting, and above this temperature the heat input transient is limiting. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" In GTST for Subsection 3.4.14, Section XI on page 21, and Section XII on page 36, in the "Background" section of the Bases, under the heading "RNS Suction Relief Valve Requirements," insert a blank line between the second and third paragraphs.	ORNL GTST O35 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
279	3.4.14 Pg 38	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Applicable Safety Analyses for RCS Vent Performance: ... RCS pressure less than the minimum lower of either the maximum pressure on the P/T limit curve or 110% percent of the design pressure of the normal residual heat removal system.	A2 A3	SPSB agrees, but suggests an additional edit to use "RNS"	C1 In GTST for Subsection 3.4.14, Section XI on page 23, and Section XII on page 38, in the "ASA" section of the Bases, under the heading "RCS Vent Performance," revise the second sentence of first paragraph, as indicated: With the RCS depressurized, a vent size of 4.15 square inches is capable of mitigating a limiting overpressure transient. The area of the vent is equivalent to the area of the inlet pipe to the RNS suction relief valve so the capacity of the vent is greater than the flow possible with either the mass or heat input transient, while maintaining the RCS pressure less than the minimum lower of either the maximum pressure on the P/T limit curve or 110% percent of the RNS design pressure of the normal residual heat removal system . In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O35 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
280	3.4.14 Pg 39	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Move the “or” under LCO discussion:</p> <p>a. One OPERABLE RNS suction relief valve. or</p> <p>An RNS suction relief valve is OPERABLE for LTOP when both RNS suction isolation valves in one flow path are open, its setpoint is set within the PTLR (Reference 6) limit, and testing has proven its ability to open at this setpoint. <u>or</u></p>	A3	<p>SPSB agrees</p> <p>C1 but suggests additional edits to use “Ref.”; to insert a blank line; and use “a vent path” and “a flow area”</p>	<p>C1 In GTST for Subsection 3.4.14, Section XI on page 24, and Section XII on page 39, in the “LCO” section of the Bases, revise the second paragraph by inserting a blank line after it, and revise the ordered list of the third paragraph by moving the “or”, as indicated:</p> <p>To limit the coolant input capability, the LCO requires all accumulator discharge isolation valves closed and immobilized, when accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS temperature allowed in the PTLR.</p> <p>----- blank line -----</p> <p>The elements of the LCO that provide low temperature overpressure mitigation through pressure relief are:</p> <p>a. One OPERABLE RNS suction relief valve. or</p> <p>An RNS suction relief valve is OPERABLE for LTOP when both RNS suction isolation valves in one flow path are open, its setpoint is set within the PTLR (Reference 6) limit, and testing has proven its ability to open at this setpoint. <u>or</u></p> <p>b. A depressurized RCS and an RCS vent.</p> <p>An RCS vent is OPERABLE when a vent path is open with an a flow area of ≥ 4.15 square inches.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O35 complete
281	3.4.14 Pg 39	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes to LCO discussion:</p> <p>An RCS vent is OPERABLE when Path <u>is</u> open with an area of ≥ 4.15 square inches.</p>	A3	<p>SPSB agrees</p> <p>C1 but suggests additional edits to use “Ref.”; to insert a blank line; and use “a vent path” and “a flow area”</p>	<p>C1 See Comment 280</p>	ORNL GTST O35 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
282	3.4.14 Pg 40	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes to Applicability: In MODE 6, with the reactor vessel head is off, and an overpressurization cannot occur.	A3	SPSB agrees	In GTST for Subsection 3.4.14, Section XI on page 25, and Section XII on page 40, in the "Applicability" section of the Bases, revise the last sentence of the first paragraph, as indicated (existing markup shown in black): In MODE 6, when with the reactor vessel head is off, and an overpressurization cannot occur. <i>That is,</i> In MODE 6 with the reactor vessel head off an overpressurization cannot occur. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O35 complete
283	3.4.14 Pg 43	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication. There is no "operability" for open verification.	Make the following changes to the Surveillance Requirements for SR 3.4.14.3: The RCS vent of ≥ 4.15 square inches is proven OPERABLE by verifying its verified open condition either:	A3	SPSB agrees	In GTST for Subsection 3.4.14, Section XI on page 28, and Section XII on page 43, in the "SRs" section of the Bases, under the heading "SR 3.4.14.3", revise the first sentence, as indicated: The RCS vent of ≥ 4.15 square inches is proven OPERABLE by verifying its verified open condition either: <i>that is,</i> The RCS vent of ≥ 4.15 square inches is verified open either. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O35 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
284	3.4.14 Pg 43	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes to the Surveillance Requirements for SR 3.4.14.3: The passive vent arrangement must only be open to be OPERABLE. This Surveillance is <u>modified by a Note that states it is only</u> required to be performed if the vent is being used to satisfy the pressure relief requirements of the LCO 3.4.14b.	A3	SPSB agrees, C1 but notes that other changes based on DOC A061 are not included. C1 SPSB also suggests including additional rationale for DOC A061.	C1 In GTST for Subsection 3.4.14, Section XI on page 28, and Section XII on page 43, in the "SRs" section of the Bases, under the heading "SR 3.4.14.3", revise the last sentence, as indicated (existing markup shown in black – based on VEGP TSU LAR DOC A061): The passive vent arrangement must only be open to be OPERABLE. This Surveillance is modified by a Note that states it is only required to be met performed if the vent is being used to satisfy the pressure relief requirements of the LCO 3.4.14.b. In GTST Section VIII, describe APOG comment 284 and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" C1 In GTST for Subsection 3.4.14, Section VI on page 7, under heading "Rationale for changes in . . . RCOL PTS Changes", revise second paragraph as indicated: The Editorial changes to the surveillance column note of SR 3.4.14.3 and its associated Bases per VEGP LAR DOC A061 involve replacing the phrase "to be performed" with "to be met." The phrase "to be met" is appropriate, since the intended meaning of the note is to convey an exception to meeting the surveillance requirement acceptance criteria under specified conditions consistent with the LCO. These changes and the changes made per and VEGP LAR DOC A062 are consistent with the guidance provided in the TS Writer's Guide (Reference 7), Section 4.1.7.g. In GTST Section VIII, describe APOG comment E as it applies to this traveler, and its resolution.	ORNL GTST O35 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
285 55	3.4.15 Pg 22	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Add the following to the Background: The RCS PIV Leakage LCO allows RCS high pressure operation when PIV leakage has been verified <u>to be within limits</u> .	A2 A3	SPSB agrees, C1 and also suggests editing the previous sentence and other sentences in second, fifth, and sixth paragraphs C1 SPSB suggests other edits to conform to Writer's Guide	C1 In GTST for Subsection 3.4.15, Section XI on pages 14 and 15, and Section XII on pages 22 and 23, in the "Background" section of the Bases, o Revise last two sentences of first paragraph, as indicated: ... The AP1000 RCS PIVs are listed in FSAR Chapter 3, Table 3.9-18. The RCS PIV Leakage LCO allows RCS high pressure operation when PIV leakage has been verified to be within limits . o Revise second sentence of second paragraph, as indicated (existing markup shown in black): ... The following criteria were was used in identifying RCS PIVs for inclusion in the specification. ... o Revise fifth and sixth paragraphs, as indicated: The RCS PIVs that are addressed by this specification are listed in FSAR Chapter 3, Table 3.9-18. The CVS pressure isolation valves PIVs were not included in this specification based on the defined criteria. The justification for excluding the CVS PIVs is discussed in the following paragraph. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" C1 In GTST for Subsection 3.4.15, Section XI on page 12, and Section XII on page 20: • Delete comma after "MODE 4," in Applicability statement to conform to Writer's Guide section 4.1.5.d • Make Actions table Notes' top border dashed-line flush left • In Actions table Note 2, insert "RCS" before "PIV"	ORNL GTST O36 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
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- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
286	3.4.15 Pg 23	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes to the Background:</p> <p>The RNS pressure boundary isolation valves are considered to meet the first criterion for inclusion in this specification. The PXS accumulator check valves were determined to meet the second PIV criteria for inclusion in this specification. It is determined that the CVS PIVs do not meet either criteria for inclusion in this specification.</p>	A2 A3	SPSB agrees, C1 and also suggests editing sentences in other paragraphs and other Bases sections	<p>In GTST for Subsection 3.4.15, Section XI on page 15, and Section XII on page 23, in the "Background" section of the Bases, revise fourth paragraph as indicated (existing markup shown in black):</p> <p>The RNS pressure boundary isolation valves are considered to meet the first criterion for inclusion in this specification. The PXS accumulator check valves were determined to meet the second PIV criteria for inclusion in this specification. It is determined that the CVS PIVs do not meet either criteria for inclusion in this specification.</p> <p>C1 In GTST for Subsection 3.4.15, Section XI on page 16 and Section XII on page 24:</p> <ul style="list-style-type: none"> In the "ASA" section of the Bases, revise first paragraph first sentence as indicated: Pressure isolation valve RCS PIV integrity is not considered in any design basis accident analyses. In the "Applicability" section of the Bases, revise first and second paragraphs, as indicated: In MODES 1, 2, and 3, and MODE 4, with RCS not being cooled by the RNS, this LCO applies when the RCS is pressurized. In MODE 4, with RNS in operation, and in MODES 5 and 6, the RCS pressure is reduced and is not sufficient to overpressurize the connected low pressure systems. <p>C1 In GTST for Subsection 3.4.15, Section XI on page 17 and Section XII on page 25, in the "Actions" section of the Bases, second paragraph under heading "A.1"; revise last sentence, as indicated: The 8 hour Completion Time allows a reasonable time to perform the actions and appropriately restricts the unit operation with inoperable isolation valves RCS PIVs.</p> <p style="text-align: right;">continued</p>	ORNL GTST O36 complete

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286	3.4.15 Pg 23	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes to the Background:</p> <p>The RNS pressure boundary isolation valves are considered to meet the first criterion for inclusion in this specification. The PXS accumulator check valves were determined to meet the second PIV criteria for inclusion in this specification. It is determined that the CVS PIVs do not meet either <u>criteria</u> for inclusion in this specification.</p>	A2 A3	SPSB agrees, C1 and also suggests editing sentences in other paragraphs and other Bases sections	<p>Continued from previous page</p> <p>C1 In GTST for Subsection 3.4.15, Section XI on page 17 and Section XII on page 25, in the “Actions” section of the Bases,</p> <ul style="list-style-type: none"> first paragraph under heading “A.2”; revise last sentence, as indicated: <p>... If leakage into the an accumulators increased to the allowable operational leakage limit for the accumulator’s check valve, then the accumulator isolation valve could be used to isolate the its associated accumulators from the RCS.</p> <p>The 72 hour Completion Time allows a reasonable time to perform the actions and appropriately restricts the unit operation with inoperable isolation valves RCS PIVs.</p> first paragraph under heading “B.1 and B.2”; revise first paragraph, as indicated: <p>If RCS PIV integrity cannot be restored, the connected system cannot be isolated, or the other Required Actions cannot be accomplished, the plant unit must be brought to a MODE in which the requirement does not apply. To achieve this status, the plant must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours. This Action action may reduce the leakage and reduces the potential for a LOCA outside containment.</p> <p>In GTST Section VIII, describe APOG and SPSB comments and their resolution.</p> <p>Describe SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate)</p> <p>Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ORNL GTST O36 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
287 56	3.4.16 Pg 21	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to the Applicability: In MODES 1, 2, and 3, and MODE 4 with the RCS not being cooled by the RNS, the RVHV . . .	A2	SPSB agrees, but also suggests additional edits	A In GTST for Subsection 3.4.16, Section XI on page 16 and Section XII on page 21, in the “Applicability” section of the Bases, revise first and second paragraphs as indicated: In MODES 1, 2, and 3, and MODE 4 with the RCS not being cooled by the RNS, the RVHV must be OPERABLE to mitigate the potential consequences of any event which causes an increase in the pressurizer water level that could otherwise result in overfilling of the pressurizer. In MODE 4, with the RCS being cooled by the RNS, and in MODES 5 and 6, operation of the CMTs or CVS will not result in a pressurizer overflow event. In GTST Section VIII, describe APOG and SPSB comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O37 complete
288	3.4.16 Pg 21 – 22	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following additions to the Actions: C.1 and C.2 . . . for reasons other than Conditions A or B, the plant must be brought to MODE 4 with the RCS cooling provided by the RNS where the probability and consequences of an event are minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 with the RCS cooling provided by the RNS within 12 hours.	T4	SPSB agrees	C1 In GTST for Subsection 3.4.16, Section XI on page 16 and Section XII on pages 21 and 22, in the “Actions” section of the Bases, revise paragraph for Action C as indicated (existing markup shown in black): If the Required Actions and associated Completion Times are not met or the requirements of LCO 3.4.16 are not met for reasons other than Conditions A or B, the plant must be brought to MODE 4 with the RCS cooling provided by the RNS where the probability and consequences of an event are minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 with the RCS cooling provided by the RNS within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner, without challenging plant systems. If the Required Actions and associated Completion Times are not met or the requirements of LCO 3.4.16 are not met for reasons other than Conditions A or B, the plant must be brought to MODE 4 with the RCS cooling provided by the RNS where the probability and consequences of an event are minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 with the RCS cooling provided by the RNS within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner, without challenging plant systems. In GTST Section VIII, describe APOG and SPSB comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O37 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer’s Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
289 57	3.4.17 Pg 02	Second item under "RCOL PTS Change Number and Title" for VEGP LAR DOC D04 states that SR 3.4.17.2 is relocated to STS 3.1.9 as SR 3.1.9.2. However, VEGP LAR DOC D04 justifies the relocation of the CVS makeup line isolation valve stroke time from the TS to the Bases of SR 3.1.9.2. It does not discuss relocating SR 3.4.17.2 as SR 3.1.9.2, which is discussed in VEGP LAR DOC A064.	Revise second item to state "The CVS makeup line isolation valve stroke time is relocated from the STS to the SR 3.1.9.2 TS Bases."	A3	SPSB agrees	In GTST for Subsection 3.4.17, Section II, page 2, <ul style="list-style-type: none"> For DOC A064, add the statement, "GTS SR 3.4.17.2 is moved to STS Subsection 3.1.9 as SR 3.1.9.2." For DOC D04, change description/title to "The CVS makeup line isolation valve stroke time is relocated from GTS SR 3.4.17.2 to the Bases for STS SR 3.1.9.2." In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O38 complete
290	3.4.17 Pg 05	Second item under "Changes to the Generic Technical Specifications and Bases," quotes SR 3.1.9.2 as "Verify closure time of each CVS makeup isolation valve is within limits ≤ 30 seconds on an actual or simulated actuation signal." However, SR 3.1.9.2 actually states "Verify closure time of each CVS makeup isolation valve is within limits on an actual or simulated actuation signal."	Correct the wording for SR 3.1.9.2.	A3	SPSB agrees	In GTST for Subsection 3.4.17, Section V, page 5, under change descriptions, second item, correct quotation of STS SR 3.1.9.2, to say "Verify closure time of each CVS makeup isolation valve is within limits on an actual or simulated actuation signal." In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O38 complete

Administrative Types:

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- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
291	3.4.17 Pg 06	Second item under “Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes” for VEGP LAR DOC D04 states “VEGP LAR DOC D04 relocates SR 3.4.17.2 to TS 3.1.9 as SR 3.1.9.2 to ensure CVS makeup line isolation closure times are verified.” However, VEGP LAR DOC D04 justifies the relocation of the CVS makeup line isolation valve stroke time from the TS to the Bases of SR 3.1.9.2. It does not discuss relocating SR 3.4.17.2 as SR 3.1.9.2, which is discussed in VEGP LAR DOC A064.	Revise second item to state “VEGP LAR DOC D04 relocates the CVS makeup line isolation valve stroke time from the SR 3.4.17.2 to the SR 3.1.9.2 TS Bases.”	A3	SPSB agrees	In GTST for Subsection 3.4.17, Section VI, page 6, first and second items under heading “Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes” <ul style="list-style-type: none"> For DOC A064, add the statement, “GTS SR 3.4.17.2 is moved to STS Subsection 3.1.9 as SR 3.1.9.2.” For DOC D04, change description/title to “The CVS makeup line isolation valve stroke time is relocated from GTS SR 3.4.17.2 to the Bases for STS SR 3.1.9.2.” In GTST Section VIII, describe APOG comment and its resolution <hr/> In GTST Section VIII, replace the evaluator comments with: GTS SR 3.4.17.2 is retained in STS Subsection 3.1.9 as SR 3.1.9.2. See GTST AP1000-B19-3.1.9 for additional discussion.	ORNL GTST O38 complete
292 58	3.4.18 Pg 05	The GTST proposes changes based on TSTF-510 to GTS 3.4.18 in AP1000 STS 3.4.17. These changes reflect optional (i.e., bracketed) material applicable to SG repair criteria that does not currently exist for AP1000 plants. Since neither issued COL TS for VEGP or V.C. Summer include an NRC accepted licensing basis for SG “repair,” and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that includes “or repair” options. At the time of a future submittal for NRC approval of repair criteria, the STS changes would also be appropriate to include at that time.	Remove bracketed options for “or repair”	A4 T5 P3	SPSB agrees	C1 In GTST for STS Subsection 3.4.17 (GTS Subsection 3.4.18), <ul style="list-style-type: none"> In Section IV on page 4, delete statement and insert following statement in GTST Section III on page 3: TSTF-510 includes changes to NUREG-1431 that add optional SG repair criteria denoted by square brackets. Such SG repair criteria do not currently exist for AP1000 plants. Therefore, this GTST does not replace the phrase “tube repair criteria” with “plugging [or repair] criteria”; neither does it replace “plugged” with “plugged [or repaired]” where these terms occur in the LCO statement, Condition and Required Action statements, and Surveillance statements of GTS Subsection 3.4.18, nor in the ‘LCO,’ ‘Actions,’ and ‘SRs’ sections of the Bases. Delete all descriptions of changes regarding SG tube optional repair criteria (first through fourth, and seventh paragraphs in Section V on page 5); last paragraph on page 6 and first paragraph on page 7 in Section VI). Delete all SG tube optional repair criteria related changes in Sections XI and XII. Remove bracketed material from paragraph 5.6.6.f and remove bracketed paragraph 5.6.6.h from STS Subsection 5.6.6 and associated repair criteria related discussions in GTST A40. In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O39 complete ANL GTST A40 for Subsection 5.6.6 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
293 59	3.5.01 Pg 28	This change is made since there are multiple parameters which need to be met for the accumulators to perform their assumed safety analysis function, and the limits are not all "minimum" limits. This editorial clarification is consistent with the TS requirements and the intended Bases statement.	Make the following changes to LCO: This LCO establishes the minimum conditions <u>limits</u> necessary to ensure that sufficient accumulator flow parameters meet the initial conditions assumed in the safety analyses to satisfy will be available to meet the necessary acceptance criteria established for core cooling by 10 CFR 50.46 (Ref. 5).	A3	SPSB agrees, B1 but objects to using the word "initial" because it seems to infer that the accumulators satisfy Criterion 2; in addition, the language about providing "sufficient flow" should be retained. Finally, the listed items are criteria, not conditions. See comment 297	B1 In GTST for Subsection 3.5.1, Section XI on page 17 and Section XII on page 28, in the "LCO" section of Bases, revise first paragraph, as indicated: This LCO establishes the minimum-limits limits on accumulator parameters and conditions on accumulator component electrical power and alignment necessary to ensure that sufficient accumulator flow will be available to meet-satisfy the necessary -acceptance criteria established for core cooling by 10 CFR 50.46 (Ref. 5). These criteria-conditions are: In GTST Section VIII, describe APOG and SPSB comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" Describe SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate)	PNNL GTST P01 complete
294	3.5.01 Pg 29	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following additions to Actions discussion for B.1: The analysis contained in this reference shows that for a range of other events including small break LOCAs and large hot leg break LOCAs that with one accumulator unavailable the core is adequately cooled.	A3	SPSB agrees, C1 but suggests an additional similar edit	C1 In GTST for Subsection 3.5.1, Section XI on page 18 and Section XII on page 29, in the "Actions" section of Bases, revise first paragraph second and fourth sentences, under heading "B.1", as indicated (additional SPSB suggested change shown in green): With one accumulator inoperable, the remaining accumulator is capable of providing the required safety function, except for one low probability event (large cold leg break LOCA) discussed in the background section. . . . The analysis contained in this reference shows that for a range of other events including small break LOCAs and large hot leg break LOCAs that with one accumulator unavailable the core is adequately cooled. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" Global Action: Check all AP1000 GTS Bases for discussions that mention LOCAs and insert "break" <u>where appropriate</u> consistent with this comment.	PNNL GTST P01 complete ORNL, ANL, BNL GTSTs not verified.

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T4 Technical Improvement
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
295	3.5.01 Pg 30	Delete TS 3.5.1 Bases for Required Action B.1 parenthetical phrase "(i.e., entry into Condition C or E of LCO 3.5.2 has not occurred)." This phrase is incorrectly associated with the preceding "CMTs are required to be available to provide small break LOCA mitigation." Deleting the parenthetical phrase corrects the discussion without removing any necessary TS Bases substance.	Delete the parenthetical expression: ... mitigation (i.e., concurrent entry into Condition C or E of LCO 3.5.2 has not occurred) . The effectiveness of backup CMT injection ...	A2 A3 T1 T4	SPSB agrees, C1 but suggests additional edit by adding comma after "reasonable"; adding "break" before "LOCA"; C1 and removing periods from "cu. ft."	C1 In GTST for Subsection 3.5.1, Section XI on pages 18/19 and Section XII on pages 29/30, in the "Actions" section of Bases, revise second paragraph second and fourth sentences, under heading "B.1", as indicated: ... The Completion Time is reasonable, since the CMTs are required to be available to provide small break LOCA mitigation (i.e., concurrent entry into Condition C or E of LCO 3.5.2 has not occurred) The analysis contained in this reference shows that for a small break LOCA, the injection from one CMT without any accumulator injection supports adequate core cooling. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" C1 In accordance with writer's guide section 3.1.4.d, revise Bases for SR 3.5.1.4, on GTST pages 20 and 31, by omitting the periods from the units abbreviation for cubic feet. That is, use "cu ft" instead of "cu. ft." This is a global comment for entire STS and Bases.	PNNL GTST P01 complete ORNL, ANL, BNL GTSTs not verified.
296 60	3.5.02 Pg 07	Section "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes" does not describe changes to Required Action E.1 Completion Time, which is discussed in VEGP LAR DOC A066.	Revise to include description similar to that provided for Required Action C.1 Completion Time.	A3	SPSB agrees	In GTST for Subsection 3.5.2, Section VI, under heading "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes", add the following paragraph to address changes to Required Action E.1 Completion Time based on DOC A066: VEGP LAR DOC A066 revises the first Required Action E.1 Completion Time of 8 hours by deleting the caveat that the Completion Time applies if Condition B of LCO 3.5.1 has not been entered. The logical connector is changed from an "OR" to an "AND", and the second Completion Time of Required Action E.1 is revised to state "1 hour from discovery of LCO 3.5.2 Condition E entry concurrent with LCO 3.5.1 Condition B entry." In addition, the order of the Completion Times is changed to be consistent with the writer's guide. The associated "Actions" section of the bases is also revised. In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P02 complete

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
297	3.5.02 Pg 33	Revise TS 3.5.2 Bases for LCO, first paragraph, from “sufficient CMT flow will be available to” to “CMT parameters” since there are multiple parameters which need to be met for the accumulators to perform their function.	Make the following changes in the LCO discussion: This LCO establishes the minimum conditions necessary to ensure that sufficient CMT flow parameters will be available to meet the initial conditions assumed in the safety analyses.	A3	SPSB agrees B1 but objects to keeping the phrase with “initial conditions” because it seems to infer that the CMTs satisfy Criterion 2; in addition, the language about providing “flow” should be retained. See comment 293	B1 In GTST for Subsection 3.5.2, Section XI on page 20 and Section XII on page 33, in the “LCO” section of Bases, revise first paragraph, first sentence, as indicated: This LCO establishes the minimum limits on CMT parameters and conditions on CMT components necessary to ensure that the sufficient CMT flow assumed in the safety analyses will be available to meet the initial conditions assumed in the safety analyses. . . . In GTST Section VIII, describe APOG and SPSB comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases” Describe SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate)	PNNL GTST P02 complete
298	3.5.02 Pg 34	Revise second paragraph to delete “the volume of” and change “flow” to “borated water” to more clearly recognize the boration as well as the liquid volume.	Make the following changes in the LCO discussion: The volume of e Each CMT represents 100% of the total injected flow <u>borated water</u> assumed in LOCA analysis.	A3	SPSB agrees	In GTST for Subsection 3.5.2, Section XI on page 21 and Section XII on page 34, in the “LCO” section of Bases, revise second paragraph, first sentence, as indicated: The volume of each Each CMT represents 100% of the total injected flow borated water assumed in LOCA analysis. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P02 complete

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299	3.5.02 Pg 34	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Add the following for clarity to Applicability: In MODES 1, 2, <u>and</u> 3, and <u>in</u> <u>MODE</u> 4 when the RCS is not being cooled by the Normal Residual Heat Removal System .	A3	SPSB agrees	In GTST for Subsection 3.5.2, Section XI on page 21 and Section XII on page 34, in the "Applicability" section of Bases, revise first paragraph, first sentence, as indicated: In MODES 1, 2, <u>and</u> 3, and <u>in</u> <u>MODE</u> 4 when the RCS is not being cooled by the Normal Residual Heat Removal System (RNS) the CMTs are required to be OPERABLE to provide borated water for RCS inventory makeup and reactivity control following a design basis event and subsequent cooldown. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P02 complete
300	3.5.02 Pg 34	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following additions to Actions discussion for A.1: A Completion Time of 72 hours is acceptable for <u>a</u> two train <u>emergency core cooling system</u> (ECCS) systems which are <u>is</u> capable of performing their <u>its</u> safety function without a single failure.	A2 A3	SPSB agrees B2 Withdrawn but suggests an additional edit for clarity	In GTST for Subsection 3.5.2, Section XI on page 21 and Section XII on page 34, in the "Actions" section of Bases, under heading "A.1" revise first paragraph, last sentence, as indicated (additional SPSB suggested changes shown in green and orange): ... A Completion Time of 72 hours is acceptable for <u>a</u> two train <u>emergency core cooling system (ECCS)</u> , ECCS systems which <u>is</u> are capable of performing <u>its</u> their safety function without B2 Withdrawn <u>without with the remaining OPERABLE train provided that train does not also fail as a result of</u> a single failure. In GTST Section VIII, describe APOG <u>and SPSB</u> comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" Describe <u>SPSB changes</u> in GTST Sections IV, V, VI, and VII (as appropriate)	PNNL GTST P02 complete

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301	3.5.02 Pg 36	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Remove the underline under "not" that's highlighted below in D.1 Actions discussion: For CMT injection following a LOCA (steam will enter the CMT through the balance line, displacing the CMT water), gases in the CMT inlet line are not detrimental to the CMT function.	A3	SPSB agrees	In GTST for Subsection 3.5.2, Section XI on page 23 and Section XII on page 36, in the "Actions" section of Bases, under heading "D.1" revise first paragraph, second sentence, as indicated: ... For CMT injection following a LOCA (steam will enter the CMT through the balance line, displacing the CMT water), gases in the CMT inlet line are not detrimental to the CMT function. ... In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P02 complete
302	3.5.02 Pg 36	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following additions to Actions discussion for E.1 for clarity: The remaining CMT is sufficient for DBAs except for a LOCA in the OPERABLE CMTs <u>direct vessel injection (DVI)</u> line.	A2 A3	SPSB agrees, but suggests an additional edit for clarity to the next sentence	A In GTST for Subsection 3.5.2, Section XI on pages 23 and 24, and Section XII on page 36, in the "Actions" section of Bases, under heading "E.1" revise first paragraph, third and fourth and seventh sentences, as indicated (existing markup shown in black) (additional SPSB suggested changes shown in green and orange): ... The remaining CMT is sufficient for DBAs except for a LOCA with a break in the OPERABLE CMTs CMT's direct vessel injection (DVI) DVI line. The 8 hour Completion Time is based on the required availability of injection from the accumulators (provided that concurrent entry into Condition B of LCO 3.5.1 has not occurred) to provide SI safety injection (that is, concurrent entry into Condition B of LCO 3.5.1 has not occurred) This analysis provides a high confidence that with the unavailability of one CMT, the core can be cooled following any DBA-design-bases accidents . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P02 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
303	3.5.02 Pg 37	Editorial change for clarity.	Make the following changes to Actions F.1 and F.2: If the Required Action or associated Completion Time of Condition A, B, C, D, or E are not met or two CMTs are inoperable for reasons other than Condition C, the plant . . .	A3	SPSB agrees	In GTST for Subsection 3.5.2, Section XI on page 24, and Section XII on page 37, in the "Actions" section of Bases, under heading "F.1 and F.2" revise first sentence, as indicated (existing markup shown in black): If the Required Action or associated Completion Time of Condition A, B, C, D, or E are not met or the LCO is not met two CMTs are inoperable for reasons other than Conditions C-A through E , the plant must be brought to a MODE in which the LCO does not apply. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P02 complete
304 61	3.5.03 Pg 23	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the A.1 Actions discussion: A Completion Time of 72 hours is consistent with times normally applied to an <u>emergency core cooling system (ECCS) system</u> which is capable of performing its safety function without a single failure.	A2 A3	SPSB agrees, but suggests an additional comma for clarity	A In GTST for Subsection 3.5.3, Section XI on page 16 and Section XII on page 23, in the "Actions" section of Bases, under heading "A.1" revise first paragraph, last sentence, as indicated (additional SPSB suggested change shown in green): . . . A Completion Time of 72 hours is consistent with times normally applied to an emergency core cooling system (ECCS) , ECCS system which is capable of performing its safety function without a single failure. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P03 complete
305 62	3.5.04 Pg 05	In GTST Section V, Applicability, last sentence, description of valves verified by SR 3.5.4.8 is incomplete.	Add "air operated outlet" and "gutter" to the sentence: "New SR 3.5.4.8 verifies actuation of PRHR HX <u>air operated outlet</u> isolation valves and IRWST <u>gutter</u> isolation valves on an actual or simulated actuation signal at a frequency of 24 months."	T4	SPSB agrees	In GTST for Subsection 3.5.4, Section V, page 5, revise last sentence on page, as indicated: New SR 3.5.4.8 verifies actuation of PRHR HX air operated outlet isolation valves and IRWST gutter isolation valves on an actual or simulated actuation signal at a frequency of 24 months. (DOC L01) In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P04 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
306 63	3.5.05 Pg 05	Fifth item under “Changes to the Generic Technical Specifications and Bases” describing changes to Condition E second entry statement as attributed to DOC A076. However, this change is actually discussed in DOC A075.	Replace the reference to “DOC A076” with “DOC A075”	A1	SPSB agrees	In GTST for Subsection 3.5.5, Section V, page 5, revise next to last paragraph on page, by changing “(DOC A076)” to “(DOC A075)”: In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P05 complete
307	3.5.05 Pg 05	Sixth item under “Changes to the Generic Technical Specifications and Bases” describing changes to Required Action E.1 as attributed to DOC A075. However, this change is actually discussed in DOC A076.	Replace the reference to “DOC A075” with “DOC A076”	A1	SPSB agrees	In GTST for Subsection 3.5.5, Section V, page 5, revise last paragraph on page, by changing “(A075)” to “(DOC A076)”: In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P05 complete
308	3.5.05 Pg 23	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to LCO Bases: A reactor coolant pump (RCP) is required to be operating in the loop with the PRHR HX, Loop . . .	A1	SPSB agrees	In GTST for Subsection 3.5.5, Section XI on page 15 and Section XII on page 23, in the “LCO” section of Bases, in third paragraph, first sentence, correct the markup text by replacing “A” with “A” and final text by adding an “A”, as indicated (other existing markup shown in black): The note requires a A reactor coolant pump (RCP) is required to be operating in the loop with the PRHR HX, Loop 1, if any RCPs are operating. . . . In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P05 complete
309	3.5.05 Pg 24	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the C.1 Actions Bases discussion: A Completion Time of 24 hours is acceptable, considering that passive feed and bleed cooling is available to revise remove heat from the RCS.	A3	SPSB agrees	In GTST for Subsection 3.5.5, Section XI on page 17 and Section XII on page 24, in the “Actions” section of Bases, under heading “C.1”; revise last sentence as indicated: A Completion Time of 24 hours is acceptable, considering that passive feed and bleed cooling is available to revise remove heat from the RCS. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P05 complete

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- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
310 64	3.5.06 Pg 05	In GTST Section V, Applicability, last sentence, description of SR is incomplete.	Add "Also including a Note to the SR stating: 'Squib actuation may be excluded.'"	T4	SPSB agrees C1 Withdrawn but suggests replacing "Protection" with "PMS" Withdrawn See comments 310 and 319	C1 In GTST for Subsection 3.5.6, Section V on page 5, revise last paragraph, as indicated (additional SPSB suggested changes shown in green and orange): A new SR 3.5.6.9 is added to "Verify continuity of the circuit from the Withdrawn Protection-PMS Protection Logic Cabinets to each IRWST injection and containment recirculation squib valve on an actual or simulated actuation signal." The SR includes a surveillance column Note stating, "Squib actuation may be excluded." (DOC L01) In GTST Section VIII, describe APOG comment and its resolution. <hr/> Add this question to list of APOG discussion topics: E2 How are PMS cabinets, integrated protection cabinets (IPCs), and Protection Logic Cabinets related?	PNNL GTST P06 complete
311	3.5.06 Pg 06	Third item under "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes" simply restates the change, but provides no rationale for the change.	Add the following basis to the third item: "...to clarify the requirement is also applicable to solution volume increase greater than 15,000 gallons"	T4	SPSB agrees but suggests additional words for clarity	A In GTST for Subsection 3.5.6, Section VI on page 6, revise last paragraph on page, as indicated (additional SPSB suggested changes shown in green): VEGP LAR DOC A079 revises the second Frequency of SR 3.5.6.4 from "Once within 6 hours after each solution volume increase of 15,000 gal" to "Once within 6 hours after each solution volume increase of ≥ 15,000 gal" to clarify that the requirement is also applicable to a solution volume increase of greater than 15,000 gallons. In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P06 complete
312	3.5.06 Pg 33	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Add the following to Applicable Safety Analyses for clarity: During non-LOCA events, the IRWST serves as the initial heat sink for the <u>Passive Residual Heat Removal (PRHR)</u> Heat Exchanger (PRHR HX) if used during reactor cooldown to MODE 4.	A2	SPSB agrees	In GTST for Subsection 3.5.6, Section XI on page 18 and Section XII on page 33, in the "ASA" section of the Bases, revise first paragraph, first sentence, as indicated: During non-LOCA events, the IRWST serves as the initial heat sink for the passive residual heat removal (PRHR) PRHR -Heat Exchanger (PRHR HX) if used during reactor cooldown to MODE 4. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P06 complete

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
313	3.5.06 Pg 33	Revise TS 3.5.6 Applicable Safety Analyses Bases from "Injection from the IRWST provides core cooling until the tank empties and gravity recirculation from the containment starts" to "Injection from the IRWST provides core cooling until the tank empties and the containment is flooded up to a level sufficient to provide recirculation flow through the gravity injection lines back into the RCS" for consistency with AP1000 DCD 6.3.2.1.3.	Make the following changes to Applicable Safety Analyses: Injection from the IRWST provides core cooling until the tank empties and the containment is flooded up to a level sufficient to provide recirculation flow through the gravity injection lines back into the RCS <u>gravity recirculation from the containment starts.</u>	T4	SPSB agrees	In GTST for Subsection 3.5.6, Section XI on page 18 and Section XII on page 33, in the "ASA" section of the Bases, revise third paragraph, fifth sentence, as indicated: ... Injection from the IRWST provides core cooling until the tank empties and gravity recirculation from the containment starts the containment is flooded up to a level sufficient to provide recirculation flow through the gravity injection lines back into the RCS. ... In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P06 complete
314	3.5.06 Pg 34	Function naming is revised consistent with naming convention in the AP1000 DCD and/or other TS Bases.	Make the following changes to Applicability: In MODES 1, 2, 3, and 4, a second safety related function is the low head <u>pressure</u> safety injection of borated water following a LOCA for core cooling and reactivity control.	T4	SPSB agrees	In GTST for Subsection 3.5.6, Section XI on page 19 and Section XII on page 34, in the "Applicability" section of the Bases, revise first paragraph, second sentence, as indicated: ... In MODES 1, 2, 3, and 4, a second safety related function is the low head pressure safety injection of borated water following a LOCA for core cooling and reactivity control. ... In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P06 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
315	3.5.06 Pg 35	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the A.1 Actions discussion: The 72 hour Completion Time is consistent with times normally applied to a degraded two train emergency core cooling system (ECCS) systems which can provide 100% of the required flow without a single failure.	A2	SPSB agrees, but suggests an additional comma for clarity	A In GTST for Subsection 3.5.6, Section XI on page 20 and Section XII on page 35, in the "Actions" section of the Bases, under heading "A.1", revise last sentence, as indicated (additional SPSB suggested change shown in green) : ... The 72 hour Completion Time is consistent with times normally applied to a degraded two train emergency core cooling system (ECCS), ECCS systems which can provide 100% of the required flow without a single failure. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" <hr/> Remove extra space before "injection" in first line of Bases for Required Action C.1.	PNNL GTST P06 complete
316	3.5.06 Pg 36	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the D.1 Actions Bases discussion: This limit prevents a significant change in boron concentration and is consistent with the long-term cooling analysis performed to justify probabilistic risk assessment (PRA) PRA success criteria (Ref. 3) . . .	A2	SPSB agrees, C1 but also suggests replacing "3 CMTs/Accum" See similar comment 327.	C1 In GTST for Subsection 3.5.6, Section XI on page 22 and Section XII on page 36, in the "Actions" section of the Bases, under heading "D.1", revise fourth sentence, as indicated (additional SPSB suggested changes shown in green and orange): ... This limit prevents a significant change in boron concentration and is consistent with the long-term cooling analysis performed to justify probabilistic risk assessment (PRA) PRA success criteria (Ref. 3), which assumed multiple failures with as many as three of the four boron injection sources (two CMTs and two Accumulators) 3-CMTs/Accum not injecting. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P06 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
317	3.5.06 Pg 39	Revise SR 3.4.11.3 and SR 3.5.6.8 Bases to make editorial improvements to more completely reference the stated ASME OM Code and add the Code as a Reference consistent with other TS Bases Specifications. The "paragraph 4.6" reference for squib valve testing is more specifically "paragraph ISTC 4.6," which is the applicable paragraph from ASME OM Code 1995, 1996 addenda, Subsection ISTC (refer to AP1000 DCD 3.9.6, and 3.9.9 Reference 2).	Make the following additions to Surveillance Requirements Bases discussion for SR 3.5.6.8: The squib valves will be tested in accordance with the ASME OM Code (Ref. 4). The applicable ASME OM Code squib valve requirements are specified in paragraph ISTC 4.6 , Inservice Tests for Category D Explosively Actuated Valves.	T4	SPSB agrees See comments 268 and 270	In GTST for Subsection 3.5.6, Section XI on page 25 and Section XII on page 39, in the "SRs" section of the Bases, under heading "SR 3.5.6.8", revise second paragraph, as indicated: The squib valves will be tested in accordance with the ASME OM Code (Ref. 4). The applicable ASME OM Code squib valve requirements are specified in paragraph ISTC 4.6 , Inservice Tests for Category D Explosively Actuated Valves. The requirements include actuation of a sample of the installed valves each 2 years and periodic replacement of charges. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P06 complete
318	3.5.06 Pg 40	With the change to SR 3.4.11.3 and SR 3.5.6.8 Bases to include a Reference citation, include ASME OM Code as new Reference.	Add the following to LCO 3.5.6 Bases References: 4. ASME OM Code, "Code for Operation and Maintenance of Nuclear Power Plants."	T4	SPSB agrees See comments 268 , 270 , and 317	In GTST for Subsection 3.5.6, Section XI on page 26 and Section XII on page 40, in the "References" section of the Bases, add another reference, as indicated: 4. ASME OM Code, "Code for Operation and Maintenance of Nuclear Power Plants." In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P06 complete

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319	3.5.06 Pg 40	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.5.6.9 Bases: ... overlaps this Surveillance to provide complete testing of the assumed safety function. <u>The OPERABILITY of the squib valves is checked by performing a continuity check of the circuit from the Protection Logic Cabinets to the squib valve.</u> The Frequency of 24 months is based on ...	T4	SPSB agrees C1 Withdrawn but suggests replacing “Protection” with “PMS” Withdrawn See comments 269 and 310	In GTST for Subsection 3.5.6, C1 Section XI on page 16 and Section XII on page 31, revise SR 3.5.6.9, as indicated (existing markup shown in black) (additional SPSB suggested changes shown in green and orange): Verify continuity of the circuit from the Withdrawn Protection PMS Protection Logic Cabinets to each IRWST injection and containment recirculation squib valve on an actual or simulated actuation signal. C1 Section XI on page 25 and Section XII on page 39, in the “SRs” section of the Bases, under heading “SR 3.5.6.9”, revise second paragraph, as indicated (existing markup shown in black) (additional SPSB suggested changes shown in green and orange): This SR ensures that each IRWST injection and containment recirculation squib valve actuates to the correct position on an actual or simulated actuation signal. The ACTUATION LOGIC TEST overlaps this Surveillance to provide complete testing of the assumed safety function. <u>The OPERABILITY of the squib valves is checked by performing a continuity check of the circuit from the Withdrawn Protection PMS Protection Logic Cabinets to the squib valve.</u> The Frequency of 24 months is based on the need to perform this surveillance during periods in which the plant is shutdown for refueling to prevent any upsets of plant operation. In GTST Section VIII, describe APOG comment and its resolution. <u>Add this question to list of APOG discussion topics:</u> E2 How are PMS cabinets, integrated protection cabinets (IPCs), and Protection Logic Cabinets related?	PNNL GTST P06 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
320 65	3.5.07 Pg 13	Inserted text in Condition C should refer to plural "stubs": i.e., "...volume in both squib valve outlet line pipe stubs not within limit," instead of "...volume in both squib valve outlet line pipe stub not within limit"	Make "stub" plural in Condition C text.	A3	SPSB agrees Duplicate of comment 323	In GTST for Subsection 3.5.7, Section XI on page 13 and Section XII on page 22, revise Condition C, as indicated (existing markup shown in black): C. Required IRWST injection flow path with line inoperable due to presence of noncondensable gas gases in both high point vents vent volume in both squib valve outlet line pipe stub stubs not within limit. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate).	PNNL GTST P07 complete
321	3.5.07 Pg 14	Text inserted in third entry condition of Condition D states "...≤ 73,100 cu. ft. > 70,907 cu. ft." The statement is missing "and"	Revise third entry condition to state "IRWST borated water volume ≤ 73,100 cu. ft. and > 70,907 cu. ft"	A1 A2	SPSB agrees, C1 but suggests also removing periods from unit abbreviations Duplicate of comment 324	C1 In GTST for Subsection 3.5.7, Section XI on page 14 and Section XII on page 23, revise third entry condition of Condition D, as indicated (existing markup shown in black) (additional SPSB suggested changes shown in green and orange): D. IRWST borated water volume ≤ 73,100 cu ft and > 70,907 cu ft ≤ 73,100 cu. ft. > 70,907 cu. ft. < 100% and > 97% of limit. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate).	PNNL GTST P07 complete
322	3.5.07 Pg 22	Condition B, 4 th line: Need a space between "gas" and "volume" Condition C, 4 th line: Need a space between "gas" and "volume"	Add a space between "gas" and "volume"	A1	SPSB agrees	In GTST for Subsection 3.5.7, Section XI on page 13 and Section XII on page 22, revise Condition B and Condition C by adding a space between the words "gas" and "volume" In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P07 complete
323	3.5.07 Pg 22	Revised Condition C text should refer to plural "stubs": i.e., "...volume in both squib valve outlet line pipe stubs not within limit," instead of "...volume in both squib valve outlet line pipe stub not within limit"	Make "stub" plural in Condition C text.	A3	SPSB agrees Duplicate of comment 320	In GTST for Subsection 3.5.7, Section XI on page 13 and Section XII on page 22, revise Condition C, as indicated: C. Required IRWST injection flow path noncondensable gas volume in both squib valve outlet line pipe stub stubs not within limit. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate).	PNNL GTST P07 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
324	3.5.07 Pg 23	Third entry condition of Condition D states "IRWST borated water volume ≤ 73,100 cu. ft. > 70,907 cu. ft." The statement is missing "and"	Revise third entry condition to state "IRWST borated water volume ≤ 73,100 cu. ft. and > 70,907 cu. ft"	A1 A2	SPSB agrees, but suggests also removing periods from unit abbreviations Duplicate of comment 321	C1 In GTST for Subsection 3.5.7, Section XI on page 14 and Section XII on page 23, revise third entry condition of Condition D, as indicated (additional SPSB suggested changes shown in green and orange): D. IRWST borated water volume ≤ 73,100 cu ft and > 70,907 cu ft ≤ 73,100 cu. ft. > 70,907 cu. ft. In GTST Section VIII, describe APOG comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate).	PNNL GTST P07 complete
325	3.5.07 Pg 26	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the A.1 Actions Bases discussion: The 72 hour Completion Time is consistent with times normally applied to a degraded two train ECCS emergency core cooling systems (ECCS) which can provide 100% of the required flow without a single failure.	A2	SPSB agrees B2 Withdrawn but suggests additional clarifications—see comment 300	In GTST for Subsection 3.5.7, Section XI on page 17 and Section XII on page 26, in the "Actions" section of the Bases, under heading "A.1", revise last sentence, as indicated (additional SPSB suggested change shown in green): ... The 72 hour Completion Time is consistent with times normally applied to a degraded two train emergency core cooling system (ECCS), ECCS systems which can provide 100% of the required flow without B2 Withdrawn without with the remaining OPERABLE train provided that train does not also fail as a result of a single failure. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P07 complete
326	3.5.07 Pg 27	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the B.1 Actions Bases discussion: A direct vessel injection (DVI) line break is not postulated in MODE 5.	A2	SPSB agrees	In GTST for Subsection 3.5.7, Section XI on page 18 and Section XII on page 27, in the "Actions" section of the Bases, under heading "B.1", revise sixth sentence, as indicated: ... A direct vessel injection (DVI) DVI line break is not postulated in MODE 5. ... In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P07 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
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- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

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- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
327	3.5.07 Pg 28	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the D.1 Actions Bases discussion: . . . performed to justify <u>probabilistic risk assessment (PRA)</u> success criteria safety function in response to <u>design basis accidents (DBAs)</u> with	A2	SPSB agrees, C1 but also suggests replacing “3 CMTs/Accum” See similar comment 316 . Comment 332 duplicates comment 327 .	C1 In GTST for Subsection 3.5.7, Section XI on page 19 and Section XII on page 28, in the “Actions” section of the Bases, under heading “D.1”, revise 4 th and 8 th sentences, as indicated (additional SPSB suggested changes shown in green and orange): . . . This limit prevents a significant change in boron concentration and is consistent with the long-term cooling analysis performed to justify probabilistic risk assessment (PRA) PRA success criteria (Ref. 3), which assumed multiple failures with as many as 3-CMTs/Accum three of the four boron injection sources (two CMTs and two Accumulators) not injecting. . . . The 8-hour Completion Time is acceptable, considering that the IRWST will be fully capable of performing its assumed safety function in response to DBAs design basis accidents (DBAs) with slight deviations in these parameters. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P07 complete
328	3.5.07 Pg 28	Revise various TS Bases stating “withdrawal of reactivity control assemblies” to “withdrawal of control rods” for editorial improvement and consistency with other TS Bases discussions.	Make the following changes in the F.1 and F.2 Actions Bases discussion: Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control assemblies <u>rods</u> , and excessive cooling of the RCS.	T4	SPSB agrees See comments 276 , 333 , 370 , 377	C1 In GTST for Subsection 3.5.7, Section XI on page 19 and Section XII on page 28, in the “Actions” section of the Bases, under heading “F.1 and F.2”, revise last sentence, as indicated: . . . Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control rods <u>assemblies</u> , and excessive cooling of the RCS. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P07 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
329	3.5.07 Pg 29	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.5.7.1 Bases: The LCO 3.5.6 Surveillance Requirements and Frequencies (SR 3.5.6.1 through SR 3.5.6.11) are applicable . . .	A3	SPSB agrees	In GTST for Subsection 3.5.7, Section XI on page 20 and Section XII on page 29, in the “SRs” section of the Bases, under heading “SR 3.5.7.1,” revise first sentence, as indicated (existing markup shown in black): The LCO 3.5.6 Surveillance Requirements and Frequencies (SR 3.5.6.1 through SR 3.5.6.11) are applicable to the IRWST and the flow paths required to be OPERABLE. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P07 complete
330 66	3.5.08 Pg 28	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the A.1 Actions Bases discussion: The 72 hour Completion Time is consistent with times normally applied to a degraded two train ECCS emergency core cooling systems (ECCS) which can provide 100% of the required flow without a single failure.	A2	SPSB agrees, but suggests an additional comma for clarity	A In GTST for Subsection 3.5.8, Section XI on page 18 and Section XII on page 28, in the “Actions” section of the Bases, under heading “A.1,” revise last sentence, as indicated (additional SPSB suggested change shown in green): . . . The 72 hour Completion Time is consistent with times normally applied to a degraded two train emergency core cooling system (ECCS) , ECCS systems which can provide 100% of the required flow without a single failure. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P08 complete
331	3.5.08 Pg 28	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the B.1 Actions Bases discussion: A <u>direct vessel injection (DVI)</u> line break is not postulated in MODE 6.	A2	SPSB agrees	In GTST for Subsection 3.5.8, Section XI on page 18 and Section XII on page 28, in the “Actions” section of the Bases, under heading “B.1,” revise sixth sentence, as indicated: . . . A direct vessel injection (DVI) DVI line break is not postulated in MODE 6. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P08 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
332	3.5.08 Pg 29	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in the D.1 Actions Bases discussion: ... analysis performed to justify <u>probabilistic risk assessment (PRA)</u> success criteria (Ref. 3), assumed safety function in response to <u>design basis accidents (DBAs)</u> with slight deviations in	A2	SPSB agrees, C1 but also suggests replacing "3 CMTs/Accum" This comment duplicates comment 327	C1 In GTST for Subsection 3.5.7, Section XI on pages 19 and 20 and Section XII on page 29, in the "Actions" section of the Bases, under heading "D.1", revise 4 th and 8 th sentences, as indicated (additional SPSB suggested changes shown in green and orange): ... This limit prevents a significant change in boron concentration and is consistent with the long-term cooling analysis performed to justify probabilistic risk assessment (PRA) PRA success criteria (Ref. 3), which assumed multiple failures with as many as 3-CMTs/Accum three of the four boron injection sources (two CMTs and two Accumulators) not injecting. ... The 8-hour Completion Time is acceptable, considering that the IRWST will be fully capable of performing its assumed safety function in response to DBAs design basis accidents (DBAs) with slight deviations in these parameters. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P08 complete
333	3.5.08 Pg 30	Revise various TS Bases stating "withdrawal of reactivity control assemblies" to "withdrawal of control rods" for editorial improvement and consistency with other TS Bases discussions.	Make the following changes in the F.1 and F.2 Actions Bases discussion: Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control assemblies <u>rods</u> , and excessive cooling of the RCS.	T4	SPSB agrees See comments 276, 328, 370, and 377	In GTST for Subsection 3.5.8, Section XI on page 20 and Section XII on page 30, in the "Actions" section of the Bases, under heading "F.1 and F.2", second paragraph, revise 4 th sentence, as indicated: ... Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control rods <u>assemblies</u> , and excessive cooling of the RCS. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P08 complete

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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
334	3.5.08 Pg 31	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability. See SR 3.5.8.2 Bases for consistent use of "combined volume"	Make the following changes in the SR 3.5.8.3 Bases Surveillance Requirements: Since the IRWST volume is large and normally stable, the 31 day Frequency is acceptable, considering additional verifications are required within 6 hours after each combined solution volume increase of 15,000 gal.	T4	SPSB agrees, C1 but notes that the actual surveillance Frequency needs amending also	Add this SR change to list of APOG discussion topics: In GTST for Subsection 3.5.8, • C1 Section XI on page 15 and Section XII on page 26, revise second Frequency of SR 3.5.8.3, as indicated (existing markup shown in black and yellow highlight) (additional SPSB suggested changes shown in green and orange): Once within 6 hours after each solution combined volume increase of ≥ 15,000 gal In GTST Section VIII, describe comment and its resolution. Describe change in GTST Sections IV, V, VI, and VII (as appropriate). • C1 Section XI on page 21 and Section XII on page 31, in the "SRs" section of the Bases, under heading "SR 3.5.8.3," revise second sentence, as indicated (existing markup shown in black): ... Since the IRWST volume is large and normally stable, the 31 day Frequency is acceptable, considering additional verifications are required within 6 hours after each solution combined volume increase of ≥ 15,000 gal. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P08 complete
335 67	3.6.01 Pg 19	Revise TS 3.6.1 Bases Background to change from "conform with 10 CFR 50" to "comply with 10 CFR 50" for consistency with NUREG-1431 and editorial clarification.	Make the following changes in Background: SR 3.6.1.1 leakage rate Surveillance Requirements conform comply with 10 CFR 50, Appendix J, Option (Ref. 1), as modified by approved exemptions.	A5	SPSB agrees	In GTST for Subsection 3.6.1, Section XI on page 13, and Section XII on page 19, in the "Background" section of the Bases, fourth paragraph, revise last sentence as indicated (existing markup shown in black): SR 3.6.1.1 leakage rate Surveillance Requirements conform comply with 10 CFR 50, Appendix J, Option B (Ref. 1), as modified by approved exemptions. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P10 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
336	3.6.01 Pg 20	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Background: 1. eCapable of being closed by an OPERABLE automatic containment isolation system, or 2. eClosed by manual valves, blind flanges, or de-activated automatic valves secured in their closed positions, except as . . .	A4 P4	SPSB accepts C1 <u>Withdrawn</u> SPSB disagrees, because of apparent conflict with writer's guide paragraphs 2.1.3.b.2 and 2.1.3.e	Add this SR change to list of APOG discussion topics: C1, E2 In GTST for Subsection 3.6.1, Section XI on page 14, and Section XII on page 20, in the "Background" section of the Bases, in ordered list under item "a", make changes to second-tier list items 1 and 2 by capitalizing first word, as indicated.. In GTST Section VIII, describe APOG comment and its resolution (SPSB accepts APOG comment).	PNNL GTST P10 complete
337	3.6.01 Pg 21	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Move the period to inside of the close- quote in Applicability: The MODES 5 and 6 requirements are specified in LCO 3.6.7, "Containment Penetrations." -	A1	SPSB agrees	In GTST for Subsection 3.6.1, Section XI on page 14, and Section XII on page 20, in the "Applicability" section of the Bases, in last sentence move the period to inside of the close- quote. In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P10 complete
338	3.6.01 Pg 22	Revise various TS Bases from "Appendix J," to "Appendix J, Option B" for consistency with NUREG-1431 and editorial clarification.	Make the following changes in References: 1. 10 CFR 50, Appendix J, Option B, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors, <u>Performance-Based Requirements.</u> "	A5	SPSB agrees	In GTST for Subsection 3.6.1, Section XI on page 16, and Section XII on page 22, in the "References" section of the Bases, revise the first reference as indicated (existing markup shown in black): 1. 10 CFR 50, Appendix J, Option B "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors, Performance-Based Requirements. " In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P10 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
339 68	3.6.02 Pg 28	Revise various TS Bases from "Appendix J," to "Appendix J, Option B" for consistency with NUREG-1431 and editorial clarification.	Make the following changes in Applicable Safety Analyses: This leakage rate is defined in 10 CFR 50, Appendix J, Option B (Ref. 1), as . . .	A5	SPSB agrees	In GTST for Subsection 3.6.2, Section XI on page 16, and Section XII on page 28, in the "ASA" section of the Bases, revise fourth sentence, as indicated (existing markup shown in black): . . . This leakage rate is defined in 10 CFR 50, Appendix J, Option B (Ref. 1), as L _a , the maximum allowable containment leakage rate at the calculated peak containment internal pressure P _a following a DBA -design basis LOCA. . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P11 complete
340	3.6.02 Pg 30	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Actions Bases: . . . then it may be easily accessed to for repair without interrupting containment integrity.	A3	SPSB agrees	In GTST for Subsection 3.6.2, Section XI on page 16, and Section XII on page 30, in the "Actions" section of the Bases, first paragraph, revise second sentence as indicated: . . . If the outer door is inoperable, then it may be easily accessed to for repair without interrupting containment integrity. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P11 complete
341 69	3.6.03 Pg 28	Condition A and Condition B statements are misaligned. Additional typographical error in "NOTES" dashes ("-") rolling to next line.	Correct typographical errors	A1	SPSB agrees	In GTST for Subsection 3.6.2, Section XII on page 28, correct formatting of dashed lines of Actions table Notes, and correct alignment of Condition statements for Conditions A and B. In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P12 complete
342	3.6.03 Pg 29	There is an empty row after the row for Condition B.	Delete the extra row	A1	SPSB agrees	In GTST for Subsection 3.6.2, Section XII on page 29, remove empty row that follows Condition B. In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P12 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
343	3.6.03 Pg 36	Revise TS 3.6.3 Bases for Required Actions A.1 and A.2 to change from “testing or valve manipulation” to “testing or device manipulation” since the TS Required Action A.2 cites “devices” and not “valves”	Make the following changes in Actions A.1 and A.2 Bases discussion: This Required Action does not require any testing or valve <u>device</u> manipulation.	A3 A5	SPSB agrees C1 Withdrawn but suggests using “isolation valve or isolation device” instead of just “valve” Withdrawn See comments 344 and 345	Add this change to list of APOG discussion topics: C1 In GTST for Subsection 3.6.3, Section XI on page 21, and Section XII on page 36, in the “Actions” section of the Bases, under heading “A.1 and A.2”; second paragraph, revise third sentence as indicated: ... This Required Action does not require any testing or Withdrawn isolation valve Withdrawn or isolation device manipulation. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P12 complete
344	3.6.03 Pg 36	Revise TS 3.6.3 Bases for Required Actions A.1 and A.2 to change from “potentially being” to “being” for clarity and to match NUREG-1431 wording.	Make the following changes in Actions A.1 and A.2 Bases discussion: ... devices outside containment and capable of potentially being mispositioned are in the correct position.	A3 A5	SPSB agrees C1 Withdrawn but suggests using “isolation valves and isolation devices” instead of just “isolation devices,” for consistency. Withdrawn See comment 343	Add this change to list of APOG discussion topics: C1 In GTST for Subsection 3.6.3, Section XI on page 21, and Section XII on page 36, in the “Actions” section of the Bases, under heading “A.1 and A.2”; second paragraph, revise fourth sentence as indicated (existing markup shown in black): ... Rather, it involves verification, through a system walkdown, that those Withdrawn isolation valves and isolation devices outside containment and capable of potentially being mispositioned are in the correct position. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	PNNL GTST P12 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
345	3.6.03 Pg 38	Revise SR 3.6.3.2 Bases to add clarifying nomenclature consistent with NUREG-1431 wording.	Make the following changes in Bases first paragraph of SR 3.6.3.2 Surveillance Requirements discussion: ... that those <u>containment isolation</u> valves outside containment and capable of being mispositioned are in the correct position. Since verification of valve position for <u>containment isolation</u> valves outside containment . . .	A3 A5	SPSB agrees Withdrawn but suggests using "isolation valves and isolation devices" instead of just "isolation devices," for consistency. Withdrawn See comment 343	Add this change to list of APOG discussion topics: C1 In GTST for Subsection 3.6.3, Section XI on page 24, and Section XII on page 38, in the "SRs" section of the Bases, under heading "SR 3.6.3.2," revise third through fifth sentences, as indicated (existing markup shown in black): ... This SR does not require any testing or Withdrawn <u>isolation</u> valve Withdrawn or isolation device manipulation. Rather, it involves verification, through a system walkdown, that those <u>containment isolation</u> valves Withdrawn or isolation devices outside containment and capable of being mispositioned are in the correct position. Since verification of Withdrawn <u>isolation</u> valve Withdrawn or isolation device position for <u>containment isolation</u> valves Withdrawn and isolation devices outside containment is relatively easy, the 31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P12 complete
346	3.6.03 Pg 39	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in SR 3.6.3.3 Surveillance Requirements Bases discussion: This <u>The</u> Note allows valves and blind flanges located in high radiation areas to be . . .	A3	SPSB agrees	In GTST for Subsection 3.6.3, Section XI on page 25, and Section XII on page 39, in the "SRs" section of the Bases, under heading "SR 3.6.3.3," second paragraph, revise first sentence, as indicated: This <u>The</u> Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative controls. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P12 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
347	3.6.03 Pg 40	Revise SR 3.6.3.5 Bases to add clarifying nomenclature consistent with NUREG-1431 wording.	Make the following changes in SR 3.6.3.5 Surveillance Requirements Bases discussion: Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA.	A3	SPSB agrees	In GTST for Subsection 3.6.3, Section XI on page 26 and Section XII on page 40, in the "SRs" section of the Bases, under heading "SR 3.6.3.5," revise first sentence, as indicated: Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P12 complete
348	3.6.03 Pg 40	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.6.3.5 Bases: This SR ensures that each automatic containment isolation valve will actuate to its isolation position on a containment isolation signal. The ACTUATION LOGIC TEST overlaps this Surveillance to provide complete testing of the assumed safety function. This surveillance is not required for valves that are locked, sealed, or otherwise	A3	SPSB agrees See comment 374	In GTST for Subsection 3.6.3, Section XI on page 26 and Section XII on page 40, in the "SRs" section of the Bases, under heading "SR 3.6.3.5," revise first paragraph by inserting a sentence after the second sentence, as indicated: Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures that each automatic containment isolation valve will actuate to its isolation position on a containment isolation signal. The ACTUATION LOGIC TEST overlaps this Surveillance to provide complete testing of the assumed safety function. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P12 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
349 70	3.6.04 Pg 08	First paragraph of the Technical Analysis discusses DOC A083. The last two sentences discuss an action that is not in GTS and is not in the revised STS (i.e., going to MODE 6). These sentences should be deleted as they are not relevant to the change. This portion of the DOC A083 discussion is related to a similar change in GTS 3.6.5.	Delete sentences that read "While the Required Action B.2 does not specify that an option is to be in MODE 6, it is always an option. It is not necessary to state that the unit can go to a lower mode"	T1	SPSB agrees	In GTST for Subsection 3.6.4, Section VII on page 8, under "Technical Analysis" discussion of DOC A083, delete last two sentences. In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P13 complete
350	3.6.04 Pg 20	GTS LCO 3.6.4 has Applicability Notes that are mistakenly moved in the GTST as LCO Notes. The GTS evaluation and the corresponding Bases, continue to reflect the existence of Applicability Notes. The GTST Section XI and Section XII TS pages appear to have typographical errors in the placement of the Notes.	Revise Section XI and Section XII to present the LCO Notes as Applicability Notes	A1 A3	SPSB agrees, B1 but suggests "MODES 5 and 6"	B1 In GTST for Subsection 3.6.4, Section XI on page 13, and Section XII on page 20, correct the placement of Applicability Note; <u>also replace "MODES 5 or 6" with "MODES 5 and 6" in the Note itself</u> In GTST Section VIII, describe APOG comment and its resolution. <hr/> Describe SPSB suggested change in GTST Sections IV, V, VI, and VII (as appropriate).	PNNL GTST P13 complete
351	3.6.04 Pg 24	Revise TS 3.6.4 Bases for the Applicability to change from "the cooling events" to "the containment cooling events" for clarification.	Make the following changes in Applicability Bases: Therefore, maintaining containment pressure within the low pressure limit is essential to ensure initial conditions assumed in the <u>containment</u> cooling events in MODES 1 . . .	A3	SPSB agrees	In GTST for Subsection 3.6.4, Section XI on page 17, and Section XII on page 24, in the "Applicability" section of the Bases, fourth paragraph, revise first sentence as indicated: Therefore, maintaining containment pressure within the low pressure limit is essential to ensure initial conditions assumed in the containment cooling events in MODES 1 through 4 and in MODES 5 and 6 without an open containment air flow path ≥ 6 inches in diameter. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P13 complete

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352	3.6.04 Pg 24	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes in Actions B.1, B.2, and B.3 Bases discussion:</p> <p>Once in MODE 5 or 6 Required Action C.1 requires that a containment air flow path \geq 6 inches in diameter shall be opened within 8 hours from eCondition entry. . . .</p> <p>The primary means of opening a containment air flow path is by establishing a eContainment aAir filtration system (VFS) air flow path into containment.</p>	A3 T4	SPSB agrees, but notes errors in GTS markup that need correction; See comment 353	<p>C1 In GTST for Subsection 3.6.4, Section XI on page 17, and Section XII on page 24, in the “Actions” section of the Bases, under GTS heading “B.1, B.2, and B.3”</p> <ul style="list-style-type: none"> Revise markup of GTS heading, as indicated: B.1, B.2, and B.3 C.1 Revise markup of GTS second and third paragraphs, as indicated in Action for comment 353.: Revise markup of GTS fourth paragraph, as indicated (existing markup shown in black): The primary means of opening a containment air flow path is by establishing a containment air filtration system Containment Air Filtration System (VFS) air flow path into containment. Manual actuation and maintenance as necessary to open a purge supply, purge exhaust, or vacuum relief flow path are available means to open a containment air flow path. In addition, opening of a spare penetration is an acceptable means to provide the necessary flow path. Opening of an equipment hatch or a containment airlock is acceptable, but may not be possible due to the differential pressure condition. Containment air flow paths opened must comply with LCO 3.6.78, “Containment Penetrations.” <p>In GTST Section VIII, describe APOG comments 352 and 353 and their resolution.</p> <p>Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	PNNL GTST P13 complete

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353	3.6.04 Pg 24	<p>Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.</p> <p>The GTST revision is not as concise and leaves erroneous understanding of Condition A (which continues to apply as well).</p>	<p>Make the following changes to Actions B.1, B.2, and C.1 Bases:</p> <p>If the containment high low pressure limit is still not met, Condition C applies only Condition B applies since entry into MODE 5 is sufficient to exit the Applicability applies.</p> <p>If the containment low pressure limit is not met both Conditions B and C apply. Once in MODE 5 or 6, Required Action C.1 requires that a containment air flow path ≥ 6 inches in diameter shall be opened within 8 hours from condition entry.</p>	A3	<p>SPSB agrees, C1 but suggests additional changes. The markup of the first three GTS paragraphs is based on the Proposed Action.</p> <p>In addition, a change based on comment 352 is included in the markup. SPSB additional suggested changes are shown in bold black.</p> <p>NOTE: The markup is of the first three paragraphs in the GTS Bases – not the GTST smooth version on GTST page 24</p> <hr/> <p>The smooth version with changes incorporated is presented in the Action column. This version has just two paragraphs.</p>	<p>Add to list of APOG discussion topics: C1 In GTST for Subsection 3.6.4, Section XI on page 17, and Section XII on page 24, in the “Actions” section of the Bases, under GTS heading “B.1, B.2, and B.3”, revise first three paragraphs, as indicated (additional SPSB suggested changes shown in green and orange): <u>B.1, B.2, and B-3 C.1</u></p> <p>If the containment pressure cannot be restored to within its limits within the required Completion Time in MODE 1, 2, 3, or 4, the plant must be placed in a condition in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.</p> <p>Upon entry into MODE 5, if if the containment high low pressure limit is still not met, or if while in MODE 5 or 6 the containment pressure cannot be restored to within its low pressure limit within the required Completion Time, Condition C applies. Entry into MODE 5 is sufficient to exit the Applicability. If the containment low pressure limit is not met, Required Action B.3 applies.</p> <p>If in MODE 5 or 6, the containment low pressure limit is not met, Required Action C.1 requires that a containment air flow path ≥ 6 inches in diameter shall be opened within 448 hours from condition Condition entry. Any flow path (or paths) with an area equivalent to 6 inches in diameter is adequate to provide the necessary air flow</p> <hr/> <p><u>B.1, B.2, and C.1</u></p> <p>If the containment pressure cannot be restored to within its limits within the required Completion Time in MODE 1, 2, 3, or 4, the plant must be placed in a condition in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.</p> <p>Upon entry into MODE 5, if the containment low pressure limit is still not met, or if while in MODE 5 or 6 the containment pressure cannot be restored to within its low pressure limit within the required Completion Time, Condition C applies. Required Action C.1 requires that a containment air flow path ≥ 6 inches in diameter shall be opened within 8 hours from Condition entry. Any flow path (or paths) with an area equivalent to 6 inches in diameter is adequate to provide the necessary air flow.</p> <p>See comment 352 for GTST update instructions</p>	PNNL GTST P13 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
354	3.6.04 Pg 25	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in SR 3.6.4.1 Surveillance Requirements Bases: The 12 hour Frequency of this SR was developed based on operating experience related to trending of both containment pressure variations during the applicable MODES.	A3	SPSB agrees	In GTST for Subsection 3.6.4, Section XI on page 18, and Section XII on page 25, in the "SRs" section of the Bases, under heading "SR 3.6.4.1"; revise second sentence as indicated: The 12 hour Frequency of this SR was developed based on operating experience related to trending of both containment pressure variations during the applicable MODES. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P13 complete
355 71	3.6.05 Pg 08	Next to last paragraph references VEGP LAR DOC "M13." This should be DOC "M12"	Change "M13" to "M12"	A1	SPSB agrees	In GTST for Subsection 3.6.5, Section VII on page 8, next to last paragraph, change "M13" to "M12". In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P14 complete
356 72	3.6.06 Pg 38	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following sentence a separate paragraph under Actions F.1 and F.2 Bases: These Actions place the plant in a condition which maximize the time to actuation of the Passive Containment Cooling System, thus providing time for repairs or application of alternative cooling capabilities.	A3	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 24, and Section XII on page 38, in the "Actions" section of the Bases, under GTS heading "F.1 and F.2", make the last sentence a separate paragraph. In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P15 complete
357	3.6.06 Pg 05	Fourth paragraph of the Changes to the Generic TS and Bases section states that the Applicability is revised to include "MODES 5 and 6." The change is actually "MODES 5 and 6 with the reactor decay heat > 6.0 MWt."	Add in the phrase "with the reactor decay heat > 6.0 MWt"	A1	SPSB agrees	In GTST for Subsection 3.6.6, Section V on page 5, under heading "Changes to the Generic TS and Bases," change fourth paragraph, as indicated: TS 3.6.6 "Applicability" statement is revised to include "MODES 5 and 6 with the reactor decay heat > 6.0 MWt. " (DOC M13 and L14) In GTST Section VIII, describe APOG comment and its resolution.	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
358	3.6.06 Pg 07	Discussion of VEGP LAR DOC A085 says it adds the word "Conditions." This should be "Condition" (two locations in the paragraph).	Change "Conditions" to "Condition" in both locations.	A1	SPSB agrees	<p>In GTST for Subsection 3.6.6, Section VI</p> <ul style="list-style-type: none"> on page 7, under heading "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes," change first paragraph discussion of DOC A085, as indicated: VEGP LAR DOC A085 adds the word "Conditions" "Condition" to specify that the phrase "A, B, or C" in Condition D refers to Conditions Condition A, B, or C. on page 8, under heading "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes," change first paragraph discussion of DOC A085, as indicated: VEGP LAR DOC A085 change to add by adding the word "Conditions" "Condition" clarifies that Condition D is referring to Conditions Condition A, B, or C in the condition Condition statement. <p>In GTST Section VIII, describe APOG comment and its resolution.</p>	PNNL GTST P15 complete
359	3.6.06 Pg 08	Discussion of VEGP LAR DOC A085 says it adds the word "Conditions." This should be "Condition" (two locations in the paragraph).	Change "Conditions" to "Condition" in both locations.	A1	SPSB agrees	See comment 358	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
360	3.6.06 Pg 32	Revise TS 3.6.6 Bases naming convention for the PCCWST to be consistent with AP1000 DCD nomenclature.	<p>Make the following changes in Background:</p> <p>The PCS consists of an 800,000 gal (nominal) cooling-water tank Passive Containment Cooling Water Storage Tank (PCCWST), four headered tank PCCWST discharge lines . . .</p> <p>. . .</p> <p>Algae growth is not expected within the Passive Containment Cooling Water Storage Tank (PCCWST); however, to assure water clarity . . . PCCWST passive containment cooling water storage tank. However, OPERABILITY of the PCCWST tank is assured by compliance with . . . recirculation pumps and heater, the PCCWST PCS water storage tank temperature can be maintained . . . large thermal inertia of the PCCWST tank, or heat . . .</p> <p>Upon actuation of the isolation valves, gravity flow of water from the PCCWST cooling-water tank (contained</p>	A2 A3	<p>SPSB agrees, B1 but suggests including “(standpipes)” as alternate name of “PCCWST discharge lines” as used in Bases for SR 3.6.6.6 – see comment 376</p> <p>Note: changes due to comment 361 are also included in markup for this comment.</p>	<p>B1 In GTST for Subsection 3.6.6 Section XI on page 18, and Section XII on page 32, in the “Background” section of the Bases, revise second paragraph and third paragraph as indicated (additional SPSB suggested changes shown in green and orange):</p> <p>The PCS consists of a 800,000 gal (nominal) cooling-water tank Passive Containment Cooling Water Storage Tank (PCCWST), four headered tank PCCWST discharge lines (standpipes) with flow restricting orifices, and two separate full capacity discharge headers flow paths to the containment vessel with 3 sets of isolation valves (i.e., 3 flow paths), each flow path capable of meeting the design bases. Algae growth is not expected within the PCCWST Passive Containment Cooling Water Storage Tank (PCCWST); however, to assure water clarity is maintained, a prevailing concentration of hydrogen peroxide is maintained at 50 ppm. The recirculation pumps and heater provide freeze protection for the PCCWST passive containment cooling water storage tank. However, OPERABILITY of the PCCWST tank is assured by compliance with the temperature limits specified in SR 3.6.6.1 and not by the recirculation pumps and heater. In addition to the recirculation pumps and heater, the PCCWST PCS water storage tank temperature can be maintained within limits by the ambient temperature, the large thermal inertia of the PCCWST tank, or heat from other sources. The PCS valve room temperature must not be below freezing for an extended period to assure the water flow path to the containment shell is available. The isolation valves on each flow path are powered from a separate Division.</p> <p>Upon actuation of the isolation valves, gravity flow of water from the PCCWST cooling-water tank (contained in the shield building structure above the containment) onto the upper portion of the containment shell reduces the containment pressure and temperature following a DBA. . .</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	PNNL GTST P15 complete

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361	3.6.06 Pg 32	Revise TS 3.6.6 Bases Background sentence to define the three sets of isolation valves as the three flow paths and simply use "headers" in reference to the two discharge piping routes. The LCO requires the three flow paths with active isolation valves. In the Background, "flow path" is used in reference to the two discharge headers, which creates confusion.	Make the following changes in Background: ... and two separate full capacity discharge flow paths headers to the containment vessel with 3 sets of isolation valves (i.e., 3 flow paths), each flow path capable of meeting the design bases.	A3 T4	SPSB agrees	See comment 360	PNNL GTST P15 complete
362	3.6.06 Pg 32	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Background: The flow of water to the containment shell surface is initially established to assure that the required short term containment cooling requirements following the postulated worst case LOCA are achieved.	A3	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 18, and Section XII on page 32, in the "Background" section of the Bases, revise third paragraph as indicated: Upon actuation of the isolation valves, gravity flow of water from the PCCWST cooling water tank (contained in the shield building structure above the containment) onto the upper portion of the containment shell reduces the containment pressure and temperature following a DBA. The flow of water to the containment shell surface is initially established to assure that the required short term containment cooling requirements following the postulated worst case LOCA are achieved. As the decay heat from the core becomes less with time, the water flow to the containment shell is reduced in three steps. The change in flow rate is attained without active components in the system and is dependent only on the decreasing water level in the elevated PCCWST storage tank . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
363	3.6.06 Pg 33	Revise TS 3.6.6 Bases naming convention for the PCCWST to be consistent with AP1000 DCD nomenclature.	Make the following changes in Background: . . . decreasing water level in the elevated PCCWST storage tank . . . Automatic actuation opens the PCCWST cooling water tank discharge valves, allowing gravity flow . . .	A3	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 19, and Section XII on page 33, in the "Background" section of the Bases, <ul style="list-style-type: none"> revise third paragraph as indicated: Upon actuation of the isolation valves, gravity flow of water from the PCCWST cooling water tank (contained in the shield building structure above the containment) onto the upper portion of the containment shell reduces the containment pressure and temperature following a DBA. The flow of water to the containment shell surface is initially established to assure that the required short term containment cooling requirements following the postulated worst case LOCA are achieved. As the decay heat from the core becomes less with time, the water flow to the containment shell is reduced in three steps. The change in flow rate is attained without active components in the system and is dependent only on the decreasing water level in the elevated PCCWST storage tank. In order to ensure the containment surface is adequately and effectively wetted, the water is introduced at the center of the containment dome and flows outward. Weirs are placed on the dome surface to distribute the water and ensure effective wetting of the dome and vertical sides of the containment shell. The monitoring of the containment surface through the Reliability Assurance Program (RAP) and the Inservice Testing Program assures containment surface does not unacceptably degrade containment heat removal performance. . . . revise fifth paragraph as indicated: The PCS is actuated either automatically, by a containment High-2 pressure signal, or manually. Automatic actuation opens the PCCWST cooling water tank discharge valves, allowing gravity flow of the cooling water onto the containment shell. The manual containment cooling actuation consists of four momentary controls, if two associated controls are operated simultaneously, actuation will occur in all divisions. The discharge continues for at least three days. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

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- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
364	3.6.06 Pg 33	Delete TS 3.6.6 Bases Background detail regarding the Reliability Assurance Program since it is inconsistent with NUREG-1431 Bases detail. Furthermore, DCD 6.1.3.2 defines a COL Item for this monitoring / inspection, which does not discuss it as a "Reliability Assurance Program"	Make the following changes in Background: ... effective wetting of the dome and vertical sides of the containment shell. The monitoring of the containment surface through the Reliability Assurance Program (RAP) and the Inservice Testing Program assures containment surface does not unacceptably degrade containment heat removal performance.	A5	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 19, and Section XII on page 33, in the "Background" section of the Bases, • revise third paragraph as indicated: ... In order to ensure the containment surface is adequately and effectively wetted, the water is introduced at the center of the containment dome and flows outward. Weirs are placed on the dome surface to distribute the water and ensure effective wetting of the dome and vertical sides of the containment shell. The monitoring of the containment surface through the Reliability Assurance Program (RAP) and the Inservice Testing Program assures containment surface does not unacceptably degrade containment heat removal performance. During the initial test program, the containment coverage will be measured at the base of the upper annulus in addition to the coverage at the spring line for the full flow case and a lower flow case with PCS recirculation pumps delivering to the containment shell. These benchmark values at the base of the upper annulus will be used to develop acceptance criteria for technical specifications. Contamination can be removed by PCS actuation and by using coating vendor cleaning procedures. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
365	3.6.06 Pg 33	Delete TS 3.6.6 Bases Background detail regarding the initial test program since it is inconsistent with NUREG-1431 Bases detail. This is not a TS surveillance or test and does not enhance the understanding of the TS requirements. This information is appropriately provided in AP1000 DCD 6.2.2.4.	Make the following changes in Background: During the initial test program, the containment coverage will be measured at the base of the upper annulus in addition to the coverage at the spring line for the full flow case and a lower flow case with PCS recirculation pumps delivering to the containment shell. These benchmark values at the base of the upper annulus will be used to develop acceptance criteria for technical specifications. Contamination can be removed by PCS actuation and by using coating vendor cleaning procedures.	A5	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 19, and Section XII on page 33, in the "Background" section of the Bases, • revise third paragraph as indicated: ... In order to ensure the containment surface is adequately and effectively wetted, the water is introduced at the center of the containment dome and flows outward. Weirs are placed on the dome surface to distribute the water and ensure effective wetting of the dome and vertical sides of the containment shell. The monitoring of the containment surface through the Reliability Assurance Program (RAP) and the Inservice Testing Program assures containment surface does not unacceptably degrade containment heat removal performance. During the initial test program, the containment coverage will be measured at the base of the upper annulus in addition to the coverage at the spring line for the full flow case and a lower flow case with PCS recirculation pumps delivering to the containment shell. These benchmark values at the base of the upper annulus will be used to develop acceptance criteria for technical specifications. Contamination can be removed by PCS actuation and by using coating vendor cleaning procedures. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
366	3.6.06 Pg 33	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Background: ... (evaporation) of the water film into the air. As the air heats up and water evaporates into the air , it becomes less dense than the cooler air in the air ... with heated air/water vapor exiting the top center of the shield building.	A3	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 19, and Section XII on page 33, in the "Background" section of the Bases, • revise fourth paragraph as indicated: The path for the natural circulation of air is from the air intakes in the shield building, down the outside of the baffle, up along the containment shell to the top, center exit in the shield building and is always open. The drains in the upper annulus region must be clear to prevent water from blocking the air flow path. Heat is removed from within the containment utilizing the steel containment shell as the heat transfer surface combining conductive heat transfer to the water film, convective heat transfer from the water film to the air, radiative heat transfer from the film to the air baffle, and mass transfer (evaporation) of the water film into the air. As the air heats up and water evaporates into the air , it becomes less dense than the cooler air in the air inlet annulus. This differential causes an increase in the natural circulation of the air upward along the containment surface, with heated air/water vapor exiting the top center-top/center of the shield building. Additional system design details are provided in Reference 3. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
367	3.6.06 Pg 34	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes in Background:</p> <p>Reduction of containment pressure reduces the release of fission product radioactivity from containment to the environment, in the event of a DBA.</p> <p>The PCS is an <u>engineered safety features (ESF)</u> system and is designed to ensure that the heat removal capability required during the post accident period can be attained.</p>	A3	SPSB agrees	<p>In GTST for Subsection 3.6.6 Section XI on page 20, and Section XII on page 34, in the “Background” section of the Bases,</p> <ul style="list-style-type: none"> Revise sixth and seventh paragraphs as indicated: <p>The PCS is designed to limit post-accident pressure and temperature in containment to less than the design values. Reduction of containment pressure reduces the release of fission product radioactivity from containment to the environment environment, in the event of a DBA.</p> <p>The PCS is an <u>engineered safety features (ESF)</u> ESF system and is designed to ensure that the heat removal capability required during the post accident period can be attained.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	PNNL GTST P15 complete
368	3.6.06 Pg 34	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes in Applicable Safety Analyses:</p> <p>The analyses and evaluations assume a unit-specific power level of 3400-MWt 100% RTP, one passive containment cooling train operating, . . .</p>	A3	SPSB agrees, B1 and suggests using “PCS” in ASA paragraphs	<p>B1 In GTST for Subsection 3.6.6 Section XI on page 20, and Section XII on page 34, in the “ASA” section of the Bases,</p> <ul style="list-style-type: none"> In first, second, third, fifth, and seventh paragraphs replace “Passive Containment Cooling System” with “PCS Passive Containment Cooling System” Revise second paragraph as indicated: <p>The analyses and evaluations assume 100% RTP, a unit specific power level of 3400-MWt, one PCS passive containment cooling train operating, and initial (pre-accident) containment conditions of 120°F and 1.0 psig. The analyses also assume a response time delayed initiation to provide conservative peak calculated containment pressure and temperature responses.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
369	3.6.06 Pg 35	Revise TS 3.6.6 Bases naming convention for the PCCWST to be consistent with AP1000 DCD nomenclature.	<p>Make the following changes in LCO Bases discussion:</p> <p>The PCS includes the PCCWST a cooling water tank, valves, piping, instruments and controls to ensure an OPERABLE flow path capable of delivering water from the PCCWST cooling water tank upon an actuation</p> <p>The PCCWST PCS cooling water storage tank ensures that an adequate supply of water is available to cool and depressurize the containment in the event of a Design Basis Accident (DBA). To be considered OPERABLE, the PCCWST PCS cooling water storage tank must meet the water volume and</p>	A3	<p>SPSB agrees, Withdrawn but suggests adding clarifying details regarding outlet isolation valves in the PCS flow paths and but suggests rearranging the last sentence of third paragraph, and, using "DBA" , since it was previously defined</p>	<p>C1 In GTST for Subsection 3.6.6 Section XI on page 21, and Section XII on page 35, in the "LCO" section of the Bases, revise first, second, third, and fourth paragraphs as indicated (additional SPSB suggested changes shown in green and orange):</p> <p>During a DBA, one PCS passive containment cooling water flow path is required to maintain the containment peak pressure and temperature below the design limits (Ref. 3). To ensure that this requirement is met, two PCS passive containment cooling water flow paths are provided.</p> <p>Therefore, in the event of an accident, at least one PCS flow path operates, assuming the worst case single active failure occurs. A third PCS flow path is provided for protection against multiple failure scenarios modeled in the PRA. To ensure that these requirements are met, three PCS water flow paths must be OPERABLE.</p> <p>The PCS includes the PCCWST a cooling water tank, valves, piping, instruments and controls to ensure an OPERABLE flow path capable of delivering water from the PCCWST cooling water tank upon an actuation signal. An OPERABLE PCS flow path consists of a normally closed Withdrawn upstream motor-operated valve capable of automatically opening in series with a normally open Withdrawn downstream valve. However, based on PRA insights for For the two PCS flow paths containing air-operated Withdrawn fail-open downstream valves, it is preferred because of PRA insights that these valves be normally closed.</p> <p>The PCCWST PCS cooling water storage tank ensures that an adequate supply of water is available to cool and depressurize the containment in the event of a DBA Design Basis Accident (DBA). To be considered OPERABLE, the PCCWST PCS cooling water storage tank must meet the water volume and temperature limits established in the SRs. To be considered OPERABLE, the air flow path from the shield building annulus inlet to the exit must be unobstructed, with unobstructed upper annulus safety-related drains providing a path for containment cooling water runoff to preclude blockage of the air flow path.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	PNNL GTST P15 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
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- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
370	3.6.06 Pg 37	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following sentence a separate paragraph under Actions E.1 and E.2 Bases: These Actions place the plant in a condition which maximize the time to actuation of the Passive Containment Cooling System, thus providing time for repairs or application of alternative cooling capabilities.	A2 A3	SPSB agrees B1 but suggests additional edits for consistency with other APOG suggested Bases improvements See comment 333 B1 See Writers Guide paragraph 3.1.1.h: The term “and/or” is to be avoided.	Include this comment in the list of APOG discussion topics. In GTST for Subsection 3.6.6 Section XI on pages 22, 23 and 24, and Section XII on pages 36 and 37, in the “Actions” section of the Bases, <ul style="list-style-type: none"> A Under each heading “A.1”, “B.1”, “C.1”, “D.1 and D.2”, insert a blank line before the bases text A Under the heading “E.1 and E.2”, make the last sentence a new paragraph. C1, B1, B2 Under the heading “E.1 and E.2”, make the changes indicated (existing markup shown in bold black) (additional SPSB suggested changes shown in green and orange) <u>note that some changes are withdrawn</u>: <p>Action must be initiated if any of the Required Actions and associated Completion Times of Condition A, B, or C are not met in MODE 5, or if the LCO is not met for reasons other than Condition A, B, or C when in MODE 5. With the RCS pressure boundary open and or pressurizer level < 20%, action must be initiated, immediately, to increase the RCS inventory level to by establishing a pressurizer level ≥ 20% and to close the RCS pressure boundary so that the Passive Residual Heat Removal Withdrawn (PRHR) Heat Exchanger (PRHR HX) operation is available. In this condition ease, the time to RCS boiling is maximized by maximizing the RCS inventory and maintaining RCS temperature as low as practical. Additionally, action to immediately suspend positive reactivity additions is required to ensure that the SDM is maintained. Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control assemblies rods, and excessive cooling of the RCS.</p> <p>These Actions place the plant in a condition which maximizes maximize the time to actuation of the PCS Passive Containment Cooling System, thus providing time for repairs or application of alternate alternative cooling capabilities.</p> <p style="text-align: right;">continued</p>	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
370	3.6.06 Pg 37	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following sentence a separate paragraph under Actions E.1 and E.2 Bases: <i>These Actions place the plant in a condition which maximize the time to actuation of the Passive Containment Cooling System, thus providing time for repairs or application of alternative cooling capabilities.</i>	A2 A3	SPSB agrees B1 but suggests additional edits for consistency with other APOG suggested Bases improvements See comment 378	Continued from previous page In GTST for Subsection 3.6.6 Section XI on pages 24, and Section XII on pages 37, in the “Actions” section of the Bases, • A Under the heading “F.1 and F.2”, make the last sentence a new paragraph. • C1, B1 Under the heading “F.1 and F.2”, make the changes indicated (existing markup shown in bold black) (additional SPSB suggested changes shown in green and orange) Action must be initiated if any of the Required Actions and associated Completion Times of Condition A, B, or C are not met in MODE 6, or if the LCO is not met for reasons other than Condition A, B, or C when in MODE 6. Action must be initiated, immediately, to increase RCS inventory by establishing a the refueling cavity water level ≥ 23 feet above the top of the reactor vessel flange. In this condition case, the time to RCS boiling is maximized by maximizing the RCS inventory and maintaining RCS temperature as low as practical. Additionally, action to immediately suspend positive reactivity additions is required to ensure that the SDM is maintained. Sources of positive reactivity addition include boron dilution, withdrawal of reactivity-control assemblies-rods, and excessive cooling of the RCS. These Actions place the plant in a condition which maximizes maximize the time to actuation of the PCS Passive Containment Cooling System, thus providing time for repairs or application of alternate alternative-cooling capabilities. In GTST Section VIII, describe APOG comment and its resolution. Describe SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate)	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
371	3.6.06 Pg 37	Revise TS 3.6.6 Bases for Required Action C.1 wording to match the TS requirement for PCCWST water volume or temperature.	Make the following changes in C.1 Actions Bases discussion: If the <u>PCCWST water volume or temperature is not within limits</u> , cooling water tank is inoperable , it must be restored to <u>OPERABLE status within limits</u> within 8 hours. The tank may be declared inoperable due to low water level or temperature out of limits.	A3 T1	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 23, and Section XII on page 37, in the "Actions" section of the Bases, • Under the heading "C.1", revise Bases text as indicated: If the PCCWST water volume or temperature is not within limits , cooling water tank is inoperable , it must be restored to within limits OPERABLE status within 8 hours. The tank may be declared inoperable due to low water level or temperature out of limits. The 8 hour Completion Time is reasonable based on the remaining heat removal capability of the system and the availability of cooling water from alternate sources. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete
372	3.6.06 Pg 38	Revise TS 3.6.6 Bases naming convention for the PCCWST to be consistent with AP1000 DCD nomenclature.	Make the following changes in SR 3.6.6.1 Surveillance Requirements Bases: This surveillance requires verification that the <u>PCCWST</u> cooling water temperature is within the limits ... approach the temperature limits since the <u>PCCWST</u> tank is large and temperature variations are slow.	A3	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 24, and Section XII on page 38, in the "SRs" section of the Bases, under heading "SR 3.6.6.1" revise first paragraph, as indicated (existing markup shown in black): This surveillance requires verification that the PCCWST cooling water temperature is within the limits assumed in the accident analyses. The 7-day 24 hour Frequency is adequate to identify a temperature change that would approach the temperature limits since the PCCWST tank is large and temperature variations are slow. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
373	3.6.06 Pg 38-39	Revise SR 3.6.6.3 Bases to change from "Passive Containment Cooling System provides" to "PCS flow path provides" and change from "positions prior" to "position prior" for editorial clarification.	Make the following changes in SR 3.6.6.3 Surveillance Requirements Bases: Verifying the correct alignment of manual, power operated, and automatic valves, excluding check valves, in the Passive Containment Cooling System PCS flow path provides assurance that the proper flow paths exist for system operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these were verified to be in the correct positions prior to being secured.	A3	SPSB agrees, but suggests additional edits for consistency with other APOG suggested Bases improvements See comment 344	A In GTST for Subsection 3.6.6 Section XI on page 25, and Section XII on page 38 and 39, in the "SRs" section of the Bases, under heading "SR 3.6.6.3" revise the Bases paragraph, as indicated (existing markup shown in black) (additional SPSB suggested changes shown in green and orange): Verifying the correct alignment of manual , power operated, and automatic valves, excluding check valves, in the PCS Passive Containment Cooling System flow paths provides assurance that the proper flow paths exist for system operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position position , since these were verified to be in the correct position positions prior to being secured. This SR does not require any testing or valve manipulation. Rather, it involves verification, through control room instrumentation or a system walkdown , that valves capable of potentially being mispositioned are in the correct position. The 31 day Frequency is appropriate because the valves are operated under administrative control, and an improper valve position would only affect a single PCS flow path. This Frequency has been shown to be acceptable through operating experience. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

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- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

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- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
374	3.6.06 Pg 39	Excess detail is removed. The detail is not consistent with general content reflected in NUREG-1431. Removal of this detail does not impact the information useful for compliance with the TS requirement.	Make the following changes in SR 3.6.6.4 Surveillance Requirements Bases: The 24 month Frequency is also acceptable based on consideration of the design reliability (and confirmed by operating experience) of the equipment.	A5	SPSB agrees, C1 but also suggests inserting the sentence used in Subsection 3.6.3 Bases for SR 3.6.3.5 about overlap with Actuation Logic Test See comment 348 C1 Note additional correction in "References" section of Bases; see comment 3	C1 In GTST for Subsection 3.6.6 Section XI on page 25, and Section XII on page 39, in the "SRs" section of the Bases, under heading "SR 3.6.6.4" revise Bases paragraph, as indicated (additional SPSB suggested changes shown in green) This SR requires verification that each automatic isolation valve actuates to its correct position upon receipt of an actual or simulated actuation signal. The ACTUATION LOGIC TEST overlaps this Surveillance to provide complete testing of the assumed safety function. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillances were performed with the reactor at power. The 24 month Frequency is also acceptable based on consideration of the design reliability (and confirmed by operating experience) of the equipment. Operating experience has shown that these components usually pass the Surveillances when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" C1 In GTST for Subsection 3.6.6 Section XI on page 27 and Section XII on page 40, in the "References" section of the Bases, Reference 3 should say "FSAR Section 6.2" not "Chapter 6.2"; that is 3. FSAR Section Chapter 6.2, "Containment Systems." In GTST Section VIII, describe APOG comment 3 and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
375	3.6.06 Pg 39	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in SR 3.6.6.5 Surveillance Requirements Bases: Additionally, the 24 month Frequency is based on the desire to perform this Surveillance under conditions that apply during a plant outage, on the need to have access to the locations, and because of the potential for an unplanned transient if the Surveillance were performed with the reactor at power.	A3	SPSB agrees	In GTST for Subsection 3.6.6 Section XI on page 26, and Section XII on page 39, in the "SRs" section of the Bases, under heading "SR 3.6.6.5" revise third sentence, as indicated ... Additionally, the 24 month Frequency is based on the desire to perform this Surveillance under conditions that apply during a plant outage, on the need to have access to the locations, and because of the potential for an unplanned transient if the Surveillance were performed with the reactor at power. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete
376	3.6.06 Pg 40	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in SR 3.6.6.6 Surveillance Requirements Bases: The System Level Operability OPERABILITY Testing Program provides specific test requirements and acceptance criteria.	A3	SPSB agrees C1 but also suggests using "PCS" in place of its definition, and indicate the number of standpipes See comment 360	C1 In GTST for Subsection 3.6.6 Section XI on page 26, and Section XII on page 40, in the "SRs" section of the Bases, under heading "SR 3.6.6.6" revise Bases paragraph, as indicated (additional SPSB suggested changes shown in green and orange) This SR requires performance of a PCS Passive Containment Cooling System PCS Passive Containment Cooling System test to verify system flow and water coverage capabilities. The system performance test demonstrates that the containment cooling capability assumed in accident analyses is maintained by verifying the flow rates via each of the four standpipes standpipe and measurement of containment wetting coverage. The System Level Operability OPERABILITY Testing Program provides specific test requirements and acceptance criteria. Although the likelihood that system performance would degrade with time is low, it is considered prudent to periodically verify system performance. The first refueling and 10 year Frequency is based on the ability of the more frequent surveillances to verify the OPERABILITY of the active components and features which could degrade with time. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P15 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
377 73 74	3.6.07 Pg 34	Revise various TS Bases stating "withdrawal of reactivity control assemblies" to "withdrawal of control rods" for editorial improvement and consistency with other TS Bases discussions.	<p>Make the following changes in B.1.1, B.1.2, and B.2 Actions Bases:</p> <p>Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control assemblies rods, and excessive cooling of the RCS.</p>	T4	<p>SPSB agrees C1 but suggests</p> <ol style="list-style-type: none"> Starting new paragraph with MODE 6 discussion, also, remove reference to PRHR HX from MODE 6 discussion; Adding third sentence to end of MODE 5 discussion paragraph; and Starting new paragraph with SDM discussion, since it applies to both MODES <p>See comments 328 and 333</p>	<p>C1 Add splitting of this paragraph and other changes to the list of APOG discussion topics.</p> <p>C1 In GTST for GTS Subsection 3.6.8 (STS Subsection 3.6.7), Section XI on page 22 and Section XII on page 34, in the "Actions" section of Bases, under heading "B.1.1, B.1.2, and B.2" revise last sentence of second paragraph, as indicated (existing markup shown in black) C1 (additional SPSB suggested changes shown in green and orange):</p> <p>In MODE 5, action must be initiated, immediately, to be in MODE 5 with establish a pressurizer level $\geq 20\%$ and to close with the RCS intact so that the PRHR HX operation is available. The time to RCS steaming to containment is maximized by maximizing RCS inventory, and allowing PRHR HX operation.</p> <p>In MODE 6, action must be initiated, immediately, to be in MODE 6 with the refueling- increase RCS inventory by establishing a the reactor-refueling cavity water level ≥ 23 feet above the top of the reactor vessel flange. The time to RCS steaming to containment is maximized by maximizing RCS inventory, and allowing PRHR HX operation and allowing PRHR HX operation.</p> <p>Additionally, in either MODE action to immediately suspend positive reactivity additions is required to ensure that the SDM is maintained. Sources of positive reactivity addition include boron dilution, withdrawal of reactivity control assemblies rods, and excessive cooling of the RCS.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	PNNL GTST P17 complete

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378 75	3.6.08 Pg 23	Delete SR 3.6.9.2 Bases last sentence. This sentence, describing compliance to the SRP, is confusing and not necessary in this context. The paragraph begins with "Agitation of the test solution is prohibited," which is not related to ensuring compliance with the SRP. As such, the last sentence is deleted.	Make the following changes in SR 3.6.8.2 Surveillance Requirements Bases: ... before the required pH is achieved. This would ensure compliance with the Standard Review Plan requirement of a pH ≥ 7.0 by the onset of recirculation after a LOCA.	T4	SPSB disagrees B2 Withdrawn ; suggest adding language from FSAR and using :acceptance criterion" instead of "requirement"	Add comment to the list of APOG discussion topics. In GTST for GTS Subsection 3.6.9 (STS Subsection 3.6.8), Section XI on page 17 and Section XII on page 23, in the "SRs" section of Bases, under heading "SR 3.6.9.2", B2 delete the last sentence. B2 Withdrawn do not delete last sentence ; "This" does not refer to agitation but to "rapid mixing" in the [containment] sump during post-LOCA conditions. Revise sentence as follows: Good mixing with the sump water is expected due to both basket construction and because the baskets are placed in locations conducive to recirculation flows post-accident. This rapid mixing would ensure compliance with satisfying the Standard Review Plan requirement acceptance criterion of achieving a pH ≥ 7.0 in the containment sump water inventory by the onset of recirculation after a LOCA. SRP 6.5.2, page 6.5.2-5, Section II. ACCEPTANCE CRITERIA SRP Acceptance Criteria paragraph 1.G. Design Requirements for Fission Product Removal "Long-term iodine retention may be assumed only when the equilibrium sump solution pH, after mixing and dilution with the primary coolant and ECCS injection, is above 7. This pH value should be achieved by the onset of the spray recirculation mode." E2 APOG to consider adding NUREG-0800 Section 6.5.2 as a reference post AP1000 STS Rev. 0	PNNL GTST P18 complete
379	3.6.089 Pg 02	RCOL PTS Change Number and Title for VEGP LAR DOC A089 says it is for TS 3.6.9 Condition "B." It affects Condition "A" not "B"	Change "Condition B" to "Condition A"	A1	SPSB agrees	In GTST for GTS Subsection 3.6.9 (STS Subsection 3.6.8), Section II, page 2, RCOL PTS Change Number DOC A089 title should refer to Condition A, not Condition B. In GTST Section VIII, describe APOG comment and its resolution	PNNL GTST P18 complete

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380 76	3.6.09 Pg 25	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes in Background:</p> <p>The containment pressure vessel contains two 100% percent capacity vacuum relief flow paths with a</p> <p>...</p> <p>The MOVs receive an <u>engineered safety features (ESF)</u> “open” signal on Containment Pressure-Low 2.</p> <p>...</p> <p>If the-VFS-PL-V009 is not closed, then the vacuum relief MOVs will automatically close to direct VFS purge exhaust through the normal VFS discharge flow path.</p>	A2 A3	<p>SPSB agrees,</p> <p>B1 and suggests moving the phrase “outside containment”; and removing redundant phrase “inside containment” as suggested by comment 381;</p> <p>B2 Withdrawn</p> <p>Also suggest pointing out that the MOVs are Class 1E dc powered, since the ASA Bases discussion refers to “loss of ac power”</p>	<p>B1 In GTST for GTS Subsection 3.6.10 (STS Subsection 3.6.9), Section XI on page 16 and Section XII on page 25, in the “Background” section of Bases, revise second and third paragraphs, as indicated:</p> <p>The containment pressure vessel contains two 100% percent100% capacity vacuum relief flow paths with a shared containment penetration that protect the containment from excessive external pressure loading. Each flow path outside containment contains a normally closed, <u>Withdrawn Class 1E DC powered</u> motor-operated valve (MOV) outside containment. The two MOVs receive an engineered safety features (ESF) ESF “open” signal on Containment Pressure – Low 2 (Table 3.3.8-1, Function 1) Containment Pressure—Low-2. TheseThe MOVs close on an ESF containment isolation signal, as well as on Containment Radioactivity – High 1 High-1 containment radioactivity (Table 3.3.8-1, Function 3). Each flow path inside containment also contains a normally closed, self-actuated check valve inside containment that opens on a negative differential pressure of 0.2 psi. A vacuum relief flow path consists of one MOV and one check valve, and the shared containment penetration.</p> <p>The parallel vacuum relief MOVs are interlocked with the 16-inch 16-inch containment purge discharge isolation valve inside containment, VFS-PL-V009, which shares the vacuum relief containment penetration. The vacuum relief MOVs are blocked from opening if VFS-PL-V009 is not closed. If the-VFS-PL-V009 is not closed, then the vacuum relief MOVs will automatically close to direct VFS purge exhaust through the normal VFS discharge flow path. However, if vacuum relief actuation is required, the vacuum relief MOV actuation signal overrides the closing interlock with VFS-PL-V009 to allow the vacuum relief MOVs to open ensuring that the vacuum relief protection actuates. (Ref. 3)</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	PNNL GTST P19 complete

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381	3.6.09 Pg 25	Excess detail is removed. Removal of this detail does not impact the information useful for compliance with the TS requirement.	Make the following changes in Background: Each flow path inside containment contains a normally closed, self-actuated check valve inside containment that opens on a negative differential pressure of 0.2 psi.	A3	SPSB agrees	C1 See comment 380	PNNL GTST P19 complete
382	3.6.09 Pg 26	Additional clarifying information is included consistent with the TS being addressed.	Make the following changes in Applicable Safety Analyses: Design of the vacuum relief system involves calculating the effect of loss of ac power and an <u>low outside</u> ambient air temperature in combination. . .	A3	SPSB agrees, B1 but suggests additional clarifications	B1 In GTST for GTS Subsection 3.6.10 (STS Subsection 3.6.9), Section XI on page 17 and Section XII on page 26, in the "ASA" section of Bases, revise first paragraph, as indicated: Design of the vacuum relief system involves calculating the effect of a loss of all ac power and an <u>with a low outside</u> ambient air temperature in combination with limited containment heating that reduces the atmospheric <u>containment</u> temperature (and hence pressure) <u>inside containment</u> (Ref. 1). Conservative assumptions are used for relevant parameters in the calculation; for example, maximum inside containment temperature, minimum outside air temperature, maximum humidity, and maximum heat transfer coefficients (Ref. 1). The resulting containment pressure versus time is calculated, including the effect of the opening of the vacuum relief valves when their negative pressure setpoint is reached. It is also assumed that one valve <u>vacuum relief flow path</u> fails to open. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P19 complete

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383	3.6.09 Pg 26	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in LCO: Two 100% -percent vacuum relief flow paths are required to be OPERABLE to ensure that at least one is available. . . .	A3	SPSB agrees SPSB suggests a change consistent with other APOG suggested Bases improvements	In GTST for GTS Subsection 3.6.10 (STS Subsection 3.6.9), Section XI on page 17 and Section XII on page 26, in the "LCO" section of Bases, first paragraph, revise second sentence, as indicated: . . . Two 100-percent 100% vacuum relief flow paths are required to be OPERABLE to ensure that at least one is available, assuming one or both valves in the other flow path fail to open. . . . In GTST for GTS Subsection 3.6.10 (STS Subsection 3.6.9), Section XI on page 19 and Section XII on page 28, in the "Actions" section of Bases, under heading "C.1, C.2, and D.1," first paragraph, revise first sentence by changing "Completion Time of Conditions A or B" to "Completion Time of Condition A or B" In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	PNNL GTST P19 complete
384 77	3.7.01 Pg 05	In the Changes to the Generic Technical Specifications and bases section, fifth paragraph, it discusses the former GTS Condition B and states that the change is associated with DOC A091. It is really associated with DOC A092.	Change "A091" to "A092"	A1	SPSB agrees	In GTST for Subsection 3.7.1, Section V on page 5, under heading "Changes to GTS and Bases", in fifth paragraph, discussion of former GTS 3.7.1 Condition B, change reference to DOC A091 to DOC A092. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O41 complete
385 78	3.7.02 Pg 05	The Changes to the Generic Technical Specifications and Bases section, discussion of DOC A095, says it affects GTS Conditions A, B, C, and D and their Required Actions. DOC A095 does not affect Condition A or its Required Action.	Delete the reference to Condition A.	A1 T4	SPSB agrees	In GTST for Subsection 3.7.2, Section V on page 5, under heading "Changes to GTS and Bases" o in third paragraph, discussion of DOC A095, delete reference to GTS 3.7.2 Condition A, since DOC A095 does not affect it. o in fourth paragraph, discussion of DOC L20, change "Conditions D Note" to "Condition D Note" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O42 complete

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386	3.7.02 Pg 06	The Description of Changes in RCOL section, states that VEGP LAR DOC A095 makes changes to GTS Conditions A, B, C, and D and their Required Actions. DOC A095 does not affect Condition A or its Required Action.	Delete the reference to Condition A.	A1 T4	SPSB agrees	In GTST for Subsection 3.7.2, Section V on page 6, under heading "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes" <ul style="list-style-type: none"> o in third paragraph, discussion of DOC A095, delete reference to GTS 3.7.2 Condition A, since DOC A095 does not affect it. o in fourth paragraph, discussion of DOC L20, change "Conditions D Note" to "Condition D Note" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O42 complete
387	3.7.02 Pg 10	End of last paragraph discusses M11 changes to Actions of 3.7.2. The VEGP LAR discussed why TS 3.6.3 Actions Notes 3 and 4 were not applicable and not included in 3.7.2. This information was not added by the NRC into this paragraph. (Note similar change is discussed in GTST 3.7.1.)	For consistency, the statement from the VEGP LAR should be added.	A3 T4	SPSB agrees, C1 but suggests additional edits for clarity	C1 In GTST for Subsection 3.7.2, Section VII on page 9, under heading "Technical Analysis" ; in discussion of changes related to DOC M11, in the last paragraph on GTST page 9, beginning with fifth sentence (" <i>GTS 3.6.3 Actions Notes 3 and 4 do not apply to MSIV bypass valves and main steam line drain valves and are not included in STS 3.7.2.</i> "): Modify the paragraph as indicated (based on the following quote from Enclosure 1, Attachment 2, last paragraph on page "E1 Attachment 2 – 20" and continued on page"21" of VEGP TSU LAR 12-02): . . . These Notes are included in STS 3.7.2 from GTS 3.6.3 Actions Notes 1 and 2, respectively, and therefore reflect no technical change. GTS 3.6.3 Actions Notes 3 and 4 do not apply to MSIV bypass valves and main steam line drain valves and are not included in STS 3.7.2 . These Notes ensure appropriate Actions are entered for any impacted supported system and GTS 3.6.1, "Containment," Actions are entered when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria. Since MSIV bypass valves and main steam line drain valves do not support any other TS required system and these valves have no associated containment leakage rate limit, GTS 3.6.3 Actions Notes 3 and 4 have no bearing on these valves. Therefore, these Notes are not included in STS 3.7.2. Based on the preceding evaluation , there is no impact on safety from moving the Action requirement for MSIV bypass valves and main steam line drain valves out of GTS 3.6.3 Action C and into STS 3.7.2 Action E. <blank line> The following compares the Actions for inoperable MSIVs that are addressed in GTS 3.7.2 (Actions A, C, and D), are compared to the Actions for inoperable MSIVs in GTS 3.6.3 Actions — Specifically GTS 3.6.3 (Action C). The more restrictive main steam line flow path isolation continued	ORNL GTST O42 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
387	3.7.02 Pg 10	End of last paragraph discusses M11 changes to Actions of 3.7.2. The VEGP LAR discussed why TS 3.6.3 Actions Notes 3 and 4 were not applicable and not included in 3.7.2. This information was not added by the NRC into this paragraph. (Note similar change is discussed in GTST 3.7.1.)	For consistency, the statement from the VEGP LAR should be added.	T4	SPSB agrees, C1 but suggests additional edits for clarity	Continued from previous page Completion Time time for MSIVs is in GTS/STS 3.7.2 Actions, which and may be as long as 22 hours based on the combination of: <ul style="list-style-type: none"> 8 hours allowance of Required Action A.1 to restore MSIV operability per Required Action A.1; 6 hours to be in Mode 2 if restoration not met per Required Action C.1; and 8 hours to isolate affected main steam line flow path if from when in Mode 2, 3, or 4, or after entering Mode 2 from Mode 1, per Required Action D.1. In contrast, GTS 3.6.3 Required Action C.1 allows 72 hours to isolate the affected main steam line flow path and does not impose the explicit requirement explicitly require the plant to be in Mode 2 (in up to 14 hours). However, GTS/STS 3.7.2 Required Actions do not include the restrictions of GTS 3.6.3 current Required Action C.1 that requires deactivating the inoperable MSIV in the closed position. Conversely, the GTS 3.6.3 Required Action C.2 periodic Completion Time verification of "Once per 31 days"—to verify that the MSIV is closed and deactivated—is less restrictive than the GTS 3.7.2 Required Action D.2 periodic Completion Time of "Once per 7 days"—to verify that the main steam line flow path is isolated— which is retained in STS 3.7.2 Action D. More Specifying a more frequent main steam line flow path isolation verification in STS 3.7.2 adequately compensates for not imposing no longer specifying a requirement to deactivate the MSIV in the closed position. Additionally, STS 3.7.2 Action D does not contain the flexibility found in GTS 3.6.3 Required Action C.2 Notes allowing administrative means to verify flow path isolation. The flexibility of GTS 3.6.3 Actions Note 1 ("Penetration flow path(s) may be unisolated intermittently under administrative controls") is not applied for MSIVs in STS 3.7.2 Actions and the flexibility of GTS 3.6.3 Actions Note 2 ("Separate Condition entry is allowed for each penetration flow path") is only allowed in by STS 3.7.2 for in Modes 2, 3, and 4; therefore, overall, STS 3.7.2 imposes specifies more restrictive Actions for inoperable MSIVs than GTS 3.6.3. In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O42 complete
388	3.7.02 Pg 17	Required Action B.1 has a change that adds "s" to the word "valve." It should be "(s)"	Change "s" to "(s)"	A2	SPSB agrees	In GTST for Subsection 3.7.2, Section XI on page 17 and Section XII on page 34, in Required Action B.1, replace "valves" with "valve(s)" In GTST Section VIII, describe APOG comment and its resolution Edit change discussions in GTST Sections IV, V, VI, and VII (as appropriate).	ORNL GTST O42 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
389	3.7.02 Pg 39	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Background: Each main steam line has one safety related MSIV (which is safety related) to isolate steam flow from the secondary side of the steam generators, which may be required following a high energy line break. MSIV closure terminates flow from the unaffected (intact) steam generator.	A3 T4	SPSB agrees, B1 but does not agree with removing second sentence. B1 SPSB suggests additional changes to clarify third paragraph.	B1 In GTST for STS Subsection 3.7.2, Section XI on page 22 and Section XII on page 39, in the "Background" section of Bases, • revise first paragraph, as indicated: Each main steam line has one safety-related MSIV, which is safety related , to isolate steam flow from the secondary side of the steam generators, which may be required following a high energy line break. MSIV closure terminates flow from the unaffected (intact) steam generator. • revise third paragraph, as indicated: The MSIVs, turbine stop and control valves, turbine bypass valves, and moisture separator reheater 2nd 2nd stage steam isolation valves close on a main steam line isolation signal from either of two Class 1E power divisions generated by on either low steam line pressure Steam Line Pressure – Low (Table 3.3.8-1 Function 24), high Containment Pressure – High 2 (Function 2) containment pressure, Low Tcold Tcold – Low 2 (Function 11), or high negative steam pressure rate if below P-11 Setpoint, Steam Line Pressure – Negative Rate – High (Function 25). The MSIVs fail closed on loss of control air or actuation signal from either of two 1E power divisions. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O42 complete
390	3.7.02 Pg 39	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Background: A description of the MSIVs is found in the FSAR Section 10.3 (Ref. 1). Descriptions for the turbine bypass valves, and moisture separator reheater 2 nd stage steam isolation valves are found in the FSAR Section 10.4 (Ref. 26).	A2 A5	SPSB agrees See comment 3	In GTST for STS Subsection 3.7.2, Section XI on page 22 and Section XII on page 39, in the "Background" section of Bases, revise fifth paragraph as indicated: A description of the MSIVs is found in the FSAR Section 10.3 (Ref. 1). Descriptions for the turbine bypass valves, and moisture separator reheater 2nd 2nd stage steam isolation valves are found in the FSAR Section 10.4 (Ref. 26). In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O42 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
391	3.7.02 Pg 40	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Applicable Safety Analyses: The design basis of the MSIVs is established by the containment analysis for the large steam line break (SLB) inside containment, discussed in the FSAR Section 6.2 (Ref. 23). It is also affected by the accident analysis of the SLB events presented in the FSAR Section 15.1 (Ref. 34).	A2 A5	SPSB agrees See comment 3 Suggested changes to second and third paragraphs are based on consistency with other APOG-proposed changes.	C1 In GTST for STS Subsection 3.7.2, Section XI on page 23 and Section XII on page 40, in the "ASA" section of Bases, revise first, second, third, and fourth paragraphs as indicated; in the fourth paragraph, the existing markup, which is shown in black, is superseded: The design basis of the MSIVs is established by the containment analysis for the large steam line break (SLB) inside containment, discussed in the FSAR Section 6.2 (Ref. 32). It is also affected by the accident analysis of the SLB events presented in the FSAR Section 15.1 (Ref. 43). The design precludes the blowdown of more than one steam generator, assuming a single active component failure (e.g., the failure of one MSIV to close on demand). Design basis events of concern for containment analysis are SLB inside containment with the failure of the associated MSIV to close, or a main feedline-feedwater line break with the associated failure of a main feedline-feedwater isolation or control valve to close. At lower powers, the steam generator secondary water inventory and temperature are at their maximum, maximizing which conservatively maximizes the analyzed mass and energy released to the containment. Due to the failure of the MSIV to close and the resulting reverse flow and failure of the MSIV to close , the additional mass and energy in the steam headers, downstream from the other MSIV, contribute to the total release in containment . With the most reactive control rod cluster-control assembly assumed stuck in the fully withdrawn position, there is an increased possibility that the resulting reactor coolant system (RCS) cooldown will cause the core will to become critical and return to power. The core is ultimately shut down by the boric acid injection delivered by the Core Makeup Tanks (CMTs). The accident analysis compares several different SLB events against different acceptance criteria. The large SLB outside containment upstream of the MSIV is limiting for offsite dose, although a break in this short section of main steam header pipng has a very low probability. The large SLB inside containment at hot zero power is the limiting case for a post trip return to power. The analysis includes consideration of scenarios with offsite power available, and with a loss of offsite continued	ORNL GTST O42 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
391	3.7.02 Pg 40	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Applicable Safety Analyses: The design basis of the MSIVs is established by the containment analysis for the large steam line break (SLB) inside containment, discussed in the FSAR Section 6.2 (Ref. 23). It is also affected by the accident analysis of the SLB events presented in the FSAR Section 15.1 (Ref. 34).	A2 A5	SPSB agrees Suggested changes to second and third paragraphs are based on consistency with other APOG-proposed changes.	Continued from previous page power. With offsite power available, the reactor coolant pumps continue to circulate coolant for a longer period through the steam generators, maximizing the Reactor Coolant System RCS cooldown. The reactor protection system PMS includes a safety related signal that initiates the coastdown of the reactor coolant pumps early in the large SLB transient (trip of all reactor coolant pumps on CMT actuation). Therefore, there is very little difference in the predicted departure from nucleate boiling ratio between cases with and without offsite power. Significant single failures considered include failure of an MSIV to close. The four sets of non-safety-related turbine stop or and control valves, in combination with the six turbine bypass valves, and the two moisture separator reheater 2nd2nd stage steam isolation valves, are assumed as a non-safety related backup to isolate the steam flow path given a single failure of an MSIV to close . The safety analyses do not differentiate between the availability of the a turbine stop valve or and its in -series control valve. Either the turbine stop valves valve or its its associated turbine control valve, in each of the four sets, are is required by this LCO to be OPERABLE. These valves, along with the turbine bypass, and moisture separator reheater 2nd2nd stage steam isolation valves are considered as alternate downstream isolation valves. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O42 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
392	3.7.02 Pg 41	Excess detail is removed. The detail is not consistent with general content reflected in NUREG-1431. Removal of this detail does not impact the information useful for compliance with the TS requirement.	Make the following changes in Applicable Safety Analyses: b. A break outside of containment, and upstream or downstream from the MSIVs, is not a containment pressurization concern . The uncontrolled blowdown of more than one steam generator . . . d. The MSIVs are also utilized during e other events such as a feedwater line break . . .	A3	SPSB agrees but suggests additional clarifying changes	C1 In GTST for STS Subsection 3.7.2, Section XI on page 24 and Section XII on page 41, in the "ASA" section of Bases, revise fifth paragraph as indicated: The MSIVs serve a safety related function and remain open during power operation. These valves operate under the following situations: a. A high High energy line break inside containment. In order to maximize the mass and energy release into containment, the analysis assumes that the MSIV in the affected steam generator remains open. For this accident scenario, steam is discharged into containment from both steam generators until the unaffected loop steam generator Withdrawn generator's MSIV closes. After MSIV closure, steam is discharged into containment only from the affected steam generator and from the residual steam in the main steam header downstream of the closed MSIV in the unaffected loop. Closure of the MSIV isolates the break from the unaffected steam generator. b. A steamline break outside of containment, and upstream of an MSIV or downstream from of the MSIVs, is not a containment pressurization concern . The uncontrolled blowdown of more than one steam generator must be prevented to limit the potential for an uncontrolled Reactor Coolant System (RCS) RCS cooldown and positive reactivity addition. Closure of the MSIVs or alternate downstream valves isolates the break, and limits the blowdown to a single steam generator. c. Following a A steam generator tube rupture. Closure, closure of the MSIVs isolates the ruptured steam generator to minimize radiological releases. d. The MSIVs are also utilized during other Other events such as a feedwater line break. however However , these events are less limiting so far as MSIV OPERABILITY is concerned. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O42 complete

Administrative Types:

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- A4 Presentation preference
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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
393	3.7.02 Pg 41	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Applicable Safety Analyses: c. Following a steam generator tube rupture, the closure of the MSIVs isolates the ruptured steam generator to minimize radiological releases. d. . . . events such as a feedwater line break. + H However, these events are less limiting so far as MSIV OPERABILITY is concerned.	A3	SPSB agrees but suggests additional clarifying changes	See comment 392	ORNL GTST O42 complete
394	3.7.02 Pg 43	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Applicability: . . . 2 nd stage steam isolation valves must be OPERABLE in MODES 1, 2, 3, and 4, and MODES <u>1</u> , 2, 3, and 4, when there is significant mass and energy. . . .	A3	SPSB agrees but suggests additional clarifying changes	In GTST for STS Subsection 3.7.2, Section XI on page 26 and Section XII on page 43, in the “Applicability” section of Bases, revise first paragraph as indicated (existing markup shown in black): The MSIVs, MSIV bypass valves, main steam line drain valves, turbine stop or associated turbine control valves, turbine bypass valves, and moisture separator reheater 2nd 2nd stage steam isolation valves must be OPERABLE in MODE 1 and MODES 1 , 2, 3, and 4, except when steam flow is isolated when there is significant mass and energy in the RCS and steam generators and where a DBA could cause a release of radioactive material to containment. Therefore, these valves must be OPERABLE or closed. When these valves are closed, they are already performing their required function. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O42 complete

Administrative Types:

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- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T4 Technical Improvement
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
395	3.7.02 Pg 46	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in SR 3.7.2.1 Surveillance Requirements Bases: As the MSIVs are not tested at power, they are exempt from the ASME OM Code (Ref. 86) requirements during operation in MODE 1 or 2.	A3	SPSB agrees C1 but suggests additional clarifying changes	C1 In GTST for STS Subsection 3.7.2, Section XI on page 26 and Section XII on page 46, in the “SRs” section of Bases, under heading “SR 3.7.2.1” revise first paragraph, last sentence, as indicated (existing markup shown in black): . . . As the MSIVs are not tested at power, they are exempt from the ASME OM Code (Ref. 786) requirements during operation in MODES 1 or and 2. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O42 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
396	3.7.02 Pg 46	<p>VEGP LAR DOC D09 made the Regulatory commitment to relocate the closure time to the Bases. Similarly, V.C. Summer TSU LAR proposes the same commitment to the Bases. Since each represented AP1000 Utility is committed to maintaining standardization, there currently is no rationale for an AP1000 STS that differs from the TSU LAR commitments and plant-specific Bases for VEGP.</p> <p>Additionally, there is no COL Item, and no Reviewer's Note defining the use of the optional bracketed material. As such, this change is inappropriate.</p>	<p>Make the following changes in Surveillance Requirements Bases for SR 3.7.2.1, and delete GTST Reference 7:</p> <p>This SR verifies that MSIVthe closure time of each MSIV is ≤ 5.0 seconds. on an actual or simulated actuation signal. The MSIV isolation time is within the limit given in Reference 7 and is within that assumed in the accident and containment analyses.</p>	A3 A4 P5	<p>SPSB agrees</p> <p>C1 but suggests additional clarifying changes</p>	<p>C1 In GTST for STS Subsection 3.7.2, Section XI on page 30 and Section XII on page 46, in the "SRs" section of Bases, under heading "SR 3.7.2.1" revise first paragraph, as indicated (existing markup shown in black):</p> <p>This SR verifies that MSIV MSIVthe closure time of each MSIV is ≤ 5.0 seconds, is ≤ 5.0 seconds, on an actual or simulated actuation signal. The MSIV isolation time is within the limit given in Reference 7 and is within that assumed in the accident and containment analyses. This SR also verifies the valve closure time is in accordance with the Inservice Testing Program. This Surveillance SR is normally performed upon returning the unit to operation following a refueling outage. The MSIVs should not be tested at power, since even a part stroke exercise increases the risk of a valve closure when the unit is generating power. As the MSIVs are not tested at power, they are exempt from the ASME OM Code (Ref. 786) requirements during operation in MODES 1 of and 2.</p> <p><i>As a result of this comment, the markup of this paragraph in GTST Section XI should look like the following:</i></p> <p>This SR verifies that MSIV closure time is ≤ 5.0 seconds, on an actual or simulated actuation signal. The MSIV isolation time is assumed in the accident and containment analyses. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. The MSIVs should not be tested at power, since even a part stroke exercise increases the risk of a valve closure when the unit is generating power. As the MSIVs are not tested at power, they are exempt from the ASME OM Code (Ref. 76) requirements during operation in MODES 1 of and 2.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"; in particular indicate in Sections III, V, and XI that the TSTF-491-A changes to the SR Bases (to only reference document containing the MSIV closure time) are not adopted, based on APOG presentation preference expressed in DOC D09.</p>	ORNL GTST O42 complete

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
397	3.7.02 Pg 46	These changes are made for editorial consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Surveillance Requirements Bases for SR 3.7.2.1: This SR also verifies the valve closure time is in accordance with the Inservice Testing Program. This Surveillance SR is normally performed upon returning the unit to operation following a refueling outage.	A3 A4 P5	SPSB agrees but suggests additional clarifying changes	See comment 396	ORNL GTST O42 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
398	3.7.02 Pg 47	These changes are made for editorial consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Surveillance Requirements for SR 3.7.2.2: This SR also verifies the valve closure time is in accordance with the Inservice Testing Program. This Surveillance SR is normally performed upon returning the unit to operation following a refueling outage.	A3 A4 P5	SPSB agrees C1 but suggests additional clarifying changes	C1 In GTST for STS Subsection 3.7.2, Section XI on page 30 and Section XII on page 47, in the "SRs" section of Bases, under heading "SR 3.7.2.2" revise first paragraph, as indicated (existing markup shown in black): This SR verifies that the turbine stop, turbine control, turbine bypass, and moisture separator reheater 2 nd 2 nd stage steam isolation valves' closure time is within the limit given in Reference 7 ≤ 5.0 seconds, ≤ 5.0 seconds, on an actual or simulated actuation signal. These alternate downstream isolation valves must meet the MSIV isolation time assumed in the accident and containment analyses. This SR also verifies the valve closure time is in accordance with the Inservice Testing Program. This Surveillance SR Surveillance is normally performed upon returning the unit to operation following a refueling outage. The alternate downstream valves should not be tested at power, since even a part stroke exercise increases the risk of a valve closure when the unit is generating power. As the alternate downstream valves are not tested at power, they are exempt from the ASME OM Code (Ref. 786) requirements during operation in MODES 1 or and 2. <i>As a result of this comment, the markup of this paragraph in GTST Section XI should look like the following:</i> This SR verifies that the turbine stop, turbine control, turbine bypass, and moisture separator reheater 2 nd 2 nd stage steam isolation valves' closure time is ≤ 5.0 seconds, on an actual or simulated actuation signal. These alternate downstream isolation valves must meet the MSIV isolation time assumed in the accident and containment analyses. This Surveillance is normally <p style="text-align: right;">continued</p>	ORNL GTST O42 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
398	3.7.02 Pg 47	These changes are made for editorial consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Surveillance Requirements for SR 3.7.2.2: This SR also verifies the valve closure time is in accordance with the Inservice Testing Program. This <u>Surveillance</u> SR is normally performed upon returning the unit to operation following a refueling outage.	A3 A4 P5	SPSB agrees but suggests additional clarifying changes	Continued from previous page performed upon returning the unit to operation following a refueling outage. The alternate downstream valves should not be tested at power, since even a part stroke exercise increases the risk of a valve closure when the unit is generating power. As the alternate downstream valves are not tested at power, they are exempt from the ASME OM Code (Ref. 76) requirements during operation in MODES 1 or and 2. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"; in particular indicate in Sections III, V, and XI that the TSTF-491-A changes to the SR Bases (to only reference document containing the alternate downstream valve closure time) are not adopted, based on APOG presentation preference expressed in DOC D09.	ORNL GTST O42 complete
399	3.7.02 Pg 47	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in SR 3.7.2.2 Surveillance Requirements Bases: As the alternate downstream valves are not tested at power, they are exempt from the ASME OM Code (Ref. 86) requirements during operation in MODE 1 or 2.	A3	SPSB agrees but suggests additional clarifying changes	See comment 398	ORNL GTST O42 complete
400	3.7.02 Pg 47	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in SR 3.7.2.3 Surveillance Requirements Bases: The isolation times are specified in <u>FSAR</u> Section 6.2.3 (Ref. 97) and Frequency of this SR is in accordance with the Inservice Testing Program.	A3 A5	SPSB agrees See comment 3	In GTST for STS Subsection 3.7.2, Section XI on page 31 and Section XII on page 47, in the "SRs" section of Bases, under heading "SR 3.7.2.3" revise first paragraph, last sentence, as indicated (existing markup shown in black): . . . The isolation times are specified in <u>FSAR</u> Section 6.2.3 (Ref. 97) and Frequency of this SR is in accordance with the Inservice Testing Program. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases";	ORNL GTST O42 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
401	3.7.02 Pg 47	<p>VEGP LAR DOC D09 made the Regulatory commitment to relocate the closure time to the Bases. Similarly, V.C. Summer TSU LAR proposes the same commitment to the Bases. Since each represented AP1000 Utility is committed to maintaining standardization, there currently is no rationale for an AP1000 STS that differs from the TSU LAR commitments and plant- specific Bases for VEGP.</p> <p>Additionally, there is no COL Item, and no Reviewer's Note defining the use of the optional bracketed material. As such, this change is inappropriate.</p>	<p>Make the following changes in Surveillance Requirements Bases for SR 3.7.2.2, and delete GTST Reference 7:</p> <p>This SR verifies that the turbine stop, turbine control, turbine bypass, and moisture separator reheater 2nd stage steam isolation valves' closure time is <u>≤ 5.0 seconds</u>, within the limit given in Reference 7 on an actual or simulated actuation signal.</p> <p>7. [Technical Requirements Manual.]</p>	A3	<p>SPSB agrees</p> <p>C1 but suggests additional clarifying changes</p>	<p>C1 See comment 398</p> <hr/> <p>In GTST for STS Subsection 3.7.2, Section XI on page 32 and Section XII on page 48, in the "References" section of Bases, delete proposed Reference 7, "[Technical requirements Manual]"</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate)</p>	ORNL GTST O42 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
402	3.7.02 Pg 48	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes in References:</p> <ol style="list-style-type: none"> 1. FSAR Section 10.3, “Main Steam System.” 2. FSAR Section 10.4, “Other Features of Steam and Power Conversion Systems.” 23. FSAR Section 6.2.1, “Containment Functional Design.” 34. FSAR Section 15.1, “Increase in Heat Removal by Secondary System.” 4. Not used. 5. NUREG-138, Issue 1, “Staff Discussion of Fifteen Technical Issues Listed in Attachment to November 3, 1976 Memorandum from Director NRR to NRR Staff.” 6. Section 10.4, “Other Features of Steam and Power Conversion Systems.” 7. [Technical Requirements Manual.] 86. ASME OM Code, Code for Operation and Maintenance of Nuclear Power Plants.” 97. FSAR Section 6.2, “Containment Systems.” 	A3	SPSB agrees but suggests additional clarifying changes	<p>In GTST for STS Subsection 3.7.2, Section XI on page 32 and Section XII on page 48, in the “References” section of Bases, revise the references as indicated:</p> <p><i>The markup of the “References” section of Bases in GTST Section XI should appear as follows:</i></p> <p>REFERENCES</p> <ol style="list-style-type: none"> 1. FSAR Section 10.3, “Main Steam System.” 2. FSAR Section 10.4, “Other Features of Steam and Power Conversion Systems.” 23. FSAR Section 6.2.1, “Containment Functional Design.” 34. FSAR Section 15.1, “Increase in Heat Removal by Secondary System.” 4. Not used. 5. NUREG-138, Issue 1, “Staff Discussion of Fifteen Technical Issues Listed in Attachment to November 3, 1976 Memorandum from Director NRR to NRR Staff.” 6. Section 10.4, “Other Features of Steam and Power Conversion Systems.” 76. ASME OM Code, “Code for Operation and Maintenance of Nuclear Power Plants.” 7. FSAR Section 6.2, “Containment Systems.” <p>Revise STS 3.7.2 Bases as needed to ensure references match the above enumeration.</p>	ORNL GTST O42 complete

continued

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
402	3.7.02 Pg 48	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	<p>Make the following changes in References:</p> <ol style="list-style-type: none"> 1. <u>FSAR Section 10.3</u>, "Main Steam System." 2. <u>FSAR Section 10.4</u>, "Other Features of Steam and Power Conversion Systems." 23. <u>FSAR Section 6.2.1</u>, "Containment Functional Design." 34. <u>FSAR Section 15.1</u>, "Increase in Heat Removal by Secondary System." 4. Not used. 5. <u>NUREG-138, Issue 1</u>, "Staff Discussion of Fifteen Technical Issues Listed in Attachment to November 3, 1976 Memorandum from Director NRR to NRR Staff." 6. Section 10.4, "Other Features of Steam and Power Conversion Systems." 7. [Technical Requirements Manual.] 86. <u>ASME OM Code</u>, Code for Operation and Maintenance of Nuclear Power Plants." 97. <u>FSAR Section 6.2</u>, "Containment Systems." 	A3	SPSB agrees but suggests additional clarifying changes	<p>Continued from previous page</p> <p>The "References" section of Bases in GTST Section XII should appear as follows:</p> <p>REFERENCES</p> <ol style="list-style-type: none"> 1. FSAR Section 10.3, "Main Steam System." 2. FSAR Section 10.4, "Other Features of Steam and Power Conversion Systems." 3. FSAR Section 6.2.1, "Containment Functional Design." 4. FSAR Section 15.1, "Increase in Heat Removal by Secondary System." 5. NUREG-138, Issue 1, "Staff Discussion of Fifteen Technical Issues Listed in Attachment to November 3, 1976 Memorandum from Director NRR to NRR Staff." 6. ASME OM Code, "Code for Operation and Maintenance of Nuclear Power Plants." 7. FSAR Section 6.2, "Containment Systems." <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O42 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
403 79	3.7.03 Pg 05	Changes to the Generic Technical Specifications and Bases discussion for GTS 3.7.3 incorrectly references DOC L09 (instead of "D09") in the description of changes for SR 3.7.3.1.	Revise the references to "DOC L09" to "DOC D09" in the last two paragraphs of the GTS 3.7.3 description of changes to the Generic Technical Specifications.	A1	SPSB agrees	In GTST for STS Subsection 3.7.3, Section V on page 5, change the references to "DOC L09" to "DOC D09" in the last two paragraphs of the description of changes to GTS 3.7.3. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O43 complete
404	3.7.03 Pg 10	Fifth paragraph that discusses VEGP LAR DOC M15. Second sentence says "STS 3.7.3 Required Action F.3 is added to be in MODE 5 in 36 hours." This Required Action was not added by VEGP LAR DOC M15. The Required Action was already in the GTS.	Delete this sentence.	A1	SPSB agrees	In GTST for STS Subsection 3.7.3, Section VII on page 10, in discussion of DOC M15, delete second sentence, "STS 3.7.3 Required Action F.3 is added to be in MODE 5 within 36 hours." In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O43 complete

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
405	3.7.03 Pg 29	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in LCO Bases: This LCO ensures that the MFIVs and the MFCVs will isolate the main feedwater system <u>to the secondary side of the steam generators</u> .	A3 T4	SPSB agrees C1 but suggests additional clarifications in the "Background" section of the Bases	C1 In GTST for STS Subsection 3.7.3, Section XI on page 21 and Section XII on page 29, in the "LCO" section of Bases, revise first sentence as indicated: This LCO ensures that the MFIVs and the MFCVs will isolate the main feedwater system from the secondary side of the steam generators . In GTST for STS Subsection 3.7.3, Section XI on pages 19-20 and Section XII on pages 27-28, in the "Background" section of Bases, revise the fourth paragraph with the bulleted list as indicated: The MFIVs and MFCVs close on receipt of engineered safeguards feedwater isolation signal generated from any of the following conditions: <ul style="list-style-type: none"> • Automatic or manual safeguards actuation "S" signal <ul style="list-style-type: none"> – Safeguards Actuation – Manual Initiation (Table 3.3.9-1 Function 1) – Containment Pressure – High 2 (Table 3.3.8-1 Function 2) – Pressurizer Pressure – Low (Table 3.3.8-1 Function 5) – RCS Cold Leg Temperature (T_{cold}) – Low (Table 3.3.8-1 Function 11) – Steam Line Pressure – Low (Table 3.3.8-1 Function 24) • Steam Generator Narrow Range Water Level – High 2 (Table 3.3.8-1 Function 23) High steam generator level • Reactor Coolant Average Temperature (T_{avg}) – Low 2 (Table 3.3.8-1 Function 13) Low-2 T_{avg} signal coincident with reactor trip (P-4) (LCO 3.3.12) (MFIVs only) • Reactor Coolant Average Temperature (T_{avg}) – Low 1 (Table 3.3.8-1 Function 12) coincident with reactor trip (P-4) (LCO 3.3.12) (MFCVs only) • Feedwater Isolation – Manual Initiation Manual actuation (Table 3.3.9-1 Function 5) <p style="text-align: right;">continued</p>	ORNL GTST O43 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
405	3.7.03 Pg 29	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in LCO Bases: <i>This LCO ensures that the MFIVs and the MFCVs will isolate the main feedwater system to the secondary side of the steam generators.</i>	A3 T4	SPSB agrees C1 but suggests additional clarifications in the "Background" section of the Bases	Continued from previous page Additionally, the MFIVs close automatically on a Low 1 Tavg coincident with reactor trip (P-4). Each valve may be actuated manually. In addition to the MFIVs and the MFCVs, a check valve is available outside containment to isolate the feedwater line penetrating containment. In the event of feedwater line depressurization due to pump trip on a feedwater line break, the check valve provides rapid backup isolation of the steam generators limiting the inventory loss. A description of the MFIVs and MFCVs is found in Reference 1. C1 In GTST for STS Subsection 3.7.3, Section XI on page 20 and Section XII on pages 28, in the "ASA" section of Bases, first paragraph, revise third sentence, as indicated: ... Closure of the MFIVs (or and MFCVs) may also be relied on to mitigate an SLB for core response analysis and excess feedwater event upon the receipt of a steam generator water level—High 2 Steam Generator Narrow Range Water Level – High 2 (Table 3.3.8-1 Function 23) signal. E2 Withdrawn Verify Function titles are correct based on resolution of APOG discussion topic 4 in comment 172 In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O43 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
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Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
406	3.7.03 Pg 29	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Applicability Bases: In MODES 1, 2, 3, or and 4, these valves are required to be OPERABLE to limit . . .	A3	SPSB agrees	In GTST for STS Subsection 3.7.3, Section XI on page 21 and Section XII on pages 29, in the "Applicability" section of Bases, first paragraph, revise third sentence, as indicated (existing markup shown in black): . . . In MODES 1, 2, 3, or and 4, these valves are required to be OPERABLE to limit the amount of available fluid that could be added to the containment in the case of a secondary system pipe break inside containment and where a DBA could cause a release of radioactive material to containment. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O43 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
407	3.7.03 Pg 30	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Actions B.1 Bases: With <u>one or</u> both feedwater flow paths with associated MFIV and MFCV inoperable . . .	A3	SPSB agrees C1 but suggests additional clarifying edits.	<p>C1 In GTST for STS Subsection 3.7.3, Section XI on page 22 and Section XII on pages 30, in the “Actions” section of Bases, under heading “A.1 and A.2”, revise first and third paragraphs, as indicated (existing markup shown in black):</p> <p><u>A.1 and A.2, A.2, B.1, and B.2</u></p> <p>With The condition of one or both feedwater flow paths with an MFIV or MFCV inoperable corresponds to one of the following possible situations: (one or two MFIVs inoperable, or one or two MFCVs inoperable, or the MFIV inoperable in one flow path and the MFCV inoperable in the other flow path. inoperable). In this condition, each the close or isolate inoperable affected flow path must be isolated in 72 hours. When these a feedwater flow paths are is isolated, they are it is performing the if required safety function.</p> <p>. . .</p> <p>For inoperable MFIVs and MFCVs valves that cannot be restored to OPERABLE status within the specified Completion Time but whose affected for which each associated flow path is are closed or isolated, the affected flow paths must be periodically verified on a periodic basis to be closed or isolated. This is necessary to ensure that the assumptions in the safety analyses remain valid. The 7-day periodic Completion Time of once per 7 days is reasonable based on engineering judgment, in view of valve status indications available in the control room, and other administrative controls, to that ensure that these valves are closed or each affected feedwater flow path remains isolated.</p> <p>In GTST for STS Subsection 3.7.3, Section XI on page 22 and Section XII on pages 30, in the “Actions” section of Bases, under heading “B.1”, revise first paragraph, as indicated (existing markup shown in black):</p> <p style="text-align: right;">continued</p>	ORNL GTST O43 complete

Administrative Types:

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
407	3.7.03 Pg 30	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Actions B.1 Bases: With <u>one or</u> both feedwater flow paths with associated MFIV and MFCV inoperable . . .	A3	SPSB agrees but suggests additional clarifying edits.	Continued from previous page <u>BC.1</u> With both feedwater flow paths with the associated MFIV and MFCV both inoperable (two inoperable valves in the same flow path) in one or both feedwater flow paths, there may be no redundant system to operate automatically to and perform the required isolation safety function in each affected feedwater flow path. Under these conditions, in this condition, within 8-hours, either one valve in the each affected flow path must be restored to OPERABLE status, or the each affected flow path must be isolated within 8-hours . This action returns the system to the situation in which at least one valve in the each affected flow path is performing the required safety function. The 8 hour Completion Time is a reasonable amount of time to complete the actions required to isolate the affected flow paths, which may include closing close the MFIV; or MFCV, which includes and performing a controlled plant shutdown. The Completion Time is reasonable based on operating experience to reach MODE 2 with the feedwater flow paths isolated MFIV or MFCV closed , from full-power conditions in an orderly manner and without challenging plant systems. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O43 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
408	3.7.03 Pg 31	<p>VEGP LAR DOC D09 made the Regulatory commitment to relocate the closure time to the Bases. Similarly, V.C. Summer TSU LAR proposes the same commitment to the Bases. Since each represented AP1000 Utility is committed to maintaining standardization, there currently is no rationale for an AP1000 STS that differs from the TSU LAR commitments and plant- specific Bases for VEGP.</p> <p>Additionally, there is no COL Item, and no Reviewer's Note defining the use of the optional bracketed material. As such, this change is inappropriate.</p>	<p>Make the following changes in Surveillance Requirements Bases for SR 3.7.3.1, and delete GTST Reference 2:</p> <p>This SR verifies that the closure time of each MFIV and MFCV is \leq 5.0 seconds, within the limit given in Reference 2 on an actual or simulated actuation signal. The MFIV and MFCV isolation times are and is within that assumed in the accident and containment analyses. . . . This is consistent with the ASME OM Code (Ref. 23) quarterly stroke requirements during operation in MODE 1 or 2.</p> <p>. . . [Technical Requirements Manual.]</p>	A3 A4 P5	<p>SPSB agrees but suggests additional clarifying changes</p> <p>See comment 3</p>	<p>C1 In GTST for Subsection 3.7.3, Section XI on page 23 and Section XII on page 31, in the "SRs" section of the Bases, under heading "SR 3.7.3.1," replace the previous markup of the first paragraph with the following markup:</p> <p>This SR verifies that the closure time of each MFIV and MFCV is \leq 5.0 seconds, on an actual or simulated actuation signal. The MFIV and MFCV isolation times are assumed in the accident and containment analyses. The ACTUATION LOGIC TEST overlaps this Surveillance to provide complete testing of the safety function. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. These valves should not be tested at power, since even a part stroke exercise increases the risk of a valve closure when the unit is generating power. This is consistent with the ASME OM Code (Ref. 2) quarterly stroke requirements during operation in MODES 1 or and 2.</p> <p>In GTST for Subsection 3.7.3, Section XI on page 23 and Section XII on page 31, in the "References" section of the Bases, replace the previous markup with the following markup:</p> <hr/> <p>REFERENCES 1. FSAR Section 10.4.7, "Condensate and Feedwater System." 2. ASME OM Code, "Code for Operation and Maintenance of Nuclear Power Plants."</p> <hr/> <p>In GTST Section VIII, describe APOG comments and their resolutions.</p> <p>Describe APOG change and modify SPSB change description in GTST Sections IV, V, VI, and VII (as appropriate).</p>	ORNL GTST O43 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
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- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
409	3.7.03 Pg 31	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Surveillance Requirements Bases for SR 3.7.3.1: This SR also verifies the valve closure time is in accordance with the Inservice Testing Program. This <u>Surveillance SR</u> is normally performed upon returning the unit to operation following a refueling outage.	A3	SPSB agrees	C1 See comment 408	ORNL GTST O43 complete
410 80	3.7.04 Pg 18	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in Background Bases: Other <u>Therefore</u> , fission product isotopes, as well as activated corrosion products in lesser amounts, may also be found in the secondary coolant.	A3	SPSB agrees See comment 3	In GTST for Subsection 3.7.4, Section XI on page 13 and Section XII on page 18, in “Background” section of Bases, first paragraph, revise second sentence, as indicated: ... Other <u>Therefore</u> , fission product isotopes, as well as activated corrosion products in lesser amounts, may also be found in the secondary coolant. ... In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O44 complete
411 81	3.7.05 Pg 18	For the spent fuel pool cooling system, which does not have requirements for TS operability, TS 3.7.5 Bases discussion of “inoperable” are replaced with “unavailable” to align with discussions in TS 3.7.9 Bases. There is no change in intent in providing consistent reference to system status.	Make the following changes in Background Bases: The water also provides shielding during the movement of spent fuel, and a large capacity heat sink in the event the spent fuel pool cooling system is inoperable <u>unavailable</u> .	A3	SPSB agrees See comment 3	In GTST for Subsection 3.7.5, Section XI on page 13 and Section XII on page 18, in “Background” section of Bases, first paragraph, revise third sentence, as indicated: The water also provides shielding during the movement of spent fuel, and a large capacity heat sink in the event the spent fuel pool cooling system is inoperable <u>unavailable</u> . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ORNL GTST O45 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
412	3.7.05 Pg 18	For the spent fuel pool cooling system, which does not have requirements for TS operability, TS 3.7.5 Bases discussion of "inoperable" are replaced with "unavailable" to align with discussions in TS 3.7.9 Bases. There is no change in intent in providing consistent reference to system status.	Make the following changes in Applicable Safety Analyses Bases: In addition to mitigation of the effects of a fuel handling accident, the required minimum water level in the spent fuel pool provides a large capacity heat sink for spent fuel pool cooling in the event the spent fuel pool cooling system is inoperable-unavailable .	A3	SPSB agrees	In GTST for Subsection 3.7.5, Section XI on page 13 and Section XII on page 18, in "ASA" section of Bases, revise third paragraph, as indicated: In addition to mitigation of the effects of a fuel handling accident, the required minimum water level in the spent fuel pool provides a large capacity heat sink for spent fuel pool cooling in the event the spent fuel pool cooling system is inoperable-unavailable . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O45 complete
413	3.7.05 Pg 19	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes in A.1 Actions Bases: When the initial conditions for prevention of an <u>assumed in</u> accident <u>analyses</u> cannot be met, steps should be taken to preclude the accident from occurring.	A3	SPSB agrees	In GTST for Subsection 3.7.5, Section XI on page 14 and Section XII on page 19, in "Actions" section of Bases, under heading "A.1," first paragraph, revise first sentence, as indicated: When the initial conditions for prevention of an <u>assumed in</u> accident <u>analyses</u> cannot be met, steps should be taken to preclude the accident from occurring. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O45 complete
414 82	3.7.06 Pg 06	Description of changes section for VEGP LAR DOC A038 identifies several SRs that are revised. However, the list leaves out SR 3.7.6.6. The list on page 5 correctly includes SR 3.7.6.6.	Add SR 3.7.6.6 to the list.	A1	SPSB agrees	In GTST for Subsection 3.7.6, in Section VI on page 6, under heading "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes:"; revise first item regarding DOC A038, by inserting "3.7.6.6," after "3.7.6.5," In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O46 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
415	3.7.06 Pg 38	Revise TS 3.7.6 Bases for the Applicable Safety Analysis to clarify the VES initiation signals include "Loss of AC power for more than 10 minutes" (see AP1000 DCD 6.4.3.2 and Figure 7.2-1, sheets 13 and 15).	<p>Make the following changes to Applicable Safety Analyses:</p> <p>Operation of the VES is automatically initiated by <u>either of the following safety related signals</u>:</p> <ul style="list-style-type: none"> • High-2 particulate or iodine radioactivity; <u>or</u> • <u>Loss of AC power for more than 10 minutes.</u> <p>In the event of a loss of all AC power, the VES functions to provide ventilation, pressurization, and cooling of the MCRE pressure boundary.</p>	A3 T4	SPSB agrees, C1 but also suggests additional clarifications and information from DCD Rev 19, Sections 6.4.3.2 Emergency Mode; and 7.3.1.2.17 Control Room Isolation and Air Supply Initiation	<p>C1 In GTST for Subsection 3.7.6, Section XI on page 18 and Section XII on page 37, in "Background" section of Bases</p> <ul style="list-style-type: none"> o first paragraph, revise fourth and fifth sentences as indicated: . . . If AC power is lost for greater than 10 minutes, or a Control Room Air Supply Radiation (particulate or iodine) – High 2 (LCO 3.3.13) High-2 Main Control Room Envelope (MCRE) radiation signal is received, the VES is actuated. The major functions of the VES are: 1) to provide forced ventilation to deliver an adequate supply of breathable air (Ref. 4) for the Main Control Room Envelope (MCRE) occupants; 2) to provide forced ventilation to maintain the MCRE at a 1/8 inch water gauge positive pressure with respect to the surrounding areas; 3) to provide passive filtration to filter contaminated air in the MCRE; and 4) to limit the temperature increase of the MCRE equipment and facilities that must remain functional during an accident, via the heat absorption of passive heat sinks. o second paragraph, revise third sentence as indicated: . . . The VES system is designed to maintain CO2CO2 concentration less than 0.5% by volume for up to 11 MCRE occupants. <p>C1 In GTST for Subsection 3.7.6, Section XI on page 19 and Section XII on page 38, in "ASA" section of Bases, revise second and third paragraphs, as indicated:</p> <p>Operation of the VES is automatically initiated by either of the following safety related signalsignals:</p> <ul style="list-style-type: none"> • Control Room Air Supply Radiation-high-2 (particulate or iodine radioactivity) – High 2 (LCO 3.3.13); or • 24-hour Class 1E Battery Charger Input Voltage – Low (Loss of AC power for more than 10 minutes). <p>Operation of the VES may also be manually initiated using either of two momentary controls in the MCR. In the event of a loss of all AC power, the VES functions to provide ventilation, pressurization, and cooling of the MCRE pressure boundary.</p> <p style="text-align: right;">continued</p>	ORNL GTST O46 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
415	3.7.06 Pg 38	Revise TS 3.7.6 Bases for the Applicable Safety Analysis to clarify the VES initiation signals include "Loss of AC power for more than 10 minutes" (see AP1000 DCD 6.4.3.2 and Figure 7.2-1, sheets 13 and 15).	<p>Make the following changes to Applicable Safety Analyses:</p> <p>Operation of the VES is automatically initiated by <u>either of the following safety related signals</u>:</p> <ul style="list-style-type: none"> High-2 particulate or iodine radioactivity; or <u>Loss of AC power for more than 10 minutes.</u> <p>In the event of a loss of all AC power, the VES functions to provide ventilation, pressurization, and cooling of the MCRE pressure boundary.</p>	A3 T4	SPSB agrees, but also suggests additional clarifications and information from DCD Rev 19, Sections 6.4.3.2 Emergency Mode; and 7.3.1.2.17 Control Room Isolation and Air Supply Initiation.	<p>Continued from previous page</p> <p>In the event of a loss of AC power for greater than 10 minutes, the VBS isolation valves automatically close and the VES isolation valves automatically open. These actions protect the MCRE occupants from a potential radiation release. In addition, the loss of AC power coincident with MCRE isolation will de-energize the control room air supply radiation monitors in order to conserve the battery capacity.</p> <p>Since the loss of AC power and manual VES initiation Functions do not satisfy the LCO selection criteria of 10 CFR 50.36(c)(2)(ii), their OPERABILITY is not required to support VES OPERABILITY.</p> <p>C1 In GTST for Subsection 3.7.6, Section XI on page 20 and Section XII on page 39, in "ASA" section of Bases, revise the first paragraph on the page, as indicated:</p> <p>In the event of a high level of gaseous radioactivity outside of the MCRE, the VBS continues to operate to provide pressurization and filtration functions. The MCRE air supply downstream of the filtration units is monitored by a safety related particulate and iodine radioactivity radiation detectors. Upon high-2 particulate or iodine radioactivity in the VBS MCRE air supply duct exceeding the Control Room Air Supply Radiation – High 2 setpoint, a safety related signal is generated to isolate the MCRE and to initiate air flow from the VES storage tanks. Isolation of the MCRE consists of closing safety related valves in the lines that penetrate the MCRE pressure boundary. Valves in the VBS supply and exhaust ducts, and the Sanitary Drainage System (SDS) vent lines are automatically isolated. The relief damper isolation valves also open allowing the pressure relief dampers to function and discharge the damper flow to purge the vestibule. The Control Room Air Supply Radiation – High 2 Function initiates VES air flow is initiated by generating a safety related signal which opens the isolation valves in the VES supply lines.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O46 complete

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416	3.7.06 Pg 39	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to LCO Bases: This includes components listed in SR 3.7.6.3 through 3.7.6.10.	A3	SPSB agrees, C1 but also suggests additional clarifications and information from DCD Rev 19, Sections 6.4.3.2 Emergency Mode; and 7.3.1.2.17 Control Room Isolation and Air Supply Initiation.	<p>C1 In GTST for Subsection 3.7.6, Section XI on page 20 and Section XII on page 39, in "LCO" section of Bases, revise third paragraph as indicated:</p> <p>The VES is considered OPERABLE when the individual components necessary to deliver a supply of breathable air to the MCRE are OPERABLE. This includes components listed in SR 3.7.6.13 through SR 3.7.6.10-12:</p> <ul style="list-style-type: none"> • MCRE heat sinks (as indicated by MCRE air temperature) • MCRE pressure boundary • VES compressed air storage tanks, air volume and quality • VES air delivery isolation valves • VES air header manual isolation valves are open • VBS MCRE isolation valves • VES pressure relief isolation valves within the MCRE pressure boundary • VES pressure relief dampers • VES self-contained pressure regulating valves • VES air delivery flow paths • VES passive filtration system (eductors and filters) <p>In addition, the The MCRE pressure boundary must be maintained, including the integrity of the walls, floors, ceilings, electrical and mechanical penetrations, and access doors. The MCRE pressure boundary includes the Potable Water System (PWS) and SDS running (piping drain) traps, which retain a fluid level sufficient to maintain a seal preventing gas flow through the piping. The MCRE pressure boundary also includes the Waste Water System (WWS) drain line, which is isolated by a normally closed isolation valve.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O46 complete

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417	3.7.06 Pg 42	<p>Revise SR 3.7.6.11 Bases to delete paragraph that inappropriately discusses Action C Bases and move this paragraph to the Action C Bases.</p> <p>The moved paragraph is: Required Action C.3 allows time to restore the MCRE boundary to OPERABLE status provided mitigating actions can ensure that the MCRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3 (Ref. 3) which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F (Ref. 5). These compensatory measures may also be used as mitigating actions as required by Required Action C.2. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY (Ref. 6). Options for restoring the MCRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the MCRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the MCRE boundary has been restored to OPERABLE status</p>	<p>Delete paragraph from SR 3.7.6.11 per comment.</p> <p>Make the following addition to Bases for C.1, C.2, and C.3:</p> <p>The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. <<INSERT MOVED PARAGRAPH HERE>> The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of MCRE occupants within . . .</p>	A1	SPSB agrees	<p>In GTST for Subsection 3.7.6, Section XI on page 27 and Section XII on page 42, in “SRs” section of Bases, under heading “SR 3.7.6.11,” revise second paragraph by moving content after fourth sentence to Bases for Required Actions C.1, C.2, and C.3, Section XI on page 22 and Section XII on page 42, as indicated:</p> <p>C.1, C.2, and C.3</p> <p>If the unfiltered inleakage of potentially contaminated air past the MCRE boundary and into the MCRE can result in MCRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem TEDE), or inadequate protection of MCRE occupants from hazardous chemicals or smoke, the MCRE boundary is inoperable. Actions must be taken to restore an OPERABLE MCRE boundary within 90 days.</p> <p>During the period that the MCRE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on MCRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that MCRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that MCRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable MCRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24-hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. Required Action C.3 allows time to restore the MCRE boundary to OPERABLE status provided mitigating actions can ensure that the MCRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3 (Ref. 3) which endorses, with exceptions, NEI 99-03,</p> <p style="text-align: right;">continued</p>	ORNL GTST O46 complete

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417	3.7.06 Pg 42	Revise SR 3.7.6.11 Bases to delete paragraph that inappropriately discusses Action C Bases and move this paragraph to the Action C Bases.	Delete paragraph from SR 3.7.6.11 per comment. Make the following addition to Bases for C.1, C.2, and C.3: <i>The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. <<INSERT MOVED PARAGRAPH HERE>> The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of MCRE occupants within . . .</i>	A3 A5	SPSB agrees	Continued from previous page Section 8.4 and Appendix F (Ref. 5). These compensatory measures may also be used as mitigating actions as required by Required Action C.2. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY (Ref. 6). Options for restoring the MCRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the MCRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the MCRE boundary has been restored to OPERABLE status. The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of MCRE occupants within analyzed limits while limiting the probability that MCRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90-day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most problems with the MCRE boundary. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O46 complete
418	3.7.06 Pg 42	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Actions D.1, D.2, and D.3 Bases: The 245,680 scf value is 75% percent of the minimum amount of stored compressed air that must be available in the compressed air storage tanks.	A4	SPSB agrees	In GTST for Subsection 3.7.6, Section XI on page 23 and Section XII on page 42, in "Actions" section of Bases, under heading "D.1, D.2, and D.3," second paragraph, revise third sentence, as indicated: . . . The 245,680 scf value is 75% percent of the minimum amount of stored compressed air that must be available in the compressed air storage tanks. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O46 complete

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419	3.7.06 Pg 42	TS Bases Figures B 3.7.6-1 and B 3.7.6-2 are reordered to align with Writer's Guide convention.	Make the following changes to Actions D.1, D.2, and D.3 Bases: ... compressed air storage tanks pressure (VES-PT-001A/B), and Figure B.3.7.6-21, Compressed Air Storage Tanks Minimum Volume ...	A2	SPSB agrees	C1 In GTST for Subsection 3.7.6, Section XI on page 23 and Section XII on page 42, in "Actions" section of Bases, under heading "D.1, D.2, and D.3," second paragraph, revise fourth sentence, as indicated: ... The standard volume is determined using the compressed air storage tank room temperature (VAS-TE-080A/B), compressed air storage tanks pressure (VES-PT-001A/B), and Figure B 3.7.6-12, Compressed Air Storage Tanks Minimum Volume – One Bank of VES Air Tanks (8 Tanks) Inoperable. . .. In addition, renumber Figure B 3.7.6-2 as Figure B 3.7.6-1, and Figure B 3.7.6-2 as Figure B 3.7.6-1 (Section XI pages 30 and 31; Section XII pages 48 and 49). In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O46 complete
420	3.7.06 Pg 44	TS Bases Figures B 3.7.6-1 and B 3.7.6-2 are reordered to align with Writer's Guide convention.	Make the following changes to SR 3.7.6.2 Surveillance Requirements Bases: ... compressed air storage tank room temperature (VAS-TE-080A/B), compressed air storage tanks pressure (VES-PT-001A/B), and Figure B.3.7.6-12, Compressed Air Storage Tanks Minimum Volume.	A2	SPSB agrees	C1 In GTST for Subsection 3.7.6, Section XI on page 25 and Section XII on page 44, in "SRs" section of Bases, under heading "SR 3.7.6.2," second paragraph, revise first sentence, as indicated: The standard volume is determined using the compressed air storage tank room temperature (VAS-TE-080A/B), compressed air storage tanks pressure (VES PT 001A/B), and Figure B 3.7.6-24, Compressed Air Storage Tanks Minimum Volume. ... In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O46 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
421	3.7.06 Pg 46	Revise SR 3.7.6.11 Bases to delete paragraph that inappropriately discusses Action C Bases and move this paragraph to the Action C Bases.	Make the commented changes to the Bases for SR 3.7.6.11 The deleted paragraph is: Required Action C.3 allows time to restore the MCRE boundary to OPERABLE status provided mitigating actions can ensure that the MCRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3 (Ref. 3) which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F (Ref. 5). These Compensatory measures may also be used as mitigating actions as required by Required Action C.2. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY (Ref. 6). Options for restoring the MCRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the MCRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the MCRE boundary has been restored to OPERABLE status.	A3 A5	SPSB agrees Duplicate of comment 417	In GTST for Subsection 3.7.6, Section XI on page 27 and Section XII on page 42, in "SRs" section of Bases, under heading "SR 3.7.6.11," revise second paragraph by moving content after fourth sentence to Action C Bases. See comment 417	ORNL GTST O46 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
422	3.7.06 Pg 48	Revise TS Bases Figures B 3.7.6-1 and B 3.7.6-2 to add "Acceptable" region labels. The order of the Figures is swapped to align with Writer's Guide convention.	Add "Acceptable Region" text box to Bases Figure B 3.7.6-1.	A2	SPSB agrees	E2 In GTST for Subsection 3.7.6, Section XI on pages 30 and 31; Section XII on pages 48 and 49, add "Acceptable" region labels with a Word text box to Bases Figure B 3.7.6-1 and Figure B 3.7.6-2 (as renumbered per comments 419 and 420). In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" <hr/> APOG discussion topic: Request that APOG supply updated figures in Word format. This will be completed post STS Rev. 0.	ORNL GTST O46 complete
423	3.7.06 Pg 49	Revise TS Bases Figures B 3.7.6-1 and B 3.7.6-2 to add "Acceptable" region labels. The order of the Figures is swapped to align with Writer's Guide convention.	Move existing Bases Figure B 3.7.6-2 before existing Figure B 3.7.6-1 and rename. Also, add "Acceptable Region" text box to Figure.	A2	SPSB agrees	C1 See comments 419, 420, and 422.	ORNL GTST O46 complete
424 83	3.7.07 Pg 25	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to the Background: The startup feedwater system serves no safety related function and has no safety related design basis, except to isolate feedwater in the event of a <u>Feedline Break (FLB)</u> feedwater, <u>Steam Line Break (SLB)</u> steam line break, a steam generator tube rupture (<u>SGTR</u>), or other secondary side event.	A4 A5	SPSB agrees B1 but suggests slight modifications; B2 <u>Withdrawn</u> SPSB does not endorse use of term "feedline" B2 <u>Withdrawn</u> SPSB does not endorse capitalizing event names.	In GTST for Subsection 3.7.7, Section XI on page 17 and Section XII on page 25, "Background" section of the Bases, revise second paragraph, as indicated: B1 The startup feedwater system serves no safety related function and has no safety related design basis, except to isolate feedwater in the event of a Feedline Break (FLB) feedwater, Steam Line Break (SLB) steam line break, a steam generator tube rupture Steam Generator Tube Rupture (SGTR), or other secondary side event. B2 <u>[[Withdrawn feedwater in the event of a feedwater line break (FLB), steam line break a steam line break (SLB), a steam generator tube rupture (SGTR), or other secondary side event.]]</u> In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O47 complete

Administrative Types:

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- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

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- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
425	3.7.07 Pg 25	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to the Applicable Safety Analyses: The basis for the requirement to isolate the startup feedwater system is established by the analysis for large Steam Line Break (SLB) inside containment. It is also based on the analysis for a large Feedline Break (FLB) and a steam generator tube rupture.	A4 A5 T4	SPSB agrees B1 but suggests slight modifications. B2 Withdrawn SPSB does not endorse use of term "feedline" C1 Per WG, after an acronym is defined, use it exclusively	In GTST for Subsection 3.7.7, Section XI on page 17 and Section XII on page 25, "ASA" section of the Bases, o C1 revise first paragraph, as indicated: The basis for the requirement to isolate the startup feedwater system is established by the analysis for a large Steam Line Break (SLB) SLB inside containment. It is also based on the analysis analyses for a large Feedline Break (FLB) FLB inside containment and a steam generator tube rupture an SGTR . o C1 revise second paragraph, last sentence, as indicated: . . . Failure to isolate the startup feedwater following a steam generator tube rupture an SGTR may result in overfilling the steam generator. o B1 revise third paragraph, as indicated: Low T_{cold} or high steam generator level The following ESFAS signals automatically close the startup feedwater control and isolation valves and trips trip the startup feedwater pumps:- <ul style="list-style-type: none"> • RCS Cold Leg Temperature (T_{cold}) – Low (Table 3.3.8-1 Function 11) • SG Narrow Range Water Level – High (Table 3.3.8-1 Function 22) coincident with reactor trip (P-4) (LCO 3.3.12) • SG Narrow Range Water Level – High 2 (Table 3.3.8-1 Function 23) E2 Withdrawn Verify Function titles are correct based on resolution of APOG discussion topic 4 in comment 172 B1 In GTST for Subsection 3.7.7, Section XI on page 18 and Section XII on page 26, "Applicability" section of the Bases, revise first paragraph as indicated (existing markup shown in black): The startup feedwater isolation and control valves must be OPERABLE whenever there is significant mass and energy in the Reactor Coolant System and the steam generators. In MODES 1, 2, 3 and 4, where a DBA could cause a release continued	ORNL GTST O47 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
425	3.7.07 Pg 25	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to the Applicable Safety Analyses: <i>The basis for the requirement to isolate the startup feedwater system is established by the analysis for large Steam-Line Break (SLB) inside containment. It is also based on the analysis for a large FeedLine-Break (FLB) and a steam generator tube rupture.</i>	A4 A5 T4	SPSB agrees B1 but suggests slight modifications. B2 <u>Withdrawn</u> SPSB does not endorse use of term "feedline" C1 Per WG, after an acronym is defined, use it exclusively.	Continued from previous page of radioactive material to containment, the startup feedwater isolation and control valves are required to be OPERABLE in order to limit the amount of mass and energy that could be added to containment in the event of a-an SLB or FLB, and to and prevent steam generator overfill in the event of an SGTR and where a DBA could cause a release of radioactive material to containment. When the valves are closed, they are already performing their safety function. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O47 complete
426	3.7.07 Pg 27	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following change to Actions A.1 and A.2 Bases: For flow paths isolated in accordance with Required Action A.2.1 A.1, the affected flow paths must be verified to be isolated on a periodic basis.	A3	SPSB agrees, A but suggests slight modifications	A In GTST for Subsection 3.7.7, Section XI on page 19 and Section XII on page 27, "Actions" section of the Bases, under heading "A.1 and A.2," revise third paragraph as indicated: For flow paths isolated in accordance with Required Action A.2.1 A.1, the affected flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that flow paths required to be isolated following an accident will be in the isolation position should an event occur. This Required Action A.2 does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that the isolation devices are in the correct position. The periodic Completion Time of "once per 7 days" is appropriate considering the fact that the devices are operated under administrative controls, valve status indications is provided in the main control room and the probability of their valve misalignment is low. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O47 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
427	3.7.07 Pg 27	TSTF-440 should be applied to Required Action A.1 and A.2 Bases, last paragraph, to eliminate the phrase “through a system walkdown”	Delete the phrase.	A1	SPSB agrees	C1 See comment 426 In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O47 complete
428 84 85	3.7.09 Pg 05	In the Changes to the Generic Technical Specification section, the first paragraph discusses the DOC A105 changes to the LCO title and Specification, but does not mention the LCO Note changes.	Change the sentence from “The LCO title and Specification statement...” to “The LCO title, LCO statement, and LCO Notes...”	A1	SPSB agrees	In GTST for Subsection 3.7.9, Section V on page 5, under “Changes to the Generic Technical Specifications and Bases:”, regarding DOC A105, revise sentence to state: “The LCO title, LCO statement, and LCO Notes are revised to provide consistent terminology for the Spent Fuel Pool system. (DOC A105)” In GTST Section VIII, describe APOG comment and its resolution	ORNL GTST O49 complete
429	3.7.09 Pg 26	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following change to Background: Once decay heat in the spent fuel pool is reduced to ≤ at or below 4.7 MWt, the spent	A4 A5 T4	SPSB agrees, but suggests a technical improvement to clarify intent	C1 In GTST for Subsection 3.7.9, Section XI on page 16 and Section XII on page 26, “Background” section of the Bases, revise fourth paragraph, as indicated (existing markup shown in black): Once decay heat in the spent fuel storage pool is reduced to at or below ≤ 4.7 MWt, the spent fuel storage pool water inventory is sufficient, without makeup, to maintain the spent fuel storage pool cooling for 72 hours. When the spent fuel storage pool decay heat load is ≤ 5.6 MWt for the cask loading pit and ≤ 4.7 MWt for the cask washdown pit, the pits are no longer required to be OPERABLE for spent fuel storage pool makeup. In GTST Section VIII, describe APOG and SPSB comments and their resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases” Describe SPSB change in GTST Sections IV, V, VI, and VII (as appropriate) as NRC proposed additional change.	ORNL GTST O49 complete

Administrative Types:

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- A4 Presentation preference
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
430	3.7.09 Pg 27	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following change to Applicable Safety Analyses: The worst case decay heat load (decay heat > 7.2 MWt) is produced by an emergency full core off-load following a refueling plus ten years of spent fuel.	T4	SPSB agrees, and suggests an additional edit for consistency with comment 429	<p>C1 In GTST for Subsection 3.7.9, Section XI on page 17 and Section XII on page 27, "ASA" section of the Bases,</p> <ul style="list-style-type: none"> first paragraph, revise second sentence as indicated: . . . The worst case decay heat load (decay heat > 7.2 MWt) is produced by an emergency-a full core off-load following a refueling plus ten years of spent fuel. . . . second paragraph, revise third sentence as indicated: . . . At or below 6.0 Mwt-With reactor decay heat ≤ 6.0 MWt, containment air cooling is adequate. <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O49 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
431	3.7.09 Pg 28	Correct TS 3.7.9 Bases grammar.	Make the following change to LCO: In <u>MODES</u> 5 and 6, with the reactor decay heat > 6.0 MWt, . . .	A1 A4	SPSB agrees, C1 and suggests an additional edit for consistency with comment 429 Also, changes associated with comment 433 are included in the markup.	<p>C1 In GTST for Subsection 3.7.9, Section XI on page 18 and Section XII on page 28, "LCO" section of the Bases,</p> <ul style="list-style-type: none"> ○ revise second paragraph as indicated: An OPERABLE flow path from the required makeup source assures spent fuel pool cooling for at least 72 hours. Several additional makeup sources are available, including the ground level PCCAWST. These makeup sources assure spent fuel pool cooling for at least 7 days. ○ beginning with third sentence of fifth paragraph, revise fifth and sixth paragraphs, noticing the addition of a new paragraph between them, as indicated (existing markups shown in black): . . . In MODE MODES 5 and 6, with the calculated reactor decay heat > 6.0 MWt, the PCCWST is reserved for containment cooling in accordance with LCO 3.6.67, Passive Containment Cooling System (PCS) —Shutdown. Thus, fuel movement from the reactor to the spent fuel storage pool must be suspended until reactor decay heat is ≤ 6.0 MWt if the fuel movement will increase the spent fuel storage pool decay heat to > 7.2 MWt. The spent fuel pool decay heat and reactor decay heat specified in the three Notes is-are normally determined by calculation. <p>When a portion of the fuel is returned to the reactor vessel in preparation for startup, the spent fuel pool decay heat is reduced to ≤ 5.6 MWt and makeup from the cask washdown pit is sufficient.</p> <p>In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ORNL GTST O49 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
432	3.7.09 Pg 28	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. There are no explicit requirements placed on SFP cooling. This LCO (on makeup) is also not required at all times.	<p>Make the following change to Actions:</p> <p>LCO 3.0.3 is applicable while in MODE 1, 2, 3, or 4. Since spent fuel pool cooling requirements apply at all times, the Actions have been modified by a Note stating that LCO 3.0.3 is not applicable.</p>	A3 T4	<p>SPSB agrees,</p> <hr/> <p>and suggests an additional technical edit for clarity in the Applicability statement and Bases. LCO Note 3 discusses reactor decay heat in addition to spent fuel pool decay heat. The proposed change clarifies that only pool decay heat is intended to be addressed by the Applicability statement.</p>	<p>A In GTST for Subsection 3.7.9, Section XI on page 19 and Section XII on page 28, "Actions" section of the Bases, revise first paragraph, as indicated:</p> <p>LCO 3.0.3 is applicable while in MODES 1, 2, 3, or and 4. Since spent fuel pool cooling requirements apply at all times, the The ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. Spent fuel pool cooling requirements are independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily.</p> <hr/> <p><u>Add the following to list of APOG discussion topics</u></p> <p>A In GTST for Subsection 3.7.9, Section XI on page 13 and Section XII on page 23, revise the Applicability statement, as indicated (existing markup shown in black):</p> <p>APPLICABILITY: During storage of fuel in the spent fuel storage pool with a calculated spent fuel pool decay heat > 4.7 MWt.</p> <p>A In GTST for Subsection 3.7.9, Section XI on page 19 and Section XII on page 28, "Applicability" section of the Bases, revise paragraph, as indicated (existing markup shown in black):</p> <p>This LCO applies during storage of fuel in the spent fuel storage pool with a calculated spent fuel pool decay heat (normally determined by calculation) > 4.7 MWt. With spent fuel pool decay heat ≤ 4.7 MWt, the assumed spent fuel storage pool water inventory (i.e., level below the pump suction connection to the pool) provides for 3 days of spent fuel pool cooling without makeup.</p> <hr/> <p>In GTST Section VIII, describe APOG and SPSB comments and their resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p> <p>Describe SPSB change in GTST Sections IV, V, VI, and VII (as appropriate) as NRC proposed additional change.</p>	ORNL GTST O49 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
433	3.7.09 Pg 28	Editorial change for clarity.	<p>Make the following changes in LCO Bases:</p> <p>. . . the PCCWST is reserved for containment cooling in accordance with LCO 3.6.6, Passive Containment Cooling System (PCS) – Shutdown. Thus, . . . pool decay heat to > 7.2 MWt.</p> <p><u>The decay heat specified in the three Notes is normally determined by calculation.</u></p> <p>When a portion of the fuel is returned to the reactor vessel in preparation . . .</p>	A3 T4	SPSB agrees but suggests additional edits for clarification	A In GTST for Subsection 3.7.9, Section XI on page 18 and Section XII on page 28, “LCO” section of the Bases, make changes indicated by markups for comment 431	ORNL GTST O49 complete
434 86	3.7.10 Pg 08	The technical Analysis for VEGP LAR DOC A107 is not correct. The fifth sentence states “Once the flow path is isolated as required by GTS 3.7.10 Required Action B.2, Condition D would no longer apply and can be exited.” This is not correct. Condition D can only be exited when there is no longer a flow path with two SG blowdown valves inoperable. Performing either Required Action B.1 or B.2 has no impact on exiting Condition D. If Condition D exists (i.e., a flow path with two SG blowdown valves are inoperable), it must remain entered even when Required Action B.1 or B.2 are performed. The justification for deleting Required Action D.2 is that it is redundant to Required Action B.2 – when Required Action D.2 is required, Required Action B.2 will also be required.	Delete the fifth sentence of the DOC A107 discussion	T1	SPSB agrees	<p>In GTST for Subsection 3.7.10, Section VII on page 8, third paragraph, delete fifth sentence, which states “Once the flow path is isolated as required by GTS 3.7.10 Required Action B.2, Condition D would no longer apply and can be exited.”</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p>	ORNL GTST O50 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
435	3.7.10 Pg 10-7	Fourth paragraph states that DOC M04 provides consistency with GTS 3.6.3 Required Action B.2 and Completion Time. There is no GTS 3.6.3 Required Action B.2. This should be Required Action A.2	Change "B.2" to "A.2"	A1	SPSB agrees	In GTST for Subsection 3.7.10, Section VI on page 7, under heading "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes:" revise fourth paragraph, as indicated: VEGP LAR DOC M04 provides consistency with GTS 3.6.3 Required Action B.2 A.2 and Completion Time. DOC M04 is related to M11. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O50 complete
436	3.7.10 Pg 18	The markup of SR 3.7.10.1 results in the following wording: "Verify each SG PORV, PORV block valve, PORV, and SG blowdown isolation valve strokes closed." The components listed should be only SG PORV, PORV block valve, and SG blowdown isolation valve.	Delete the occurrence of "PORV," that is just prior to "and SG blowdown isolation valve"	A1	SPSB agrees	In GTST for Subsection 3.7.10, Section XI on page 18, revise markup of GTS SR 3.7.10.1, as indicated (existing markup shown in black): SR 3.7.10.1 Verify each steam generator isolation valve (SG PORV, PORV block valves (SGS-PL-V027A & B), PORVs (SGS-PL-V233A & B), and SG blowdown isolation valves (SGS-PL-V074A & B and SGS-PLV075A & B)) strokes is OPERABLE by stroking the valve closed. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O50 complete
437	3.7.10 Pg 30	The revised SR 3.7.10.1 reads as follows: "Verify each SG PORV, PORV block valve, PORV, and SG blowdown isolation valve strokes closed." The components listed should be only SG PORV, PORV block valve, and SG blowdown isolation valve	Delete the occurrence of "PORV," that is just prior to "and SG blowdown isolation valve"	A1	SPSB agrees	In GTST for Subsection 3.7.10, Section XII on page 30, revise STS SR 3.7.10.1, as indicated SR 3.7.10.1 Verify each SG PORV, PORV block valve, PORV, and SG blowdown isolation valve strokes closed. In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O50 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
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- A3 Editorial clarification or correction
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Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
438	3.7.10 Pg 32	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes to LCO Bases: These isolation valves are considered OPERABLE when the valves are capable of closing on a PMS actuation isolation signal.	A1 A3 A5 T4	SPSB agrees B1 but suggests additional edits for consistency with other APOG editorial comments B2 except for use of "LOF" C1 except for removal of "at least" from Bases for Required Action to ne in MODE 3 in 6 hours.	<p>B1 In GTST for Subsection 3.7.10, Section XI on page 21, Section XII on page 32, "LCO" section of Bases, revise first and second and third paragraphs, as indicated (existing markup shown in black):</p> <p>This LCO requires that the steam generatorSG PORV, SG PORV block valve, and steam generatorSG blowdown isolation valves consisting of the PORV, PORV block valve, and blowdown isolation valves on each steam generatorSG to be OPERABLE. These isolation valves are considered OPERABLE when the valves are capable of closing on a PMS actuationisolation signal.</p> <p>This LCO provides assurance that the steam generatoreach SG PORV and SG PORV block valve will perform theirits design safety function to mitigate the consequences of an SGTR event that could result in offsite exposures.</p> <p>Additionally, this LCO provides assurance that the steam generatoreach SG blowdown isolation valves valve will perform theirits design safety function to mitigate the consequences of B2 WithdrawnLoss of Feedwater LOF and Loss of Feedwater and Feedwater Line BreakFLB events by retaining the steam generatorSG water inventory for Reactor Coolant System (RCS)RCS heat removal.</p> <p>In GTST for Subsection 3.7.10, Section XI on pages 22-25, Section XII on page 33-35, "Actions" section of Bases, replace "steam generator" with "SG" everywhere it occurs</p> <p>In GTST for Subsection 3.7.10, Section XI on page 25, Section XII on page 35, "Actions" section of Bases,</p> <ul style="list-style-type: none"> o under heading "D.1" insert a blank line o C1 Withdrawn under heading "E.1, E.2, and E.3"; in second sentence delete the phrase "at least" <p style="text-align: right;">continued</p>	ORNL GTST O50 complete

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438	3.7.10 Pg 32	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes to LCO Bases: These isolation valves are considered OPERABLE when the valves are capable of closing on a PMS actuation isolation signal.	A3 A5 T4	SPSB agrees B1 but suggests additional edits for consistency with other APOG editorial comments B2 except for use of "LOF"	Continued from previous page In GTST for Subsection 3.7.10, Section XI on page 20, Section XII on page 31, "Background" section of Bases o B1 revise first paragraph, as indicated The steam generator (SG) isolation valves consist of the • power operated relief valves (PORVs) (SGS-PLV233A & B), • PORV(PORV) block valves (SGS-PL-V027A & B), PORVs (SGS-PLV233A & B) , and • blowdown isolation valves (SGS-PL-V074A & B and SGS-PL-V075A & B). The PORV flow paths must be isolated following a Steam Generator Tube Rupture (SGTR) event to minimize radiological releases. The blowdown flow path must be isolated following Loss of Feedwater B2 Withdrawn (LOF) and Feedwater Line Break (FLB) events to retain the steam generator-SG water inventory for Reactor Coolant System (RCS) heat removal. o B1 revise second paragraph, as indicated A PORV is installed in a 6 inch branch line off of the main steam line piping from each steam-generator SG, to provide for controlled removal of reactor decay heat during normal reactor RCS cooldown when the main steam isolation valves (MSIVs) are closed or the turbine bypass system is not available. A normally-open block valve is provided in each PORV line to provide backup isolation capability. Both the PORV and the block valve receive a Protection and Safety Monitoring System (PMS) isolation signal on low-steam line pressure below the Steam Line Pressure – Low setpoint (Table 3.3.8-1 Function 24) in the associated SG. The SG PORV block valves are valve is also a containment isolation valve-valves. B2 Withdrawn (CIVs); however, these CIVs (SGS-PL-V027A & B) do not receive a PMS isolation signal to close on a containment isolation actuation signal. continued	ORNL GTST O50 complete

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438	3.7.10 Pg 32	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes to LCO Bases: These isolation valves are considered OPERABLE when the valves are capable of closing on a PMS actuation isolation signal.	A3 A5 T4	SPSB agrees B1 but suggests additional edits for consistency with other APOG editorial comments B2 except for use of 'LOF"	Continued from previous page E2 Add following question to list of APOG discussion topics Since SG PORV block valves are also CIVs, why do they not close on a "T" signal? In GTST for Subsection 3.7.10, Section XI on page 20, Section XII on page 31, "Background" section of Bases o B1 revise third paragraph, as indicated The blowdown line from each steam-generator SG is provided with two in-series isolation valves, both located outside, but close to, containment. The two blowdown valves for each SG receive a PMS isolation signal on low SG water level below the SG Narrow Range Water Level – Low setpoint (Table 3.3.8-1 Function 20) in the associated SG. In addition, all four blowdown valves receive a PMS isolation signal and on a Passive Residual Heat Removal (PRHR) actuation signal. The first blowdown isolation valve outside of containment for each SG is also a containment isolation valve; these CIVs (SGS PL-V074A & B) also receive a PMS isolation signal on a containment isolation actuation signal. E2 Withdrawn Verify Function titles are correct based on resolution of APOG discussion topic 4 in comment 172 o revise fourth paragraph, as indicated C1 The steam-generator SG PORVs and the SG blowdown isolation valves fail closed on loss of control or actuation power. The steam generator SG PORV block valves fail as-is on loss of control or actuation power. The steam-generator SG isolation valves may also be actuated manually. B2 Withdrawn (Table 3.3.9-1 Function 3, Containment Isolation – Manual initiation, and Function 14, SG PORV and Block Valve Isolation – Manual initiation). continued	ORNL GTST O50 complete

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438	3.7.10 Pg 32	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes to LCO Bases: These isolation valves are considered OPERABLE when the valves are capable of closing on a PMS actuation isolation signal.	A3 A5 T4	SPSB agrees B1 but suggests additional edits for consistency with other APOG editorial comments B2 except for use of 'LOF'	Continued from previous page B1 In GTST for Subsection 3.7.10, Section XI on page 21, Section XII on page 32, "ASA" section of Bases, revise the four paragraphs, as indicated (existing markup shown in black): The PORV flow paths must be isolated following an SGTR to minimize radiological releases from the ruptured steam generator SG into the atmosphere. The PORV flow path is assumed to open due to high secondary side pressure, during the SGTR. Dose analyses take credit for subsequent isolation of the PORV flow path by the PORV and/or the block valve, both of which receive a close PMS isolation signal to close on low steam line pressure below the Steam Line Pressure – Low setpoint . The blowdown flow path on each SG must be isolated following Loss of Feedwater B2 Withdrawn LOF and Feedwater Line Break FLB events to retain the steam generator SG water inventory for use in Reactor Coolant System (RCS) RCS heat removal via the SGs. RCS heat removal for these events is, primarily, provided by the Passive Residual Heat Removal Heat Exchanger PRHR heat exchanger (PRHR-HX); however, the SG heat removal is also assumed. The SG blowdown isolation valves receive an a PMS isolation signal on low SG level below the SG Narrow Range Water Level – Low setpoint or and on PRHR actuation. These The Loss of Feedwater and FLB event analyses events take credit for steam generator SG heat removal using the water inventory retained after blowdown isolation. If the blowdown line were not isolated, much of the inventory would drain from the SG rather than cool the RCS. In addition, the PORV block valves and steam generator the SG blowdown valves (closest to each containment penetration) are containment isolation valves and support the assumptions related to minimizing the loss of inventory and establishing the containment boundary during major accidents. Therefore, the safety analysis of any event requiring isolation of containment is applicable to the PORV block valves and steam generator SG blowdown valves. The steam generator SG isolation valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii). continued	ORNL GTST O50 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
438	3.7.10 Pg 32	<i>These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.</i>	<i>Make the following changes to LCO Bases: These isolation valves are considered OPERABLE when the valves are capable of closing on a PMS actuationisolation signal.</i>	A3 A5 T4	SPSB agrees B1 but suggests additional edits for consistency with other APOG editorial comments B2 except for use of "LOF"	Continued from previous page In GTST Section VIII, describe APOG and SPSB comments and their resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" Describe SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate) as NRC proposed additional changes.	ORNL GTST O50 complete
439	3.7.10 Pg 33	Editorial change for clarity.	Make the following changes in Applicability: The steam generator PORV, PORV block valve, and steam generator blowdown isolation valves must be OPERABLE in MODES 1, 2, and 3, and 4_ where a DBA . . .	A2 A3 A5	SPSB agrees B1 but suggests additional edits for consistency with other APOG editorial comments B2 except for use of "LOF"	B1 In the GTST for Subsection 3.7.10, Section XI on page 22 and Section XII on page 33, in the "Applicability" section of the Bases, revise first and second paragraphs, as indicated (existing markup shown in black): The steam generator SG PORVs, PORV block valves, and steam generator blowdown isolation valves must be OPERABLE in MODES 1, 2, and 3, and in MODE 4 , where a DBA could cause a release of radioactive material to containment. The Applicability is modified by a Note indicating that PORV OPERABILITY is not required in MODE 4 with the RCS cooling not being provided by the Normal Residual Heat Removal System (RNS). In MODE 4 with the RCS cooling being provided by the RNS and in MODES 5 and 6, the steam generators SGs are not needed for RCS cooling and the potential for an SGTR, or Loss of Feedwater, and Feedwater Line Break FLB events is minimized due to the reduced mass and energy in the RCS and steam generators SGs . B2 [Withdrawn or Loss of Feedwater LOF] In GTST Section VIII, describe APOG and SPSB comments and their resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" Describe SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate) as NRC proposed additional changes.	ORNL GTST O50 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
440 87	3.7.11 Pg 20	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Background: For storage of fuel in the spent fuel racks, the design basis for preventing criticality outside the reactor is that there is a 95% percent probability at a 95% percent confidence level, without soluble boron . . .	A4	SPSB agrees	In the GTST for Subsection 3.7.11, Section XI on page 14, and Section XII on page 20, in "Background" section of Bases, revise second sentence, as indicated: . . . For storage of fuel in the spent fuel racks, the design basis for preventing criticality outside the reactor is that there is a 95% percent-probability at a 95% percent-confidence level, without soluble boron, that the effective multiplication factor (k _{eff}) of the fuel assembly array will be less than 0.997, including uncertainties and tolerances. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O51 complete
441 88	3.7.12 Pg 06	In the rationale for changes section, VEGP LAR DOC A109 is discussed. This should be DOC A111.	Change "DOC A109" to "DOC A111"	A1	SPSB agrees	In the GTST for Subsection 3.7.12, Section VI on page 6, under heading "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes:" replace "A109" with "A111" In GTST Section VIII, describe APOG comment and its resolution.	ORNL GTST O52 complete
442	3.7.12 Pg 21	Revise TS 3.7.12 Bases Background to delete sentence: "Use of the IFE fuel rod storage canister is subject to the same storage requirements as the fuel assemblies." This is the only mention of "canister" in TS or TS Bases, and the TS do not impose any "same storage requirements." Furthermore, "IFE" is not mentioned in AP1000 DCD Chapter 9. Fuel assembly storage requirements are unchanged by this TS Bases deletion.	Make the following changes to Background: Use of the IFE fuel rod storage canister is subject to the same storage requirements as the fuel assemblies.	T1	SPSB agrees	In the GTST for Subsection 3.7.12, Section XI on page 14, and Section XII on page 20, in "Background" section of Bases, delete last sentence of first paragraph, which states: " Use of the IFE fuel rod storage canister is subject to the same storage requirements as the fuel assemblies. " In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O52 complete

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443	3.7.12 Pg 21	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Background: ... the design basis for preventing criticality outside the reactor is that there is a 95% percent probability at a 95% percent confidence level ...	A4	SPSB agrees	In the GTST for Subsection 3.7.12, Section XI on page 14, and Section XII on page 21, in "Background" section of Bases, second paragraph, revise second sentence, as indicated: ... For storage of fuel in the spent fuel racks, the design basis for preventing criticality outside the reactor is that there is a 95% percent-probability at a 95% percent-confidence level, without soluble boron, that the effective multiplication factor (k_{eff}) of the fuel assembly array will be less than 0.997, including uncertainties and tolerances. ... In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O52 complete
444	3.7.12 Pg 22	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Applicable Safety Analyses: The hypothetical fuel handling accidents can only take place during or as a result of the movement of an assembly (Refs. 2 and 3).	A1 A3	SPSB agrees but suggests additional edits for clarity	A In the GTST for Subsection 3.7.12, Section XI on page 15, and Section XII on page 22, in "ASA" section of Bases, first paragraph, revise first and second sentences, as indicated (existing markup shown in black): The hypothetical fuel handling accidents can only take place during or as a result of the movement of an a fuel assembly (Refs. 2 and 3). For these accident occurrences the occurrence of this accident, the presence of soluble boron in the spent fuel storage -pool (controlled by LCO 3.7.11, "Spent Fuel Storage -Pool Boron Concentration") prevents criticality. ... A In the GTST for Subsection 3.7.12, Section XI on page 16, and Section XII on page 23, in "Actions" section of Bases, first paragraph, revise second sentence, as indicated: Since spent fuel pool storage requirements apply in all MODES when fuel is stored in Region 2, the ACTIONS have been modified by a Note stating the that LCO 3.0.3 is not applicable. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ORNL GTST O52 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
445 89	3.8.01 Pg 43	Revise TS 3.8.1 Bases Background to insert "equipment" after "monitoring" in first statement for editorial clarification.	Make the following changes to Background: The Class 1E DC and UPS System (IDS) provides electrical power for safety related and vital control instrumentation loads, including monitoring equipment and main control room emergency lighting.	A3	SPSB agrees	In GTST for Subsection 3.8.1, Section XI on page 25 and Section XII on page 43, in "Background" section of Bases, first paragraph, revise first sentence, as indicated: The Class 1E DC and UPS System (IDS) provides electrical power for safety related and vital control instrumentation loads, including monitoring equipment and main control room emergency lighting. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B81 complete
446	3.8.01 Pg 43	Revise TS 3.8.1 Bases Background first paragraph to add "up to" for editorial clarification.	Make the following changes to Background: It also provides power for safe shutdown when all the onsite and offsite AC power sources are lost and cannot be recovered for up to 72 hours.	A3	SPSB agrees	In GTST for Subsection 3.8.1, Section XI on page 25 and Section XII on page 43, in "Background" section of Bases, first paragraph, revise second sentence, as indicated: It also provides power for safe shutdown when all the onsite and offsite AC power sources are lost and cannot be recovered for up to 72 hours. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B81 complete

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447	3.8.01 Pg 43	Revise TS 3.8.1 Bases Background presentation of battery bank configuration to be more consistent with AP1000 DCD 8.3.2.1.1.1.	<p>Make the following changes to Background:</p> <p>Divisions A and D each consist of one 24 hour battery bank, one battery charger, and the associated control equipment and interconnecting cable. Divisions B and C each consist of two battery banks (one 24 hour and one 72 hour), two battery chargers, and the associated control equipment and interconnecting cabling. <u>The first battery bank in each of the four divisions, designated as the "24 hour" battery bank, provides power to the loads required for the first 24 hours following an event. The second battery bank in Divisions B and C, designated as the "72 hour" battery bank, is used for those loads requiring power for 72 hours following an event.</u></p>	A3	SPSB agrees and suggests a paragraph break after the two inserted sentences; and additional clarifying edits	<p>A In GTST for Subsection 3.8.1, Section XI on page 25 and Section XII on page 43, in "Background" section of Bases, revise second paragraph, as indicated:</p> <p>The 250 VDC electrical power system consists of four independent safety related Class 1E DC electrical power subsystems (Division A, B, C, and D). Divisions A and D each consist of one 24 hour battery bank, one battery charger, and the associated control equipment and interconnecting cable. Divisions B and C each consist of two battery banks (one 24 hour and one 72 hour), two battery chargers, and the associated control equipment and interconnecting cabling. The first battery bank in each of the four divisions, designated as the "24 hour" battery bank, provides power to the loads required for the first 24 hours following an event. The second battery bank in Divisions B and C, designated as the "72 hour" battery bank, is used for those loads requiring power for 72 hours following an event.</p> <p>The loads on the battery banks (including those on the associated inverters) are grouped according to their role in response to a Design Basis Accident (DBA). Loads which are a one time or limited duration load (engineered safeguards safety features (ESF) actuation cabinets and reactor trip function), and that are required within the first 24 hours following an accident, are connected to the "24 hour" battery bank. Loads which are continuous or required beyond the first 24 hours following an accident (emergency lighting, post accident monitoring, and Qualified Data Processing System) are connected to the "72 hour" battery bank. There are a total of six battery banks. A battery bank (also referred to as the battery) consists of two battery strings connected in series. Each battery string consists of 60 cells connected in series. Divisions A and D each have one 2400 ampere hour battery bank and Divisions B and C each have two 2400 ampere hour battery banks.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	BNL GTST B81 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
448	3.8.01 Pg 43	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Background: Loads which are a one time or limited duration load (engineered safeguards <u>safety</u> features (ESF) actuation cabinets and reactor trip . . .	A3	SPSB agrees	A See comment 447 markup	BNL GTST B81 complete
449	3.8.01 Pg 43	Revise TS 3.8.1 Bases Background to add "(also referred to as the battery)" after "battery bank." This addresses potential confusion concerning the equivalency of the terms "battery" and "battery bank"	Make the following changes to Background: A battery bank (<u>also referred to as the battery</u>) consists of two battery strings connected in series.	A3	SPSB agrees	A See comment 447 markup	BNL GTST B81 complete
450 ⁹⁰	3.8.02 Pg 08	Description of new Required Action A.3 incorrectly provides a completion time of "[72] days." The completion time should be "[72] hours"	Revise the completion time from "days" to "hours"	A1	SPSB agrees	In GTST for Subsection 3.8.2, Section VI on page 8, revise description of Required Action A.3, as indicated: A.3: "Restore battery chargers to OPERABLE status" with a completion time of [72] days hours . In GTST Section VIII, describe APOG comment and its resolution.	BNL GTST B82 complete
451	3.8.02 Pg 09	First paragraph discussion of boron dilution accident incorrectly cites TS 3.9.2 versus TS 3.9.3. Additionally, the citation is stated in a confusing context. The possibility of a misloaded fuel assembly is not "in Technical Specification 3.9.2[3]"; rather the added Required Action is in TS 3.9.3. Editorial clarification is appropriate.	Revise to state "To address the possibility of a misloaded fuel assembly, Technical Specification 3.9.3, Required Action A.1, is revised to suspend positive reactivity additions if nuclear instrumentation is not available."	A1 T4	SPSB agrees C1 but suggests additional clarifying edits for consistency with Required Action A.1 of AP1000 STS 3.9.3	C1 In GTST for Subsection 3.8.2, Section VI on page 9, first paragraph, revise next to last sentence, as indicated: . . . To address the possibility of a misloaded fuel assembly, in Technical Specification GTS 3.9.3 (NUREG-1431 STS 3.9.2), a Required Action A.1, is added-revised that suspends to require immediately suspending positive reactivity additions if one (or more) required nuclear instrumentation source range neutron flux monitor is not available inoperable In GTST Section VIII, describe APOG comment and its resolution.	BNL GTST B82 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
452	3.8.02 Pg 12	The fifth item under "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Change," incorrectly references VEGP LAR DOC 22. This discussion should reference VEGP LAR DOC L22.	Revise reference from "DOC 22" to "DOC L22"	A1	SPSB agrees	In GTST for Subsection 3.8.2, Section VI on page 12, under heading "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes," revise fifth paragraph, first line, by replacing "22" with "L22" In GTST Section VIII, describe APOG comment and its resolution.	BNL GTST B82 complete
453	3.8.02 Pg 13	Fourth paragraph discussion of boron dilution accident incorrectly cites TS 3.9.2 versus TS 3.9.3 and an "added" Required Action versus a revised Required Action. Additionally, the citation is stated in a confusing context. The possibility of a misloaded fuel assembly is not "in Technical Specification 3.9.2[3]"; rather the revised Required Action is in TS 3.9.3. Editorial clarification is appropriate.	Revise to state "To address the possibility of a misloaded fuel assembly, Technical Specification 3.9.3, Required Action A.1, is revised to suspend positive reactivity additions if nuclear instrumentation is not available"	A1 T4	SPSB agrees but suggests additional clarifying edits for consistency with Required Action A.1 of AP1000 STS 3.9.3	C1 In GTST for Subsection 3.8.2, Section VII on page 13, under heading "A. Removing CORE ALTERATIONS from Specifications and Bases," fourth paragraph, revise next to last sentence, as indicated: ... To address the possibility of a misloaded fuel assembly, in Technical Specification GTS 3.9.3 (NUREG-1431 STS 3.9.2), a Required Action A.1, is added-revised that suspends to require immediately suspending positive reactivity additions if one (or more) required nuclear instrumentation source range neutron flux monitor is not available inoperable In GTST Section VIII, describe APOG comment and its resolution.	BNL GTST B82 complete
454	3.8.02 Pg 21	Required Action A.3 has "Charger(s)" incorrectly capitalized.	Replace "Charger(s)" with "charger(s)"	A1	SPSB agrees and suggests an additional correction in format	C1 In GTST for Subsection 3.8.2, Section XI on page 21, <ul style="list-style-type: none"> for Required Action A.3, replace "Charger(s)" with "charger(s)" for Condition B, indent logical connector "<u>OR</u>" In GTST Section VIII, describe APOG comment and its resolution.	BNL GTST B82 complete
455	3.8.02 Pg 32	Required Action A.3 has "Charger(s)" incorrectly capitalized.	Replace "Charger(s)" with "charger(s)"	A1	SPSB agrees and suggests an additional correction in format	C1 In GTST for Subsection 3.8.2, Section XII on page 32, <ul style="list-style-type: none"> for Required Action A.3, replace "Charger(s)" with "charger(s)" for Condition B, indent logical connector "<u>OR</u>" In GTST Section VIII, describe APOG comment and its resolution.	BNL GTST B82 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T4 Technical Improvement
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- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
456	3.8.02 Pg 39	Editorial change for clarity.	Make the following change in Actions Bases: ... sufficient systems to allow continuation of fuel movement, and/or operations ...	A3	SPSB agrees but suggests additional clarifying edits	<p>C1 In GTST for Subsection 3.8.2, Section XI on page 28 and Section XII on page 39, in “Actions” section of Bases, under heading “B.1, B.2.1, B.2.2, B.2.3, and B.2.4” first paragraph, revise first sentence, as indicated (existing markup shown in black)</p> <p>With one or more of the required (per LCO 3.8.6, “Distribution Systems – Shutdown”) Class 1E DC power subsystems inoperable, the remaining subsystems may be capable of supporting sufficient systems to allow continuation of CORE ALTERATIONS, irradiated fuel movement, and/or movement and operations with a potential for draining the reactor vessel.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	BNL GTST B82 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
457 91 92	3.8.03 Pg 04 3.8.04 Pg 04	<p>The GTST proposes "clarification of nomenclature used for Class 1E electric power distribution subsystems, consistent with VEGP LAR DOC A112." The specific change proposed replaces "bus[es]" with "electric power distribution system[s]" or "division"</p> <p>However, there are distinctions between these proposed changes and the clarifications involved with LAR DOC A112. Specifically, the LAR DOC A112 changes were related to operability statements in the electrical power distribution system LCO and Actions. In that instance, "bus[es]" presented lack of clarity when the intent was tied to any distribution aspect of the subsystem. A clarification was appropriate and generally brought closer alignment to the presentation in NUREG-1431.</p> <p>For the GTST proposed changes to TS 3.8.3 and TS 3.8.4, the use of "bus[es]" more naturally aligns with specific verifications of bus attributes. These uses of "bus[es]" do not present confusion, and are consistent with the presentation in NUREG-1431.</p> <p>Furthermore, since the AP1000 Owner's Group desires to maintain consistency across the fleet, a presentation difference between the STS NUREG and issued GTS / COLS is not warranted.</p>	Remove the additional clarification of nomenclature changes proposed by the NRC staff	A4	<p>SPSB partially agrees; in most locations, the term "bus" is appropriate.</p> <p>Also, ensure use of "electrical power distribution" not "electric power distribution"</p> <p>C1 See comment 464</p>	<p>Add comment to list of APOG discussion topics In GTST for Sub-section 3.8.3, Section XI revise the existing markup as indicated, (existing markup shown in black); also change Section XII:</p> <ul style="list-style-type: none"> o C1 pg 13, in LCO Notes, remove existing markups, but insert "Class 1E" before "DC" in first sentence, "Class 1E AC" before "instrument" in Note 1, and "Class 1E" before "AC" in Note 2. o C1 pg 13, Required Action A.1 Note, revise as indicated <p>Enter applicable Conditions and Required Actions of LCO 3.8.5 "Distribution Systems – Operating" for any division with any any AC instrument and control bus de-energized.</p> <p>So that the STS says:</p> <p>Enter applicable Conditions and Required Actions of LCO 3.8.5 "Distribution Systems – Operating" with any AC instrument and control bus de-energized.</p> <ul style="list-style-type: none"> o C1 pg 14, SR 3.8.3.1, revise surveillance as indicated: <p>Verify correct inverter voltage, frequency, and alignment to Withdrawn required the associated required AC instrument and control buses. Withdrawn in each required division of the AC instrument and control electric power distribution subsystem.</p> <p>So that STS SR 3.8.3.1 says:</p> <p>Verify correct inverter voltage, frequency, and alignment to the required AC instrument and control buses.</p> <ul style="list-style-type: none"> o C1 pg 15, "Background" section of Bases, first, second, and fifth paragraphs, remove the GTST proposed changes as indicated by the markup of the GTS 3.8.3 Bases. <p style="text-align: right;">continued</p>	BNL GTST B83, B84 complete

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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
457	3.8.03 Pg 04 3.8.04 Pg 04	<p>The GTST proposes "clarification of nomenclature used for Class 1E electric power distribution subsystems, consistent with VEGP LAR DOC A112." The specific change proposed replaces "bus[es]" with "electric power distribution system[s]" or "division"</p> <p>However, there are distinctions between these proposed changes and the clarifications involved with LAR DOC A112. Specifically, the LAR DOC A112 changes were related to operability statements in the electrical power distribution system LCO and Actions. In that instance, "bus[es]" presented lack of clarity when the intent was tied to any distribution aspect of the subsystem. A clarification was appropriate and generally brought closer alignment to the presentation in NUREG-1431. For the GTST proposed changes to TS 3.8.3 and TS 3.8.4, the use of "bus[es]" more naturally aligns with specific verifications of bus attributes. These uses of "bus[es]" do not present confusion, and are consistent with the presentation in NUREG-1431.</p> <p>Furthermore, since the AP1000 Owner's Group desires to maintain consistency across the fleet, a presentation difference between the STS NUREG and issued GTS / COLs is not warranted.</p>	Remove the additional clarification of nomenclature changes proposed by the NRC staff	A4	<p>SPSB partially agrees; in most locations, the term "bus" is appropriate.</p> <p>Also, ensure use of "electrical power distribution" not "electric power distribution"</p>	<p>Continued from previous page</p> <ul style="list-style-type: none"> o C1 pg 16, "ASA" section of Bases, first paragraph, revise first sentence by inserting "and" before "transient" to match Subsection 3.8.4 Bases o C1 pg 16, "ASA" section of Bases, second paragraph, revise second sentence, as indicated <p>... This includes maintaining at least three of the four Divisions of all Class 1E AC instrument and control buses OPERABLE in at least three of the four Divisions electrical power distribution system divisions during accident conditions in the event of: ...</p> <p>So that the STS says:</p> <p>... This includes maintaining all Class 1E AC instrument and control buses OPERABLE in at least three of the four electrical power distribution system divisions during accident conditions in the event of: . . .</p> o C1 pg 16, "LCO" section of Bases, revise third paragraph, as indicated <p>An inverter is OPERABLE when it powers its associated inverters require that the Class 1E AC instrument and control bus-electric power distribution subsystems bus be powered by the inverter with output voltage and frequency within tolerances, and the associated 250 VDC station battery provides the inverter's power input to the inverter from a 250 VDC station battery by way of the associated Class 1E DC electrical power distribution subsystem bus.</p> <p>So that the STS says:</p> <p>An inverter is OPERABLE when it powers its associated Class 1E AC instrument and control bus with output voltage and frequency</p> <p style="text-align: right;">continued</p> 	BNL GTST B83, B84 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
457	3.8.03 Pg 04 3.8.04 Pg 04	<p>The GTST proposes "clarification of nomenclature used for Class 1E electric power distribution subsystems, consistent with VEGP LAR DOC A112." The specific change proposed replaces "bus[es]" with "electric power distribution system[s]" or "division"</p> <p>However, there are distinctions between these proposed changes and the clarifications involved with LAR DOC A112. Specifically, the LAR DOC A112 changes were related to operability statements in the electrical power distribution system LCO and Actions. In that instance, "bus[es]" presented lack of clarity when the intent was tied to any distribution aspect of the subsystem. A clarification was appropriate and generally brought closer alignment to the presentation in NUREG-1431. For the GTST proposed changes to TS 3.8.3 and TS 3.8.4, the use of "bus[es]" more naturally aligns with specific verifications of bus attributes. These uses of "bus[es]" do not present confusion, and are consistent with the presentation in NUREG-1431.</p> <p>Furthermore, since the AP1000 Owner's Group desires to maintain consistency across the fleet, a presentation difference between the STS NUREG and issued GTS / COLs is not warranted.</p>	Remove the additional clarification of nomenclature changes proposed by the NRC staff	A4	<p>SPSB partially agrees; in most locations, the term "bus" is appropriate.</p> <p>Also, ensure use of "electrical power distribution" not "electric power distribution"</p> <p>C1 SPSB suggests edits to clarify Action A Bases</p>	<p>Continued from previous page</p> <p>within tolerances, and the associated 250 VDC station battery provides the inverter's power input by way of the associated Class 1E DC electrical power distribution subsystem bus.</p> <ul style="list-style-type: none"> o C1 pg 17, "LCO" section of Bases, fourth paragraph, remove existing markups. o C1 pg 18, "Actions" section of Bases, under heading "A.1"; <ul style="list-style-type: none"> – first paragraph, remove existing markup – C1 second paragraph, revise as indicated: <p>For this reason a Note has been included in Condition A with Required Action A.1 requiring the entry into the applicable Conditions and Required Actions of LCO 3.8.5, "Distribution Systems – Operating," for any division with an AC instrument and control bus de-energized. This ensures that the affected Class 1E AC instrument and control division vital bus bus is re-energized within 12-6 hours.</p> <p>So that the STS says:</p> <p>For this reason a Note has been included with Required Action A.1 requiring entry into the applicable Conditions and Required Actions of LCO 3.8.5, "Distribution Systems – Operating," for any division with an AC instrument and control bus de-energized. This ensures that the affected Class 1E AC instrument and control bus is re-energized within 6 hours.</p> <ul style="list-style-type: none"> – C1 third paragraph, beginning with fourth sentence, revise as indicated <p>... When the a Class 1E AC instrument and control bus electric power distribution subsystem bus is powered from its regulating transformer, it is relying upon interruptible AC electrical power sources (offsite and onsite). The uninterruptible inverter source to the Class 1E AC instrument and control buses electric power distribution subsystems buses is the preferred source for powering instrumentation trip setpoint devices.</p> <p>So that the STS says:</p> <p style="text-align: right;">continued</p>	BNL GTST B83, B84 complete

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457	3.8.03 Pg 04 3.8.04 Pg 04	<p>The GTST proposes "clarification of nomenclature used for Class 1E electric power distribution subsystems, consistent with VEGP LAR DOC A112." The specific change proposed replaces "bus[es]" with "electric power distribution system[s]" or "division"</p> <p>However, there are distinctions between these proposed changes and the clarifications involved with LAR DOC A112. Specifically, the LAR DOC A112 changes were related to operability statements in the electrical power distribution system LCO and Actions. In that instance, "bus[es]" presented lack of clarity when the intent was tied to any distribution aspect of the subsystem. A clarification was appropriate and generally brought closer alignment to the presentation in NUREG-1431. For the GTST proposed changes to TS 3.8.3 and TS 3.8.4, the use of "bus[es]" more naturally aligns with specific verifications of bus attributes. These uses of "bus[es]" do not present confusion, and are consistent with the presentation in NUREG-1431.</p> <p>Furthermore, since the AP1000 Owner's Group desires to maintain consistency across the fleet, a presentation difference between the STS NUREG and issued GTS / COLs is not warranted.</p>	Remove the additional clarification of nomenclature changes proposed by the NRC staff	A4	<p>SPSB partially agrees; in most locations, the term "bus" is appropriate.</p> <p>Also, ensure use of "electrical power distribution" not "electric power distribution"</p> <p>C1 SPSB suggests edits to correct Action B Bases</p>	<p>Continued from previous page</p> <p>... When a Class 1E AC instrument and control bus is powered from its regulating transformer, it is relying upon interruptible AC electrical power sources (offsite and onsite). The uninterruptible inverter source to the Class 1E AC instrument and control buses is the preferred source for powering instrumentation trip setpoint devices.</p> <ul style="list-style-type: none"> o C1 pg 18, "Actions" section of Bases, under heading "B.1 and B.2"; <p>If the inoperable inverter Withdrawn Class 4E DC electrical power subsystem B2 Withdrawn , or other inoperable devices or components required for inverter OPERABILITY cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to MODE 5 where the probability and consequences on of an event are minimized. To achieve this status, the plant must be brought to at least C1 Withdrawn at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.</p> <p>So that the STS says:</p> <p>If the inoperable inverter cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to MODE 5 where the probability and consequences of an event are minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.</p> <ul style="list-style-type: none"> o C1 pg 19, "SRs" section of Bases, under heading "SR 3.8.3.1"; remove existing markup 	BNL GTST B83, B84 complete

continued

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
457	3.8.03 Pg 04 3.8.04 Pg 04	<p>The GTST proposes "clarification of nomenclature used for Class 1E electric power distribution subsystems, consistent with VEGP LAR DOC A112." The specific change proposed replaces "bus[es]" with "electric power distribution system[s]" or "division"</p> <p>However, there are distinctions between these proposed changes and the clarifications involved with LAR DOC A112. Specifically, the LAR DOC A112 changes were related to operability statements in the electrical power distribution system LCO and Actions. In that instance, "bus[es]" presented lack of clarity when the intent was tied to any distribution aspect of the subsystem. A clarification was appropriate and generally brought closer alignment to the presentation in NUREG-1431. For the GTST proposed changes to TS 3.8.3 and TS 3.8.4, the use of "bus[es]" more naturally aligns with specific verifications of bus attributes. These uses of "bus[es]" do not present confusion, and are consistent with the presentation in NUREG-1431.</p> <p>Furthermore, since the AP1000 Owner's Group desires to maintain consistency across the fleet, a presentation difference between the STS NUREG and issued GTS / COLs is not warranted.</p>	Remove the additional clarification of nomenclature changes proposed by the NRC staff	A4	<p>SPSB partially agrees; in most locations, the term "bus" is appropriate.</p> <p>Also, ensure use of "electrical power distribution" not "electric power distribution"</p> <hr/> <p>C1 SPSB suggests edits to clarify Subsection 3.8.4:</p> <ul style="list-style-type: none"> • SR 3.8.4.1; • ASA section of Bases; • LCO section of Bases 	<p>Continued from previous page</p> <p>Where affected GTS text is identical, make same changes to markup for Subsection 3.8.4. Additional changes are the following. In GTST for Subsection 3.8.4, Section XI revise the existing markup as indicated, (existing markup shown in black); also change Section XII:</p> <ul style="list-style-type: none"> o C1 pg 16, SR 3.8.4.1, revise surveillance as indicated: <ul style="list-style-type: none"> Verify correct inverter voltage, frequency, and alignments to Withdrawn required the associated required AC instrument and control buses. Withdrawn in each required division of the AC instrument and control electric power distribution subsystem. So that the STS says: <ul style="list-style-type: none"> Verify correct inverter voltage, frequency, and alignment to required AC instrument and control buses. o C1 pgs 17-18, "ASA" section of Bases, revise fourth paragraph, third sentence, as indicated: <ul style="list-style-type: none"> . . . The rationale for this is based on the fact that many Design Basis Accidents (DBAs) that are analyzed in MODES 1, 2, 3, and 4 have no specific analyses in MODES 5 and 6 because the energy contained within the reactor coolant system pressure boundary, reactor coolant temperature and pressure, and the corresponding stresses result in the probabilities of occurrence being significantly reduced or eliminated, and in minimal consequences. . . . o C1 pg 18, "ASA" section of Bases, revise next to last paragraph, second sentence, as indicated: <ul style="list-style-type: none"> . . . Worst case Design Basis Accidents DBAs, which are analyzed for operating MODES, are generally viewed as not to be being a significant concern during shutdown MODES due to the lower energies involved. . . . o C1 pg 18, "ASA" section of Bases, revise last paragraph, as indicated: <ul style="list-style-type: none"> The Class 1E uninterruptible power supply (UPS) inverters are part of the Class 1E AC instrument and control electrical power distribution system and, as such, satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii). <p style="text-align: right;">continued</p>	BNL GTST B83, B84 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
457	3.8.03 Pg 04 3.8.04 Pg 04	<p>The GTST proposes "clarification of nomenclature used for Class 1E electric power distribution subsystems, consistent with VEGP LAR DOC A112." The specific change proposed replaces "bus[es]" with "electric power distribution system[s]" or "division"</p> <p>However, there are distinctions between these proposed changes and the clarifications involved with LAR DOC A112. Specifically, the LAR DOC A112 changes were related to operability statements in the electrical power distribution system LCO and Actions. In that instance, "bus[es]" presented lack of clarity when the intent was tied to any distribution aspect of the subsystem. A clarification was appropriate and generally brought closer alignment to the presentation in NUREG-1431. For the GTST proposed changes to TS 3.8.3 and TS 3.8.4, the use of "bus[es]" more naturally aligns with specific verifications of bus attributes. These uses of "bus[es]" do not present confusion, and are consistent with the presentation in NUREG-1431.</p> <p>Furthermore, since the AP1000 Owner's Group desires to maintain consistency across the fleet, a presentation difference between the STS NUREG and issued GTS / COLs is not warranted.</p>	Remove the additional clarification of nomenclature changes proposed by the NRC staff	A4	<p>SPSB partially agrees; in most locations, the term "bus" is appropriate.</p> <p>Also, ensure use of "electrical power distribution" not "electric power distribution"</p> <p>SPSB suggests edits to clarify Action B Bases</p> <hr/> <p>C1 SPSB suggests edits to clarify Subsection 3.8.4:</p> <ul style="list-style-type: none"> • SR 3.8.4.1; • ASA section of Bases; • LCO section of Bases 	<p>Continued from previous page</p> <ul style="list-style-type: none"> o C1 pg 18, "LCO" section of Bases, revise paragraph, as indicated: <p>The inverters ensure the availability of electrical power for the instrumentation for systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or postulated DBA. The 250 VDC station battery powered inverters provide an uninterruptible supply of AC electrical power to the Class 1E AC instrument and control buses, even if the normal power supply from a standby diesel generator backed non-Class 1E 480 VAC motor control center the 480 VAC is deenergized. OPERABILITY of the inverters requires that the Class 1E instrument and control buses be powered by the inverter with output voltage and frequency within tolerances, and the power input to the inverter from a 250 VDC station battery. An inverter is OPERABLE when it powers its associated Class 1E AC instrument and control bus with output voltage and frequency within tolerances, and the associated 250 VDC station battery provides the inverter's power input by way of the associated Class 1E DC electrical power distribution system bus. This ensures the availability of sufficient inverter power sources to operate the plant in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents, inadvertent reactor vessel draindown).</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate).</p>	BNL GTST B83, B84 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
458	3.8.03 Pg 26	Revise TS 3.8.3 Bases for Required Action A.1 for consistency with TS 3.8.3 Condition A Note and TS 3.8.5 Action A Completion Time.	Make the following changes for A.1 Actions Bases: For this reason a Note has been included in Condition A requiring the entry into the <u>applicable</u> Conditions and Required Actions of LCO 3.8.5, "Distribution Systems - Operating." This ensures that the instrument and control division is reenergized within 12 <u>6</u> hours.	A1	SPSB agrees	C1 See comment 457	BNL GTST B83, B84 complete
459	3.8.04 Pg 06	Fourth paragraph discussion of boron dilution accident incorrectly cites TS 3.9.2 versus TS 3.9.3 and an "added" Required Action versus a revised Required Action. Additionally, the citation is stated in a confusing context. The possibility of a misloaded fuel assembly is not "in Technical Specification 3.9.2[3]"; rather the revised Required Action is in TS 3.9.3. Editorial clarification is appropriate.	Revise to state "To address the possibility of a misloaded fuel assembly, Technical Specification 3.9.3, Required Action A.1, is revised to suspend positive reactivity additions if nuclear instrumentation is not available."	A3	SPSB agrees but suggests additional clarifying edits	C1 In GTST for Subsection 3.8.4, Section VI on page 6, under heading "Rationale for TSTF changes," under heading "TSTF-471," third paragraph, revise next to last sentence, as indicated: ... To address the possibility of a misloaded fuel assembly, in Technical Specification 3.9.3 2 , a Required Action A.1, is added that revised to require suspending suspends positive reactivity additions if one of the two required source range neutron flux nuclear instrumentation monitors is inoperable not available. ... In GTST Section VIII, describe APOG comment and its resolution.	BNL GTST B83, B84 complete
460	3.8.04 Pg 09	Fourth paragraph discussion of boron dilution accident incorrectly cites TS 3.9.2 versus TS 3.9.3 and an "added" Required Action versus a revised Required Action. Additionally, the citation is stated in a confusing context. The possibility of a misloaded fuel assembly is not "in Technical Specification 3.9.2[3]"; rather the revised Required Action is in TS 3.9.3. Editorial clarification is appropriate.	Revise to state "To address the possibility of a misloaded fuel assembly, Technical Specification 3.9.3, Required Action A.1, is revised to suspend positive reactivity additions if nuclear instrumentation is not available."	A3	SPSB agrees but suggests additional clarifying edits	C1 In GTST for Subsection 3.8.4, Section VII on page 9, under heading "Removing CORE ALTERATIONS from Specifications and Bases," fourth paragraph, revise next to last sentence, as indicated: ... To address the possibility of a misloaded fuel assembly, in Technical Specification 3.9.3 2 , a Required Action A.1, is added that revised to require suspending suspends positive reactivity additions if one of the two required source range neutron flux nuclear instrumentation monitors is inoperable not available. ... In GTST Section VIII, describe APOG comment and its resolution.	BNL GTST B83, B84 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

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- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
461	3.8.04 Pg 25	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes for Applicable Safety Analyses: The OPERABILITY of the minimum inverters to each Class 1E AC instrument and control bus during MODES 5 and 6, <u>and during movement of irradiated fuel assemblies</u> , ensures that (Refs. 1 and 2):	A3 T4	SPSB agrees, but suggests additional edits for clarity and consistency with Subsection 3.8.3 Bases See comment 3	In GTST for Subsection 3.8.4, Section XI on page 17 and Section XII on page 25, in "ASA" section of Bases, o C1 revise first paragraph, as indicated The initial conditions of Design Basis Accident (DBA) and transient analyses in FSAR Chapter 6 (Ref. 1) and FSAR Chapter 15 (Ref. 2), assume engineered safety features (ESF) are OPERABLE. The DC to AC inverters are designed to provide the required capacity, capability, redundancy, and reliability to ensure the availability of necessary power to the Protection and Monitoring System (PMS) Engineered Safety Feature Actuation System instrumentation and controls so that the fuel, Reactor Coolant System (RCS), and containment design limits are not exceeded. o revise third paragraph, first sentence, as indicated The OPERABILITY of the minimum inverters to each Class 1E AC instrument and control bus during MODES 5 and 6, <u>and during movement of irradiated fuel assemblies</u> , ensures that (Refs. 1 and 2): o C1 revise fourth paragraph, second sentence, as indicated . . . However, assuming a single failure and concurrent loss of all offsite or all onsite AC power is not required. . . . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases" Describe SPSB proposed changes in GTST Sections IV, V, VI, and VII (as appropriate).	BNL GTST B83, B84 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
462	3.8.04 Pg 28	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following change in Actions A.1, A.2.1, A.2.2, A.2.3, and A.2.4: Therefore, the allowance for sufficiently conservative actions is made (i.e., <u>suspend</u> movement of irradiated fuel assemblies, any activities that could potentially result in inadvertent draining . . .	A1 A3	SPSB agrees C1 and notes correction of a typographical error, and adding definition of MTC	In GTST for Subsection 3.8.4, Section XI on page 20 and Section XII on page 28, in “Actions” section of Bases, under heading “A.1, A.2.1, A.2.2, A.2.3, and A.2.4”: ○ revise first paragraph, fourth sentence, as indicated (existing markup shown in black) . . . Therefore, the allowance for sufficiently conservative actions is made (i.e., suspend CORE ALTERATIONS, suspend movement of irradiated fuel assemblies, any activities that could potentially result in inadvertent draining of the reactor vessel, and operations involving positive reactivity additions that could result in loss of required SDM (MODE 5) or boron concentration (MODE 6)). . . . ○ C1 revise first paragraph, sixth sentence, as indicated . . . Introduction of coolant inventory must be from sources that have a boron concentration greater than that what would be required in the RCS for minimum SDM or refueling boron concentration. . . . ○ C1 revise first paragraph, eighth (last) sentence, as indicated . . . Introduction of temperature changes including temperature increases when operating with a positive MTC moderator temperature coefficient (MTC) must also be evaluated to ensure they do not result in a loss of required SDM. In GTST Section VIII, describe APOG comment and its resolution. Since this is correction of an error in the markup, no other section needs revising. Describe SPSB proposed changes in GTST Sections IV, V, VI, and VII (as appropriate).	BNL GTST B83, B84 complete

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
463	3.8.04 Pg 29	Revise SR 3.8.4.1 Bases to delete phrase "the effectiveness of the voltage and frequency instruments." This makes it consistent with the NUREG-1431 SR 3.8.7.1 Bases and eliminates confusion. Removal of this detail does not impact the information useful for compliance with the TS requirement.	Make the following changes to SR 3.8.4.1 Surveillance Requirements: The 7 day Frequency takes into account the effectiveness of the voltage and frequency instruments, the redundant capability of the inverters, and other indications available in the control room that alert the operator to inverter malfunctions.	A5	SPSB agrees	In GTST for Subsection 3.8.4, Section XI on page 21 and Section XII on page 29, in "SRs" section of Bases, revise last sentence, as indicated: ... The 7 day Frequency takes into account the effectiveness of the voltage and frequency instruments, the redundant capability of the inverters, and other indications available in the control room that alert the operator to inverter malfunctions. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	BNL GTST B83, B84 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
464	3.8.05 3.8.03 Pg 21	Component naming is revised consistent with naming convention in the AP1000 DCD and/or other TS Bases. "Regulating transformer" is consistently used throughout the DCD; however, "constant voltage transformer" is used only in a couple places in the TS and Bases.	Revise LCO 3.8.3 Note 1 reference to "constant voltage source transformer" to "voltage regulating transformer"	A5	SPSB agrees C1 See comment 457	In GTST for Subsection 3.8.3, Section XI on page 13 and Section XII on page 21, <ul style="list-style-type: none"> o C1 Withdrawn pg 13, in LCO Notes, remove existing markups, but insert "Class 1E" before "DC" in first sentence, "Class 1E AC" before "instrument" in Note 1, and "Class 1E" before "AC" in Note 2. o pg 13, revise LCO Note 1 reference to "constant voltage source transformer" to "voltage regulating transformer" o APOG discussion topic Should Notes 1 and 2 use "panel[s]" or "distribution panel[s]" in place of "bus[es]"? Answer: No <p>So that the markup of GTS 3.8.3 LCO Notes appears as:</p> <p>-----NOTES-----</p> <p>One inverter may be disconnected from its associated Class 1E DC bus for ≤ 72 hours to perform an equalizing charge on its associated battery, providing:</p> <ol style="list-style-type: none"> 1. The associated Class 1E AC instrument and control bus is energized from its Class 1E constant voltage source voltage regulating transformer; and 2. All other Class 1E AC instrument and control buses are energized from their associated OPERABLE inverters. <p>-----</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes"</p>	BNL GTST B83 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
465 93	3.8.05 Pg 35	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	<p>Make the following changes in Background:</p> <p>The onsite Class 1E and DC and UPS electrical power distribution system is divided by division into four independent <u>divisions of</u> AC and DC electrical power distribution subsystems (Divisions A, B, C, and D).</p> <p>The buses are normally powered from separate inverters which are connected to the respective <u>D</u>ivision Class 1E battery banks.</p> <p>The backup source provided for each <u>D</u>ivision for the Class 1E AC instrument and control buses is a Class 1E regulating transformer providing regulated output . . .</p> <p>The list of all required distribution buses <u>and/or panels</u> is presented in Table B 3.8.5-1 and shown in Section 8.3.2 (Ref. 1).</p>	A3	<p>SPSB agrees, C1 but notes additional edits to correct GTS Bases errors and for clarification</p> <p>See comment 464 regarding voltage regulating transformer</p>	<p>In GTST for Subsection 3.8.5, Section XI on page 20 and Section XII on page 35, in “Background” section of Bases, revise</p> <ul style="list-style-type: none"> o C1 first paragraph, as indicated: <p>The onsite Class 1E andDC and uninterruptible power supply (UPS) electrical power distribution system is divided by division into four independent divisions of AC and DC electrical power distribution subsystems (Divisions A, B, C, and D).</p> o C1 second paragraph, first through fourth sentences, as indicated: <p>The Class 1E AC distribution Divisions A and D each consists of one 208/120 V instrument and control bus (distribution panel). The Class 1E AC distribution Divisions B and C each consists of two 208/120 V instrument and control buses (distribution panels). The AC buses are normally powered from separate inverters which are connected to the respective Divisiondivision Class 1E battery banks through the associated Class 1E 250 VDC buses (switchboards). The backup electrical power source provided for each division of Division for the Class 1E AC instrument and control buses is a Class 1E voltage regulating transformer providing regulated output to the Class 1E AC instrument and control buses through a static transfer switch and a manual bypass switch. . .</p> o C1 third paragraph, first through third and sixth sentences, as indicated: <p>The Class 1E DC distribution Divisions A and D each consists of one 250 VDC bus (switchboard). The Class 1E DC distribution Divisions B and C each consists of two 250 VDC buses (switchboards). The buses for the four Divisions are normally powered from their associated Division battery chargers. The backup electrical power source for each Class 1E DC bus is its associated Class 1E battery bank. . . . Additional description of this system may be found in the Bases for Specification 3.8.1, “DC Sources  Operating.”</p> <p style="text-align: right;">continued</p> 	BNL GTST B85 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
465	3.8.05 Pg 35	<i>Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.</i>	<i>Make the following changes in Background: . . . The list of all required distribution buses <u>and/or panels</u> is presented in Table B 3.8.5-1 and shown in Section 8.3.2 (Ref. 1).</i>	A2 A3	SPSB agrees, C1 but notes additional edits for clarity, consistency, and avoiding use of “and/or” per writer’s guide See comment 3	Continued from previous page o C1 fourth paragraph, as indicated: The list of all required Class 1E AC distribution and DC distribution buses and panels is presented in Table B 3.8.5-1 and shown in FSAR Section 8.3.2 (Ref. 1). In GTST Section VIII, describe APOG comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases” Describe SPSB changes in Sections IV, V, VI, and VII (as appropriate).	BNL GTST B85 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
466	3.8.05 Pg 36	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	<p>Make the following changes in Applicable Safety Analyses:</p> <p>The Class 1E AC <u>instrument and control</u> and DC electrical power distribution systems are designed to provide sufficient capacity, . . .</p> <p>The OPERABILITY of the Class 1E AC <u>instrument and control</u> and DC electrical power distribution systems is consistent . . . at least three of the four Divisions of Class 1E AC <u>instrument and control</u> and DC power distribution systems OPERABLE during accident . . .</p>	A3	<p>SPSB agrees</p> <p>B2 Withdrawn but notes additional edits for consistency; See comment 476</p> <p>See comment 3</p>	<p>C1 In GTST for Subsection 3.8.5, Section XI on page 21 and Section XII on page 36, in “ASA” section of Bases, revise first, third, and last paragraphs, as indicated:</p> <p>The initial conditions of Design Basis Accident (DBA) and transient analyses in FSAR Chapter 6 (Ref. 2) and FSAR Chapter 15 (Ref. 3), assume engineered safety features (ESFs) are OPERABLE. The Class 1E AC instrument and control and DC electrical power distribution systems are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to the ESFs so that the fuel, Reactor Coolant System (RCS) and containment design limits are not exceeded.</p> <p>...</p> <p>The OPERABILITY of the Class 1E AC instrument and control and DC electrical power distribution systems is consistent with the initial assumptions of the accident analyses and is based upon meeting the design basis of the unit. This includes maintaining at least three of the four Divisions of Class 1E AC instrument and control and DC electrical power distribution systems OPERABLE during accident conditions in the event of:</p> <p>...</p> <p>The Class 1E AC instrument and control and DC electrical power distribution systems satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).</p> <p>In GTST Section VIII, describe APOG comments and their resolution.</p> <p>Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	BNL GTST B85 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
467	3.8.05 Pg 36	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	<p>Make the commented changes in LCO Bases.</p> <p>The required power distribution subsystems listed in Table B 3.8.5-1 ensure the availability of Class 1E AC <u>instrument and control</u> and DC electrical power . . . The Division A, B, C, and D Class 1E AC <u>instrument and control</u> and DC electrical power distribution subsystems are required to be OPERABLE.</p> <p>Maintaining the Division A, B, C, and D AC <u>instrument and control</u> and DC electrical power distribution subsystems . . . Three of the four Class 1E AC <u>instrument and control</u> and DC power distribution subsystems are capable of providing . . . not prevent safe shutdown of the reactor.</p> <p>OPERABLE Class 1E DC electric power distribution subsystems require . . . OPERABLE Class 1E AC <u>instrument and control</u> electrical power distribution subsystems require the associated buses to be energized . . .</p>	A3	<p>SPSB agrees,</p> <p>Also, ensure use of “<u>electrical power distribution</u>” not “<u>electric power distribution</u>”</p> <p>C1 but notes additional edits for clarity, consistency, and avoiding use of “and/or” per writer’s guide</p> <p>Some of the proposed clarifications were withdrawn, as indicated.</p>	<p>C1 In GTST for Subsection 3.8.5, Section XI on page 21 and Section XII on page 36, in “LCO” section of Bases, revise first, second, and third paragraphs, (split third paragraph) as indicated:</p> <p>The required electrical power distribution subsystems listed in Table B 3.8.5-1 ensure the availability of Class 1E AC instrument and control and DC electrical power for the systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA. The Division A, B, C, and D Class 1E AC instrument and control and DC electrical power distribution subsystems are required to be OPERABLE.</p> <p>Maintaining the Division A, B, C, and D AC instrument and control and DC electrical power distribution subsystems OPERABLE ensures that the redundancy incorporated into the design of the ESFs is not defeated. Three of the four Class 1E AC instrument and control and DC electrical power distribution subsystems are capable of providing the necessary electrical power to the associated ESF components. Therefore, a single failure within any E1, E2 Withdrawn ESF subsystem or within the electrical power distribution subsystems will not prevent safe shutdown of the reactor.</p> <p>OPERABLE Class 1E DC electric-electrical power distribution subsystems require the associated buses (switchboards), distribution panels, motor control centers, and electrical circuits to be energized to their proper voltage from either the associated battery bank or battery charger. The spare battery bank, and/or the spare battery charger, s-or both may be used by one DC electrical power distribution subsystem for OPERABILITY.</p> <p>OPERABLE Class 1E AC instrument and control electrical power distribution subsystems require the associated buses (distribution panels) to be energized to their proper voltages and frequencies from the associated inverter or voltage regulating transformer.</p> <p>In GTST Section VIII, describe APOG comments and their resolution.</p> <p>Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	BNL GTST B85 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer’s Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
468	3.8.05 Pg 39	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Actions B.1: Inoperability of a PMS division is similar to loss of one DC electrical power distribution subsystem division . In both cases, actuation of the safety functions associated with one of the four subsystems /divisions may no longer be available.	A3	SPSB agrees	In GTST for Subsection 3.8.5, Section XI on page 25 and Section XII on page 39, in “Actions” section of Bases, under heading “B.1”, fourth paragraph, revise last two sentences, as indicated: ... Inoperability of a PMS division is similar to loss of one DC electrical power distribution subsystem division . In both cases, actuation of the safety functions associated with one of the four subsystems /divisions may no longer be available. In GTST Section VIII, describe APOG comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B85 complete
469	3.8.05 Pg 40	Component naming is revised consistent with naming convention in the AP1000 DCD and/or other TS Bases. "Regulating transformer" is consistently used throughout the DCD; however, "constant voltage transformer" is used only in a couple places in the TS and Bases.	Make the following changes for C.1 Actions: ... the associated inverter via inverted DC, inverter using internal AC source, or Class 1E constant -voltage regulating transformer.	A3	SPSB agrees	In GTST for Subsection 3.8.5, Section XI on page 26 and Section XII on page 40, in “Actions” section of Bases, under heading “C.1”, first paragraph, revise last sentence, as indicated (existing markup shown in black): ... Therefore, the one required divisions of AC instrument and control buses must be restored to OPERABLE status within 2 hours by powering the division bus from the associated inverter via inverted DC, inverter using internal AC source, or Class 1E constant -voltage regulating transformer. In GTST Section VIII, describe APOG comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B85 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
470	3.8.05 Pg 40	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	<p>Make the following changes in Actions C.1:</p> <p>With two divisions of AC instrument and control <u>divisions</u> inoperable, the remaining OPERABLE</p> <p>Condition C represents two divisions of AC instrument and control <u>divisions</u> without power; potentially both the DC source</p> <p>It is, therefore, imperative that the operator’s attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining buses <u>divisions</u> and restoring power to</p> <p>The 2 hour Completion Time takes into account the importance to safety of restoring the AC instrument and control divisions to OPERABLE status, the redundant capability afforded by the other OPERABLE buses<u>divisions</u>, and the low probability of a DBA occurring during this period.</p>	A1 A3	SPSB agrees, A and notes a typographical error for correction	<p>In GTST for Subsection 3.8.5, Section XI on page 26 and Section XII on page 40, in “Actions” section of Bases, under heading “C.1”,</p> <ul style="list-style-type: none"> o A first paragraph, revise first sentence, as indicated (existing markup shown in black): <p>With two divisions of AC instrument and control buses <u>divisions</u> inoperable, the remaining OPERABLE divisions <u>buses</u> are capable of supporting the minimum safety functions necessary to shut down the unit and maintain it in the safe shutdown condition. . . .</p> <ul style="list-style-type: none"> o A second paragraph, revise as indicated (existing markup shown in black): <p>Condition C represents two divisions of AC instrument and control vital buses <u>divisions</u> without power; potentially both the DC source and the associated AC source are nonfunctioning. In this situation, the unit is significantly more vulnerable to a complete loss of all noninterruptable power. It is, therefore, imperative that the operator’s attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining divisions <u>buses</u> and restoring power to one the affected division <u>buses</u>.</p> <p>In GTST for Subsection 3.8.5, Section XI on page 27 and Section XII on page 40, in “Actions” section of Bases, under heading “C.1”,</p> <ul style="list-style-type: none"> o A third paragraph, revise list item “b” by correcting “Applicable Conditions” to “applicable Conditions” o A fourth paragraph, revise as indicated (existing markup shown in black): <p>The 2 hour Completion Time takes into account the importance to safety of restoring the one AC instrument and control divisions <u>buses</u> to OPERABLE status, the redundant capability afforded by the other OPERABLE buses <u>divisions</u>, and the low probability of a DBA occurring during this period.</p> <p>In GTST Section VIII, describe APOG comments and their resolution.</p> <p>Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	BNL GTST B85 complete

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- A5 Improve consistency with STS NUREG-1431, Rev 4

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
471	3.8.05 Pg 41	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	<p>Make the following changes in Actions D.1:</p> <p>With two divisions of DC electrical power distribution subsystems divisions inoperable, the remaining DC electrical power distribution subsystems divisions are capable of supporting . . . single failure in the remaining DC electrical power distribution subsystem division could result in the minimum required ESF functions not being supported. . . .</p> <p>The 2 hour Completion Time for one DC electrical power distribution subsystem division buses is consistent with Regulatory Guide 1.93 (Ref. 4).</p>	A3 A4	<p>SPSB agrees, C1 and suggests additional clarification and consistency, such as</p> <p>“DC electrical power distribution system division”</p> <p>“DC electrical power distribution system divisions”</p>	<p>In GTST for Subsection 3.8.5, Section XI on page 28 and Section XII on page 41, in “Actions” section of Bases, under heading “D.1”,</p> <ul style="list-style-type: none"> o C1 first paragraph, revise as indicated (existing markup shown in black): <p>With two divisions of DC electrical power distribution subsystems subsystem divisions inoperable, the remaining DC electrical power distribution subsystems subsystem divisions are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining DC electrical power distribution subsystem division divisions could result in the minimum required ESF functions not being supported. Therefore, the one required DC division buses must be restored to OPERABLE status within 2 hours by powering the division-bus from the associated battery or charger.</p> <p>In GTST for Subsection 3.8.5, Section XI on page 29 and Section XII on page 42, in “Actions” section of Bases, under heading “D.1”,</p> <ul style="list-style-type: none"> o C1 fourth paragraph, revise as indicated <p>The 2 hour Completion Time for restoring one DC electrical power distribution subsystem division buses to OPERABLE status is consistent with Regulatory Guide 1.93 (Ref. 4).</p> <p>C1 Withdrawn In GTST for Subsection 3.8.5, Section XI on page 29 and Section XII on page 42, in “Actions” section of Bases, under heading “E.1 and E.2”, revise second sentence by deleting the phrase “at least”</p> <p>In GTST Section VIII, describe APOG comments and their resolution.</p> <p>Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	BNL GTST B85 complete

Administrative Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
472	3.8.05 Pg 42	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Actions F.1: With two inoperable d ivisions with inoperable-distribution subsystems that result in a loss of safety function, adequate core cooling, containment OPERABILITY	A3	SPSB agrees	In GTST for Subsection 3.8.5, Section XI on page 29 and Section XII on page 42, in “Actions” section of Bases, under heading “F.1”, revise paragraph as indicated: With two inoperable divisions Divisions with inoperable distribution subsystems that result in a loss of safety function, adequate core cooling, containment OPERABILITY and other vital functions for DBA mitigation would be compromised, and immediate plant shutdown in accordance with LCO 3.0.3 is required. In GTST Section VIII, describe APOG comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B85 complete
473	3.8.05 Pg 43	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in SR 3.8.5.1: This Surveillance verifies that the Class 1E AC <u>instrument and control</u> and DC electrical power distribution subsystems are functioning properly, with the required circuit breakers and switches properly aligned. . . . account the redundant capability of the Class 1E AC <u>instrument and control</u> and DC electrical power distribution subsystems, and other	A3	SPSB agrees, but suggests an addition clarification	C1 In GTST for Subsection 3.8.5, Section XI on page 30 and Section XII on page 43, in “Actions” section of Bases, under heading “SR 3.8.5.1”, revise paragraph as indicated: This Surveillance verifies that the Class 1E AC instrument and control and DC electrical power distribution subsystems are functioning properly, with the required circuit breakers and switches properly aligned. The verification of proper voltage availability on the buses ensures that the required voltage is readily available for motive as well as control functions for critical system loads connected to these buses. The 7 day Frequency takes into account the redundant capability of the Class 1E AC instrument and control and DC electrical power distribution subsystems, and other indications available in the control room that alert the operator to electrical power distribution system malfunctions. In GTST Section VIII, describe APOG comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B85 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
474	3.8.05 Pg 44	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Table B 3.8.5-1: <ul style="list-style-type: none"> DIVISION A* DIVISION B* DIVISION C* DIVISION D* AC Instrumentation and Control Buses <u>Panels</u> * Each Division of the AC and DC electrical power distribution systems is a subsystem. 	A3 A4 A5	SPSB agrees, C1 but suggest changing type names in Table B 3.8.5-1 by <ul style="list-style-type: none"> adding “(Switchboards)” to the “DC Buses”; using “Distribution Panels (Buses)” in place of “Buses” after “AC Instrument and Control”; using “instrument” in place of “instrumentation” in the revised Type name “AC Instrument and Control Distribution Panels (Buses)” SPSB also suggests formatting corrections for WG and NUREG-1431 consistency	In GTST for Subsection 3.8.5, Section XI on page 31 and Section XII on page 44, revise Table B 3.8.5-1 as follows: <ul style="list-style-type: none"> C1 in header row, left justify column titles and provide exactly one blank line above and below titles using same font size and single line spacing C1 make inside vertical lines between columns visible B2 Remove * from column titles for Divisions A, B, C, and D C1 In third row of the table, change type name “AC Instrumentation and Control Buses” to “AC Instrument and Control Distribution Panels (Buses)” to be consistent with label, “DC Distribution Panels”; and for consistency with rest of Bases and Specifications. APOG discussion topic: <u>Withdrawn</u> this change in label seems to conflict with Bases “Background” section discussion of AC I&C buses; See comments 464 and 465 for SPSB proposed changes to LCO Notes and Bases “Background” section of Subsection 3.8.5 <ul style="list-style-type: none"> B2 delete footnote “ *Each Division of the AC and DC electrical power distribution systems is a subsystem.” <u>Withdrawn because it is confusing?</u> APOG discussion topic: C1, E2 The Bases “Background” should more clearly state that <ul style="list-style-type: none"> a division of the <u>DC</u> electrical power distribution system is a DC distribution <u>subsystem</u>; and a division of the <u>AC Instrument and Control</u> electrical power distribution system is an AC distribution <u>subsystem</u>. <hr/> In GTST Section VIII, describe APOG comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B85 complete

Administrative Types:

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- A4 Presentation preference
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
475 94	3.8.06 Pg 06	Fourth paragraph discussion of boron dilution accident incorrectly cites TS 3.9.2 versus TS 3.9.3 and an "added" Required Action versus a revised Required Action. Additionally, the citation is stated in a confusing context. The possibility of a misloaded fuel assembly is not "in Technical Specification 3.9.2[3]"; rather the revised Required Action is in TS 3.9.3. Editorial clarification is appropriate.	Revise to state "To address the possibility of a misloaded fuel assembly, Technical Specification 3.9.3, Required Action A.1, is revised to suspend positive reactivity additions if nuclear instrumentation is not available."	A3	SPSB agrees C1 but suggests additional clarifying edits	<p>C1 In GTST for Subsection 3.8.6, Section VI on page 6, under heading "Rationale for TSTF changes:," under heading "TSTF-471," third paragraph, revise next to last sentence, as indicated:</p> <p>... To address the possibility of a misloaded fuel assembly, in Technical Specification 3.9.32, a Required Action A.1, is added that revised to require suspending suspends positive reactivity additions if one of the two required source range neutron flux nuclear instrumentation monitors is inoperable not available. . . .</p> <p>C1 In GTST for Subsection 3.8.6, Section VII on page 9, under heading "Technical Analysis," under heading "Deletion of Required Action A.2.1 (deletion of the term CORE ALTERATIONS)," fourth paragraph, revise next to last sentence, as indicated:</p> <p>... To address the possibility of a misloaded fuel assembly, in Technical Specification 3.9.32, a Required Action A.1, is added that revised to require suspending suspends positive reactivity additions if one of the two required source range neutron flux nuclear instrumentation monitors is inoperable not available. . . .</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p>	BNL GTST B86 complete

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476	3.8.06 Pg 24	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes for Applicable Safety Analyses: ... reliability to ensure the availability of necessary power to the engineered safety features (ESF) systems so that the fuel, Reactor Coolant System ...	A3	SPSB agrees C1 but suggests alternate and additional clarifying edits for consistency See comment 466 See comment 3 A SPSB also notes correction of typographical error in Actions table	A In GTST for Subsection 3.8.6, Section XI on page 15 and Section XII on page 22, add Completion Time of “Immediately” for Required Action A.2.2. In GTST for Subsection 3.8.6, Section XI on page 17 and Section XII on page 24, in “ASA” section of Bases, <ul style="list-style-type: none">C1 revise first paragraph, as indicated The initial conditions of Design Basis Accident (DBA) and transient analyses in FSAR Chapter 6 (Ref. 1) and FSAR Chapter 15 (Ref. 2), assume engineered safety features (ESFs) are OPERABLE. The Class 1E AC instrument and control and DC electrical power sources and associated power distribution systems are designed to provide sufficient capacity, redundancy, and reliability to ensure the availability of necessary power to the ESF systems so that the fuel, Reactor Coolant System (RCS), and containment design limits are not exceeded.C1 revise second paragraph, first sentence, as indicated The OPERABILITY of the minimum Class 1E AC instrument and control and DC electrical power sources and associated power distribution subsystems during MODES 5 and 6, and during movement of irradiated fuel assemblies ensures that:C1 revise third paragraph, as indicated The Class 1E AC instrument and control and DC electrical power distribution systems satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii). B2 In GTST for Subsection 3.8.6, Section XI on page 20 and Section XII on page 27, in “SRs” section of Bases, revise second sentence as indicated: ... The verification of proper voltage availability on the buses Withdrawn and distribution panels ensures that the required power is readily available for motive as well as control functions for critical system loads connected to these buses and panels In GTST Section VIII, describe APOG comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	BNL GTST B86 complete

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477	3.8.06 Pg 24	Editorial change for clarity – These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes in Background: A description of the Class 1E AC instrument and control bus and Class 1E DC electrical power distribution system is provided in the Bases for Specification 3.8.5, “Distribution Systems - Operating.”	A1 A2 A3 A5	SPSB agrees C1 but suggests an additional grammatical edit and typo correction in Bases LCO section, and consistency edits in Bases Actions section	<p>C1 In GTST for Subsection 3.8.6, Section XI on page 17 and Section XII on page 24, in “Background” section of Bases, revise paragraph, as indicated:</p> <p>A description of the Class 1E AC instrument and control bus and Class 1E DC electrical power distribution systems system is provided in the Bases for Specification 3.8.5, “Distribution Systems - Operating.”</p> <p>C1 In GTST for Subsection 3.8.6, Section XI on page 18 and Section XII on page 25, in “LCO” section of Bases, first paragraph, revise second sentence by replacing hyphen in “components-all” with em dash “components—all.”</p> <p>C1 In GTST for Subsection 3.8.6, Section XI on page 19 and Section XII on page 26, in “Actions” section of Bases, under Action A, first paragraph,</p> <ul style="list-style-type: none"> ○ revise first and second sentences, as indicated (existing markup shown in black): <p>If one or more required Class 1E DC or Class 1E AC instrument and control bus electrical power distribution C1 Withdrawn subsystem divisions subsystems subsystems are inoperable, the remaining OPERABLE divisions may be capable of supporting required features to allow continuation of CORE ALTERATIONS, fuel movement, and/or and operations with a potential for draining the reactor vessel. By allowing the option to declare required features associated with an inoperable distribution subsystem C1 Withdrawn division inoperable, appropriate restrictions will be implemented in accordance with the affected equipment LCO Required Actions. . . .</p> <ul style="list-style-type: none"> ○ revise sixth and eighth sentences, as indicated <p>Introduction of coolant inventory must be from sources that have a boron concentration greater than that what would be required in the RCS for minimum SDM or refueling boron concentration. . . . Introduction of temperature changes including temperature increases when operating with a positive moderator temperature coefficient (MTC) MTC must also be evaluated to ensure they do not result in a loss of required SDM.</p> <p>In GTST Section VIII, describe APOG comments and their resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	BNL GTST B86 complete

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
478 95	3.8.07 Pg 04	<p>The GTST Section IV additional change #1 in part proposes: "GTS 3.8.7 Condition A, is revised ..." and ". A similar change is made to the second condition statement of Condition F..."</p> <p>These changes consist of adding "[]" around values, which is consistent with the changes already addressed by TSTF-500. TSTF-500 changes are commented on to be removed (separate comment). The result is that there should be no bracketed options presented in the AP1000 STS NUREG for TS 3.8.7.</p>	<p>Remove the GTST Section IV additional change #1 proposed for TS 3.8.7 and Bases for Required Actions B.1 and B.2 where brackets are added.</p> <p>Note that the Bases change included with change #1 to add "current" is acceptable; however, the change to make plural "indicates" is not appropriate. The noun "batteries" should have singular verb "indicate"</p>	A3 T2 T5 P3 P5	<p>SPSB agrees partially – remove brackets</p> <p>See comment 16</p>	<p>In GTST for Subsection 3.8.7, Section IV, on page 4, replace items 1 and 3 with the following (<i>italics and color and bold are only for emphasis here to indicate revised text, and should not be kept in the GTST data field text formatting</i>):</p> <ol style="list-style-type: none"> B1 GTS 3.8.7 Condition A, is revised to state, "One or more batteries in one division with one or more battery cells with float voltage < 2.07 V." B1 A similar change is made to the second condition statement of Condition F, so that it says, "One or more batteries in one division with float current > 2 amps and with one or more battery cells with float voltage < 2.07 V." B1 The first sentence in the Bases for Required Actions B.1 and B.2 is revised to state "The Condition of one or more batteries in one division with float current > 2 amps indicates that a partial discharge of the battery capacity has occurred for each affected battery." <p>Correction: Brackets that were around the values of voltage and current have been removed since all AP1000 COL holders and applicants are expected to use the GTS bracketed values. GTS values for battery cell float voltage and battery float current are not bracketed values.</p> <ol style="list-style-type: none"> B1 The bases for Required Actions C.1, C.2, and C.3, second paragraph are revised to include the following sentence, "A Note for Condition C also assures that Required Action C.2, to verify no evidence of electrolyte leakage, is completed whenever the electrolyte level is detected to be below the top of the plates." <p>B1 In GTST for Subsection 3.8.7, Section V, on page 5,</p> <ul style="list-style-type: none"> revise item 8 by removing brackets from around the values of battery cell float voltage and battery float current in quotations of Conditions A and F, and Bases for Required Actions B.1 and B.2; <u>be sure to take note of changes to Bases</u> that are stated above and below. in items 8 and 9, replace "(proposed change)" with "(NRC staff proposed change)", and in item 9 replace "ACTIONS" with "Required Actions" <p style="text-align: right;">continued</p>	BNL GTST B87 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
478	3.8.07 Pg 04	<p>The GTST Section IV additional change #1 in part proposes: "GTS 3.8.7 Condition A, is revised ..." and ". A similar change is made to the second condition statement of Condition F..."</p> <p>These changes consist of adding "[]" around values, which is consistent with the changes already addressed by TSTF-500. TSTF-500 changes are commented on to be removed (separate comment). The result is that there should be no bracketed options presented in the AP1000 STS NUREG for TS 3.8.7.</p>	<p>Remove the GTST Section IV additional change #1 proposed for TS 3.8.7 and Bases for Required Actions B.1 and B.2 where brackets are added.</p> <p>Note that the Bases change included with change #1 to add "current" is acceptable; however, the change to make plural "indicates" is not appropriate. The noun "batteries" should have singular verb "indicate"</p>	A3 T2 T5 P3 P5	<p>SPSB agrees partially – remove brackets</p> <p>See comment 16</p>	<p>Continued from previous page</p> <p>B1 In GTST for Subsection 3.8.7, Section V, on page 5, replace items 2 and 3 regarding placement of brackets around values for battery cell float voltage and battery float current, with new item 2, that says:</p> <p>2. Brackets around the values of battery cell float voltage and battery float current were proposed by TSTF-500, Rev. 2, but are omitted from AP1000 STS 3.8.7 values, since Correction: all AP1000 COL holders use, and COL applicants are expected to use, the GTS values for battery cell float voltage and battery float current are not bracketed values.</p> <p>B1 In GTST for Subsection 3.8.7, Section VI, beginning on page 6, under heading "Description of TSTF changes: TSTF-500", make following changes:</p> <ul style="list-style-type: none"> B1 Under heading: <u>A. Summary of Applicable Changes for AP1000 based on TSTF-500</u> <ul style="list-style-type: none"> remove brackets from voltage and current values in list item 4 B1 under heading: <u>B. Description of changes to Subsection Title and LCO statement in AP1000 GTS 3.8.7, "Battery Parameters" Title and LCO</u> <ul style="list-style-type: none"> no changes B1 under heading: <u>C. Description of changes to AP1000 GTS LCO 3.8.7, "Battery Parameters" Actions</u> <ul style="list-style-type: none"> revise discussion to indicate that brackets are not used by deleting everything beginning with second sentence of second paragraph, including list items 1, 2, and 3; include a new description of inserting the word "with" in the statements for Conditions A and F (<i>not associated with TSTF-500</i>). B1 under heading: <u>D. Description of changes to AP1000 GTS LCO 3.8.7, "Battery Parameters" Surveillances</u> <ul style="list-style-type: none"> revise discussion to indicate that brackets are not used by deleting everything beginning with second sentence of first paragraph, including list items 1, 2, and 3; include a new description of replacing "cell voltage" with "cell float voltage in SR 3.8.7.2 and SR 3.8.7.5. <p style="text-align: right;">continued</p>	BNL GTST B87 complete

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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
478	3.8.07 Pg 04	<p>The GTST Section IV additional change #1 in part proposes: "GTS 3.8.7 Condition A, is revised ..." and ". A similar change is made to the second condition statement of Condition F..."</p> <p>These changes consist of adding "[]" around values, which is consistent with the changes already addressed by TSTF-500. TSTF-500 changes are commented on to be removed (separate comment). The result is that there should be no bracketed options presented in the AP1000 STS NUREG for TS 3.8.7.</p>	<p>Remove the GTST Section IV additional change #1 proposed for TS 3.8.7 and Bases for Required Actions B.1 and B.2 where brackets are added.</p> <p>Note that the Bases change included with change #1 to add "current" is acceptable; however, the change to make plural "indicates" is not appropriate. The noun "batteries" should have singular verb "indicate"</p>	A3 T2 T5 P3 P5	<p>SPSB agrees partially – remove brackets</p> <p>See comment 16</p>	<p>Continued from previous page</p> <ul style="list-style-type: none"> • B1 under heading: <u>E. Description of changes to AP1000 GTS LCO 3.8.7, "Battery Parameters" Bases.</u> <ul style="list-style-type: none"> ◦ revise first paragraph by deleting phrase "adding brackets to parameter values and" ◦ delete list item 2 and renumber item 3 as item 2. • B1 In GTST for Subsection 3.8.7, Section VI, beginning on page 9, under heading "Rationale for TSTF changes: TSTF-500", make following changes: <ul style="list-style-type: none"> • under heading: <u>Revision of LCO statement</u> <ul style="list-style-type: none"> ◦ no changes • under heading: <u>Monitoring for battery cell float voltage and battery float current</u> <ul style="list-style-type: none"> ◦ remove all brackets from around values for voltage and current • under heading: <u>Replacing "cell voltage" with "cell float voltage" in SR 3.8.6.2 and 3.8.6.5 in NUREG-1431</u> <ul style="list-style-type: none"> ◦ no changes • under heading: <u>Removing reference to IEEE-450-1995</u> <ul style="list-style-type: none"> ◦ no changes <hr/> <p>A In GTST for Subsection 3.8.7, Section VI, beginning on page 9, under headings "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes," and "Rationale for changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes," make following changes:</p> <ul style="list-style-type: none"> • add 'DOC' after "VEGP LAR" in headings for descriptions of changes (DOCs) from the Vogtle 3&4 license amendment request (LAR) 12-02 submittal – note that this may be a global action for Section 3.8 <p style="text-align: right;">continued</p> 	BNL GTST B87 complete

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- A3 Editorial clarification or correction
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- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
478	3.8.07 Pg 04	<p>The GTST Section IV additional change #1 in part proposes: "GTS 3.8.7 Condition A, is revised ..." and ". A similar change is made to the second condition statement of Condition F..."</p> <p>These changes consist of adding "[]" around values, which is consistent with the changes already addressed by TSTF-500. TSTF-500 changes are commented on to be removed (separate comment). The result is that there should be no bracketed options presented in the AP1000 STS NUREG for TS 3.8.7.</p>	<p>Remove the GTST Section IV additional change #1 proposed for TS 3.8.7 and Bases for Required Actions B.1 and B.2 where brackets are added.</p> <p>Note that the Bases change included with change #1 to add "current" is acceptable; however, the change to make plural "indicates" is not appropriate. The noun "batteries" should have singular verb "indicate"</p>	A3 T2 T5 P3 P5	<p>SPSB agrees partially – remove brackets</p> <p>Withdrawn but keep all other TSTF-500, Rev.2, applicable changes</p> <p>See comment 16</p>	<p>Continued from previous page</p> <p>C1 In GTST for Subsection 3.8.7, Section VI, beginning on page 11, under headings "Description of additional changes proposed by NRC staff/preparer of GTST," and "Rationale for additional changes proposed by NRC staff/preparer of GTST," make following changes:</p> <ul style="list-style-type: none"> revise first paragraph to remove all discussion of brackets revise second paragraph so that quotation says: "A Note note for Condition C also assures that the Required Action C.2, to verify no evidence of electrolyte leakage, is completed whenever the electrolyte level is detected to be below the top of the plates." <p>C1 In GTST for Subsection 3.8.7, Section VII, beginning on page 12, under heading "Design differences between AP1000 and Standard Plant in TSTF-500, Rev. 2," make following changes:</p> <ul style="list-style-type: none"> revise first paragraph to indicate that the AP1000 batteries are of flooded lead acid construction; in both designs the batteries are "vented lead acid batteries" include the ampere hour capacity of the batteries modeled in NUREG-1431 for comparison to the 2400 ampere hour battery banks in the AP1000 design delete the last sentence of third paragraph, or append "in NUREG-1431" to the sentence. <p>C1 In GTST for Subsection 3.8.7, Section VII, beginning on page 13, under heading "Brackets for battery cells voltage and battery float current," make following changes:</p> <ul style="list-style-type: none"> revise the heading to say: "Omission of brackets for battery cell float voltage value and battery float current value" revise and split first paragraph as indicated: <p>GTS Section 5.5, Programs and Manuals, includes Specification 5.5.11, Battery Monitoring and Maintenance Program. This An administrative program, the Battery Monitoring and Maintenance Program, is included as Specification 5.5.11 in Section 5.5, "Program and manuals" of the AP1000 STS. The Requirements for monitoring of the current battery parameters (i.e., specific gravity, electrolyte level, cell temperature, float voltage, connection resistance, and physical condition) is are located in this program.</p> <p style="text-align: right;">continued</p>	BNL GTST B87 complete

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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
478	3.8.07 Pg 04	<p>The GTST Section IV additional change #1 in part proposes: "GTS 3.8.7 Condition A, is revised ..." and ". A similar change is made to the second condition statement of Condition F..."</p> <p>These changes consist of adding "[]" around values, which is consistent with the changes already addressed by TSTF-500. TSTF-500 changes are commented on to be removed (separate comment). The result is that there should be no bracketed options presented in the AP1000 STS NUREG for TS 3.8.7.</p>	<p>Remove the GTST Section IV additional change #1 proposed for TS 3.8.7 and Bases for Required Actions B.1 and B.2 where brackets are added.</p> <p>Note that the Bases change included with change #1 to add "current" is acceptable; however, the change to make plural "indicates" is not appropriate. The noun "batteries" should have singular verb "indicate"</p>	A3 T2 T5 P3 P5	<p>SPSB agrees partially – remove brackets</p> <p>B1 but keep all other TSTF-500, Rev.2, applicable changes See comment 16</p>	<p>Continued from previous page</p> <p>Changes to this program by TSTF-500, Rev. 2, which were approved by NRC, modified the previous program provisions, as indicated by the following markup of GTS 5.5.11 (with brackets removed): in TSTF-500, Rev. 2, The program, with TSTF-500 changes incorporated, includes the following provisions:</p> <hr/> <p>This Program provides controls for battery restoration and maintenance, based on the recommendations of The program shall be in accordance with IEEE Standard (Std) 450-2002-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," as endorsed by Regulatory Guide 1.129, Revision 2 (RG), with RG exceptions and program provisions as identified below:</p> <p>a. The program allows the following RG 1.129, Revision 2 exceptions:</p> <ol style="list-style-type: none"> Battery temperature correction may be performed before or after conducting discharge tests. RG 1.129, Regulatory Position 1, Subsection 2, "References," is not applicable to this program. In lieu of RG 1.129, Regulatory Position 2, Subsection 5.2, "Inspections," the following shall be used: "Where reference is made to the pilot cell, pilot cell selection shall be based on the lowest voltage cell in the battery." In Regulatory Guide 1.129, Regulatory Position 3, Subsection 5.4.1, "State of Charge Indicator," the following statements in paragraph (d) may be omitted: "When it has been recorded that the charging current has stabilized at the charging voltage for three consecutive hourly measurements, the battery is near full charge. These measurements shall be made after the initially high charging current decreases sharply and the battery voltage rises to approach the charger output voltage." In lieu of RG 1.129, Regulatory Position 7, Subsection 7.6, "Restoration," the following may be used: "Following the test, record the float voltage of each cell of the string." <p>b. The program shall include the following provisions: or of the battery manufacturer including the following:</p> <ol style="list-style-type: none"> a. Actions to restore battery cells with float voltage < 2.13 V; and <p style="text-align: right;">continued</p>	<p>BNL GTST B87 complete</p> <p>ANL GTST A34 complete</p>

Administrative Types:

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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
478	3.8.07 Pg 04	<p>The GTST Section IV additional change #1 in part proposes: "GTS 3.8.7 Condition A, is revised ..." and ". A similar change is made to the second condition statement of Condition F..."</p> <p>These changes consist of adding "[]" around values, which is consistent with the changes already addressed by TSTF-500. TSTF-500 changes are commented on to be removed (separate comment). The result is that there should be no bracketed options presented in the AP1000 STS NUREG for TS 3.8.7.</p>	<p>Remove the GTST Section IV additional change #1 proposed for TS 3.8.7 and Bases for Required Actions B.1 and B.2 where brackets are added.</p> <p>Note that the Bases change included with change #1 to add "current" is acceptable; however, the change to make plural "indicates" is not appropriate. The noun "batteries" should have singular verb "indicate"</p>	A3 T2 T5 P3 P5	<p>SPSB agrees partially – remove brackets B1 but keep all other TSTF-500, Rev.2, applicable changes See comment 16</p>	<p>Continued from previous page</p> <ol style="list-style-type: none"> 2. Actions to determine whether the float voltage of the remaining battery cells is ≥ 2.13 V when the float voltage of a battery cell has been found to be < 2.13 V; 3. b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit top of the plates; 4. Limits on average electrolyte temperature, battery connection resistance, and battery terminal voltage; and 5. A requirement to obtain specific gravity readings of all cells at each discharge test, consistent with manufacturer recommendations. <hr/> <p>ANL: replace Section XI markup in GTST for 5.5.11 to match above</p> <hr/> <p>C1 In GTST for Subsection 3.8.7, Section VII, beginning on page 13, under heading "Brackets for battery cells voltage and battery float current," make following changes: (<i>continued from before</i>)</p> <ul style="list-style-type: none"> • delete list items 1, 2, 3, 4 and 5 • add new paragraph: "Specifically, the five provisions listed in Specification 5.5.11.b result in more effective control of battery parameters." • delete brackets from battery pilot cell minimum float voltage value of 2.07 V in pilot cell selection discussion. • delete brackets from maximum battery float current limit of 2 amps in paragraph on use of float current monitoring instead of specific gravity monitoring as indication of battery state of charge • delete last paragraph concerning bracketed values for cell float voltage and battery float current limits <p>C1 In GTST for Subsection 3.8.7, Section VII, beginning on page 13, under heading "Replacing "cell voltage" with "cell float voltage" in SR 3.8.7.2 and 3.8.7.5," make no changes.</p> <p>In GTST for Subsection 3.8.7, Section VII, beginning on page 14, under heading "Removing reference to IEEE-450-1995,"</p> <ul style="list-style-type: none"> • revise last sentence as indicated: Reference to IEEE-450 in the "References" section of the Bases for Subsection 3.8.7 implies reference to the version of the IEEE Std. stated in Specification 5.5.11. <p style="text-align: right;">continued</p>	<p>BNL GTST B87 complete</p> <p>ANL GTST A34 complete</p>

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
478	3.8.07 Pg 04	<p>The GTST Section IV additional change #1 in part proposes: "GTS 3.8.7 Condition A, is revised ..." and ". A similar change is made to the second condition statement of Condition F..."</p> <p>These changes consist of adding "[]" around values, which is consistent with the changes already addressed by TSTF-500. TSTF-500 changes are commented on to be removed (separate comment). The result is that there should be no bracketed options presented in the AP1000 STS NUREG for TS 3.8.7.</p>	<p>Remove the GTST Section IV additional change #1 proposed for TS 3.8.7 and Bases for Required Actions B.1 and B.2 where brackets are added.</p> <p>Note that the Bases change included with change #1 to add "current" is acceptable; however, the change to make plural "indicates" is not appropriate. The noun "batteries" should have singular verb "indicate"</p>	A3 T2 T5 P3 P5	<p>SPSB agrees partially – remove brackets B1 but keep all other TSTF-500, Rev.2, applicable changes See comment 16</p> <hr/> <p>B1 SPSB suggests edits to Condition and Required Action statements to improve clarity.</p>	<p>Continued from previous page</p> <p>In GTST for Subsection 3.8.7, Section VIII, beginning on page 15, under heading "Evaluator Comments," delete Comment 2.</p> <hr/> <p>B1 In GTST for Subsection 3.8.7, Section XI on pages 20-22 and Section XII on pages 34-36, revise Actions table Condition statements, as indicated:</p> <ul style="list-style-type: none"> A. One or more batteries in one division with one or more battery cells with float voltage < 2.07 V. B. One or more batteries in one division with float current > 2 amps. C. One or more batteries in one division with one or more cells with electrolyte level less than minimum established design limits. F. Required Action and associated Completion Time not met. <p><u>OR</u></p> <p>One or more batteries in one division with float current > 2 amps and with one or more battery cells with float voltage < 2.07 V and float current > 2 amps.</p> <p>B1 In GTST for Subsection 3.8.7, Section XI on pages 20-21 and Section XII on page 34-35, revise Actions table Required Action statements, as indicated:</p> <ul style="list-style-type: none"> A.3 Restore affected cell float voltage ≥ 2.07 V. B.2 Restore battery float current to ≤ 2 amps. <p>Remove blank line before required Action C.1</p> <ul style="list-style-type: none"> C.2 Verify no evidence of electrolyte leakage. D.1 Restore battery pilot cell electrolyte temperature to greater than or equal to minimum established design limits. <p>B1 There should be no brackets to begin with. Correction in GTST for Subsection 3.8.7, Section XI on pages 22-23 and Section XII on page 36-37, revise SR table Surveillance statements by removing brackets from float voltage and float current values.</p> <hr/> <p style="text-align: right;">continued</p>	BNL GTST B87 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
478	3.8.07 Pg 04	<p>The GTST Section IV additional change #1 in part proposes: "GTS 3.8.7 Condition A, is revised ..." and ". A similar change is made to the second condition statement of Condition F..."</p> <p>These changes consist of adding "[]" around values, which is consistent with the changes already addressed by TSTF-500. TSTF-500 changes are commented on to be removed (separate comment). The result is that there should be no bracketed options presented in the AP1000 STS NUREG for TS 3.8.7.</p>	<p>Remove the GTST Section IV additional change #1 proposed for TS 3.8.7 and Bases for Required Actions B.1 and B.2 where brackets are added.</p> <p>Note that the Bases change included with change #1 to add "current" is acceptable; however, the change to make plural "indicates" is not appropriate. The noun "batteries" should have singular verb "indicate"</p>	A3 T2 T5 P3 P5	<p>SPSB agrees partially – remove brackets</p> <p>B1 but keep all other TSTF-500, Rev.2, applicable changes</p> <p>See comment 16</p> <p>B1 Grammatical change to Bases for Action B resolved with alternate sentence structure.</p>	<p>Continued from previous page</p> <p>B1 In GTST for Subsection 3.8.7, Section XI on page 26 and Section XII on page 40, in "Actions" section of Bases, under heading "B.1 and B.2," revise first sentence as indicated (existing markup shown in black)</p> <p>The Condition of one One or more batteries in one division Division with float current > 2 amps indicates indicate that a partial discharge of the battery capacity has occurred for each affected battery. . . .</p> <p>In GTST Section VIII, describe APOG comment and additional SPSB comments and their resolution.</p> <p>Describe APOG changes and additional SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate and as indicated above).</p> <p>B1 Add comment 478 to list of APOG discussion topics</p>	BNL GTST B87 complete

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
479	3.8.07 Pg 21	The Condition C Note should be to the right of the "C" designator, as shown in NUREG-1431, and as revised by TSTF-519.	Revise the Note placement.	A2	SPSB agrees See comment 478	In GTST for Subsection 3.8.7, Section XI on page 21 and Section XII on pages 35, revise Actions table Condition C, as indicated: ----- NOTE Required Action C.2 shall be completed if electrolyte level was below the top of plates ----- C. -----NOTE----- Required Action C.2 shall be completed if electrolyte level was below the top of plates ----- One or more batteries in one division with one or more cells with electrolyte level less than minimum established design limits. ----- In GTST Section VIII, describe APOG comment and its resolution. Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Specification"	BNL GTST B87 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
480	3.8.07 Pg 38	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes for Background: LC0 3.8.7, Battery Parameters, delineates the limits on electrolyte temperature, electrolyte level, float voltage, and float current and specific gravity for the DC power source batteries.	A2 T4	SPSB agrees, A but suggests additional edits for clarification, WG conformance, consistency with other comments, C1 for clarification B1 and consistency with changes proposed by TSTF 500 for incorporating the "Battery Monitoring and Maintenance Program" and attendant Bases changes to the STS Subsection for Battery Parameters	<p>B1 In GTST for Subsection 3.8.7, Section XI on page 24 and Section XII on page 38, in "Background" section of Bases, revise first and third sentences, as indicated (existing markup shown in black):</p> <p>Specification LC0-3.8.7, "Battery Parameters," delineates the limits on electrolyte temperature, electrolyte level, float voltage, and float current and specific gravity for the DC power source batteries. . . . In addition to the limitations of this Specification, the licensee controlled program also implements a program specified in Technical Specification 5.5.11, "Battery Monitoring and Maintenance Program," requires implementing a licensee controlled program for monitoring various battery parameters, including specific gravity that is based on the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice For Maintenance, Testing, And Replacement Of Vented Lead-Acid Batteries For Stationary Applications" (Ref. 3).</p> <p>A In GTST for Subsection 3.8.7, Section XI on page 24 and Section XII on page 38, in "ASA" section of Bases, second paragraph, revise second sentence, as indicated:</p> <p>. . . This includes maintaining at least three of the four Divisions divisions of DC sources OPERABLE during accident conditions, in the event of:</p> <p>C1 In GTST for Subsection 3.8.7, Section XI on page 25 and Section XII on page 39, in "Actions" section of Bases, under heading "A.1, A.2, and A.3," revise first paragraph, as indicated:</p> <p>With one or more cells in one or more batteries in one Division division with cell float voltage < 2.07 V, the battery cell is degraded. Within 2 hours, verification of the OPERABILITY of each battery's required battery charger, OPERABILITY is made completed by monitoring the battery terminal voltage (SR 3.8.1.1); and verification of the overall battery state of charge is completed by monitoring the battery float charge current (SR 3.8.7.1). This These verifications assures provide assurance that there is the affected batteries still have sufficient battery capacity to perform the their intended function. Therefore, the affected battery is batteries are not required to be considered inoperable solely as a result of having one or more cells in one or more batteries with cell float voltage < 2.07 V, and continued operation is permitted for a limited period up to 24 hours.</p> <p style="text-align: right;">continued</p>	BNL GTST B87 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
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- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
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- T3 Add Traveler
- T4 Technical Improvement
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AP1000 STS NUREG Policy Types:

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- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
480	3.8.07 Pg 38	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases. Supplying additional information, deleting statements inconsistent with the TS, or correcting obvious misstatements reduces potential for misunderstanding and misapplication.	Make the following changes for Background: LCO 3.8.7, Battery Parameters, delineates the limits on electrolyte temperature, electrolyte level, float voltage, and float current and specific gravity for the DC power source batteries.	A2 T4	SPSB agrees, A but suggests additional edits for clarification, WG conformance, consistency with other comments, and C1 for clarification	Continued from previous page C1 In GTST for Subsection 3.8.7, Section XI on page 27 and Section XII on page 41, in "Actions" section of Bases, under heading "C.1, C.2, and C.3," o first paragraph, revise first sentence, as indicated: With one or more batteries in one Division division with one or more cells with electrolyte level above the top of the plates, but below the minimum established design limits, the affected batteries still retain battery still retains sufficient capacity to perform the their intended function. . . . o second paragraph, revise third, fourth, and fifth sentences, as indicated: . . . These actions They are modified by a note Note that indicates they are only applicable if electrolyte level is below the top of the plates. A note Note for Condition C also assures that the Required Action C.2, to verify no evidence of electrolyte leakage, is completed whenever the electrolyte level is detected to be below the top of the plates. Within 8 hours level is required to be restored to above the top of the plates. The Required Action C.2 requirement to verify that there is no electrolyte leakage by visual inspection and the Specification 5.5.11.b.3 requirement item to initiate action to equalize and test battery cells with electrolyte level below the top of the plates in accordance with manufacturer's recommendation are taken from IEEE Standard 450-IEEE-450 (Ref. 3). . . . C1 In GTST for Subsection 3.8.7, Section XI on page 28 and Section XII on page 42, in "Actions" section of Bases, o under headings "D.1," "E.1," and "F.1," make the word "Division" all lower case. o under heading "F.1," remove brackets In GTST Section VIII, describe APOG comments and additional SPSB comments and their resolution. Describe APOG changes and additional SPSB changes in GTST Sections IV, V, VI, and VII (as appropriate)	BNL GTST B87 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
481	3.8.07 Pg 45	Two paragraphs were combined into one. Paragraph should be split before the sentence, "The Surveillance Frequency for this test is normally 60 months."	Add paragraph break before the sentence, "The Surveillance Frequency for this test is normally 60 months."	A1 A3	SPSB agrees, C1 but suggests additional edits for clarification and consistency with other comments	<p>C1 In GTST for Subsection 3.8.7, Section XI on page 29 and Section XII on page 43, in "SRs" section of Bases,</p> <ul style="list-style-type: none"> under headings "SR 3.8.7.1," and "SR 3.8.7.2 and SR 3.8.7.5," remove brackets from float current value and cell float voltage value under heading "SR 3.8.7.4" revise paragraph, as indicated <p>This Surveillance verifies that the pilot cell electrolyte temperature is greater than or equal to the minimum established design limit (i.e., 60°F). Pilot cell electrolyte temperature is maintained above this temperature to assure the battery can provided provide the required current and voltage to meet the design requirements. Temperatures lower than assumed in battery sizing calculations act to inhibit or reduce battery capacity. The Frequency is consistent with IEEE-450 (Ref. 3).</p> <p>C1 In GTST for Subsection 3.8.7, Section XI on page 31 and Section XII on page 45, in "SRs" section of Bases</p> <ul style="list-style-type: none"> under heading "SR 3.8.7.6", fifth paragraph, insert a blank line before sixth paragraph. <p>In GTST Section VIII, describe APOG comments and additional SPSB comments and their resolution.</p> <p>Describe APOG changes in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	BNL GTST B87 complete

Administrative Types:

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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
484	3.9.01 Pg 20	Revise TS 3.9.1 Bases to replace two occurrences of “transfer tube” with “fuel transfer canal” to match the TS. The nomenclature “transfer tube” is not utilized as the requirement by the TS, and the TS requirement for “fuel transfer canal” is not explicitly discussed in the Bases. As such, TS Bases (Background and LCO) nomenclature is clarified to replace two occurrences of “transfer tube” with “fuel transfer canal” to match the TS.	Make the following changes for Background: The limit on the boron concentration of the Reactor Coolant System (RCS), the refueling cavity, and the transfer tube <u>fuel transfer canal</u> during refueling ensures . . .	A3	SPSB agrees	In GTST for Subsection 3.9.1, Section XI on page 14 and Section XII on page 20, in the “Background” section of the Bases, first paragraph, revise first sentence, as indicated: The limit on the boron concentration of the Reactor Coolant System (RCS), the refueling cavity, and the fuel transfer canal during refueling ensures that the reactor remains subcritical during MODE 6. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ANL GTST A20 complete
485	3.9.01 Pg 20	Editorial change is recommended to include a Reference citation (and add "FSAR" per Generic comment earlier). These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes for Background: One of these systems, the Passive Core Cooling System (PXS), is capable of holding the core subcritical under safe shutdown conditions as described in <u>FSAR</u> Section 7.4 (<u>Ref. 4</u>).	A3	SPSB agrees See comment 3 SPSB revised the numbering of the references to match WG convention – and to remove existing two references which do not appear in the Bases for 3.9.1	In GTST for Subsection 3.9.1, Section XI on page 14 and Section XII on page 20, in the “Background” section of the Bases, third paragraph, revise second sentence, as indicated: One of these systems, the Passive Core Cooling System (PXS), is capable of holding the core subcritical under safe shutdown conditions as described in FSAR Section 7.4 (Ref. 2). In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”	ANL GTST A20

Administrative Types:

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- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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AP1000 STS NUREG Policy Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
486	3.9.01 Pg 21	<p>Revise TS 3.9.1 Bases LCO discussion for better editorial consistency with the TS LCO. The LCO does not require a minimum boron concentration to be maintained, but requires boron concentration to be within limits.</p> <p>Also, revise TS 3.9.1 Bases to replace “transfer tube” with “fuel transfer canal” to match the TS. The nomenclature “transfer tube” is not utilized as the requirement by the TS, and the TS requirement for “fuel transfer canal” is not explicitly discussed in the Bases. As such, TS Bases (Background and LCO) nomenclature is clarified to replace two occurrences of “transfer tube” with “fuel transfer canal” to match the TS.</p>	<p>Make the following changes to LCO:</p> <p>The LCO requires that a minimum boron concentration be maintained <u>within limit</u> in the RCS, the refueling cavity and the transfer tube<u>fuel transfer canal</u> while in MODE 6.</p>	A3	<p>SPSB agrees,</p> <p>A and suggests an edit to Actions</p>	<p>A In GTST for Subsection 3.9.1, Section XI on page 13 and Section XII on page 19, in STS 3.9.1 Required Action A.2, replace “limits” with “limit” for consistency with Condition A and SR 3.9.1.1 statements.</p> <p>In GTST for Subsection 3.9.1, Section XI on page 15 and Section XII on page 21, in the “LCO” section of the Bases, revise first sentence, as indicated:</p> <p style="padding-left: 40px;">The LCO requires that a minimum boron concentration be maintained within limit in the RCS, the refueling cavity and the fuel transfer canal tube while in MODE 6. . . .</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ANL GTST A20 complete
487	3.9.01 Pg 21	<p>Revise TS 3.9.1 Bases to replace two occurrences of “refueling canal” with “fuel transfer canal” to match the TS. The nomenclature “refueling canal” is not utilized as the requirement by the TS, and the TS requirement for “fuel transfer canal” is not explicitly discussed in the Bases. As such, TS Bases nomenclature is clarified to replace two occurrences of “refueling canal” with “fuel transfer canal” to match the TS.</p>	<p>Make the following changes to Applicability:</p> <p>The Applicability is modified by a Note. The Note states that the limits on boron concentration are applicable to the refueling fuel transfer canal and the refueling cavity only when those volumes are connected to the RCS. When the refueling fuel transfer canal and the refueling cavity are isolated from the RCS, no potential path for boron dilution exists from those volumes.</p>	A3	SPSB agrees	<p>In GTST for Subsection 3.9.1, Section XI on page 15 and Section XII on page 21, in the “Applicability” section of the Bases, revise second paragraph, as indicated (note that GTST added this paragraph to GTS 3.9.1 Bases; existing markup shown in black):</p> <p>The Applicability is modified by a Note. The Note states that the limits on boron concentration are applicable to the refueling-fuel transfer canal and the refueling cavity only when those volumes are connected to the RCS. When the refueling-fuel transfer canal and the refueling cavity are isolated from the RCS, no potential path for boron dilution exists from those volumes.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: “APOG Recommended Changes to Improve the Bases”</p>	ANL GTST A20 complete

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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
488	3.9.01 Pg 22	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to SR 3.9.1.1 Surveillance Requirements: A minimum Frequency of once every 72 hours is a sufficient interval reasonable amount of time between verifications of to verify the boron concentration.	A1 A3	SPSB agrees	In GTST for Subsection 3.9.1, Section XI on page 16 and Section XII on page 22, in the "SRs" section of the Bases, <ul style="list-style-type: none"> • Insert blank line below heading "SR 3.9.1.1" • Revise second paragraph, as indicated <p>A minimum Frequency of once every 72 hours is a sufficient interval reasonable amount of time between verifications of to verify the boron concentration. The surveillance interval is based on operating experience, isolation of unborated water sources in accordance with LCO 3.9.2, and the availability of the source range neutron flux monitors required by LCO 3.9.3.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ANL GTST A20 complete

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- A3 Editorial clarification or correction
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Technical Types:

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
489	3.9.01 Pg 23	Editorial change is recommended to include a Reference citation. These non-technical changes provide improved clarity, consistency, and operator usability.	Add the following to References: 4. FSAR Section 7.4. "Systems Required for Safe Shutdown."	A1 A3	SPSB agrees SPSB revised the numbering of the references to match WG convention – and to remove existing two references which do not appear in the Bases for 3.9.1	In GTST for Subsection 3.9.1, Section XI on page 15 and Section XII on page 22, in the "References" section of the Bases, <ul style="list-style-type: none"> Remove blank line before Reference 1 <p>REFERENCES 1. FSAR Chapter 15, "Accident Analysis."</p> <ul style="list-style-type: none"> Add another reference, as indicated but remove references 1 and 2: <p>REFERENCES 1. Chapter 15, "Accident Analysis" 2. NS 57.2, ANSI/ANS 57.2-1983, Section 6.4.2.2.3, American Nuclear Society, American National Standard, "Design Requirements for Light Water Reactor Spent Fuel Storage Facilities at Nuclear Power Plants," 1983. 3. 10 CFR 50, Appendix A, GDC 26. 2. FSAR Section 7.4, "Systems Required for Safe Shutdown."</p> <p>In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ANL GTST A20
490 97	3.9.02 Pg 22	TSTF-440 should be applied to Required Action A.1 and A.2 Bases, last paragraph, to eliminate the phrase "through a system walkdown"	Make the following changes to SR 3.9.2.1 Surveillance Requirements: This surveillance demonstrates that the valves are closed through a system walkdown.	A1 A3	SPSB agrees	In GTST for Subsection 3.9.2, Section XI on page 17 and Section XII on page 22, in the "SRs" section of the Bases, <ul style="list-style-type: none"> Insert blank line below heading "SR 3.9.2.1" Revise paragraph, fourth sentence, as indicated <p>... This surveillance demonstrates that the valves are closed through a system walkdown. ...</p> <p>In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections I, IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ANL GTST A21 complete

Administrative Types:

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- A3 Editorial clarification or correction
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
491 98	3.9.03 Pg 22	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Background: The instrument range covers six decades of neutron flux (1 to 1x10+6 cps) with a 5% instrument accuracy.	A2 A5	SPSB agrees, C1 but suggests additional edits based on Writer's Guide paragraphs 3.3.3.d and 3.3.4.c	C1 In GTST for Subsection 3.9.3, Section XI on page 15 and Section XII on page 22, in "Background" section of Bases, second paragraph, revise third sentence, as indicated: The instrument range covers six decades of neutron flux (1 cps to 1E6-4x10+6 cps) with a 5% instrument accuracy. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A22 complete

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
492	3.9.03 Pg 24	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to B.2 Actions: The Completion Time of 412 hours is sufficient to obtain and analyze a reactor coolant sample for boron concentration.	A1 A3	SPSB agrees, C1 but also notes a correction in the "Applicability" section of Bases, and suggests clarification of the Bases for Required Action B.2 Completion Time	<p>C1 In GTST for Subsection 3.9.3, Section XI on page 16 and Section XII on page 23, in "Applicability" section of Bases, revise third sentence as indicated:</p> <p>In MODES 2, 3, 4, and 5, the source range neutron flux detectors and associated circuitry are also required to be OPERABLE by LCO 3.3.1, "Reactor Trip System Instrumentation." 3.3.2, "Reactor Trip System (RTS) Source Range Instrumentation," and LCO 3.3.8, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Function 17, "Source Range Neutron Flux Doubling."</p> <p>In GTST for Subsection 3.9.3, Section XI on page 17 and Section XII on page 24, in "Actions" section of Bases, under heading "B.2", revise second paragraph, as indicated:</p> <p>The Completion Time of 412 hours for the initial verification that reactor coolant boron concentration is within limit is sufficient to obtain and analyze a reactor coolant sample for boron concentration. The Frequency of once per 12 hours ensures that unplanned changes in boron concentration would be identified. The 12 hour Frequency is reasonable considering the low probability of a change in core reactivity during this time period.</p> <p>In GTST Section VIII, describe APOG and SPSB comments and their resolution.</p> <p>Describe the SPSB change in GTST Sections IV, V, VI, and VII (as appropriate)</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ANL GTST A22 complete

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- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
493	3.9.03 Pg 24	These changes are made for consistency with the TS requirement(s) being discussed in the TS Bases.	Make the following changes to SR 3.9.3.2 Surveillance Requirements: Operating experience has shown these components usually pass the Surveillance when performed during the refueling outage <u>at a 24 month Frequency</u> .	A4	SPSB agrees	In GTST for Subsection 3.9.3, Section XI on page 17 and Section XII on page 24, in "SRs" section of Bases, under heading "SR 3.9.3.2" revise last sentence as indicated: Operating experience has shown these components usually pass the Surveillance when performed during the refueling outage <u>at a 24 month Frequency</u> . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A22 complete
494	3.9.03 Pg 25	Bases 3.9.3 Reference 2 should be 14.2.7.1 rather than 14.2.6.1. DCD/FSAR Section 14.2.7.1 discusses Initial Fuel Loading.	Change Reference 2 from "14.2.6.1" to "14.2.7.1"	A3	SPSB agrees See comment 3	In GTST for Subsection 3.9.3, Section XI on page 18 and Section XII on page 25, in "References" section of Bases, revise References 1 and 2: 1. FSAR Chapter 15, "Accident Analysis." 2. FSAR Section 14.2.67.1, "Initial Fuel Loading." In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A22 complete
495 99	3.9.04 Pg 18	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Background: During refueling, this maintains sufficient water level in containment, refueling cavity, refueling canal , fuel transfer canal, and spent fuel pool to retain iodine fission product . . . Sufficient iodine activity would be retained to limit offsite doses from the accident to within the values reported in FSAR Chapter 15 (<u>Ref. 1</u>).	A2 T4	SPSB agrees, C1 but notes another possible reference numbering correction. SPSB revised the order of the references to match WG convention.	C1 In GTST for Subsection 3.9.4, Section XI on page 14 and Section XII on page 18, in "Background" section of Bases, revise paragraph as indicated The movement of irradiated fuel assemblies within containment requires a minimum water level of 23 ft above the top of the reactor vessel flange. During refueling, this maintains sufficient water level in containment, refueling cavity, refueling canal , fuel transfer canal, and spent fuel pool to retain iodine fission product activity in the event of a fuel handling accident (Refs. 1 and 2). Sufficient iodine activity would be retained to limit offsite doses from the accident to within the values reported in FSAR Chapter 15 (<u>Ref. 3</u>). In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A23

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
496	3.9.04 Pg 18	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Applicable Safety Analyses: ... parameter in the analysis of a fuel-handling accident in containment, as postulated by Regulatory Guide 1.183 (Ref. 24). The fuel handling accident analysis inside containment is described in Reference 32.	A1	SPSB agrees SPSB revised the order of the references to match WG convention.	In GTST for Subsection 3.9.4, Section XI on page 14 and Section XII on page 18, in "ASA" section of Bases, revise first and second paragraphs as indicated During movement of irradiated fuel assemblies, the water level in the refueling cavity and the refueling canal is an initial condition design parameter in the analysis of a fuel-handling accident in containment, as postulated by Regulatory Guide 1.183 (Ref. 1). The fuel handling accident analysis inside containment is described in Reference 2. This analysis assumes a minimum water level of 23 feet. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A23 Sections IV, V, VI, VII, VIII, XI, and XII need revising to reflect revised order of references – in this case, there is no change
497	3.9.04 Pg 18	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to Applicability: Refueling Cavity Water Level is applicable when moving irradiated fuel assemblies within containment.	A3	SPSB agrees	In GTST for Subsection 3.9.4, Section XI on page 14 and Section XII on page 18, in "Applicability" section of Bases, revise first sentence, as indicated Refueling Cavity Water Level is applicable when moving irradiated fuel assemblies in -within containment. In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A23 complete
498	3.9.04 Pg 19	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to SR 3.9.4.1 Surveillance Requirements: Water at the required level above the top of the reactor vessel flange limits the consequences of damaged fuel rods that are postulated to result from a fuel handling accident inside containment (Ref. 32).	A3	SPSB agrees SPSB revised the order of the references to match WG convention.	In GTST for Subsection 3.9.4, Section XI on page 15 and Section XII on page 19, in "SRs" section of Bases, first paragraph, revise second sentence, as indicated Water at the required level above the top of the reactor vessel flange limits the consequences of damaged fuel rods that are postulated to result from a fuel handling accident inside containment (Ref. 2). In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A23 Sections IV, V, VI, VII, VIII, XI, and XII need revising to reflect revised order of references – in this case, there is no change

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499	3.9.04 Pg 19	Editorial change is recommended. These non-technical changes provide improved clarity, consistency, and operator usability.	Make the following changes to References: 1. FSAR Chapter 15, "Accident Analysis." 2. Regulatory Guide 1.183, "Alternate Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." 3. FSAR Section 15.7.4, "Fuel Handling Accident."	A3	SPSB agrees See comment 3 SPSB revised the order of the references to match WG convention.	In GTST for Subsection 3.9.4, Section XI on page 15 and Section XII on page 19, in "References" section of Bases, revise as indicated REFERENCES 1. Regulatory Guide 1.183, "Alternate Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." 2. FSAR Section 15.7.4, "Fuel Handling Accident." 3. FSAR Chapter 15, "Accident Analysis." In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A23 Sections IV, V, VI, VII, VIII, XI, and XII need revising to reflect revised order of references
500 100 101 102	3.9.07 Pg 04	The DOC A038 discussion on the page says it makes an editorial change to SR 3.9.4.1. The correct reference is to a change to SR 3.9.7.1.	Change "SR 3.9.4.1" to "SR 3.9.7.1"	A3	SPSB agrees C1 but suggests additional edits for clarity	C1 In GTST for GTS Subsection 3.9.7 (STS Subsection 3.9.5), Section IV, page 4, revise first and second paragraphs, as indicated DOC A038 makes a minor editorial change for LCO-GTS SR 3.9.47.1 (STS SR 3.9.45.1) . DOC L05 eliminates the Actions table Note from regarding an exception to GTS LCO 3.0.8 from LCO-GTS Subsection 3.9.47 Actions table, and the related discussion from Bases 3.9.4 the "Actions" section of Bases for GTS Subsection 3.9.7 (STS Subsection 3.9.5) . In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A26 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
501	3.9.07 Pg 11	Reference 1 contains a typo in the ADAMS Accession Number. The reference reads: "AP1000 DCD, Revision 19, Section 16, "Technical Specifications," June 2011 (ML@11171A500)"	Correct the Accession number to ML11171A500.	A1	SPSB agrees	In GTST for GTS Subsection 3.9.7 (STS Subsection 3.9.5), Section X, page 11, correct error in Reference 1. In GTST Section VIII, describe APOG comment and its resolution.	ANL GTST A26 complete
502	3.9.07 Pg 18	Rewrite TS 3.9.5 Bases for Background, Applicability, Required Action A.1, and SR 3.9.5.1 for consistency with the TS Applicability. These sections discuss movement of irradiated fuel assemblies in the containment or the auxiliary building. The TS applies to irradiated fuel movement in the reactor pressure vessel and not these other two areas. The Background more generally covers any irradiated fuel handling, while the Applicability discusses the rationale for the TS being applied only to movement within the RPV.	Make the following changes to Background: The movement of irradiated fuel assemblies within containment or in the fuel handling area inside the auxiliary building requires allowing at least 48 hours for radioactive decay time before fuel assembly handling can be initiated.	A3	SPSB agrees, C1 but suggests additional edits for consistency with Subsection 3.9.4 See comments 3 and 499	C1 In GTST for GTS Subsection 3.9.7 (STS Subsection 3.9.5), Section XI on page 14 and Section XII on page 18, in "Background" section of Bases, revise as indicated The movement of irradiated fuel assemblies within containment or in the fuel handling area inside the auxiliary building requires allowing at least 48 hours for radioactive decay time before fuel assembly handling can be initiated. During fuel handling, this ensures that sufficient radioactive decay has occurred in the event of a fuel handling accident (Refs. 1 and 2). Sufficient radioactive decay of short-lived fission products would have occurred to limit offsite doses from the accident to within the values reported in FSAR Chapter 15 (Ref. 3) . In GTST for GTS Subsection 3.9.7 (STS Subsection 3.9.5), Section XI on page 15 and Section XII on page 19, in "References" section of Bases, revise as indicated <hr/> REFERENCES 1. Regulatory Guide 1.183, "Alternate Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." 2. FSAR Section 15.7.4, "Fuel Handling Accident." 3. FSAR Chapter 15, "Accident Analysis." <hr/> In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A26 complete

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503	3.9.07 Pg 18	Rewrite TS 3.9.5 Bases for Background, Applicability, Required Action A.1, and SR 3.9.5.1 for consistency with the TS Applicability. These sections discuss movement of irradiated fuel assemblies in the containment or the auxiliary building. The TS applies to irradiated fuel movement in the reactor pressure vessel and not these other two areas.	<p>Make the following changes to Applicability:</p> <p>Radioactive decay time is applicable when moving irradiated fuel assemblies in the reactor pressure vessel in containment or in the fuel handling area inside the auxiliary building. The LCO minimizes the possibility . . . as a result of a postulated fuel handling accident. <u>If irradiated fuel assemblies are being moved outside of the reactor pressure vessel, then they were previously assured of having been subcritical for more than 48 hours before being moved from the reactor pressure vessel.</u> Requirements for fuel handling accidents in the spent fuel pool . . .</p>	A3	SPSB agrees	<p>In GTST for GTS Subsection 3.9.7 (STS Subsection 3.9.5), Section XI on page 14 and Section XII on page 18, in "Applicability" section of Bases, revise as indicated</p> <p>Radioactive decay time is applicable when moving irradiated fuel assemblies in containment or in the fuel handling area inside the auxiliary building the reactor pressure vessel. The LCO minimizes the possibility of radioactive release due to a fuel handling accident that is beyond the assumptions of the safety analysis. If irradiated fuel assemblies are not being moved, there can be no significant radioactivity release as a result of a postulated fuel handling accident. If irradiated fuel assemblies are being moved outside of the reactor pressure vessel, then they were previously assured of having been subcritical for more than 48 hours before being moved from the reactor pressure vessel.</p> <p>Requirements for fuel handling accidents in the spent fuel pool are also covered by LCO 3.7.5, "Spent Fuel Pool Water Level."</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"</p>	ANL GTST A26 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
504	3.9.07 Pg 19	Rewrite TS 3.9.5 Bases for Background, Applicability, Required Action A.1, and SR 3.9.5.1 for consistency with the TS Applicability. These sections discuss movement of irradiated fuel assemblies in the containment or the auxiliary building. The TS applies to irradiated fuel movement in the reactor pressure vessel and not these other two areas.	Make the following changes to A.1 Actions: With a decay time of less than 48 hours, all operations involving movement of irradiated fuel assemblies within containment or in the fuel handling area inside the auxiliary building <u>the reactor pressure vessel</u> shall be suspended immediately to ensure that a fuel handling accident cannot occur <u>without the assumed fission product decay time.</u>	A3	SPSB agrees, A and notes a format typo for correction	A In GTST for GTS Subsection 3.9.7 (STS Subsection 3.9.5), Section XI on page 15 and Section XII on page 19, in "Actions" section of Bases, under heading "A.1" revise first paragraph as indicated With a decay time of less than 48 hours, all operations involving movement of irradiated fuel assemblies within containment or in the fuel handling area inside the auxiliary building the reactor pressure vessel shall be suspended immediately to ensure that a fuel handling accident cannot occur without the assumed fission product decay time. In GTST for GTS Subsection 3.9.7 (STS Subsection 3.9.5), Section XI on page 13 and Section XII on page 17, remove extra blank line following "ACTIONS" In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A26 complete
505	3.9.07 Pg 19	Editorial change is recommended. Also, rewrite TS 3.9.5 Bases for Background, Applicability, Required Action A.1, and SR 3.9.5.1 for consistency with the TS Applicability. These sections discuss movement of irradiated fuel assemblies in the containment or the auxiliary building. The TS applies to irradiated fuel movement in the reactor pressure vessel and not these other two areas.	Make the following changes to SR 3.9.5.1 Surveillance Requirements: Verification that the reactor has been subcritical for <u>≥ at least</u> 48 hours prior to movement of irradiated fuel in the reactor pressure vessel to the refueling cavity in containment or to the fuel handling area inside the auxiliary building ensures that the design basis for the analysis	A3	SPSB agrees, C1 but suggests additional clarification	C1 In GTST for GTS Subsection 3.9.7 (STS Subsection 3.9.5), Section XI on page 15 and Section XII on page 19, in "SRs" section of Bases, under heading "SR 3.9.7.1" revise as indicated Verification that the reactor has been subcritical for at least <u>≥</u> 48 hours prior to movement of irradiated fuel in the reactor pressure vessel to the refueling cavity in containment or to the fuel handling area inside the auxiliary building ensures that the design basis for the analysis of the postulated fuel handling accident during refueling operations is met. Specifying a minimum radioactive decay time limits the consequences of damaged fuel rods that are fuel rod damage that is postulated to result from a fuel handling accident (Ref. 2). In GTST Section VIII, describe APOG comment and its resolution. Describe APOG change in GTST Sections IV, V, VI, and VII (as appropriate) under new heading: "APOG Recommended Changes to Improve the Bases"	ANL GTST A26 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
506 103 104	5.1 Pg 03	<p>GTST describes the change to the COL Item regarding the position title "[Plant Manager]," which was completed in the VEGP PTS, Rev. 0, by removing the brackets and changing the title to lower case; this is the same as the change made by TSTF-65-A, Rev. 1.</p> <p>This COL Item should not be removed in the AP1000 STS NUREG with disposition as done in VEGP COL. Note that the V.C. Summer COL TS completed this COL Item slightly different with its own plant-specific title. The intent of the TSTF-65 Reviewer's Note (being added to the AP1000 STS NUREG) imposes a new or revised COL Item, which is not appropriately coordinated with the AP1000 DCD. This change should be evaluated at a future time.</p>	Retain brackets (i.e., COL Item) associated with the [plant manager] title. Remove the Reviewer's Notes added to 5.1.	P3 P5	SPSB agrees <u>Withdrawn</u> in part	<p>B2 In GTSTs for Sections 5.1 and 5.2, add brackets around "Plant Manager" since it is a GTS COL item. Withdrawn. Also, add brackets to the reviewer's notes in Section 5.1, since they are instructions for completing the bracketed items, and should have been included in the GTS. The practice for the AP1000 STS COL information is to retain brackets but use the lead units' information inside the brackets. Also note that the database for generating the AP1000 STS files does not use bold font for brackets.</p> <p>B2 Revise GTST for GTS Section 5.1, Sections XI and XII, as described above, so that the markup in Section XI appears as follows (do not include <u>withdrawn</u> purple colored material):</p> <hr/> <p><u>Withdrawn</u></p> <p>[-----REVIEWER'S NOTES-----</p> <ol style="list-style-type: none"> 1. Titles for members of the unit staff shall be specified by use of an overall statement referencing an ANSI Standard acceptable to the NRC staff from which the titles were obtained, or an alternative title may be designated for this position. Generally, the first method is preferable; however, the second method is adaptable to those unit staffs requiring special titles because of unique organizational structures. 2. The ANSI Standard shall be the same ANSI Standard referenced in Section 5.3, Unit Staff Qualifications. If alternative titles are used, all requirements of these Technical Specifications apply to the position with the alternative title as apply with the specified title. Unit staff titles shall be specified in the Final Safety Analysis Report or Quality Assurance Plan. Unit staff titles shall be maintained and revised using those procedures approved for modifying/revising the Final Safety Analysis Report or Quality Assurance Plan. <p>-----]</p> <p>5.1.1 The [Plant Manager] [Pplant Mmanager] shall be responsible for overall unit operations and shall delegate in writing the succession to this responsibility during his absence.</p> <p style="text-align: right;">continued</p>	ANL GTST A30 complete
	5.2 Pg 03						

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
506	5.1 Pg 03 5.2 Pg 03	<p>GTST describes the change to the COL Item regarding the position title “[Plant Manager],” which was completed in the VEGP PTS, Rev. 0, by removing the brackets and changing the title to lower case; this is the same as the change made by TSTF-65-A, Rev. 1.</p> <p>This COL Item should not be removed in the AP1000 STS NUREG with disposition as done in VEGP COL. Note that the V.C. Summer COL TS completed this COL Item slightly different with its own plant-specific title. The intent of the TSTF-65 Reviewer’s Note (being added to the AP1000 STS NUREG) imposes a new or revised COL Item, which is not appropriately coordinated with the AP1000 DCD. This change should be evaluated at a future time.</p>	Retain brackets (i.e., COL Item) associated with the [plant manager] title. Remove the Reviewer’s Notes added to 5.1.	P3 P5	SPSB agrees <u>Withdrawn</u> in part	<p>Continued from previous page</p> <p>The [Plant Manager] [Pplant Mmanager] or his designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that affect nuclear safety.</p> <p>5.1.2 The [Shift Supervisor (SS)] shall be responsible for the control room command function. During any absence of the [SS] from the control room while the unit is in MODE 1, 2, 3, or 4, an individual with an active Senior Reactor Operator (SRO) license shall be designated to assume the control room command function. During any absence of the [SS] from the control room while the unit is in MODE 5 or 6, an individual with an active SRO license or Reactor Operator license shall be designated to assume the control room command function.</p> <hr/> <p>B2 Revise GTST for GTS Section 5.2, Sections XI and XII, so that the markup of 5.2.1.b in Section XI appears as follows:</p> <hr/> <p>b. The [Plant Manager] [Pplant Mmanager] shall be responsible for overall safe operation of the plant and shall have control over those onsite activities necessary for safe operation and maintenance of the plant;</p> <hr/> <p>In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III, IV, V, VI, and VII (as appropriate)</p> <p>E1, E2 APOG and SPSB agreed to revisit how the AP1000 STS should present COL information, bracketed TSTF provisions, and any associated reviewer’s notes following completion of STS Rev. 0. Add bracket and COL info policy to list of APOG discussion topics</p>	ANL GTST A30 complete

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507 105	5.2 Pg 05	GTST proposes to add a Reviewer's Note from WOG STS 5.2.2.a, Rev. 4; however, this Reviewer's Note is not associated with any COL Item or bracketed options. Both VEGP and V.C. Summer COL TS are issued with no "reviewer's note" or change to the content of 5.5.2 as otherwise proposed in the GTST, and is therefore not applicable to VEGP. Consistency with TSTF-511 and WOG STS Rev. 4 is not an appropriate basis for adding this Reviewer's Note. As an aside, this change is not derived from the VEGP LAR or an approved TSTF, but was not identified as a Section IV additional change proposed by the NRC staff.	Remove Reviewer's Note being added to AP1000 STS NUREG 5.5.2.a	P3	SPSB agrees	Revise GTST for GTS Section 5.2, Sections XI and XII, by deleting the proposed Reviewer's Note of TSTF-511 NUREG-1431 , Specification 5.2.2.a. In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III , IV, V, VI, and VII (as appropriate)	ANL GTST A31 complete
508	5.2 Pg 18	Section 5.2.2 is missing the introductory sentence, "The unit staff organization shall include the following:"	Add the missing lead-in	A1	SPSB agrees	In GTST for GTS Section 5.2, Section XII on page 18, insert the missing sentence, "The unit staff organization shall include the following:" before Specification 5.2.2.a. In GTST Section VIII, describe APOG comment and its resolution.	ANL GTST A31 complete
509 106	5.3 Pg 16	"ANS/ANSI 3.1" should be "ANSI/ANS 3.1"	Revise "ANS/ANSI 3.1" to "ANSI/ANS 3.1"	A1	SPSB agrees	In GTST for GTS Section 5.3, Section XI on page 14, and Section XII on page 16, replace the two occurrences of "ANS/ANSI" with "ANSI/ANS" in Specification 5.3.1.a In GTST Section VIII, describe APOG comment and its resolution.	ANL GTST A32 complete

Administrative Types:

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- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

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- P2 Unique Writing Style Convention
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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
510 107	5.4 Pg 05	<p>As stated: This GTST inserts the square brackets around the reference in AP1000 STS 5.4.1.b, Rev. 0 to be consistent with WOG STS 5.4.1.b, Rev. 4. This allows for the possibility of updating this reference in the future.</p> <p>The possibility for future changes does not rely on the existence of brackets. There is no COL Item, and no Reviewer's Note defining the use of the optional bracketed material. As such, this change is inappropriate.</p> <p>Since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs.</p>	Remove proposed brackets in AP1000 STS NUREG Specification 5.4.1.b.	P3 P5	SPSB agrees	<p>In GTST for GTS Section 5.4, Section XI on page 12, and Section XII on page 14, remove brackets from around "Generic Letter 82-33" in Specification 5.4.1.b</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Revise GTST Sections III, IV, V, VI, and VII (as appropriate)</p>	ANL GTST A33 complete
511 108	5.5.01 - 5.5.5 Pg 43	Heading "5.4 Steam Generator (SG) Program (continued)" should be "5.5.4 Steam Generator (SG) Program (continued)"	Change 5.4 to 5.5.4	A1	SPSB agrees	<p>In GTST for GTS Section 5.5, Section XII on page 43, correct enumeration of continuation title for "Steam Generator (SG) Program (continued)" from 5.4 to 5.5.4</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p>	ANL GTST A34 complete
512	5.5.01 Pg 07	<p>The GTST proposed a change to GTS 5.5.1.c from the phrase "copy of the changed portion of the ODCM" to include an optional phrase from the WOG STS 5.5.1 "copy of the entire ODCM"</p> <p>Since neither issued COL TS for VEGP or V.C. Summer include this option, and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs.</p>	Remove the proposed brackets and optional phrasing from AP1000 STS NUREG Specification 5.5.1.c.3.	P5	SPSB agrees	<p>In GTST for GTS Section 5.5, Section V on page 7, remove the discussion of the change to Specification 5.5.1.c as proposed in the GTST.</p> <p>In GTST Section VIII, describe APOG comment and its resolution.</p> <p>Revise GTST Sections III, IV, V, VI, VII, XI, and XII (as appropriate)</p>	ANL GTST A34 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
513	5.5.01 Pg 09	The GTST placement of square brackets around the report specification numbers in AP1000 STS 5.5.1 (to be consistent with Subsection 5.5.1 of WOG STS Rev. 4) is inappropriate. These referenced Specifications are not optionally numbered (i.e., bracketed) in GTST 5.6.	Remove proposed brackets in AP1000 STS NUREG Specification 5.5.1.	P5	SPSB agrees	In GTST for GTS Section 5.5, Section VI on page 9, remove last sentence of second paragraph from discussion of Subsection 5.5.1 regarding placement of brackets around report numbers. In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III , IV, V, VI, VII, XI , and XII (as appropriate)	ANL GTST A34 complete
514	5.5.01 Pg 38 5.5.06 Pg 19 5.5.11 Pg 27	Each "continued" Section title is not underlined. The Writer's Guide for Plant-Specific Improved Technical Specifications, TSTF-GG-05-01, Revision 1, Section 2.6.2.c.2, details the use of underlines for Section Titles. NUREG-1431 provides consistent use of underlines for "continued" Section titles.	Add underlining for "continued" Section titles	A2	SPSB agrees	In GTST for GTS Section 5.5, underline subsection continuation titles in markup and clean versions. In GTST Section VIII, describe APOG comment and its resolution	ANL GTST A34 complete
515	5.5.04 Pg 10	The GTST proposes eight (8) changes based on TSTF-449-A to GTS Subsection 5.5.4 in AP1000 STS Subsection 5.5.4. These changes reflect optional (i.e., bracketed) material applicable to SG repair criteria that does not currently exist for AP1000 plants. Since neither issued COL TS for VEGP or V.C. Summer include this option, and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs.	Remove the eight proposed changes based on TSTF-449 from AP1000 STS NUREG Specification 5.5.4.	T5 P5	SPSB agrees	Remove the eight proposed changes based on TSTF-449 from AP1000 STS Specification 5.5.4. C1 Revise disposition to "TSTF already Included in GTS Rev. 19 with variation." In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III , IV, V, VI, VII, XI , and XII (as appropriate) <hr/> E1, E2 This is an <u>APOG discussion topic</u> post STS Rev. 0, how to incorporate applicable TSTFs which were considered but not included on Rev 0? <u>SPSB and APOG agreed to defer this item until after issuance of AP1000 STS Rev 0.</u> E2 APOG stated in comment 516 "At the time of a future submittal for NRC approval of repair criteria, the STS changes would also be appropriate to include at that time."	ANL GTST A34 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
516	5.5.04 Pg 12	<p>The GTST proposes changes based on TSTF-510. Listed changes "(4)" and "(5)" reflect optional (i.e., bracketed) material applicable to SG repair criteria that does not currently exist for AP1000 plants.</p> <p>Since neither issued COL TS for VEGP or V.C. Summer include an NRC accepted licensing basis for SG "repair," and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that includes "or repair" options. At the time of a future submittal for NRC approval of repair criteria, the STS changes would also be appropriate to include at that time.</p>	Remove the "or repair" options based on TSTF-510, Items "(4)" and "(5)" from AP1000 STS NUREG Specification 5.5.4.	T5 P5	SPSB agrees	<p>Remove the "or repair" options based on TSTF-510, Items "(4)" and "(5)" from AP1000 STS Specification 5.5.4.</p> <p>C1 Add comment to disposition table concerning non-adoption of TSTF-510 optional provisions – GTST Section VI Items "(4)" and "(5)"</p> <p>In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III, IV, V, VI, VII, XI, and XII (as appropriate)</p> <hr/> <p>E1, E2 This is an <u>APOG discussion topic</u> post STS Rev. 0, how to incorporate applicable TSTFs which were considered but not included on Rev 0? <u>SPSB and APOG agreed to defer this item until after issuance of AP1000 STS Rev 0.</u></p> <p>E2 APOG stated in comment 516 "At the time of a future submittal for NRC approval of repair criteria, the STS changes would also be appropriate to include at that time."</p> <p>E1 Omission of bracketed optional provisions introduced by TSTF-510 from AP1000 STS Subsection 5.5.4 may need agreement by NRR branch responsible for SG tube inspection requirements.</p>	ANL GTST A34 complete
517	5.5.04 Pg 12	<p>The GTST proposes changes based on TSTF-510. Listed change "(6)" reflects acceptable changes from the GTS; however, the "Reviewer's Note" suggests optional content.</p> <p>Since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that suggests alternatives differing from the STS.</p>	Remove the Reviewer's Note from AP1000 STS NUREG Specification 5.5.4.d.2.	T4	SPSB agrees	<p>C1 Remove the Reviewer's Note from Specification 5.5.4.d.2, since it addresses optional content not being adopted as stated in comment 516. (<u>GTST Section VI Item "(6)"</u>)</p> <p>In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III, IV, V, VI, VII, XI, and XII (as appropriate)</p> <hr/> <p><u>APOG discussion topic: Withdrawn Why is change, based on TSTF 510, Rev 2, to GTS 5.5.4.d.2 an "acceptable" change, but the changes identified by comment 516 are not?</u></p>	ANL GTST A34 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
518	5.5.051 Pg 36	GTST proposes that the Specification 5.5.1, references to Specification 5.6.1 and Specification 5.6.2 be modified by square brackets "to be consistent with Subsection 5.5.1 of WOG STS Rev. 4." However, there is no optional numbering of Specifications 5.6.1 and 5.6.2 in the AP1000 GTS or in GTST 5.6. Bracketed options are not applicable to the AP1000 STS.	Remove brackets from Specification 5.5.1 references to "5.6.1" and "5.6.2"	A4	SPSB agrees	Remove the brackets from Specification 5.5.1 references to "5.6.1" and "5.6.2". In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III , IV, V, VI, VII, XI , and XII (as appropriate)	ANL GTST A34 complete
519	5.5.07 Pg 05	This GTST adds the phrase "or no concurrent loss of offsite power" based on TSTF-273. However, as discussed in the AP1000 Final Safety Evaluation Report, NUREG-1793, Section 8.2.3.2: The AP1000 design does not rely on power from the offsite system to accomplish safety functions" As such this change from TSTF-273 is not applicable to the AP1000 design. Since neither issued COL TS for VEGP or V.C. Summer include this option, and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs.	Remove the phrase "or no concurrent loss of offsite power" that is being proposed based on TSTF 273.	T5	SPSB agrees	Remove the phrase "or no concurrent loss of offsite power" that is being proposed for STS Specification 5.5.7.b, based on TSTF 273. In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III , IV, V, VI, VII, XI page 15 , and XII page 19 (as appropriate) Revise TSTF disposition table to change disposition of TSTF-273 to "not applicable to AP1000 design"	ANL GTST A34 complete
520	5.5.07 Pg 07	VEGP LAR DOC A120 change is not included in either the Description of changes in RCOL Std. section (on Page 7) or in the Rationale for changes in the RCOL Std. section.	Include a description and rationale for VEGP LAR DOC A120.	A1	SPSB agrees	In GTST for Subsections 5.5.6 thru 5.5.10, Section VI on page 8, add description and rationale for DOC A120 change. In GTST Section VIII, describe APOG comment and its resolution.	ANL GTST A34 complete

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No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
521	5.5.08 Pg 05	The GTST proposes to delete the word 'primary' when referring to 'containment' in AP1000 STS Subsection 5.5.8. However, "primary containment" is utilized in the AP1000 DCD (and COL FSARs); refer to subsection 6.5.3.1 for example. Since neither issued COL TS for VEGP or V.C. Summer include this change, and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs.	Remove the change to delete the word 'primary' when referring to 'containment' in AP1000 STS Subsection 5.5.8.	T5 P5	SPSB disagrees	C1 This change is based on TSTF-343-A, Rev. 1. Although the FSAR uses "primary containment", the GTS do not except for 5.5.8.c. SPSB prefers consistency within the TS and Bases. If "primary" is not removed from 5.5.8.c, then it would need to be added in multiple other locations in TS and bases.	ANL GTST A34 complete
522	5.5.08 Pg 06	The GTST proposes to replace the phrase "as modified by approved exceptions" with a bracketed phrase to list the specific exemptions. Since neither issued COL TS for VEGP or V.C. Summer include this change, and since each represented AP1000 Utility is committed to maintaining standardization, there currently is no basis for an AP1000 STS that differs from the GTS and the issued COLs.	Remove the change to replace the phrase "as modified by approved exceptions" with a bracketed phrase to list the specific exemptions.	T5	SPSB agrees	In GTST for Subsections 5.5.6 thru 5.5.10, Section VI on page 7 Remove the change, based on TSTF-343-A, Rev. 1, to Specification 5.5.8.a to replace the phrase "as modified by approved exceptions" with a bracketed phrase to list the specific exemptions. That is, restore text of GTS 5.5.8.a. In GTST Section VIII, describe APOG comment and its resolution. Revise GTST Sections III , IV, V, VI, VII, XI page 15 , and XII page 19 (as appropriate) Review TSTF disposition table to verify disposition of TSTF-343 is correct.	ANL GTST A34 complete
523	5.5.08 Pg 15	TS 5.5.8, Paragraph a, last line. Move end quote to before the document date. This typographical error occurs in the GTS and was not corrected in VEGP TSU LAR.	Revise to "Performance-Based Containment Leak-Test Program," dated September 1995	A1	SPSB agrees	In GTST for Subsections 5.5.6 thru 5.5.10, Section XI page 15, and Section XII page 19, correct the typographical error of a misplaced closing quotation mark in Specification 5.5.8.a. In GTST Section VIII, describe APOG comment and its resolution Revise GTST Sections III , IV, V, VI, VII (as appropriate)	ANL GTST A34 complete

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524	5.5.08 Pg 21	VEGP LAR DOC A122 changed Specification 5.5.8.d.1 Type B and Type C leakage rate acceptance criteria from " \leq 0.60 to " $<$ " 0.60. However the TS was not changed. While this change is discussed in the GTST, the GTST Section XI and Section XII pages do not reflect the change.	Change " \leq " 0.60 to " $<$ " 0.60 in Sections XI and XII 5.5.8.1.d.1	A1	SPSB agrees	In GTST for Subsections 5.5.6 thru 5.5.10, Section XI page 16, and Section XII page 21, change " \leq 0.60" to " $<$ 0.60" in Specification 5.5.8.d.1 In GTST Section VIII, describe APOG comment and its resolution Revise GTST Sections III , IV, V, VI, VII (as appropriate)	ANL GTST A34 complete
525	5.5.11- 5.5.14 Pg 10	In the Description of changes in RCOL section, the second discussion of DOC 118, provides two references in parentheses. Specifically Reference 4 is identified as the NRC RAIs and Reference 5 is identified as the Southern Nuclear responses. These two references should be Ref. 6 and Ref. 7, respectively.	Change "(Ref. 4)" to "(Ref. 6)" and "(Ref. 5)" to "(Ref. 7)"	A1	SPSB agrees	In GTST for Subsections 5.5.11 thru 5.5.14, Section VI on page 10, under heading "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes", revise second paragraph of discussion about DOC A118, by changing "(Ref. 4)" to "(Ref. 6)" and "(Ref. 5)" to "(Ref. 7)" In GTST Section VIII, describe APOG comment and its resolution	ANL GTST A34 complete
526	5.5.13 Pg 04	The editorial change "(1)" to GTS Subsection 5.5.13 adds references to RG 1.52 and ASME N510, which are adequately and more specifically presented in each of the individual tests.	Remove the proposed editorial change "(1)" to GTS Subsection 5.5.13	A3	SPSB agrees	In GTST for Subsections 5.5.11 thru 5.5.14, Section III on page 4, under heading "GTS Subsection 5.5.13: Ventilation Filter Testing Program," third paragraph, change list item (1) by removing phrase "in accordance with Regulatory Guide 1.52, Revision 3, ASME N510-1989" In GTST Section VIII, describe APOG comment and its resolution Revise GTST Sections III , IV, V, VI, VII (as appropriate)	ANL GTST A34 complete
527	5.5.13 Pg 04	The editorial change "(2)" to GTS Subsection 5.5.13 adds defining "HEPA" for the first occurrence, but fails to delete the definition that occurs in Subsection 5.5.13.a.1. Furthermore, the GTST Section XI and Section XII mark-up and clean-typed NUREG pages did not reflect this change.	Include the editorial change "(2)" in GTST Sections XI and XII NUREG pages. Also include a change to delete the definition of "HEPA" from 5.5.13.a.1.	A3	SPSB agrees	In GTST for Subsections 5.5.11 thru 5.5.14, Section III on page 4, under heading "GTS Subsection 5.5.13: Ventilation Filter Testing Program," third paragraph, implement list item (2) in Sections XI and XII in STS 5.5.13.a by defining first occurrence of "HEPA" and revise list item (2) by including a change to delete the definition of "HEPA" from 5.5.13.a.1, and implementing that change in Sections XI on page 22 and Section XII on page 29. In GTST Section VIII, describe APOG comment and its resolution Revise GTST Sections III , IV, V, VI, VII (as appropriate)	ANL GTST A34 complete

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528	5.5.13 Pg 04	The editorial change "(3)" to GTS Subsection 5.5.13 adds a definition for "ESF" that creates awkward wording ("the Engineering Safety Feature (ESF) of the VES"). The necessity for defining "ESF" can be eliminated with deleting the modifier "ESF" from each of the 5.5.13.a subsection column headings, leaving the heading as "Ventilation System." This makes for a more logical editorial change.	Remove the proposed addition of a definition for "ESF" and delete the "ESF" modifier from each of the 5.5.13.a subsection column headings.	A4	SPSB agrees	<p>In GTST for Subsections 5.5.11 thru 5.5.14, Section III on page 4, under heading "GTS Subsection 5.5.13: Ventilation Filter Testing Program," third paragraph, revise list item (3) by removing the proposed addition of a definition for "ESF" and delete the "ESF" modifier from each of the 5.5.13.a subsection column headings in STS 5.5.13.a.1 through 5.5.13.a.4, in Sections XI on page 22 and XII on page 29.</p> <hr/> <p>STS Paragraph 5.5.13.a.1 markup should appear as follows:</p> <p>1a. Demonstrate for the VES that an inplace test of the high efficiency particulate air (HEPA) filter shows a penetration and system bypass $\leq 0.05\%$ when tested in accordance with Regulatory Guide 1.52, Revision 3, and ASME N510-1989 at a flow rate at least 600 cfm greater than the VES makeup flow rate flow measured by VES FT 003A/B. The flow rate being measured is a combination of the VES breathable air supply flow and the recirculation flow drawn through the eductor.</p> <table border="0"> <thead> <tr> <th><u>ESF-Ventilation System</u></th> <th><u>Flow Rate</u></th> </tr> </thead> <tbody> <tr> <td>VES</td> <td>$\geq 600 + \text{VES supply flow makeup flow rate (cfm)}$</td> </tr> </tbody> </table> <hr/> <p>STS Paragraph 5.5.13.a.1 should appear as follows</p> <p>1. Demonstrate for the VES that an inplace test of the HEPA filter shows a penetration and system bypass $\leq 0.05\%$ when tested in accordance with Regulatory Guide 1.52, Revision 3, and ASME N510-1989 at a flow rate at least 600 cfm greater than the VES makeup flow.</p> <table border="0"> <thead> <tr> <th><u>Ventilation System</u></th> <th><u>Flow Rate</u></th> </tr> </thead> <tbody> <tr> <td>VES</td> <td>$\geq 600 + \text{VES makeup flow rate (cfm)}$</td> </tr> </tbody> </table> <hr/> <p>In GTST Section VIII, describe APOG comment and its resolution Revise GTST Sections III, IV, V, VI, VII (as appropriate)</p>	<u>ESF-Ventilation System</u>	<u>Flow Rate</u>	VES	$\geq 600 + \text{VES supply flow makeup flow rate (cfm)}$	<u>Ventilation System</u>	<u>Flow Rate</u>	VES	$\geq 600 + \text{VES makeup flow rate (cfm)}$	ANL GTST A34 complete
<u>ESF-Ventilation System</u>	<u>Flow Rate</u>														
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- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
529	5.5.14 Pg 11	The GTST Section VII, Technical Analysis (page 14) points to the Section VI description for the analysis. However, the DOC M01 description does not technically justify why the change to 5.5.14 was made; it describes only the change to Section 1.1, Definitions. More appropriate: Revise the Section VI description of DOC M01 to state:	Revise the Section VI description of DOC M01 as commented. "The current TS 5.5.14 reference to RTCOT is not appropriate, because the current Section 1.1 definition of RTCOT does not include a requirement for a Channel Calibration. Therefore reference to RTCOT is deleted. This is acceptable because testing requirements for RTCOT that are intended to involve Channel Calibration have been revised to COT, as appropriate, and Setpoint Program requirements for COT are retained."	T4	SPSB agrees	In GTST for Subsections 5.5.11 thru 5.5.14, Section VI on page 10, under heading "Description of changes in RCOL Std. Dep., RCOL COL Item(s), and RCOL PTS Changes", revise the Section VI description of DOC M01 to state: DOC M01 deletes the reference to "Reactor Trip Channel Operational Test (RTCOT)" in PTS Subsection paragraph 5.5.14.c, because the RTCOT PTS definition is replaced with the existing COT PTS definition, which is more restrictive. The current TS 5.5.14 reference to RTCOT is not appropriate, because the current Section 1.1 definition of RTCOT does not include a requirement for a Channel Calibration. Therefore reference to RTCOT is deleted. This is acceptable because testing requirements for RTCOT that are intended to involve Channel Calibration have been revised to COT, as appropriate, and Setpoint Program requirements for COT are retained. This administrative change, which is related to a more restrictive change, is included by this GTST in AP1000 STS Subsections 5.5.14. In GTST Section VIII, describe APOG comment and its resolution Revise GTST Section VI (as appropriate)	ANL GTST A34 complete
530 109	5.6 Pg 23 & 24	The typed pages for the AP1000 NUREG STS have the "Note" for Specifications 5.6.1 and 5.6.2 incorrectly typed as a "Reviewer's Note"	Change the "Reviewer's Note" label to "Note" for both Specifications 5.6.1 and 5.6.2.	A.1	SPSB agrees	In GTST for Section 5.6, Section XI on pages 23 and 24 and Section XII on pages 30 and 31, change the "Reviewer's Note" label to "Note" for both Specifications 5.6.1 and 5.6.2. In GTST Section VIII, describe APOG comment and its resolution	ANL GTST A40 6/22/15
531	5.6 Pg 30	Last paragraph, fifth line, move the space from after to before the bracket.	Correct the spacing.	A.1	SPSB agrees	In GTST for Section 5.6, Section XI on page 23 and Section XII on page 30, under Specification 5.6.1, last paragraph, fifth line, move the space from after to before the bracket: ... measurements measurements in the format ... In GTST Section VIII, describe APOG comment and its resolution	ANL GTST A40 6/22/15

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
- P2 Unique Writing Style Convention
- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

No.	GTST Pg #	Comment	Proposed Action	Type	Disposition	Action	Responsibility/Status
532	5.6 Pg 32	Each "continued" Section title is not underlined. The Writer's Guide for Plant-Specific Improved Technical Specifications, TSTF-GG-05-01, Revision 1, Section 2.6.2.c.2, details the use of underlines for Section Titles. NUREG-1431 provides consistent use of underlines for "continued" Section titles.	Add underlining for "continued" Section titles	A2	SPSB agrees	In GTST for GTS Section 5.6, underline subsection continuation titles in markup and clean versions. In GTST Section VIII, describe APOG comment and its resolution	ANL GTST A40 6/22/15 BNL GTST A40 6/22/15
533	5.6.03 Pg 25	TS 5.6.3, "CORE OPERATING LIMITS REPORT," Section 5.6.3.a includes a reference to TS 3.2.3. The added parenthetical "(AFD)" needs a space between the word "DIFFERENCE" and added parenthetical "(AFD)." This is a typo in the clean typed version also.	In Section 5.6.3 add a space between the word "DIFFERENCE" and parenthetical "(AFD)"	A1	SPSB agrees	In GTST for GTS Section 5.6, Section XI page 25 and Section XII page 31, under heading 5.6.3 in list of Specifications referencing the COLR, add a space between the word "DIFFERENCE" and parenthetical "(AFD)" in listed Specification 3.2.3. In GTST Section VIII, describe APOG comment and its resolution	ANL GTST A40 6/22/15

Administrative Types:

- A1 Typographical, Grammatical, or Spelling Error
- A2 Formatting or Style Nonconformance with TSTF-GG-05-01, Rev 1
- A3 Editorial clarification or correction
- A4 Presentation preference
- A5 Improve consistency with STS NUREG-1431, Rev 4

Technical Types:

- T1 Factual Error
- T2 Defer Consideration of Traveler
- T3 Add Traveler
- T4 Technical Improvement
- T5 Remove Traveler from proposed STS

AP1000 STS NUREG Policy Types:

- P1 Unique Format Convention
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- P3 Use of Bracketed Information and Reviewer's Notes
- P4 Intentional Deviation from TSTF-GG-05-01, Rev 1
- P5 Deviate from STS NUREG-1431, Rev 4, by not including TSTF

INSERT 1 (See Comment 119)

<p>In GTST Section XI on pages 44/45 and in Section XII on pages 96/97, in “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under heading of “Power Range Neutron Flux, P-10”</p> <ul style="list-style-type: none"> • C1 revise first paragraph, first sentence as indicated: <p>The Power Range Neutron Flux, P-10 interlock is actuated at approximately 10% power as determined by the respective Withdrawn PMS division’s division power-range Power Range Neutron Flux channel detector detectors.</p> • C1 revise paragraph (4), as indicated: <p>(4) On increasing power, the respective Withdrawn PMS division’s PMS division P-10 interlock channel automatically provides a backup block-signal to block the respective Withdrawn PMS division’s division Source Range Neutron Flux reactor trip channel and also to de-energize the respective Withdrawn PMS division’s division-source-range Source Range Neutron Flux detectors detector.</p> • C1 revise paragraph (6), as indicated: <p>(6) On decreasing power, the respective Withdrawn PMS division’s division P-10 interlock channel automatically enables the respective Power Range Neutron Flux - Low Setpoint reactor trip channel and the respective Intermediate Range Neutron Flux - High reactor trip (and rod stop) channel.</p> <p style="text-align: right;">continued</p> 	<p>ORNL GTST O54 complete</p>
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Insert 1 (See Comment 119) (continued)

In GTST Section XI on pages 45/46/47 and in Section XII on pages 97/98/99, in “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under heading of “1. Power Range Neutron Flux”

- **C1** revise first paragraph as indicated:

The ~~PMS power range~~ **Power Range Neutron Flux** detectors are located external to the reactor vessel and measure neutrons leaking from the core. The ~~PMS power range~~ **Power Range Neutron Flux** detectors provide input to the PLS. Minimum requirements for protection and control ~~is are~~ achieved with three channels OPERABLE. . . .

- **C1** revise the heading and last sentence of last paragraph under heading “a. Power Range Neutron Flux – High **Setpoint**” as indicated:

. . . In addition, the ~~PMS power range~~ **Power Range Neutron Flux** detectors cannot detect neutron **flux** levels in this range.

- **C1** revise the heading and 2nd and 3rd sentences of 3rd paragraph under heading “b. Power Range Neutron Flux – Low **Setpoint**” as indicated:

. . . ~~This~~ **Each channel of this** Function may be manually blocked by the operator when the respective ~~power range~~ **Withdrawn PMS division’s division Power Range Neutron Flux** channel is greater than approximately 10% of RTP (P-10 setpoint). ~~This~~ **Each channel of this** Function is automatically unblocked when the respective ~~power range~~ **Withdrawn PMS division’s division Power Range Neutron Flux** channel is below the P-10 setpoint. . . .

- **C1** revise the heading and first sentence of 4th paragraph under heading “b. Power Range Neutron Flux – Low **Setpoint**” as indicated:

. . . because the reactor is shutdown and the ~~PMS power range~~ **Power Range Neutron Flux** detectors cannot detect ~~the~~ neutron **flux** levels generated in MODES 3, 4, 5, and 6. . .

continued

ORNL
GTST O54 complete

<p>Insert 1 (See Comment 119) (continued)</p> <p>In GTST Section XI on pages 47/48 and in Section XII on page 99, in “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under heading of “2. Power Range Neutron Flux – High Positive Rate”</p> <ul style="list-style-type: none"> • C1 revise first paragraph, third sentence, as indicated: <ul style="list-style-type: none"> . . . The Power Range Neutron Flux – High Positive Rate trip uses the same Power Range Neutron Flux channels as discussed for Function 1 above. • C1 revise second paragraph, last sentence, as indicated: <ul style="list-style-type: none"> . . . In addition, the PMS power range Power Range Neutron Flux detectors cannot detect neutron flux levels present in this MODE 6. <p>In GTST Section XI on pages 48/49 and in Section XII on pages 100/101, in “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under heading of “3. Overtemperature ΔT”</p> <ul style="list-style-type: none"> • C1 revise first paragraph, last sentence and third bullet, as indicated: <ul style="list-style-type: none"> . . . The overtemperature Overtemperature ΔT setpoint Trip Setpoint is automatically varied for changes in the parameters that affect DNB as follows: . . . <ul style="list-style-type: none"> • axial power distribution - the Trip Setpoint is varied to account for imbalances in the axial power distribution as detected by the PMS upper and lower power range Power Range Neutron Flux detectors. If axial peaks are greater than the design limit, as indicated by the difference between the upper and lower PMS power range Power Range Neutron Flux detectors, the Trip Setpoint is reduced in accordance with algorithms documented in the SP. • C1 revise last paragraph, first sentence, as indicated: <ul style="list-style-type: none"> In MODE 1 or 2, the Overtemperature ΔT trip Function must be OPERABLE to prevent DNB. <p style="text-align: right;">continued</p>	<p>ORNL</p> <p>GTST O54 complete</p>
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<p>Insert 1 (See Comment 119) (continued)</p> <p>In GTST Section XI on page 50 and in Section XII on page 102, in “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under heading of “4. Overpower ΔT”</p> <ul style="list-style-type: none"> <p>C1 revise first paragraph, 2nd and 4th sentences, and bulleted paragraph as indicated:</p> <p>. . . This trip Function also limits the required range of the Overtemperature ΔT trip function Function and provides a backup to the Power Range Neutron Flux - High Setpoint trip Function.</p> <p>. . . It uses the same ΔT power signal generated for the Overtemperature ΔT trip Function. The setpoint Trip Setpoint is automatically varied with the following parameter:</p> <ul style="list-style-type: none"> <p>Axial power distribution - the Trip Setpoint is varied to account for imbalances in the axial power distribution as detected by the PMS upper and lower power-range Power Range Neutron Flux detectors. If axial peaks are greater than the design limit, as indicated by the difference between the upper and lower PMS power-range Power Range Neutron Flux detectors, the Trip Setpoint is reduced in accordance with algorithms documented in the SP.</p> <p>C1 revise 3rd paragraph, 3rd sentence, as indicated:</p> <p>. . . The Overpower ΔT trip Function receives input from channels shared with other RTS Functions.</p> <p style="text-align: right;">continued</p> 	<p>ORNL</p> <p>GTST O54 complete</p>
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<p>Insert 1 (See Comment 119) (continued)</p> <p>In GTST Section XI on page 56 and in Section XII on page 108, in “ASA, LCO, and Applicability” section of the Bases for STS Subsection 3.3.1, under heading of “12. Passive Residual Heat Removal Actuation”</p> <ul style="list-style-type: none"> C1 revise 1st sentence of 1st and 3rd paragraphs, as indicated: <p>The Passive Residual Heat Removal (PRHR) Actuation reactor trip Function ensures that a reactivity excursion due to cold water injection will be minimized upon an inadvertent operation of the PRHR discharge valves. . . .</p> <p>In MODES 1 and 2, the Passive Heat Removal PRHR Actuation reactor trip Function must be OPERABLE. In MODES 3, 4, 5, and 6, the PRHR Actuation Passive Heat Removal Initiation reactor trip Function does not have to be OPERATIONAL because the reactor is not operating or critical.</p> 	<p>ORNL GTST O54 complete</p>
<p>In GTST Section XI on page 61 and in Section XII on page 110, in “Actions” section of the Bases for STS Subsection 3.3.1, under heading of “E.1”</p> <ul style="list-style-type: none"> C1 revise paragraph, 2nd sentence, as indicated: <p>. . . If the channel(s) is not restored to OPERABLE status or placed in trip or bypass, as applicable, within the allowed Completion Time, or three or more channels are inoperable for a Function, thermal power THERMAL POWER must be reduced to below the P-10 interlock setpoint; a condition in which the LCO does not apply.</p> <p>In GTST Section XI on page 69 and in Section XII on page 115,</p> <ul style="list-style-type: none"> C1 under heading of “SR 3.3.1.6” in paragraphs beginning with following sentences, revise that sentences as indicated: <p>A test subsystem is provided with the Protection and Safety Monitoring System (PMS) to aid the plant staff in performing the COT.</p> <p>To the extent possible, Protection and Safety Monitoring System PMS functional testing is accomplished with continuous system self-checking features and the continuous functional testing features.</p> <p style="text-align: right;">continued</p>	<p>GTST O54 complete</p>

<p>Insert 1 (See Comment 119) (continued)</p> <p>In GTST Section XI on page 70 and in Section XII on page 116,</p> <ul style="list-style-type: none"> <p>C1 Under heading of “SR 3.3.1.6,” revise last two paragraphs as indicated:</p> <p>This The test frequency COT Surveillance Frequency of 92 days is justified based on Reference 6 (which refers to this test as “RTCOT”) and the use of continuous diagnostic test features, such as deadman timers, cross-check of redundant channels, memory checks, numeric coprocessor checks, and tests of timers, counters and crystal time bases, which will report a failure within the Protection and Safety Monitoring System-PMS cabinets to the Withdrawn control room operator within 10 minutes of a detectable failure.</p> <p>During the RTCOT, the protection and safety monitoring system-PMS cabinets in the division under test may be placed in bypass.</p> <p>C1 Under the heading of “SR 3.3.1.7,” revise first paragraph, 5th sentence, as indicated:</p> <p>This evaluation will consist of resetting the channels channel setpoint-Trip Setpoint to the NTS (within the allowed as-left tolerance), and evaluating the channels channel response.</p> <p>In GTST Section XI on page 71 and in Section XII on pages 117/118</p> <ul style="list-style-type: none"> <p>C1 Under the heading of “SR 3.3.1.7,” third paragraph, change the 3rd, 4th, and last sentences as indicated:</p> <p>. . . The Frequency of every 92 days thereafter applies to the performance of this COT if the plant remains in the MODE of Applicability after the initial performances of prior to reactor startup and four 4 hours after reducing power below P-10. The MODE of Applicability for this surveillance is < P-10 for the power range-low Power Range Neutron Flux – Low Setpoint reactor trip Function instrument channels. . . . This test-The Surveillance Frequencies for this COT ensures ensure that the NIS-power range-low Power Range Neutron Flux – Low Setpoint reactor trip Function instrument channels are OPERABLE prior to taking the reactor critical and after reducing power into the applicable MODE (< P-10) for periods greater than four >=4 hours.</p> <p style="text-align: right;">continued</p>	<p>ORNL</p> <p>GTST O54 complete</p>
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<p>Insert 1 (See Comment 119) (continued)</p> <p>In GTST Section XI on page 72 and in Section XII on page 118,</p> <ul style="list-style-type: none"> C1, B1 Under heading of “SR 3.3.1.8,” revise second paragraph as indicated The test CHANNEL CALIBRATION is performed in accordance with the SP. If the actual setting of the channel is found to be outside the as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the Withdrawn channel setpoint channel's channel Trip Setpoint to the NTS (within the allowed as-left tolerance), and evaluating the Withdrawn channel channel's channel response. . . . <p>In GTST Section XI on page 73 and in Section XII on page 119,</p> <ul style="list-style-type: none"> C1, B1 APOG discussion topic (See Comment 136) Under heading of “SR 3.3.1.9,” revise first three paragraphs as indicated, and move last two sentences of paragraph 1 to beginning of second paragraph for consistency with Bases for STS SR 3.3.1.8: SR 3.3.1.9 is the performance of a A CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. This SR is modified by a Note stating that neutron detectors are excluded from the CHANNEL CALIBRATION. The test is performed in accordance with the SP. If the actual setting of the channel is found to be outside the as-found tolerance, the channel is considered inoperable. The test CHANNEL CALIBRATION is performed in accordance with the SP. If the actual setting of the channel is found to be outside the as-found tolerance, the channel is considered inoperable. This condition of the channel will be further evaluated during performance of the SR. This evaluation will consist of resetting the Withdrawn channel setpoint channel's channel Trip Setpoint to the NTS (within the allowed as-left tolerance), and evaluating the Withdrawn channel channel's channel response. . . . The This Surveillance does not include the CHANNEL CALIBRATION for the power range neutron Power Range Neutron Flux detectors, which Withdrawn is specified by SR 3.3.1.5 and consists of a normalization of the detectors based on a power calorimetric and flux map Withdrawn that should be performed above 20% RTP. Below 20% RTP, the design of the incore detector system, low core power density, and detector accuracy make use of the incore detectors inadequate for use as a reference standard for comparison to the excore Power Range Neutron Flux detectors channels. This Surveillance is not required for the power range detectors for entry into MODES 2 and 1 because the plant must be in at least MODE 1 to perform the test. <p style="text-align: right;">continued</p>	<p>ORNL</p> <p>GTST O54 complete</p>
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<p>Insert 1 (See Comment 119) (continued)</p> <p>In GTST Section XI on pages 74/75 and in Section XII on pages 120/121,</p> <ul style="list-style-type: none"> <p>C1 Under heading of “SR 3.3.1.9,” revise last paragraph, as indicated:</p> <p>The 24-month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed on at the 24 month Frequency.</p> <p>C1 Under heading of “SR 3.3.1.10,” revise first and third paragraphs, as indicated</p> <p>SR 3.3.1.10 is the performance of a TADOT of the Passive Residual Heat Removal (PRHR) Actuation reactor trip Function. This TADOT is performed every 24 months.</p> <p>The SR is modified by a Note that excludes verification of setpoints from the TADOT. The Functions Function (reactor trip on PRHR Actuation) affected have by this SR has no setpoints associated with them-it.</p> <p>C1 (See comment 138) Under heading of “SR 3.3.1.11,” revise second paragraph, first sentence, as indicated</p> <p>For channels that include dynamic transfer Functions (e.g., lag, lead/lag, rate/lag, etc.), the response time test may be performed with the transfer Function set to one, with the resulting measured response time compared to the appropriate DCD FSAR Chapter 7 response time.</p> <p>C1 <u>APOG discussion topic</u> (See comment 137) Under heading of “SR 3.3.1.11,” revise fifth paragraph, first and second sentences, as indicated</p> <p>The SR 3.3.1.11 is modified by a note Note exempting neutron detectors from response time testing. A Note to the Surveillance indicates indicating that neutron detectors may be are excluded from RTS RESPONSE TIME testing.</p> <p>End of Insert 1</p>	<p>ORNL</p> <p>GTST O54 complete</p>
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Other comments by SPSB for future consideration:

- 534. **B2 Withdrawn** Suggest modifying CHANNEL CHECK Bases for SR 3.3.1.1, SR 3.3.2.1, and SR 3.3.3.1 to incorporate BWOOG Inserts 1, 2, and 3, as appropriate, of TSTF-264-A, that CHANNEL CHECK agreement criteria includes an expectation of one decade of indication overlap when transitioning between neutron flux instrumentation (power range neutron flux, intermediate range neutron flux, and source range neutron flux). (T4) Add to list of APOG discussion topics
- 535. In Actions tables, Notes in the Condition column do not always span the available space. See LCO 3.4.3 Condition A Note. Labs should identify all instances of this kind of format (data entry) error and correct them.

1	GTST for STS Chapter 1, Section 1.1	has 11 comments (17 to 27);	comment No. 7 also applies
2	GTST for STS Chapter 1, Section 1.2	has 2 comments (28 to 29);	comment No. 7 also applies
3	GTST for STS Chapter 1, Section 1.3	has 5 comments (30 to 34);	comment No. 7 also applies
4	GTST for STS Chapter 1, Section 1.4	has 4 comments (35 to 38);	comment No. 7 also applies
5	GTST for STS Chapter 2	has 3 comments (39 to 41);	comment No. 7 also applies
6	GTST for STS Chapter 3, Section 3.0, Subsection 3.0 LCO..	has 15 comments (42 to 56);	comment Nos. 7, 10, 11, 12, 14 also apply
7	GTST for STS Chapter 3, Section 3.0, Subsection 3.0 SR....	has 8 comments (57 to 64);	comment Nos. 7, 10, 11 also apply
8	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.1	has 2 comments (65 to 66);	comment No. 7 also applies
9	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.2	has 4 comments (67 to 70);	comment No. 7 also applies
10	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.3	has 4 comments (71 to 74);	comment No. 7 also applies
11	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.4	has 3 comments (75 to 77);	comment No. 7 also applies
12	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.5	has 2 comments (78 to 79);	comment No. 7 also applies
13	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.6	has 4 comments (80 to 83);	comment No. 7 also applies
14	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.7	has 1 comment (84);	comment No. 7 also applies
15	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.8	has 6 comments (85 to 90);	comment No. 7 also applies
16	GTST for STS Chapter 3, Section 3.1, Subsection 3.1.9	has 4 comments (91 to 94);	comment No. 7 also applies
17	GTST for STS Chapter 3, Section 3.2, Subsection 3.2.1	has 3 comments (95 to 97);	comment No. 7 also applies
18	GTST for STS Chapter 3, Section 3.2, Subsection 3.2.2	has 3 comments (98 to 100);	comment No. 7 also applies
19	GTST for STS Chapter 3, Section 3.2, Subsection 3.2.3	has 4 comments (101 to 104);	comment No. 7 also applies
20	GTST for STS Chapter 3, Section 3.2, Subsection 3.2.4	has 7 comments (105 to 111);	comment No. 7 also applies
21	GTST for STS Chapter 3, Section 3.2, Subsection 3.2.5	has 4 comments (112 to 115);	comment No. 7 also applies
22	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.1	has 23 comments (116 to 138);	comment Nos. 3, 7, 119 (Insert 1), 178 also apply
23	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.2	has 8 comments (139 to 146);	comment Nos. 3, 7, 116, 119, 126, 129, 135, 178 also apply
24	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.3	has 7 comments (147 to 153);	comment Nos. 3, 7, 116, 119, 120, 126, 129, 135, 144, 178 also apply
25	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.4	has 4 comments (154 to 157);	comment Nos. 3, 7, 116, 178 also apply
26	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.5	has 2 comments (158 to 159);	comment Nos. 3, 7, 116, 178 also apply
27	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.6	has 2 comments (160 to 161);	comment Nos. 3, 7, 116 also apply
28	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.7	has 1 comment (162);	comment Nos. 3, 7, 116 also apply
29	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.8	has 16 comments (163 to 178);	comment Nos. 3, 6, 7, 116, 127, 202 also apply
30	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.9	has 7 comments (179 to 185);	comment Nos. 3, 7, 116, 165 also apply
31	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.10	has 3 comments (186 to 188);	comment Nos. 3, 7, 116, 165, 178, 202 also apply
32	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.11	has 3 comments (189 to 191);	comment Nos. 3, 7, 116, 165, 178, 202 also apply
33	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.12	has 2 comments (192 to 193);	comment Nos. 3, 7, 116, 165, 178, 202 also apply

34	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.13..... has	2 comments (194 to 195); comment Nos. 3, 7, 116, 165, 178, 202 also apply
35	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.14..... has	2 comments (196 to 197); comment Nos. 3, 7, 116, 165, 178, 193, 202 also apply
36	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.15..... has	5 comments (198 to 202); comment Nos. 3, 7, 116, 119, 165, 172, 178 also apply
37	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.16..... has	5 comments (203 to 207); comment Nos. 3, 7, 116, 119, 165, 172, 178 also apply
38	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.17..... has	6 comments (208 to 213); comment Nos. 3, 7, 116, 165 also apply
39	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.18..... has	0 comments; comment Nos. 3, 7, 11, 116, 165 also apply
40	GTST for STS Chapter 3, Section 3.3, Subsection 3.3.19..... has	4 comments (214 to 217); comment Nos. 3, 7, 116 also apply
41	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.1..... has	10 comments (218 to 227); comment Nos. 3, 7 also apply
42	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.2..... has	2 comments (228 to 229); comment Nos. 3, 7 also apply
43	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.3..... has	7 comments (230 to 236); comment Nos. 3, 7, 535 also apply
44	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.4..... has	4 comments (237 to 240); comment Nos. 3, 7 also apply
45	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.5..... has	0 comments; comment Nos. 3, 7 also apply
46	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.6..... has	1 comment (241); comment Nos. 3, 7 also apply
47	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.7..... has	6 comments (242 to 247); comment Nos. 3, 7 also apply
48	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.8..... has	6 comments (248 to 253); comment Nos. 3, 7 also apply
49	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.9..... has	10 comments (254 to 263); comment Nos. 3, 7 11, also apply
50	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.10..... has	2 comments (264 to 265); comment Nos. 3, 7 11, also apply
51	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.11..... has	5 comments (266 to 270); comment Nos. 3, 7 also apply
52	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.12..... has	2 comments (271 to 272); comment Nos. 3, 7 also apply
53	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.13..... has	4 comments (273 to 276); comment Nos. 3, 7 also apply
54	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.14..... has	8 comments (277 to 284); comment Nos. 3, 7 11, E, also apply
55	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.15..... has	2 comments (285 to 286); comment Nos. 3, 7 also apply
56	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.16..... has	2 comments (287 to 288); comment Nos. 3, 7 also apply
57	GTST for GTS Chapter 3, Section 3.4, Subsection 3.4.17..... has	3 comments (289 to 291);
58	GTST for STS Chapter 3, Section 3.4, Subsection 3.4.17..... has	1 comment (292);
59	GTST for STS Chapter 3, Section 3.5, Subsection 3.5.1..... has	3 comments (293 to 295); comment No. 3 also applies
60	GTST for STS Chapter 3, Section 3.5, Subsection 3.5.2..... has	8 comments (296 to 303); comment No. 3 also applies
61	GTST for STS Chapter 3, Section 3.5, Subsection 3.5.3..... has	1 comment (304); comment No. 3 also applies
62	GTST for STS Chapter 3, Section 3.5, Subsection 3.5.4..... has	1 comment (305); comment No. 3 also applies
63	GTST for STS Chapter 3, Section 3.5, Subsection 3.5.5..... has	4 comments (306 to 309); comment No. 3 also applies
64	GTST for STS Chapter 3, Section 3.5, Subsection 3.5.6..... has	10 comments (310 to 319); comment No. 3 also applies
65	GTST for STS Chapter 3, Section 3.5, Subsection 3.5.7..... has	10 comments (320 to 329);
66	GTST for STS Chapter 3, Section 3.5, Subsection 3.5.8..... has	5 comments (330 to 334);
67	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.1..... has	4 comments (335 to 338); comment No. 3 also applies
68	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.2..... has	2 comments (339 to 340); comment No. 3 also applies
69	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.3..... has	8 comments (341 to 348); comment No. 3 also applies
70	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.4..... has	6 comments (349 to 354); comment No. 3 also applies
71	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.5..... has	1 comment (355); comment No. 3 also applies
72	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.6..... has	21 comments (356 to 376); comment No. 3 also applies
73	GTST for GTS Chapter 3, Section 3.6, Subsection 3.6.7..... has	0 comments
74	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.7..... has	1 comment (377); comment No. 3 also applies
75	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.8..... has	2 comments (378 to 379); comment No. 3 also applies

76	GTST for STS Chapter 3, Section 3.6, Subsection 3.6.9	has	4	comments (380 to 383); comment No. 3 also applies
77	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.1	has	1	comment (384); comment No. 3 also applies
78	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.2	has	18	comments (385 to 402); comment Nos. 3, 7 also apply
79	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.3	has	7	comments (403 to 409); comment Nos. 3, 7 also apply
80	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.4	has	1	comment (410); comment Nos. 3, 7 also apply
81	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.5	has	3	comments (411 to 413); comment Nos. 3, 7 also apply
82	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.6	has	10	comments (414 to 423); comment Nos. 3, 7 also apply
83	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.7	has	4	comments (424 to 427); comment Nos. 3, 7, 172 also apply
84	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.8	has	0	comments; comment Nos. 3, 7 also apply
85	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.9	has	6	comments (428 to 433); comment Nos. 3, 7 also apply
86	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.10	has	6	comments (434 to 439); comment Nos. 3, 7, 172 also apply
87	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.11	has	1	comment (440); comment Nos. 3, 7 also apply
88	GTST for STS Chapter 3, Section 3.7, Subsection 3.7.12	has	4	comments (441 to 444); comment Nos. 3, 7 also apply
89	GTST for STS Chapter 3, Section 3.8, Subsection 3.8.1	has	5	comments (445 to 449); comment Nos. 3, 7, 16 also apply
90	GTST for STS Chapter 3, Section 3.8, Subsection 3.8.2	has	7	comments (450 to 456); comment Nos. 3, 7, 16 also apply
91	GTST for STS Chapter 3, Section 3.8, Subsection 3.8.3	has	2	comments (457 to 458); comment Nos. 3, 7, 464 also apply
92	GTST for STS Chapter 3, Section 3.8, Subsection 3.8.4	has	6	comments (457; 459 to 463); comment Nos. 3, 7 also apply
93	GTST for STS Chapter 3, Section 3.8, Subsection 3.8.5	has	10	comments (465 to 474); comment Nos. 3, 7 also apply
94	GTST for STS Chapter 3, Section 3.8, Subsection 3.8.6	has	3	comments (475 to 477); comment Nos. 3, 7 also apply
95	GTST for STS Chapter 3, Section 3.8, Subsection 3.8.7	has	4	comments (478 to 482); comment Nos. 3, 7, 16 also apply
96	GTST for STS Chapter 3, Section 3.9, Subsection 3.9.1	has	7	comments (483 to 489); comment Nos. 3, 7 also apply
97	GTST for STS Chapter 3, Section 3.9, Subsection 3.9.2	has	1	comment (490); comment No. 3 also applies
98	GTST for STS Chapter 3, Section 3.9, Subsection 3.9.3	has	4	comments (491 to 494); comment No. 3 also applies
99	GTST for STS Chapter 3, Section 3.9, Subsection 3.9.4	has	5	comments (495 to 499); comment No. 3 also applies
100	GTST for GTS Chapter 3, Section 3.9, Subsection 3.9.5	has	0	comments; comment No. 3 also applies
101	GTST for GTS Chapter 3, Section 3.9, Subsection 3.9.6	has	0	comments; comment No. 3 also applies
102	GTST for GTS Chapter 3, Section 3.9, Subsection 3.9.7	has	6	comments (500 to 505); comment No. 3 also applies
103	GTST for STS Chapter 4	has	0	comments
104	GTST for STS Chapter 5, Section 5.1	has	1	comment (506);
105	GTST for STS Chapter 5, Section 5.2	has	2	comments (507 to 508); comment No. 506 also applies
106	GTST for STS Chapter 5, Section 5.3	has	1	comment (509);
107	GTST for STS Chapter 5, Section 5.4	has	1	comment (510);
108	GTST for STS Chapter 5, Section 5.5	has	19	comments (511 to 529); comment No. 478 also applies
109	GTST for STS Chapter 5, Section 5.6	has	4	comments (530 to 533); comment No. 292 also applies