

KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Monday, August 01, 2016 7:48 AM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Junggho Kim (jhokim02@gmail.com); Andy Jiyong Oh; Steven Mannon
Cc: Scully, Derek; Dias, Antonio; Umana, Jessica; Williams, Donna
Subject: APR1400 Design Certification Application RAI 507-8587 (16 - Technical Specifications)
Attachments: APR1400 DC RAI 507 SPSB 8587.pdf

KHNP,

The attachment contains the subject request for additional information (RAI). This RAI was sent to you in draft form. Your licensing review schedule assumes technically correct and complete responses within 30 days of receipt of RAIs. However, KHNP requests, and we grant, 45 days to respond to this RAI. We may adjust the schedule accordingly.

Please submit your RAI response to the NRC Document Control Desk.

Thank you,

Jeff Ciocco
New Nuclear Reactor Licensing
301.415.6391
jeff.ciocco@nrc.gov



Hearing Identifier: KHNP_APR1400_DCD_RAI_Public
Email Number: 565

Mail Envelope Properties (6d068d7d1be041198135dc4cbb186c6c)

Subject: APR1400 Design Certification Application RAI 507-8587 (16 - Technical Specifications)
Sent Date: 8/1/2016 7:47:46 AM
Received Date: 8/1/2016 7:47:48 AM
From: Ciocco, Jeff
Created By: Jeff.Ciocco@nrc.gov

Recipients:

"Scully, Derek" <Derek.Scully@nrc.gov>
Tracking Status: None
"Dias, Antonio" <Antonio.Dias@nrc.gov>
Tracking Status: None
"Umana, Jessica" <Jessica.Umana@nrc.gov>
Tracking Status: None
"Williams, Donna " <Donna.Williams@nrc.gov>
Tracking Status: None
"apr1400rai@khnp.co.kr" <apr1400rai@khnp.co.kr>
Tracking Status: None
"KHNPDCDRAIsPEm Resource" <KHNPDCDRAIsPEm.Resource@nrc.gov>
Tracking Status: None
"Junggho Kim (jhokim082@gmail.com)" <jhokim082@gmail.com>
Tracking Status: None
"Andy Jiyong Oh" <jiyong.oh5@gmail.com>
Tracking Status: None
"Steven Mannon" <steven.mannon@aecom.com>
Tracking Status: None

Post Office: HQPWMSMRS07.nrc.gov

Files	Size	Date & Time
MESSAGE	603	8/1/2016 7:47:48 AM
APR1400 DC RAI 507 SPSB 8587.pdf		188888
image001.jpg	5040	

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

REQUEST FOR ADDITIONAL INFORMATION 507-8587

Issue Date: 08/01/2016
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 16 - Technical Specifications
Application Section:

QUESTIONS

16-155

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

Justify deviation from the Standard Technical Specifications (STS) and the Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01).

All pages of the Technical Specifications and Bases have incomplete footers by omitting the unit name. Section 2.1.2.e of the Writer's Guide states the following: "The footer is the last line of each page and contains a left justified unit name..."

The referenced STS, NUREG 1432, states "Combustion Engineering STS" as the unit name in the footer. Other DCDs use various unit names. For example, EPR uses "U.S. EPR STS", ABWR uses "ABWR TS", APWR uses "US-APWR", and AP1000 uses "AP1000".

This completion of the footer for all Technical Specification (TS) and Bases pages is required to ensure that the TS are complete and that the guidance in TSTF-GG-05-01 is followed. This completion will also align the TS with the STS.

16-156

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the use of capitalization, specifically as it applies to terms that are or are not defined in Technical Specifications (TS) Section 1.1. The Writer's Guide for Plant Specific Improved Technical Specifications, Section 3.3.2 contains the guidance for capitalization. Section 3.3.2.b states "When used in accordance with the given definitions, these words

REQUEST FOR ADDITIONAL INFORMATION 507-8587

and phrases are called “defined terms” and are written in all caps to bring attention to their status. Capitalization is maintained throughout the Technical Specifications and Bases, including headers, Tables of Contents, etc.”

On B2.1.1-3 (2nd line of APPLICABILITY), the text reads “...these are the only modes in which...” while it should read “...these are the only MODES in which...”. This change would align the text with the Writer’s Guide and the STS, NUREG 1432, which capitalizes “MODES”.

In TS Subsection 3.3.1, the Bases for SR 3.3.1.8, the text uses "CALORIMETRIC CALIBRATION" which is not a defined term, and therefore should not be capitalized. In the Bases for SR 3.3.1.10, the term “operability” is used, which is a defined term and should be capitalized.

The applicant is requested to perform a global check of the TS and Bases to ensure that the capitalization guidance is being followed, and that alignment with the STS is being maintained.

16-157

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, “Standard Technical Specifications (STS)-Combustion Engineering Plants,” Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer’s Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer’s Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the use of symbols in the text of the Bases instead of the words the symbols represent. The Writer’s Guide for Plant-Specific Improved Technical Specifications, Section 3.3.4.d states “Widely understood symbols (i.e., Δ /k, %, ft) should be used in tables, figures, and text in place of the words the symbols represent.” The symbols <, >, \leq , and \geq are considered widely understood. The symbols are what are used in the STS NUREG 1432.

On page B3.1.5-6, in ACTIONS A.1 and A.2, the text reads “If one or more CEAs (regulating, shutdown or part strength) are misaligned by greater than 16.8 cm (6.6 in) and less than or equal to 48.3 cm (19 in), or one CEA misaligned by greater than 48.3 cm (19 in), continued...”. The 2 occurrences of “greater than” should be replaced with “>” and the phrase “less than or equal to” should be replaced with “ \leq ”.

The third paragraph of ACTIONS A.1 and A.2 (page B3.1.5-6) has an occurrence of “less than”. On page B3.1.5-7, there are 2 occurrences of “greater than”. On page B3.1.6-4, in the third paragraph of the “SR 3.1.6.1” discussion, there is an occurrence of “greater than or equal to.”

The applicant is requested to perform a global check of the TS and Bases to ensure that symbols are being properly used where required. This will align the text with the guidance within the Writer’s Guide and the STS text.

16-158

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, “Standard Technical Specifications (STS)-Combustion Engineering Plants,” Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer’s Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer’s Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

REQUEST FOR ADDITIONAL INFORMATION 507-8587

The applicant is requested to address the issue of keeping symbols, numbers, and units together in the text. The Writer's Guide for Plant Specific Improved Technical Specifications, Section 3.3.4.b states "Keep unit abbreviations and the numbers to which they refer on the same line." Section 3.3.4.d states "Keep symbols and the numbers to which they refer on the same line."

In Technical Specification (TS) 5.5.16.2.ii, "≥" occurs on one line and "10 psig" is on the next line. In the Bases, on page B3.1.7-7, in the first paragraph of C.1, there is an occurrence of "14" on one line and "EFPD" on the next line. On page B3.2.1-6, the fourth paragraph on the page has an occurrence of "15" on one line and "minutes" on the next line. On Page B3.2.2-5, the first paragraph on the page has an occurrence of "20%" on one line and "RTP" on the next line.

With regard to numbers and symbols, it is unnecessary to have a space between the number and the symbol. Using an example from above, "20 %" should read "20%". This was discussed in RAI 8057, Question 16-62. In the response, the applicant stated that a global check would be performed and all such instances of unnecessary spaces would be corrected.

This would also apply to references to the CFR. An example would be in the first paragraph of TS 5.7. The text includes "10 CFR Part 20" with the "10" being on one line and the "CFR Part 20" being on the next line. This breaking up of CFR references is also not consistent with the text contained in the STS.

This would also apply to references to various LCO's. An example would be on page B3.8.3-2, the reference to LCO 3.8.1 and LCO 3.8.2. The text "LCO" is on one line with the remaining text "3.8.1 and LCO 3.8.2" on the next line. This does not align with the STS and should be corrected.

The applicant is requested to perform a global check of the TS and Bases to ensure that this formatting issue is resolved. This will align the text with the guidance within the Writer's Guide and the STS text.

16-159

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

Justify the deviation from the STS regarding the text used in the References Sections of the Bases.

In the STS, when there is a reference made to a section of the FSAR, the reference is stated "FSAR, Section []". The applicant's same reference will read "DCD Tier 2, Section X". Section 4.2.8.a (the first bullet) of the Writer's Guide for Plant Specific Improved Technical Specifications states that "sections of the FSAR where above information is contained;". Section 4.2.8.b states "Where there are multiple references to different sections of the same document e.g., FSAR section or General Design Criteria, make each a separate reference. References should be to specific sections rather than to a general document, such as the FSAR."

The applicant is requested to perform a global check of the references in the Bases. All references to various sections of the FSAR should be written as "FSAR" vice "DCD Tier 2". This would align the text with the text contained in the STS and would follow the guidance in the Writer's Guide.

16-160

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed

REQUEST FOR ADDITIONAL INFORMATION 507-8587

rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

Justify the deviation from the STS regarding referring to a reference with the text of the Bases.

Section 3.1.1.j of the Writer's Guide for Plant Specific Improved Technical Specifications states the following: "When referring to a reference within the text (e.g., "described in Reference 3") write out "Reference." When the reference is added as an aside, use the format "(Ref. 3)" or "(Refs. 1 and 2.)"

Some examples where this formatting guidance is not followed are:

- Page B3.1.3-1: text reads "...GDC 26, 28, and 29 (Reference 1), reactivity..." vice "...GDC 26, 28, and 29 (Ref. 1), reactivity..."
- Page B3.1.3-2: text reads "Every accident evaluation (Reference 2) is, therefore..." vice "Every accident evaluation (Ref. 2), therefore..."
- Page B3.1.4-1: text reads "According to GDC 11 (Reference 1), the..." vice "According to GDC 11 (Ref. 1), the..."
- Page B3.1.5-1: text reads "...Appendix A, GDC 10 and 26 (Reference 1), and 10 CFR 50.46 (Reference 2)." vice "...Appendix A, GDC 10 and 26 (Ref. 1), and 10 CFR 50.46 (Ref. 2)."
- Page B3.1.5-2: text reads "...are analyzed in the safety analysis (Reference 3)." vice "...are analyzed in the safety analysis (Ref. 3)."

The applicant is requested to perform a global check of the Bases to ensure that all text referring to references is properly annotated. This would align the text with the text contained in the STS and would follow the guidance in the Writer's Guide.

16-161

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of using initials for documents vice the entire document name.

The term "RG" is used in place of "Regulatory Guide" many times without being defined the first time it is used in the text. "RG" is not an approved acronym nor is it a defined term in the Technical Specifications (TS). Therefore, unless it is defined the first time it is used in a section, the acronym cannot be used.

Section 3.2.2.a of the Writer's Guide for Plant Specific Improved Technical Specifications states: "Upon the first reference in each Specification or Bases to a phrase for which an abbreviation is desired to be used (except as allowed in Writer's Guide Section 3.2.2.b below), use the full phrase followed by the acronym or initialism set off by parenthesis. Use the abbreviation alone on all subsequent references in that Specification or Bases." Section 3.2.2.b discusses commonly used and understood acronyms and initialisms, which "RG" does not fall under.

An occurrence where this guidance is correctly applied is on page 5.5-18 of the NUREG 1432 STS, in TS 5.5.17. The text reads "...as endorsed by Regulatory Guide 1.129, Revision 2 (RG), with RG exceptions..." The STS then contains RG many times thereafter.

REQUEST FOR ADDITIONAL INFORMATION 507-8587

There are several occurrences of where the guidance in the Writer's Guide is not followed and the text deviates from the STS. Some include: page 5.3-1 (3 occurrences), pages 5.4-1, 5.5-5, 5.5-11 and 5.5-15 (1 occurrence on each page), page 5.5-10 (4 occurrences), and page 5.5-16 (6 occurrences).

The applicant is requested to perform a global check of the Bases to ensure that all uses of acronyms/initials are done correctly by defining the term upon its first use. This would align the text with the text contained in the STS and would follow the guidance in the Writer's Guide.

16-162

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

Justify deviation from the STS regarding the use of hyphens in the text of the Technical Specifications (TS) and the Bases.

There are numerous occurrences where the text of the TS and Bases has random hyphens in the text which are not included in the STS, some of which fall in between a number and the corresponding unit. The Writer's Guide for Plant Specific Improved Technical Specifications, Section 3.3.3.f, states "Do not use a hyphen to represent range, because it might be confused with a minus sign." While these examples do not occur within a range, the hyphens are unwarranted and unnecessarily complicate the text. The examples are: page 1.1-1 "in-place", page 1.3-5 "24-hour", page 1.3-12 "1-hour", pages B3.8.3-6 and B3.8.3-8 "31-day", and page B3.8.4-2 has two occurrences of "58-cell".

The applicant is request to perform a global check of the TS and Bases and remove all unnecessary hyphens from the text. This would align the text with the STS.

16-163

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of initial capitalization in the Technical Specifications (TS) as it applies to system names which would align the text with the STS.

Section 3.3.2.d.4 of the Writer's Guide for Plant Specific Improved Technical Specifications states "System Names – usually when the word "system" follows a phrase, use initial caps for the phrase and "System.""

Examples of where this correction is required include:

- In the LCO section (statement 'a') in TS 3.1.7., the text reads "With the core operating limit supervisory system (COLSS) in service..."

REQUEST FOR ADDITIONAL INFORMATION 507-8587

- Condition A for TS 3.2.1 reads “Core operating limit supervisory system (COLSS)...”
- The LCO statement for TS reads “...in the core operating limit supervisory system (COLSS)...”

The three preceding examples should read “Core Operating Limit Supervisory System (COLSS)”.

The applicant is request to perform a global check of the TS to ensure that all occurrences of initial capitalization are executed correctly. This would align the text with the STS and the guidance contained in the Writer's Guide.

16-164

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, “Standard Technical Specifications (STS)-Combustion Engineering Plants,” Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

Correct the formatting in the Technical Specification (TS) Bases regarding paragraphs and the use of line breaks.

In the TS Bases, the text ends before the end of the line on the page. The next line, which begins a new paragraph, appears flush left with no line break in between the two paragraphs. This is inconsistent with standard practice and also inconsistent with the STS. Examples of where there formatting error occurs can be found on:

- Page B2.1.1-1 (third paragraph of Background Section)
- Page B3.1.1-2 (first paragraph of Applicable Safety Analysis Section)
- Page B3.1.3-4 (Applicability Section text)
- Page B3.1.4-3 (Applicability Section text)
- Page B3.1.5-1 (third paragraph of Background Section)

The applicant is requested to perform a global check of the Bases to ensure that all occurrences of this error are corrected. This would align the text with the STS and improve clarity of the Bases.

16-165

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, “Standard Technical Specifications (STS)-Combustion Engineering Plants,” Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

Correct the formatting in the Technical Specification Bases as it relates to ordered lists in the text of the Bases.

Section 2.1.3.c of the Writer's Guide for Plant Specific Improved Technical Specifications states “Punctuate the last item in each listing level with a period, colon or semicolon as appropriate (that is, use a semicolon for all the list items except the last one, in which case, use a period). In general, end the second-to-last line in each listing level with a conjunction.” Although the Writer's Guide states to use a semicolon at the end of each list item, the standard practice in Rev. 4 of the STS NUREGs is to use a

REQUEST FOR ADDITIONAL INFORMATION 507-8587

comma. In many cases, the omitted conjunction can impede the clarity and intended purpose of the text. Examples of this formatting inconsistency can be found on:

- Page B2.1.1-2 (Applicable Safety Analysis Section)
- Page B2.1.2-2 (Applicable Safety Analysis Section)
- Page B3.1.1-3 (Applicable Safety Analysis Section)
- Page B3.1.1-6 (Surveillance Requirements Section)
- Page B3.1.2-5 (Surveillance Requirements Section)

The applicant is requested to perform a global check of the Bases to ensure that all occurrences of this deviation from the STS NUREGs are changed to conform to the NUREG-1432, Rev. 4, ordered list convention. Staff notes that the writer's guide does not explicitly address formatting guidance for ordered lists in the Bases; however, using a comma at end of each list item and an appropriate conjunction after the comma at end of next to last list item, is the STS NUREG convention in the Bases, regardless of what the WG 2.1.3.c says. This would align the text with the STS Bases formatting convention and improve clarity of the Bases.

16-166

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of initial capitalization in the Technical Specifications (TS) Bases as it applies to system names which would align the text with the STS.

Section 3.3.2.d.4 of the Writer's Guide for Plant Specific Improved Technical Specifications states "System Names – usually when the word "system" follows a phrase, use initial caps for the phrase and "System.""

Examples of this formatting error can be found on:

- Page B3.1.2-1 "reactor coolant system (RCS)"
- Page B3.1.2-2 "chemical and volume control system (CVCS)"
- Page B3.1.4-1 "reactor coolant system (RCS)"
- Page B3.1.5-1 "digital rod control system (DRCS)"

- Page B3.1.5-1 "reactor regulating system (RRS)"

The applicant is requested to perform a global check of the Bases to ensure that all occurrences of this error are corrected. This would align the text with the STS and improve clarity of the Bases by aligning with the guidance contained within the Writer's Guide.

16-167

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

REQUEST FOR ADDITIONAL INFORMATION 507-8587

The applicant is requested to address the issue of formatting with respect to Completion Times within the Technical Specifications (TS).

Section 2.5.5.d.4 of the Writer's Guide for Plant Specific Improved Technical Specifications states "The top lines of the Required Action and associated Completion Time must align, even when affected by Notes." Examples of this formatting error are:

- TS 3.3.6 – Completion Time "6 hours" for Required Action E (should be E.1, this is captured in another editorial comment) is aligned with a line break vice the Required Action text.
- TS 3.3.11 – Completion Time "6 hours" for Required Action E.1 is aligned with a line break vice the Required Action text.
- TS 3.4.13 – Completion Time "36 hours" for Required Action B.2 is aligned with the logical connector "AND" vice the Required Action text.

The applicant is requested to perform a global check of the TS to ensure that all occurrences of this error are corrected. This would align the text with the STS, conform to the guidance of the Writer's Guide, and eliminate potential human error situations.

16-168

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of formatting with respect to Frequencies within the Technical Specifications (TS).

Section 2.5.6.d of the Writer's Guide for Plant Specific Improved Technical Specifications states "The top lines of the Surveillance text and its Frequency (e.g., top line of Note if applicable, or Frequency text) begin on the same line." Examples of this formatting error are:

- SR 3.3.9.2 – the Frequency "92 days" aligns with the middle line of 3 lines of text within the Surveillance column.
- SR 3.4.5.3, SR 3.4.6.3, SR 3.4.6.4 and SR 3.4.7.3 – the Frequencies align with the Note within the Surveillance column vice the actual Surveillance text. Examples of where this alignment occurs correctly are SR 3.4.11.1 and SR 3.4.11.2.

The applicant is requested to perform a global check of the TS to ensure that all occurrences of this error are corrected. This would align the text with the STS, conform to the guidance of the Writer's Guide, and eliminate potential human error situations.

16-169

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

REQUEST FOR ADDITIONAL INFORMATION 507-8587

The applicant is requested to address the issue of punctuation in the Technical Specifications (TS), specifically in NOTES.

There are several occurrences where sentences within NOTES do not end with a period. These examples are:

- SR 3.8.1.17 – The final sentence in the NOTE
- SR 3.8.1.19 – The only sentence in NOTE 1 and the final sentence in NOTE 2
- SR 3.8.4.3 – The final sentence in NOTE 2

The applicant is requested to perform a global check for punctuation, paying particular attention to NOTES. This would also align the text with the Standard Technical Specifications (STS).

16-170

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of line breaks as they pertain to Logical Connectors in the Technical Specifications (TS).

Section 2.1.5.a of the Writer's Guide for Plant-Specific Improved Technical Specifications states "Logical Connectors appear on lines by themselves, with a blank line immediately above and below them unless spacing is affected by a Note in another column."

When a Logical Connector is used in the Required Action column of the TS, there needs to be a line break between the last line of the text in the Completion Time column (if applicable) and the Logical Connector when not affected by a Note as stated above. This is not done consistently in the TS. Examples of where the needed line break is omitted is:

- Page 3.6.3-4 – a line break is required between the word "containment" in the Completion Time column and the Logical Connector "AND" above Required Action D.3.
- Page 3.7.6-1 – a line break is required between the word "thereafter" in the Completion Time column and the Logical Connector "AND" above Required Action A.2.
- Page 3.8.1-1 – a line break is required between the word "feature(s)" in the Completion Time column and the Logical Connector "AND" above Required Action A.3.
- Page 3.8.1-2 – a line break is required between the word "thereafter" in the Completion Time column and the Logical Connector "AND" above Required Action B.2.

This global check would ensure the properly formatting of the Logical Connectors, conform to the guidance within the Writer's Guide and align the text with the Standard Technical Specifications (STS).

16-171

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

REQUEST FOR ADDITIONAL INFORMATION 507-8587

In RAI 8057, Question 16-59, the staff inquired why the applicant was deviating from the Standard Technical Specifications (STS) as they pertained to TS 3.1.1 Shutdown Margin (SDM). The STS only has one TS for SDM and the applicant divided this TS into two based on Modes of Applicability, which would be 3.1.1 and 3.1.2.

In the response, the applicant stated that newly proposed TS 3.1.2 and its associated Bases would be incorporated into TS 3.1.1 and that TS 3.1.2 and its Bases would be deleted, thus aligning with the STS. The applicant also provided mark-up pages of the affected TS and Bases. Based on the mark-ups, the applicant proposes deleting TS 3.1.2 and marked the pages of TS 3.1.2 and its Bases as "RESERVED", although there was no "RESERVED" designation on the Table of Contents pages for the TS and the Bases. This action would prevent the re-numbering of the sections following TS 3.1.2, i.e. sections 3.1.3 through 3.1.12.

Section 2.8.1.a of the Writer's Guide for Plant-Specific Improved Technical Specifications, which relates to Format Issues Related to Future License Amendments states "...Similarly, do not retain pages made blank by deletion of material by marking the page "Intentionally blank,"..."

The staff believes that the approach provided by the applicant is not correct for a DCD application. The TS for sections 3.1.3 through 3.1.12 should be re-numbered as appropriate following the deletion of proposed TS 3.1.2, and that a global check of the TS and Bases should be done to ensure that the re-numbering is properly captured in all aspects, including but not limited to:

- Table of Contents for both the TS and Bases
- Pages of the TS including:

- Title
- Subsection Title
- LCO Statement
- Upper right hand corner under the title
- Surveillance Requirement Numbers
- Page Numbers

- Pages of the Bases including

- Title
- Subsection Title
- Upper right hand corner under the title
- Page Numbers

- Pointers to these sections contained throughout the TS and Bases, such as

- LCO 3.0.7
- TS 5.6.3.a
- TS 5.6.3.b.6

This global correction is required to ensure that the TS follow a correct order, vice having TS that go from 3.1.1 to 3.1.3 and thereafter, and not having a TS 3.1.2 at all. This would also align the APR1400 TS with the STS with the exception of APR1400 TS 3.1.9 through 3.1.12, due to the fact that TS 3.1.9 is a new proposed TS which alters the numbering of the TS after 3.1.9.

16-172

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

REQUEST FOR ADDITIONAL INFORMATION 507-8587

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of References within the Technical Specification (TS) Bases.

Section 4.2.1.g of the Writer's Guide for Plant Specific Improved Technical Specifications states "References in the "References" subsection should be in numeric order and match the order of their discussion in the text." Two examples of this guidance not being followed is:

The References in the Bases for TS 2.1.2

The references are currently listed as follows:

1. 10 CFR Part 50, Appendix A, GDC 14, 15, and 28.
2. ASME Section III, Article NB-7000.
3. ASME Section XI, Article IWX-5000.
4. 10 CFR 50.34.
5. DCD Tier 2, Chapter 15.
6. ASME OM Code.

The references should be listed as they appear in the text as follows:

1. 10 CFR Part 50, Appendix A, GDC 14, 15, and 28.
2. ASME Section III, Article NB-7000.
3. ASME Section XI, Article IWX-5000.
4. ASME OM Code.
5. 10 CFR 50.34.
6. DCD Tier 2, Chapter 15.

Also, corrections are required in the body of the text to correct the reference numbers as follows:

1. In the second paragraph of the Background section, ASME OM Code should be reference 4 vice 6 and 10 CFR 50.34 should be reference 5 vice 4.
2. In the second full paragraph of the Applicable Safety Analysis section on page B2.1.2-2, the text references the safety analysis. Therefore that reference to DCD Tier 2, Chapter 15 should be reference 6 vice 5.

The References in the Bases for TS 3.4.9

The references are currently listed as follows:

1. NUREG-0737, II.E.3.1
2. DCD Tier 2, Chapter 15

The references should be listed as they appear in the text as follows:

1. DCD Tier 2, Chapter 15
2. NUREG-0737, II.E.3.1

Also, corrections are required in the body of the text to correct the reference numbers as follows:

1. In the third and last paragraph of the Background section on page B3.4.9-1, the references that refer to the accident analysis should be reference 1 vice 2.

REQUEST FOR ADDITIONAL INFORMATION 507-8587

2. In the third paragraph of the Applicable Safety Analysis on page B3.4.9-2, the reference that refers to NUREG-0737 should be reference 2 vice 1.

The applicant is requested to perform a global check of the Bases to ensure that all references listed in the References section are listed in the order in which they appear in the text of the Bases. The references in the body of text should also be accurate and reflect the order in the References Section. These corrections are required to ensure the accuracy of the Bases and to ensure the guidance in the Writer's Guide is followed.

16-173

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of column header formatting as it relates to the ACTIONS table.

The STS convention for STS Rev. 4, despite the writer's guide, is that the Table title row--for Action and Surveillance tables--has one blank line between cell top border and first line of title text, and one blank line between last line of title text and cell bottom border

The applicant is requested to perform a global correction with respect to the column headers "CONDITION", "REQUIRED ACTION", and "COMPLETION TIME." By adhering to the guidance in the Writer's Guide, the probability of human errors is reduced and the text will align with the STS.

This global correction is required to ensure the correct formatting of the TS, to reduce the likelihood of a human error, and to align the text with the STS.

16-174

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of column header formatting as it relates to the SURVEILLANCE REQUIREMENTS table.

The STS convention for STS Rev. 4, despite the writer's guide, is that the Table title row--for Action and Surveillance tables--has one blank line between cell top border and first line of title text, and one blank line between last line of title text and cell bottom border

REQUEST FOR ADDITIONAL INFORMATION 507-8587

The applicant is requested to perform a global correction with respect to the column headers "SURVEILLANCE REQUIREMENT" and "FREQUENCY." By adhering to the guidance in the Writer's Guide, the probability of human errors is reduced and the text will align with the STS.

This global correction is required to ensure the correct formatting of the TS, to reduce the likelihood of a human error, and to align the text with the STS.

16-175

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the issue of statements within the Applicable Safety Analyses section with various portions of the Technical Specifications (TS) Bases.

The Applicable Safety Analyses section of many portions of the TS Bases traditionally ends with a reference to the LCO Selection Criteria, stating that Criteria "X" (can be one of more of Criteria 1 through 4) are satisfied or met and states the applicable portion of the CFR, i.e. 10 CFR 50.36(c)(2)(ii). This statement is not consistent throughout the TS Bases, as described in the following examples:

- Page B 3.7.7-3
 - The statement reads "The CCWS satisfies LCO SELECTION CRITERION 3." In RAI 8065, Question 16-26, the staff requested an explanation as to why the definition for LCO SELECTION CRITERIA is included in TS Section 1.1 for the APR1400 which deviates from the STS. In the response dated 9/15/15, the applicant stated that the definition for LCO SELECTION CRITERIA would be removed from Section 1.1 to align with the STS. Therefore, LCO SELECTION CRITERIA should not be used here. The statement should be revised to align with the STS as follows: "The CCWS satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii)."
- Page B 3.8.1-3
 - The statement reads "The AC sources satisfy CRITERION 3 of 10 CFR 50.36(c)(2)(ii)." The word CRITERION is not a defined term in Section 1.1 and should not be in all caps.
- Page B 3.8.3-2
 - The statement references 10 CFR 50.36(c)(2)(ii). However, the CFR reference is broken up on 2 lines. This should be avoided and should be addressed as stated in the third paragraph of Global Editorial Comment-4 in this document.
- Page B 3.9.2-1
 - The statement reads "The SRMs satisfy LCO SELECTION CRITERION 3." This issue is discussed above for Page B3.7.7-3. This misuse of LCO SELECTION CRITERIA also appears in:
 - Bases for TS 3.4.4 and 3.4.9.
- Page B 3.9.4-1
 - The statement reads "Shutdown Cooling System and Coolant Circulation – High Water Level satisfies LCO Selection Criterion 2." The statement does not have Selection Criterion in all caps as used elsewhere, however, it should not be in all caps. As in the STS, the statement should refer to the STS as follows: "SDC and Coolant Circulation - High Water Level satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii)."
- Page B 3.9.6-1
 - The statement reads "Refueling water level satisfies LCO SELECTION CRITERION 4." The statement should be addressed by:
 - Relocating the statement from the beginning of the LCO section to the end of the Applicable Safety Analysis section in its own paragraph.
 - Replacing the all caps LCO SELECTION CRITERIA with the reference to the CFR.

The applicant is requested to address these statements throughout the TS Bases. These corrections would align the text with the STS as well as the response to RAI 8065 Question 16-26.

REQUEST FOR ADDITIONAL INFORMATION 507-8587

16-176

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

The applicant is requested to address the phrasing of Notes throughout the Technical Specifications (TS).

In a Surveillance Requirement (SR) Note, unnecessary words should be omitted to ensure the Note is clear and concise. The following are examples of Notes that contain unnecessary words that should be corrected, which would also align the text with the STS:

- SR 3.1.7.1
 - "This Surveillance is not required to be..." should read "Not required to be..."
- SR 3.3.8.3
 - "This SR is applicable in MODES 1, 2, 3, and 4 only." should read "Only required to be met in MODES 1, 2, 3, and 4."
- SR 3.3.8.4
 - "This SR is only applicable during..." should read "Only required to be met during..."
- SR 3.3.8.5
 - "Surveillance Requirement of Actuation Logic shall include actuation of each..." should read "Surveillance of Actuation Logic shall include the actuation of each..."

The applicant is requested to perform a global check of the TS to ensure that all Notes are as clear and concise as possible. This can be most easily accomplished by aligning the text with the STS.

16-177

Paragraph (a)(11) of 10 CFR 52.47 states that a design certification (DC) applicant is to propose Technical Specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. NUREG-1432, "Standard Technical Specifications (STS)-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The Writer's Guide for Plant-Specific Improved Technical Specifications (TSTF-GG-05-01) also provides guidance for the format and content of the TS. There are format and content differences between the DCD and the Writer's Guide. These following corrections are necessary to ensure the completeness and accuracy of the TS and Bases.

Correct the use of the term "LCO SELECTION CRITERIA" throughout the Technical Specifications (TS) and Bases by replacing it with the appropriate reference to Criterion 1, 2, 3, or 4 of 10 CFR 50.36(c)(2)(ii), and do not use this phrase as a defined term.

In response to RAI 8065, Question 16-26, the applicant stated that the newly proposed definition of "LCO SELECTION CRITERIA" would be removed from the TS Definition Section. However, after reviewing the provided markups, the staff noted that not all occurrences of "LCO SELECTION CRITERIA" appearing in all capitals (as all defined terms are) had not been corrected throughout the TS and the Bases.

The applicant is requested to perform a global check of the TS and Bases to ensure that all occurrences of the incorrect capitalization of the now undefined term are corrected.



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment