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SUBJECT: Transmittal of Report TSTF-GG-05-01, Revision 1, "Writer's Guide for Plant-Specific Improved Technical Specifications "

Enclosed is TSTF report TSTF-GG-05-01, Revision 1, "Writer's Guide for Plant-Specific Improved Technical Specifications." The document, referred to as the "Writer's Guide" is the current version of a document developed by the NRC and the industry during the initial development of the Improved Standard Technical Specifications (ISTS). The industry has maintained the Writer's Guide, revising it as needed to reflect the format and content of the ISTS. The Writer's Guide is used by the TSTF and licensees when developing TSTF Travelers and plant-specific license amendment requests.

The TSTF is providing this document to the NRC for information. No review or approval is requested.

Should you have any questions, please do not hesitate to contact us.



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**TSTF-GG-05-01**  
**REVISION 1**

**WRITER'S GUIDE FOR PLANT-SPECIFIC  
IMPROVED TECHNICAL SPECIFICATIONS**

**AUGUST 2010**

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## **ACKNOWLEDGMENTS**

This document, *Writer's Guide for Plant-Specific Improved Technical Specifications*, TSTF-GG-05-01, is an update to NEI-01-03, *Writer's Guide for the Improved Standard Technical Specifications*, published in November 2001. The NEI document was an update to NUMARC 93-03, *Writer's Guide for the Improved Standard Technical Specifications*, published in February 1993. This revision incorporates the changes in format and content which have occurred since NUMARC 93-03 and NEI 01-03 were published and represents the format and content of Revision 3 of the Improved Standard Technical Specifications, NUREGs 1430, 1431, 1432, 1433, and 1434. In those instances in which the Revision 3 format differs from that of earlier revisions, the earlier format is also described.

This document was revised by EXCEL Services Corporation for the Technical Specifications Task Force (TSTF). The TSTF is a activity sponsored by the Westinghouse Owners Group (WOG), the Boiling Water Reactors Owners Group (BWROG), and the Babcock & Wilcox Owners Group (BWOG). The TSTF wishes to acknowledge the efforts of the authors of NUMARC 93-03 and NEI 01-03, as well as industry and U.S. Nuclear Regulatory Commission contributors involved in updating this document.

## **REVISION HISTORY**

Revision 0 was published in June 2005.

Revision 1 added additional specificity to the placement of Notes in Conditions, Required Actions, Surveillances, Design Features, Administrative Controls, and Bases to eliminate inconsistencies in the Improved Standard Technical Specifications. Revision 1 also clarified the placement and use of brackets in the Improved Standard Technical Specifications.



## TABLE OF CONTENTS

ACKNOWLEDGMENTS	
REVISION HISTORY	
TABLE OF CONTENTS .....	i
INTRODUCTION .....	1
1 DEFINITIONS.....	1
1.1 Definitions .....	1
2 FORMAT.....	3
2.1 General Format.....	3
2.1.1 Technical Specifications Format .....	3
2.1.2 Page Format.....	3
2.1.3 Ordered List Format.....	7
2.1.4 Note Format .....	8
2.1.5 Logical Connector Format .....	9
2.1.6 Double and Single Line Format .....	9
2.1.7 Figure Format .....	12
2.1.8 Table Format.....	13
2.1.9 Figure and Table Footnote Format .....	14
2.2 Front Matter Format .....	14
2.2.1 Title Page Format .....	14
2.2.2 Table of Contents Format.....	15
2.2.3 List of Effective Pages Format .....	16
2.3 Technical Specification Chapter 1.0, "Use and Application" Format .....	17
2.3.1 Chapter Title Format.....	17
2.3.2 Section 1.1, "Definitions" Format.....	17
2.3.3 Sections 1.2, "Logical Connectors"; 1.3, "Completion Times"; and 1.4, "Frequency" Format.....	19
2.4 Technical Specification, Chapter 2.0, "Safety Limits" and Chapter 4.0, "Design Features" Format.....	20
2.4.1 Chapter Title Format.....	20
2.4.2 Section and Specification Format.....	20
2.5 Technical Specification Chapter 3, "Limiting Conditions for Operation (LCOs) and Surveillance Requirements (SRs)" Format.....	22
2.5.1 Technical Specification Section 3.0, "LCO and SR Applicability" Format.....	22
2.5.2 Technical Specification Sections 3.1 Through 3.9 (3.10) Title Format	24
2.5.3 Technical Specification Sections 3.1 Through 3.9 (3.10) LCO Format	24
2.5.4 Technical Specification Sections 3.1 Through 3.9 (3.10) Applicability Format.....	24
2.5.5 Technical Specification Sections 3.1 Through 3.9 (3.10) Actions Format .....	25
2.5.6 Technical Specification Sections 3.1 Through 3.9 (3.10) Surveillance Requirements Format.....	26

2.5.7	Technical Specification Sections 3.1 Through 3.9 (3.10) Double and Single Line Format and Use of "Continued" Notation.....	27
2.5.8	Instrumentation Function Table Format .....	29
2.6	Technical Specification Chapter 5.0, "Administrative Controls" Format ...	30
2.6.1	Chapter Title Format .....	30
2.6.2	Section Format.....	30
2.7	Bases Format .....	32
2.7.1	Technical Specification Section 3.0 Bases Format.....	32
2.7.2	Technical Specification Chapter 2.0 and Sections 3.1 Through 3.9 (3.10) Bases Format.....	33
2.8	Format Issues Related to Future License Amendments.....	36
2.8.1	Repagination.....	36
2.8.2	Temporary Changes .....	36
3	STYLE.....	37
3.1	Vocabulary .....	37
3.1.1	General Guidance .....	37
3.2	Acronyms and Initialisms .....	38
3.2.1	General Guidance .....	38
3.2.2	Specific Use .....	38
3.3	Sentence Structure .....	39
3.3.1	General Guidance .....	39
3.3.2	Capitalization .....	41
3.3.3	Number Representation .....	42
3.3.4	Symbols and Units of Measure .....	43
4	CONTENT .....	45
4.1	Technical Specifications Content .....	45
4.1.1	Chapter 1.0 "Use and Application" Content.....	45
4.1.2	Chapter 2.0 "Safety Limits" Content .....	45
4.1.3	Chapter 3 General Content.....	45
4.1.4	Chapter 3 LCO Content .....	46
4.1.5	Chapter 3 Applicability Content.....	47
4.1.6	Chapter 3 Actions Content.....	48
4.1.7	Chapter 3 Surveillance Requirements (SRs) Content .....	51
4.1.8	Chapter 4.0 "Design Features" Content .....	53
4.1.9	Chapter 5.0 "Administrative Controls" Content .....	53
4.2	Bases Content .....	53
4.2.1	General Bases Content.....	54
4.2.2	Background .....	55
4.2.3	Applicable Safety Analyses .....	55
4.2.4	Limiting Condition For Operation (LCO) (or Safety Limits).....	56
4.2.5	Applicability.....	56
4.2.6	Actions (or Safety Limit Violation) .....	56
4.2.7	Surveillance Requirements .....	57
4.2.8	References .....	57
5	SPECIAL GUIDANCE FOR NUREGS 1430, 1431, 1432, 1433, AND 1434 .....	59
5.1	The Generic Improved Standard Technical Specifications.....	59

5.1.1	Repeated Specifications .....	59
5.1.2	Brackets.....	59
5.1.3	Punctuation.....	60
5.1.4	Running Headers .....	60
5.1.5	Reviewer’s Notes .....	61
5.1.6	Front Matter .....	61
5.1.7	Inequality Signs .....	61
5.1.8	Required Action Notes .....	61
5.1.9	Required Actions That Cross Pages .....	62
INDEX .....		64

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## **INTRODUCTION**

This Writer's Guide provides specific guidance for the preparation of plant-specific Improved Technical Specifications (ITS). The purpose of this guide is to:

1. Provide guidance in the format and content of the Improved Technical Specifications; and
2. Promote consistency in content, format, and style.

The examples in this document are for format illustrative purposes only. For more specific examples, the reader should refer to NUREGs 1430, 1431, 1432, 1433, and 1434 (i.e., ISTS NUREGs). Unless otherwise noted, the guidance in this document is consistent with the format used in Revision 3 of the ISTS NUREGs. Formatting guidance consistent with Revisions 0, 1, and 2 of the ISTS NUREGs is provided where the formatting differs between those Revisions and Revision 3.

Refer to Writer's Guide Section 5 for guidance regarding issues specific to the ISTS NUREGs.

## **1 DEFINITIONS**

### **1.1 Definitions**

The following terms are defined for consistency throughout the Writer's Guide.

- a. Binding Margin - Binding margins, which shift text away from the side of the page designated the binding edge, are added to existing margins prior to printing documents that will be bound or hole-punched for insertion into a notebook. If a 0.25-inch binding margin is added to a document with a 1.0-inch margin, the binding edge margin will become 1.25 inches and the opposite edge will have a 0.75-inch margin.
- b. Decimal Align - To vertically align text on the decimal (".") character.
- c. Indent - To set (e.g., word, sentence, or paragraph) in from the margin.
- d. Landscape - Sideways printing of a table, figure, or text. The print is horizontal across the page.
- e. Ordered List - A condition of logical or comprehensible arrangement

among the separate elements of a group, items, equipment, etc.; itemized and presented in a list format.

- f. Nesting - A set of logical connectors that are graduated by indentation that can be stacked together, each fitting within another.
- g. Portrait - Vertical printing (typical or normal printing of most documents) across the page.
- h. Tab - A precise measurement for indenting text in a document. Usually used for aligning vertical rows of text. A tab is usually expressed in terms of position relative to the left margin (e.g., Tab 0.33 inch from the edge of the column, or 2 blank spaces from the edge of the column).
- i. Widow / Orphan text – The first line of a paragraph appearing at the bottom of a printed page or the last line of a paragraph appearing at the top of a printed page. Widows and orphans are to be avoided in printed text. Widows and orphans are avoided by requiring a minimum number of lines of a paragraph to appear together at the top or bottom of a printed page.

## 2 FORMAT

### 2.1 General Format

The following format guidelines apply generically to all Improved Technical Specification Chapters, unless otherwise noted.

#### 2.1.1 Technical Specifications Format

The Technical Specifications are divided into Chapters, Sections, and Specifications, as follows:

CHAPTER	SECTION	SPECIFICATIONS
1.0	1.1 through 1.4	None
2.0	2.1 and 2.2	2.1.1, 2.1.2, 2.1.3...
3	3.0, 3.1 through 3.9 (3.10 for BWR Units)	LCO 3.0.1...SR 3.0.4 3.1.1... 3.2.1... 3.3.1... etc.
4.0	4.1 through 4.3	4.1.1, 4.2.1, 4.3.1
5.0	5.1 through 5.7	5.1.1, 5.2.1, 5.3.1...

#### 2.1.2 Page Format

- a. The Improved Technical Specification pages are 8.5 inches by 11 inches in dimension. Oversized paper, which would require folding when compiled with standard-sized material, is not utilized.
- b. Technical Specifications may be printed in single-sided or double-sided format. If a double-sided format is utilized, use an alternating binding margin, to consistently produce an inside margin of 1.25 inches and an outside margin of 0.75 inch. Blank pages may be used on left facing pages at the end of Sections or Specifications in order to start the next Section or Specification on a right facing page if desired. Optionally, the words "Intentionally blank" may be placed centered vertically and

horizontally between the margins on the otherwise blank page. Use of a header or footer on blank pages is optional.

For single-sided format use a standard binding margin to consistently produce a 1 inch left margin and a 1 inch right margin. Only use right facing pages and leave the back of each page blank. Do not mark the back of the pages "Intentionally blank."

The following is a summary of the margin settings:

	Single Sided Page	Double Sided Margin Right Facing Page When Bound	Double Sided Margin Left Facing Page When Bound
Top	0.5 inch	0.5 inch	0.5 inch
Bottom	0.7 inch	0.7 inch	0.7 inch
Left	1.0 inch	1.25 inches	0.75 inch
Right	1.0 inch	0.75 inch	1.25 inches

- c. Whenever possible, present Technical Specification pages in a portrait format rather than a landscape format. If, however, a particularly wide figure or table requires a landscape presentation:
  - 1. Insert the page so the top margin becomes the binding margin on right facing pages (includes all pages in single-sided format), and bottom margin is binding on left facing pages;
  - 2. Headers and footers for landscape tables and figures remain in portrait format, however figure and table titles orient to the graphic.
- d. The suggested font is Arial 11 point for all type. When utilizing the ISTS Revision 0 and Revision 1 format, the suggested font is Letter Gothic 12 cpi. Reduced footnote, table, or figure font sizes may occasionally be required, but to ensure readability, these fonts should be no smaller than 8 point for ISTS Revision 2 format and 16.67 cpi for ISTS Revision 0 and Revision 1 format.
- e. Every Technical Specification and Bases page (with the exception of the Front Matter and intentionally blank pages) has a header. The header consists of two right justified lines. The top line contains the title (use

of acronyms is acceptable) and the second line, the number. The details are presented in the table below.

Every Technical Specification page and Bases page (with the optional exception of intentionally blank pages) has a footer. The footer is the last line of each page and contains a left justified unit name, a centered page number, and a right justified notation identifying the current version (revision or amendment) of the page. The details are presented in the table below.

Chapter/ Section	Header: Format	Footer: Page Number Format	Footer: Page Version Format
Front Matter	NA	Lower case roman numerals (except title page).	Revision number (controlled by licensee) and, optionally, date (except title page).
1.0	Section title and Section number.	Section number followed by "-" then sequential arabic number. Each Section begins with "-1."	NRC issued amendment number and, optionally, date.
2.0 and 4.0	Chapter name and Chapter number.	Chapter number followed by "-" then sequential arabic number. Each Chapter begins with "-1."	NRC issued amendment number and, optionally, date.
3.0	Subsection title ("LCO Applicability" or "SR Applicability") and Section number.	Section number followed by "-" then sequential arabic number. Each Section begins with "-1."	NRC issued amendment number and, optionally, date.

Chapter/ Section	Header: Format	Footer: Page Number Format	Footer: Page Version Format
3.1 - 3.9 (3.10)	Specification title and Specification number.	Specification number followed by "-" then sequential arabic number. Each Specification begins with "-1."	NRC issued amendment number and, optionally, date.
5.0	Section title and Section number.	Section number followed by "-" then sequential arabic number. Each Section begins with "-1."	NRC issued amendment number and, optionally, date.
2.0 Bases	Section title and Section number preceded by "B."	Section number, preceded by "B," followed by "-" then sequential arabic number. Each Section begins with "-1."	Revision number and/or date (controlled by licensee.)
3.0 Bases	Subsection title ("LCO Applicability" or "SR Applicability") and Section number, preceded by "B."	Section number, preceded by "B," followed by "-" then sequential arabic number. Each Section begins with "-1."	Revision number and/or date (controlled by licensee.)
3.1 - 3.9 (3.10) Bases	Specification title and Specification number, preceded by "B."	Specification number, preceded by "B," followed by "-" then sequential arabic number. Each Specification begins with "-1."	Revision number and/or date (controlled by licensee.)

- f. When utilizing the ISTS Revision 0 and Revision 1 format, a different page number format is used in the footers. In Chapter 1.0, and Sections 3.0 through 3.9 (PWRs) or 3.10 (BWRs) , the page number consists of the Section number followed by a "-" then a sequential Arabic number. Each Section begins with "-1". In Chapters 2.0, 4.0, and 5.0, the page number consists of the Chapter number followed by a "-" then a sequential Arabic number. Each Chapter begins with "-1." The Bases page numbers are formatted according to the associated Specification, except the page number begins with "B."

### 2.1.3 Ordered List Format

----- NOTE -----

There are three situations where these guidelines do not apply:

1. In the Technical Specification Bases, the use of bullets in an ordered list is acceptable when confusion would result from the use of numbers and letters.
2. In the Technical Specification Bases, for Section 3.3, Function tables should maintain a numbering scheme parallel to the scheme utilized in the Specification table.
3. In Technical Specification "Notes." Refer to Writer's Guide Section 2.1.4 for format of Notes.

- 
- a. End the phrase introducing each level of ordered listing with a colon.
  - b. Designate each component of a:
    1. Primary-level list with a lowercase letter followed by a period. Use initial caps for the first word of each primary list component.
    2. Secondary-level list with an arabic numeral followed by a period. Use lower case letters for the first word of each secondary list components.
    3. Tertiary-level list with a lower case roman numeral followed by a period. Use lower case letters for the first word of each tertiary list component.
  - c. 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. Do not, however, link components with conjunctions if doing so would prove confusing.

- d. Include one blank line between each list component.
- e. Example
  - a. First primary component:
    - 1. first secondary component;
    - 2. second secondary component:
      - i. first tertiary component;
      - ii. second tertiary component; and
      - iii. third tertiary component.

#### **2.1.4 Note Format**

- a. Notes should be above the text it applies to except when associated with the LCO or Applicability statement. LCO and Applicability Notes appear below the text to which it applies.
- b. In the Actions and Surveillance tables, Notes are usually to the right of the designator or number and above the text to which it applies. Refer to Writer's Guide Sections 4.1.6 and 4.1.7.
- c. A dashed line occurs above and below the Note text and extends the full width of this text. The word "NOTE" or "NOTES", following the rules described below, appears in the center of the top dashed line. If more than one issue is addressed in the Note, separate the items as an ordered list (refer to Writer's Guide Section 2.1.3) and use the plural title "NOTES."
- d. When utilizing the ISTS Revision 2 format, the word "NOTE" or "NOTES," with a single dash separated by a single space on each side of the word, appears centered below the top dashed line instead of centered in the top dashed line.
- e. Use Arabic numerals as primary-level list designators and lowercase letters as secondary-level list designators.

- f. The placement and width of a Note depends upon the text to which it pertains. Whenever possible, place the Note on the same page as the text to which it applies, so the note spans the width of the text it modifies. Specific placement information is found in Writer's Guide Sections 4.1.4, 4.1.5, 4.1.6, and 4.1.7.
- g. In all cases follow standard rules of English for punctuation.

### **2.1.5 Logical Connector Format**

Logical connectors "AND" and "OR" are generally used in Actions tables. Their use is left to the writer's discretion in the LCO or the Surveillance Requirements table. Logical connectors are not to be used in the Applicability or Bases (except when referring to a logical connector in the Specification). When using "and" and "or" in this context, they are not considered Logical Connectors.

- a. 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. They are typed in upper-case letters and underlined. Primary logical connectors are flush left.
- b. When possible, keep all information associated with each logical connector on a single page. When this is not practical, place the logical connector at the bottom of the table being continued, rather than the top of the following page.
- c. Nesting only occurs in the Required Actions Column. Logical connectors are nested to indicate the subject matter connected by them. 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. When utilizing the ISTS Revision 0 and Revision 1 format (which utilizes a fixed width font), the secondary levels are indented four spaces, third levels are indented six spaces, and fourth levels are indented eight spaces. Examples of nesting may be seen in NUREGs 1430, 1431, 1432, 1433, and 1434, Section 1.2. Specific formatting in Required Actions is addressed in Writer's Guide Section 2.5.5.

### **2.1.6 Double and Single Line Format**

Throughout the Technical Specifications, double and single lines are used to indicate text boundaries. Double lines are used to signify the beginning or end of major subject matter. Single lines are used to signify the beginning or end of subject matter on a level immediately subordinate to that material

contained within double lines. In addition to their use for page continuation, lines are used as follows:

CHAPTER/ SECTION	DETAIL	
	DOUBLE LINES	SINGLE LINES
1.0	Indicate the beginning and end of each Section.	Separate first-level subsections (Purpose, Background, Example, etc.). Since Specification 1.1 is not separated into different subsections, single lines are not used to separate Specification 1.1 text.
2.0, 4.0	Indicate the beginning and end of each Chapter.	Separate Sections.
3.0	Indicate the beginning and end of each subsection (LCO Applicability and SR Applicability).	Separate Specifications (e.g., LCO 3.0.1, and LCO 3.0.2 etc.).
3.1 - 3.9 (3.10)	Indicate the beginning and end of each Specifications Actions, SRs, or other table(s).	Separate Conditions and Surveillances within Actions tables and SRs tables respectively.
5.0	Indicate the beginning and end of each Section.	Only used as discussed for page continuation.
Bases	Indicate the beginning and end of each Specifications Bases.	Separate the Bases first-level subsections (Background, LCO, Applicability, etc.).

- a. In all cases the double line spans the page from margin to margin.
- b. The double line is directly below the Technical Specification Chapter, Section or Specification title as appropriate. The double line identifying the beginning of each table is directly below the table title (i.e., word "ACTIONS" or "SURVEILLANCE REQUIREMENTS") unless a Note intervenes then the double line is directly below the lower dashed line of the Note.

- c. When the double line is used to identify the end of a Technical Specification Chapter, Specification, table, or a Bases Section it is to be located below the text with one blank line separating them.
- d. When utilizing the ISTS Revision 0 and Revision 1 format, single lines, are used in conjunction with the word "(continued)" to signify the continuation of subject matter that is between double lines.
- e. When utilizing the ISTS Revision 0 and Revision 1 format, single or double lines that appear at the bottom of a page are separated by a minimum of two blank lines above the page footer.

To better understand the application of these guidelines, see the format in NUREGs 1430, 1431, 1432, 1433, and 1434. Reference Writer's Guide Sections 2.2 through 2.6.2h for more specific guidance.

### **2.1.7 Figure Format**

- a. In Technical Specification Chapters 1.0, 2.0, and 4.0 place figures at the end of the Chapter.
- b. In Technical Specification Chapters 3 and 5.0, and all Bases, place figures as the last page of the Specification in which they are referenced.
- c. Place the figure title two blank lines below the figure. Center the title on the page between the right and left margins.
- d. Center the figure and title on the page between the top and bottom margins.
- e. The title should consist of two or more lines. The first line is used for the figure number and a page identifier (such as "(page 1 of 1)"). The figure number will consist of the applicable Specification number followed by -1 (e.g., Figure 3.3.1-1) or next sequential number if there are two or more different figures associated with the same Specification (Figure 3.3.1-2, 3.3.1-3, etc.). For figures in the Bases, the figure number is preceded by the letter "B." The additional lines in the title are used for the figure name.
- f. End points and break points may be labeled within the figure.
- g. Title text appears in initial caps.
- h. No double or single lines are utilized on the figure page.

### 2.1.8 Table Format

In Technical Specification Chapter 3 Specifications, Actions tables and Surveillance Requirements tables follow the Applicability statement. Specific format of these tables is addressed in Writer's Guide Section 2.5.5 and 2.5.6. For tables other than Actions and Surveillance Requirements tables:

- a. Tables are placed in the same locations specified for figures (Writer's Guide Section 2.1.7), with tables first, followed by figures when both are applicable.
- b. Place the table title two blank lines below the header, one blank line above the beginning of the table. Center the title between the left and right margins.
- c. The title should consist of two or more lines. The first line is used for the table number and a page identifier (such as "(page 1 of 2)"). The table number will consist of the applicable Specification number followed by -1 (e.g., Table 3.3.1-1) or next sequential number if there are two or more tables associated with the same Specification (Table 3.3.1-2, 3.3.1-3, etc.). For tables in the Bases, the table number is preceded by the letter "B." The additional lines are used for the table title.
- d. Title text appears in initial caps.
- e. Column headings are in all caps. The heading text is centered within the column. The last line of the headings is aligned one blank line above the single line representing the bottom of the column headings. If units are provided for headings, place them immediately below the last line of the heading.
- f. Tables utilize double and single lines as follows:
  1. Indicate the beginning and end of the table with double lines.
  2. Separate columns with a single line, unless this produces excessive clutter.
  3. Separate each row within the table with one blank line; do not use lines to separate rows unless the table would be difficult to understand otherwise. Do not use lines for the left or right table margin.
  4. The parenthesized word "(continued)" is not used to indicate table continuation.

### **2.1.9 Figure and Table Footnote Format**

Footnotes are restricted for use in figures and tables. Footnotes are not used in Specifications or Bases except in figures and tables.

- a. Use superscript, lower-case letters enclosed within parentheses as footnote designators where it modifies an item. Order them alphabetically.
- b. If the same footnote is repeated in a figure or table, use the same footnote designator for each repeated reference. Do so even if the continued figure and table span several pages.
- c. Place the footnote key on each page the footnote appears. Include in the key only those footnotes appearing on that page. For tables, the key is placed two blank lines below the table. When utilizing the ISTS Revision 0 and Revision 1 format, the table key is also placed two blank lines above the footer. For figures, the key is two blank lines below the figure and one blank line above the title.
- d. Footnote designators in the key should not be superscript. Text in the key should be indented two spaces from the footnote designator. For sample applications of the footnote format guidelines see NUREGs 1430, 1431, 1432, 1433, and 1434.
- e. On occasion, table width may preclude the use of the normal size font. When this occurs, regardless of the font used, use the same font for all facets of the figure or table: title, column headings, body text, and footnotes.

## **2.2 Front Matter Format**

Technical Specifications Front Matter includes the Title Page, Table of Contents, and List of Effective Pages, compiled in the Technical Specifications in the order listed here.

Although the Front Matter is not part of the Technical Specifications, the following guidance is being provided to ensure consistent formatting.

### **2.2.1 Title Page Format**

The only text appearing on the title page is, "TECHNICAL SPECIFICATIONS FOR (UNIT NAME)." This phrase is centered vertically and horizontally between the page margins and written in all caps.

### 2.2.2 Table of Contents Format

- a. The title "TABLE OF CONTENTS" is two blank lines from the top margin of each page. It is flush left and all caps.
- b. Double lines appear only at the beginning and end of the Table of Contents. When used at the beginning, the double line is directly below the title "TABLE OF CONTENTS." The text of the table is below the double line with one blank line separating them. When located at the end of the Table of Contents, the double line is located below the text with one blank line separating them. When utilizing the ISTS Revision 0 and Revision 1 format, a minimum of two blank lines separate the double line from the page footer
- c. Single lines are not used to separate subject matter within the Table of Contents. Single lines appear at the bottom of each page, except the last page, (when utilizing the ISTS Revision 0 and Revision 1 format, single lines appear one blank line below the last entry for that page and at least two blank lines above the footer) and at the top of subsequent pages directly under the title.
- d. If a list of Specifications for one Chapter is split across pages, the continued Chapter number and title are repeated one blank line below the single line at the top of the continued page. The term "(continued)" appears 2 spaces to the right of the Chapter title. The list of Specifications resumes under the repeated title as on the previous page.
- e. When utilizing the ISTS Revision 0 and Revision 1 format the word "(continued)" appears above or below the single line; placement depends upon the material being continued:
  1. If a list of Specifications for one Chapter is completed at the bottom of a page, "(continued)" appears flush right, below the single line at page bottom. On the following page, "(continued)" appears above the single line at page top, two spaces after the title "TABLE OF CONTENTS."
  2. If a list of Specifications for one Chapter is split across pages, "(continued)" appears flush right, above the single line at page bottom. The continued Chapter number and title are repeated one blank line below the single line at the top of the continued page. The "(continued)" appears 2 spaces to the right of the Chapter title. The list of Specifications resumes under the repeated title as on the previous page.
- f. Technical Specification Chapter, Section, and Specification numbers are flush left, but the titles are nested to indicate the document hierarchy.

- g. Page numbers for the entries are not listed. When utilizing ISTS Revision 0 and Revision 1 format, page numbers are listed for the entries. Page numbers are aligned at the hyphen, with the largest page number falling flush with the right margin.

### **2.2.3 List of Effective Pages Format**

- a. The List of Effective Pages title is formatted like that of the Table of Contents.
- b. Double lines appear only at the beginning and end of the List of Effective Pages. When used at the beginning, the double line is directly below the title "LIST OF EFFECTIVE PAGES." The text is below the double line with one blank line separating them. When located at the end of the List of Effective Pages, the double line is located below the text with one blank line separating them.
- c. Single lines are not used to separate subject matter within the List of Effective Pages. Single lines appear at the bottom of each page, except the last page, (one blank line below the last entry for that page and when utilizing ISTS Revision 0 and Revision 1 format, at least two blank lines above the footer). Single lines also appear on subsequent pages at the top of the page immediately under the title.
- d. When utilizing ISTS Revision 0 and Revision 1 format, the word "(continued)" appears flush right, below each single line at the page bottom. It also appears above the single line at the top of continued pages and two spaces after the title "LIST OF EFFECTIVE PAGES."
- e. Column headings are placed one blank line below the double or single line at the top of the page. Each is typed in initial caps and underlined. The headings are indented from the left margin as follows:

COLUMN HEADING	INDENT
Page Number	flush left
Amendment Number	1.5 inches
Page Number	3.5 inches
Amendment Number	5.0 inches

## **2.3 Technical Specification Chapter 1.0, "Use and Application" Format**

### **2.3.1 Chapter Title Format**

- a. The Chapter number and title occur on the first page of each Section two blank lines below the header. The number is flush left. The title is two spaces to the right of the number and appears in all caps.
- b. The Section number and title fall one blank line below the Chapter title on the initial page and two blank lines below the header on subsequent pages. The number is flush left. The title is two spaces to the right of the number and appears in initial caps. The Section number and title is directly above the double line that indicates the beginning of the Section.
- c. A double line appears at the beginning of the Section directly below the Section number and title. The double line spans the page from margin to margin. The text of the Section is below the double line with one blank line separating them.

### **2.3.2 Section 1.1, "Definitions" Format**

- a. A Note appears one blank line below the double line at the beginning of the Section. The Note states, "The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases." The format of the Note follows the format described in Writer's Guide Section 2.1.4.
- b. Two column headings appear one blank line below the Note: "Term" (flush left) and "Definition" (indented 2.32 inches from the left margin). Both are underlined and typed in initial caps. One blank line below these column headings, the column text appears.

- c. The phrases listed in the Terms column are all caps and flush left. If a term is lengthy enough to extend to within two spaces of the definition beside it, it wraps to the next line. When applicable, acronyms (in parentheses) follow the terms.
- d. Each definition is separated from that above and below it by a single blank line. Single lines are not used to separate definitions. If feasible, avoid breaking definitions across pages.
- e. Single lines appear at the bottom of each page, except the last page of the Section, one blank line above the footer and when utilizing the ISTS Revision 0 and Revision 1 format, a minimum of two blank lines above the footer. They also appear at the top of each page continued from the previous page, directly below the title.
- f. If a Definition is split across pages, the continued Definition title is repeated immediately below the single line at the top of the continued page. The term "(continued)" appears two spaces to the right of the Definition title.
- g. When utilizing ISTS Revision 0 and Revision 1 format, the word "(continued)" appears either above or below the single line; placement depends upon the material being continued.
  - 1. If a Definition is completed at the bottom of a page, the "(continued)" at page bottom appears flush right, immediately below the single line. On the following page "(continued)" appears above the single line, two spaces to the right of the title.
  - 2. If a Definition is split across pages, "(continued)" appears flush right, above the single line at page bottom. The continued Definition title is repeated one blank line below the single line at the top of the continued page. The "(continued)" appears immediately below the Definition title indented two spaces from the left margin.
- h. A double line is located after the last definition with one blank line separating them. When utilizing the ISTS Revision 0 and Revision 1 format, a minimum of two blank lines separate the double line from the page footer
- i. The BWR table, which describes the MODE and the Reactor Mode Switch Position and Average Reactor Coolant Temperature for each, contains rows and four columns. Numeric data, and "N/A"s are centered. Text is left justified.

The PWR table, which describes the MODE and the Reactivity Condition, % Rated Thermal Power, and Average Reactor Coolant Temperature for each, contains rows and five columns. Numeric data, and "N/A"s are centered. Text is left justified.

### **2.3.3 Sections 1.2, "Logical Connectors"; 1.3, "Completion Times"; and 1.4, "Frequency" Format**

- a. Subsections for Sections 1.2 through 1.4 vary, but each Section includes two or more of the following subsections:
  1. Purpose;
  2. Background;
  3. Examples;
  4. Completion Time; and
  5. Frequency

Each subsection heading appears flush left and all caps. The first subsection, Purpose, is one blank line below the double line that marks the beginning of the Section. Subsection text is indented 1.5 inches from the left margin.

- b. When a subsection is concluded on a page, it is separated from the subsequent subsection by a single line. One blank line appears above and below the single line.
- c. When the last subsection is concluded, it is followed by one blank line, then the double line marking the end of the Section. When utilizing the ISTS Revision 0 and Revision 1 format, a minimum of two blank lines separate the double line from the page footer
- d. Single lines appear at the bottom of each page, except the last page of each Section, one blank line below the text and, when utilizing the ISTS Revision 0 and Revision 1 format, a minimum of two blank lines above the footer. They also appear at the top of each page continued from the previous page, directly below the title.
- e. If a subsection is split across pages, the continued subsection header is repeated one blank line below the single line at the top of the continued page. The term "(continued)" appears two spaces to the right of the subsection heading.
- f. When utilizing the ISTS Revision 0 and Revision 1 format, the word "(continued)" appears either above or below the single line; placement depends upon the material being continued:

1. If a subsection is completed at the bottom of a page, the "(continued)" at page bottom appears flush right, immediately below the single line. On the following page "(continued)" appears above the single line, two spaces to the right of the Section title.
  2. If a subsection is split across pages, "(continued)" appears flush right, above the single line at page bottom. The continued subsection header is repeated one blank line below the single line at the top of the continued page. The "(continued)" appears immediately below the subsection heading indented two spaces from the left margin.
- g. Example tables adhere to the Actions and Surveillance Requirements table formats, detailed in Sections 2.5.5 and 2.5.6 of this guide, in all regards except column width and tab settings within columns. Unlike tables in Chapter 3 Specifications, which extend from the left to right margins, the example tables extend only the width of the Section text. Therefore, column widths and tabs occur on a smaller scale.
- h. Whenever possible, complete Example tables on a single page.

## **2.4 Technical Specification, Chapter 2.0, "Safety Limits" and Chapter 4.0, "Design Features" Format**

### **2.4.1 Chapter Title Format**

The Chapter number and title occur on each page of each Chapter; two blank lines below the header. The number is flush left. The title is two spaces to the right of the number and appears in all caps. A double line is directly below the Chapter Title on the first page; a single line is directly below on continuation pages, as described below.

### **2.4.2 Section and Specification Format**

Technical Specification Chapters 2.0 and 4.0 contain Sections and Specifications formatted as follows:

- a. For Section format:
  1. The first Section is one blank line below the double line marking the beginning of the Chapter.
  2. The Section numbers are flush left. The Section title begins two spaces from the Section number and in initial caps.

3. Any number of Specifications follow.
  4. When each Section is concluded, it is separated from the subsequent one by a single line. One blank line appears above and below the single line. When the last Section is concluded, it is followed by one blank line, then the double line marking the end of the Chapter.
  5. If a Section is split across pages, the number and heading for the broken Section are repeated one blank line below the single line at the top of the continued page. The term "(continued)" appears two spaces after the heading.
- b. Specification format:
1. The first number of a three-digit Specification begins 0.4 inch from the left margin (when utilizing the ISTS Revision 2 format, 0.75 inch from the left margin), one blank line below the Section heading or previous Specification.
  2. These Specifications consist of text, or text with a heading. If no heading exists, the text begins on the same line as the Specification number 1.0 inch from the left margin. When headings have been provided, they begin on the same line as the Specification number with the text one blank line below it. Headings are underlined and typed in initial caps. Both text and headings are indented 1.0 inch from the left margin.
  3. The first number of a four-digit Specification begins 1 inch from the left margin (when utilizing the ISTS Revision 0 and Revision 1 format, 0.42 inch from the left margin), one blank line below the Section heading or previous Specification. Text begins on the same line as the Specification number, indented 1.7 inches from the left margin.
  4. Do not break Specifications across pages.
- c. A double line appears at the beginning of each Chapter, directly below the Chapter title. The double line spans the page from margin to margin. The text is below the double line, with one blank line separating them.
- d. Single lines appear at the bottom of each page, except the last page of the Chapter, one blank line above the footer and, when utilizing ISTS Revision 0 and Revision 1 format, a minimum of two blank lines above the footer. They also appear at the top of each page continued from the previous one directly below the Chapter title.

- e. When utilizing ISTS Revision 0 and Revision 1 format, the word "(continued)" appears either above or below the line; placement depends upon the material being continued.
  - 1. If a Section or Specification is completed at the bottom of a page, the "(continued)" at page bottom appears flush right, immediately below the single line. On the following page "(continued)" appears above the single line, two spaces to the right of the Section or Specification title.
  - 2. If a Section or Specification is split across pages, "(continued)" appears flush right, above the single line at page bottom. The continued Section or Specification header is repeated one blank line below the single line at the top of the continued page. The "(continued)" appears immediately below the Section or Specification heading indented two spaces from the left margin.
- f. A double line is located at the end of the Chapter below the text with one blank line separating them. When utilizing ISTS Revision 0 and Revision 1 format, a minimum of two blank lines separate the double line from the page footer.

## **2.5 Technical Specification Chapter 3, "Limiting Conditions for Operation (LCOs) and Surveillance Requirements (SRs)" Format**

Technical Specification Chapter 3, "Limiting Conditions for Operation (LCOs) and Surveillance Requirements (SRs)," is composed of ten or eleven Sections. Each Section contains a number of Specifications. Except in Section 3.0, these Specifications are presented in a tabular format.

### **2.5.1 Technical Specification Section 3.0, "LCO and SR Applicability" Format**

- a. Technical Specification Section 3.0 "LCO and SR Applicability" contains two subsections: LCO Applicability and SR Applicability. Each subsection will begin at the top of a page.
- b. The Section number and subsection title occur on each page of each subsection, two blank lines below the header. The number is flush left. The title is two spaces to the right of the number and appears in all caps.
- c. Directly below the Section number and subsection title on the first page of each Section is a double line which spans from margin to margin. A single line is directly below the Section number and subsection title on

the continuation pages. The text is below the line (double or single) with one blank line separating them.

- d. Each subsection contains a number of Specifications. The Specification number is flush left with two blank spaces between the label "LCO" or "SR" and the number.
- e. The text of each Specification is indented 1.5 inches from the left margin with the first line of the text on the same line as the Specification number.
- f. At the end of each Specification there will be one blank line followed by a single line (double line if last Specification of the subsection) again followed by one blank line then the next corresponding Specification text.
- g. Single lines also appear at page bottom, one blank line above the footer of each page that continues to the subsequent page and, when utilizing ISTS Revision 0 and Revision 1 format, a minimum of two blank lines above the footer. They also appear at the top of each page continued from the previous page directly below the subsection heading.
- h. If a Specification is split across pages, the continued Specification heading is repeated one blank line below the single line at the top of the continued page. The "(continued)" appears two spaces to the right of the Specification heading.
- i. When utilizing ISTS Revision 0 and Revision 1 format, the "(continued)" statement appears either above or below the single line; placement depends upon the material being continued.
  - 1. If the Specification is completed at the bottom of a page, the "(continued)" at page bottom appears flush right, immediately below the single line. On the following page "(continued)" appears above the single line two blank spaces to the right of the subsection heading.
  - 2. If a Specification is split across pages, "(continued)" appears flush right, above the single line at page bottom. The continued Specification heading is repeated one blank line below the single line at the top of the continued page. The "(continued)" appears immediately below the Specification heading indented two spaces from the left margin.
- j. At the end of each subsection a double line is located below the text with one blank line separating them. When utilizing Revision 0 and

Revision 1 format, a minimum of two blank lines separate the double line from the page footer.

### **2.5.2 Technical Specification Sections 3.1 Through 3.9 (3.10) Title Format**

For Specifications in Sections 3.1 through 3.9 (3.10), each Specification begins on a new page. Double lines serve to delineate the beginning and ending of the two tables that make up the Specification, rather than start and end points for the entire Specification.

- a. The Section number and title occur on the first page of each Specification, two blank lines below the header. The number is flush left. The title is two spaces to the right of the number and appears in all caps.
- b. The Specification number and title occur on the first page of each Specification, one blank line below the Section title. The number is flush left. The title is two spaces to the right of the number and appears in initial caps.

### **2.5.3 Technical Specification Sections 3.1 Through 3.9 (3.10) LCO Format**

The LCO is two blank lines below the Specification number and title. It begins with the abbreviation "LCO" flush left in all caps, followed by two spaces and the LCO number. The LCO statement begins 1.5 inches from the left margin. When utilizing ISTS Revision 0, 1, or 2 format, the LCO statement begins 1.42 inches from the left margin.

### **2.5.4 Technical Specification Sections 3.1 Through 3.9 (3.10) Applicability Format**

- a. The Applicability is three blank lines below the last line of the LCO. It begins with the word "APPLICABILITY" flush left and all caps, followed by a colon. The Applicability phrase (typically not a sentence) begins 1.50 inches from the left margin. When utilizing ISTS Revision 0, 1, or 2 format, the Applicability phrase begins 1.42 inches from the left margin.
- b. Additional guidance on technical variance of presentation is found in Section 4.1.5 of this Writer's Guide. Summarizing:
  1. When a single Applicability statement continues to a second line, the wrapped line is indented five spaces to indicate this. In ISTS Revision 2, the wrapped line is not always indented five

spaces. This should be corrected in the development of the plant specific ITS.

2. When more than one Applicability statement exists, each statement begins on a new line aligned with the first Applicability phrase (indented 1.5 inches from the left margin). When utilizing ISTS Revision 0, 1, or 2 format, the Applicability statement begins 1.42 inches from the left margin. All Applicability statements are to end with a comma except the last one which ends with a period. No conjunctions are used at the end of each Applicability statement. No blank lines separate the different Applicability Statements.

### **2.5.5 Technical Specification Sections 3.1 Through 3.9 (3.10) Actions Format**

- a. The Actions table is the first table to occur in each Section 3.1 through 3.9 (3.10) Specification. The word "ACTIONS" is flush left, two blank lines below the last line of the "Applicability." The Actions table contains a varying number of rows and three columns. Each column heading appears in all caps on a single line. Headings are centered within the column, and, when utilizing ISTS Revision 0 and Revision 1 format, situated 0.1 inch from the lines above and below them.

Continuation of individual Conditions, Required Actions, and Completion Times is discussed in Writer's Guide Section 2.5.7.

- b. Condition Column Format:
  1. Each row is one Condition.
  2. Each Condition begins with the Condition designator - a capital letter followed by a period. The first row must be lettered "A." the next "B." and so on.
  3. Condition column width is 2.15 inches (2.35 inches for ISTS Revision 0 and Revision 1 format). Condition text is located one blank line below the single line below the column heading and indented two blank spaces to the right of the Condition designator. Condition text is not affected by "Notes" in the Required Action column.
- c. Required Action Column Format:
  1. Any number of Required Actions is permitted per row.

2. Each Required Action begins with a Required Action designator, which is the Condition designator followed by one or more Arabic numerals. These numerals must be sequentially ordered and consistent with the intended logic. Successive levels of numbers are added, separated by a period, when one or more levels of "nesting" occur. Refer to Technical Specification 1.2, "Logical Connectors" for additional detail and discussion.
  3. Required Action column width is 2.65 inches. Each Required Action is indented two blank spaces to the right of the Required Action number. The ISTS Revision 0 and Revision 1 format also has each Required Action indented 0.67 inch from the column's left edge.
  4. Required Action text is located one blank line below the single line below the column heading. Required Action text is not affected by "Notes" in the Condition or Completion Time column (refer to Writer's Guide Section 2.1.4).
- d. Completion Time Column Format:
1. No designators are used for Completion Time text.
  2. The last line of the Completion Time text is not punctuated with a period, even when full sentences are used.
  3. Completion Time column width is 1.7 inches (1.5 inches for ISTS Revision 0 and Revision 1 format.) Completion Time text is flush left with the column's left edge.
  4. The Completion Time text begins on the same line as the associated Required Action statement.
- e. The top lines of the Required Action and associated Completion Time text must align, even when affected by Notes.

#### **2.5.6 Technical Specification Sections 3.1 Through 3.9 (3.10) Surveillance Requirements Format**

- a. The Surveillance Requirements table is the second table to occur in each Section 3.1 through 3.9 (3.10) Specification.

The table contains a varying number of rows and two columns. Each column heading appears in all caps on a single line. Headings are centered within the column and, when utilizing ISTS Revision 0 and Revision 1 format, situated 0.1 inch from the lines above and below them.

- b. Surveillance Column Format
  - 1. The Surveillance column is 5.05 inches wide. Surveillance text begins one blank line below the single line below the column heading.
  - 2. One Surveillance is permitted per row, but may contain more than one activity or requirement.
  - 3. Each Surveillance begins with the flush left Surveillance number consisting of the label "SR," two blank spaces and the Specification number followed by one or more additional digits. These additional digits must be ordered sequentially.
  - 4. Surveillance text appears to the right of the SR number. Surveillance text is indented 1.25 inches from the left margin of the Surveillance column. Ordered list components in this column are indented 1.67 inches.
- c. Frequency Column Format
  - 1. The Frequency column is 1.45 inches wide. The text is flush left in the column.
  - 2. No designators are used for Frequency text.
  - 3. The last line of the Frequency text is not punctuated with a period, even when sentences are used.
- d. 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.

### **2.5.7 Technical Specification Sections 3.1 Through 3.9 (3.10) Double and Single Line Format and Use of "Continued" Notation**

- a. For Technical Specification Sections 3.1 through 3.9 (3.10) Specifications, double lines are used to identify the beginning and ending of the Actions table and the Surveillance Requirements table. The double line identifying the beginning of each table is directly below the word "ACTIONS" or "SURVEILLANCE REQUIREMENTS" or directly below any Notes placed between the word "ACTIONS" or "SURVEILLANCE REQUIREMENTS" and the table.
- b. If the Actions table or Surveillance Requirements table continues to a subsequent page, a single line is used to start the table on the continued page

- c. When located at the end of the Actions table and Surveillance Requirements table the double line is located below the last line of text with one blank line separating them. When utilizing the ISTS Revision 0 and Revision 1 format, a minimum of two blank lines separate the double line from the page footer.
- d. Single lines appear at the bottom of each Actions and Surveillance Requirements table that continued to the subsequent page one blank line below the text and, when utilizing the ISTS Revision 0 and Revision 1 format, a minimum of two blank lines above the footer.
- e. If utilizing the ISTS Revision 0 and Revision 1 format, the "(continued)" statement appears either above or below the line; placement depends upon the material being continued.
  - 1. If the last Condition, Required Action or SR on a page is completed prior to the page break, the "(continued)" at page bottom appears flush right, immediately below the single line forming the bottom of the table. The "(continued)" on the following page appears immediately above the single line forming the top of the table, two spaces to the right of the table title immediately above the single line.
  - 2. If a Required Action is split across pages (this should be avoided if possible; never split the text of the Condition column across pages), the "(continued)" at page bottom appears flush right in the column, immediately above the single line forming the bottom of the table. On the following page, the Condition letter is repeated one blank line below the single line below the column heading. The "(continued)" appears two spaces to the right of the letter. The Required Action text will begin on the same line as the "(continued)."
  - 3. If an SR is split across pages (this should be avoided if possible), the "(continued)" at page bottom appears flush right, immediately above the single line forming the bottom of the table. On the following page, the SR number is repeated one blank line below the single line below the column heading. The "(continued)" appears under the SR number indented two spaces from the column edge. The Surveillance Requirements text will begin on the same line as the SR number.
- f. If a Required Action is split across pages (this should be avoided if possible; never split the text of the Condition column across pages), the Condition letter is repeated on the following page one blank line below the single line below the column heading. The term "(continued)"

appears two spaces to the right of the letter. The Required Action text will begin on the same line as the "(continued)." Note that ISTS Revisions 2 & 3 has not been typed this way, but this information should be added to the plant-specific ITS for human factors considerations.

- g. If an SR is split across pages (this should be avoided if possible), the SR number is repeated on the following page one blank line below the single line below the column heading. The term "(continued)" appears two spaces to the right of the SR number. The Surveillance Requirements text will begin on the same line as the SR number.
- h. When the LCO and Applicability are completed on the first page, but the Actions table must begin on the next page, no single lines or "(continued)" terms are provided as continuation clues.
- i. If an LCO or Applicability statement splits across a page, the "(continued)" appears on the first page, flush right and one blank line below the last line of text with no single line used. On the second page, the subheading is repeated at page top, and "(continued)" appears two spaces to the right of the heading, except when utilizing the ISTS Revision 0 and Revision 1 format, then "(continued)" appears on the line immediately below the heading, two spaces from the left margin. The continued text is indented as on the previous page.
- j. In addition to the use of single lines described above, lines have the following uses:
  - 1. Use a single line to separate the heading from the contents of the table.
  - 2. Separate columns and rows with single lines. Do not use lines for the left or right table margin.

### **2.5.8 Instrumentation Function Table Format**

Instrumentation Function tables appear in Technical Specification Section 3.3, "Instrumentation." They begin on the first page following the conclusion of the Surveillance Requirements table and are formatted as described in Writer's Guide Section 2.1.8 and 2.1.9. Additionally:

- a. Function table text is not punctuated with periods.
- b. Contents of the Function column are decimal aligned. Function titles are typed using initial caps.

- c. Numbers and letters in the Applicable MODES, Required Channels, and Condition, Allowable Value, Trip Setpoint, or Nominal Trip Setpoint (if used) columns are centered. Capital letters are utilized in the Condition column.
- d. The Surveillance Requirement column contents are left justified.
- e. Use superscript, lower-case letters enclosed within parentheses as footnote designators. Order them alphabetically.

Specific columns may vary depending on the needed presentation with some columns eliminated where appropriate.

## **2.6 Technical Specification Chapter 5.0, "Administrative Controls" Format**

### **2.6.1 Chapter Title Format**

The Chapter number and title occur on the first page of each Section two blank lines below the header. The number is flush left. The title is two spaces to the right of the number and appears in all caps.

### **2.6.2 Section Format**

- a. The Section number and title occur on each page of the Section. It is one blank line below the Chapter title on the first page of each Section. On Section continuation pages, the Section number and title fall two blank lines below the header. The number is flush left. The title is two spaces to the right of the number and appears in initial caps. The Section number and title are directly above the double line that indicates the beginning of the Section or directly above the single line that indicates a continuation page of the Section. Each Section begins on a new page.
- b. Each Section consists of Specifications. Each of these Specifications is identified by a flush-left three-digit number consisting of the Section number followed by an Arabic numeral. The first Specification is one blank line below the double ruled line indicating the beginning of the Section.
- c. Specifications can consist simply of text, or text with a heading:
  - 1. If no heading exists, the text begins on the same line as the Specification number 1.0 inch from the left margin.

2. When headings have been provided, they begin on the same line as the Specification number, and the text is one blank line below them. Headings are underlined and typed in initial caps. Both text and heading are indented 1.0 inch from the left margin.
  3. Ordered list components are indented 1.5 inches from the left margin.
- d. Specifications are separated from each other by one blank line with no single line used.
  - e. If a Specification is split across pages, the continued Specification number (and heading, if applicable) are repeated one blank line below the single line at the top of the continued page. The term "(continued)" appears two spaces to the right of the heading. If no heading exists, the Specification number is repeated as on the previous page, and the term "(continued)" appears next to it, indented 1.0 inch from the left margin. The continued Specification text follows one blank line below this.
  - f. When utilizing the ISTS Revision 0 and Revision 1 format, a single "(continued)" appears either above or below the line; placement depends upon the material being continued:
    1. If a Specification is completed at the bottom of the page, the "(continued)" at page bottom appears flush right, immediately below the single line. On the following page "(continued)" appears above the single line two spaces to the right of the subsection number and title.
    2. If a Specification is split across pages, "(continued)" appears flush right, above the single line at page bottom. The continued Specification number (and heading, if applicable) are repeated one blank line below the single line at the top of the continued page. The "(continued)" appears two spaces after the heading. If no heading exists, the Specification number is repeated as on the previous page, and "(continued)" appears next to it, indented 1.0 inch from the left margin. The continued Specification text follows one blank line below this.
  - g. A double line is located at the end of the Section, below the text with one blank line separating them and, when utilizing ISTS Revision 0 and Revision 1 format, a minimum of two blank lines separating the double line from the page footer.
  - h. Widow / orphan text should be typed such that a minimum of 2 lines of a paragraph are displayed on each page.

## **2.7 Bases Format**

Although the Bases are not part of the Technical Specifications, the following guidance is being provided to ensure consistent formatting. Bases documents exist for Chapters 2.0 and 3 Specifications.

### **2.7.1 Technical Specification Section 3.0 Bases Format**

- a. The Section number and subsection title fall two blank lines below the header on the first page of each subsection. The number is preceded by a flush-left "B" followed by a space. The title is two spaces to the right of the number and appears in all caps.
- b. Two blank lines below the subsection title is the word "BASES," flush left and all caps. Directly below it is the double line that indicates the beginning of the subsection.
- c. One blank line below the beginning double line is the abbreviation "LCOs" or "SRs" and an opening or introductory paragraph indented 1.5 inches from the left margin. One blank line below the paragraph is a single line.
- d. The Specification headings are flush left and all caps one blank line below the single line. In the Specification heading, two spaces separate the abbreviation "LCO" or "SR" and each LCO or SR number. The Bases text begins on the same line as the Specification heading indented 1.5 inches from the left margin.
- e. Specification Bases are separated from the subsequent Specification Bases by a single line. One blank line appears above and below the single line.
- f. Single lines also appear at the bottom, one blank line above the footer of each page that continues to the subsequent one and, when utilizing ISTS Revision 0 and Revision 1 format, a minimum of two blank lines above the footer. They also appear at the top of each page continued from the previous page directly below the word "Bases," which is two blank lines below the header.
- g. If a Specification Bases is split across pages, the continued Specification header is repeated one blank line below the single line at the top of the continued page. The term "(continued)" appears to the right of the repeated Specification heading, separated by two spaces. The continued Bases text begins one blank line below the repeated header, indented 1.5 inches.

- h. When utilizing the ISTS Revision 0 and Revision 1 format, a single "(continued)" appears either above or below the line; placement depends upon the material being continued.
  - 1. If the Specification Bases is completed at page bottom, the "(continued)" at page bottom appears flush right, immediately below the single line. The "(continued)" at the top of the following page is two spaces to the right of the word "BASES," immediately above the single line.
  - 2. If a Specification Bases is split across pages, the "(continued)" at page bottom appears flush right, immediately above the single line. On the following page, the continued Specification header is repeated one blank line below the single line at the top of the continued page. The "(continued)" appears immediately below the repeated Specification heading indented two spaces from the left margin. The continued Bases text begins on the same line (one blank line below the single line) as the header, indented 1.5 inches.
- i. When the last Specification is concluded, it is followed by one blank line, then the double line marking the end of the Specification.
- j. Widow / orphan text should be typed such that a minimum of 2 lines of a paragraph are displayed on each page.

### **2.7.2 Technical Specification Chapter 2.0 and Sections 3.1 Through 3.9 (3.10) Bases Format**

- a. For the first page of each Section or Specification Bases:
  - 1. The Chapter number and title for Chapter 2.0 and Section number and title for Chapter 3 fall two blank lines below the header. The number is preceded by a flush-left "B" and single space. The title is two spaces to the right of the number and appears in all caps.
  - 2. One blank line below the Chapter or Section number and title is the Specification number and title. The Specification number is preceded by a flush-left "B" and single space. The title is two spaces to the right of the number and appears in initial caps.
  - 3. Two blank lines below the Specification number and title is the word "BASES," flush left and all caps. Directly below it is the double line that indicates the beginning of the Specification Bases.

- b. The Bases subsections for Chapter 2 and Section 3.3 Bases differ slightly from those for Chapter 3. They appear in order as follows:

CHAPTER 2.0 BASES	SECTION 3.3 BASES	OTHER CHAPTER 3 BASES
Background	Background	Background
Applicable Safety Analyses	Applicable Safety Analyses, LCO, Applicability	Applicable Safety Analyses
Safety Limits	Actions	LCO
Applicability	Surveillance Requirements	Applicability
Safety Limit Violations	References	Actions
References	n/a	Surveillance Requirements
n/a	n/a	References

- c. The first level subsections for Safety Limit Violations, Actions, and Surveillance Requirements may contain second-level subsections, consisting of specific Safety Limit Violations (e.g., 2.1.1), Required Actions (e.g., A.1), or Surveillance Requirements (e.g., SR 3.5.1.1). Other subsections may also contain second-level subsections.

When SR numbers are used for subheadings, two spaces are between the abbreviation "SR" and the SR number.

Each Bases first-level subsection heading is flush left and all caps one blank line below the double or single line. The Bases first-level subsection text is on the same line as the heading indented 1.5 inches from the left margin.

Each second-level subheading is underlined and indented 1.5 inches from the left margin. One blank line appears between the subheading and its corresponding subsection text. One blank line appears between the last line of subsection text and the next subheading (ISTS Revision

0 and Revision 1 format has two blank lines instead of one blank line in this situation).

- d. A Bases subsection is separated from the subsequent subsection by a single line. One blank line appears above and below the single line.
- e. Single lines also appear at the bottom, one blank line above the footer of each page that continues to the subsequent one and, when utilizing ISTS Revision 0 and Revision 1 format, a minimum of two blank lines above the footer. They also appear at the top of each page continued from the previous page directly below the word "BASES," which is flush left two blank lines below the header.
- f. If a first-level subsection (e.g., Background) is split across pages, the continued first-level heading is repeated one blank line below the single line at the top of the continued page and the term "(continued)" is to the right of the heading, separated by one space.
- g. When utilizing the ISTS Revision 0 and Revision 1 format, a single "(continued)" appears either above or below the line; placement depends upon the material being continued.
  - 1. If a first-level subsection (e.g., Actions) is completed at the bottom of a page, the "(continued)" at page bottom appears flush right, immediately below the single line. On the following page "(continued)" appears above the single line two spaces to the right of the word "BASES."
  - 2. When a first-level subsection is broken across two or more pages, two formats are possible:
    - i. If a first-level subsection (e.g., Background) is split across pages and no second-level subsection is specified, the "(continued)" at page bottom appears flush right, immediately above the single line. The continued first-level heading is repeated one blank line below the single line at the top of the continued page and the "(continued)" is immediately beneath the heading, indented two spaces from the left margin.
    - ii. If a second-level subsection is split across pages, the "(continued)" at page bottom appears flush right, immediately above the single line. The continued first-level subsection heading and the continued second-level subheading are repeated one blank line below the single line at the top of the continued page. The "(continued)" appears two spaces after the repeated second-level

subheading.

- h. At the end of the Specification's Bases (e.g., the end of the Reference Section), a double line is located below the text with one blank line separating them.
- i. Widow / orphan text should be typed such that a minimum of 2 lines of a paragraph are displayed on each page.

## **2.8 Format Issues Related to Future License Amendments**

### **2.8.1 Repagination**

- a. The addition or deletion of material in a Chapter, Section, Specification, or Bases can lead to the need to insert or remove pages from the Technical Specifications. Replace as many pages as necessary to maintain the page numbering as described in Writer's Guide Section 2.1.2. Do not insert additional pages by altering the page number format (e.g., page number "3.4.1-1A") in order to avoid renumbering subsequent pages. Similarly, do not retain pages made blank by deletion of material by marking the page "Intentionally blank," except as used for double-sided pages as described in Writer's Guide Section 2.1.2.

### **2.8.2 Temporary Changes**

- a. Temporary changes are added to the Technical Specifications to allow a one-time, time-limited, or condition-based changes to the stated requirements (e.g., "Not required to be met during Cycle 5" or "Not required to be performed until the first entry into MODE 5 that occurs after the Cycle 12 refueling.") Temporary changes added to the Technical Specifications should follow the format described in this document. Do not use footnotes for temporary changes, except as allowed for figures and tables. Temporary changes may be expressed as Notes to the changed requirement or may be explicitly stated as changes to existing requirements. Whichever format is selected, the conditions under which the change applies should be clearly stated. This allows the users of the Technical Specifications to readily identify whether the temporary change applies. Bases should be provided describing the temporary change, the circumstances for its use, and the conditions for its removal from the Technical Specifications.

## **3 STYLE**

### **3.1 Vocabulary**

The following is guidance only. Deviation in certain instances may be appropriate.

#### **3.1.1 General Guidance**

- a. Use specific control board nomenclature, terminology and observed parameters used and understood by operators and other plant personnel. Always use the exact word or term for a given subject or action and use it consistently.
- b. Use words that precisely describe the task requirement, task, or instruction.
- c. Do not use pronouns.
- d. Use short, commonly known words. This constraint does not apply to industry terms that are commonly used or technical words that are required to define or clarify the subject.
- e. Use the articles "an" and "the" in descriptive text only as needed for clarity and flow of thought. The following guidelines apply to the use of articles:
  1. Do not use articles in titles of chapters, sections, paragraphs, figures, tables, appendices, or other document elements.
  2. Do not use articles in table column headings.
  3. Do not use articles in table entries and tabular instructions, unless a passage cannot be clearly understood without articles. This includes long passages in LCO tables.
- f. Do not use contractions such as "don't" or "can't." Instead use "do not" or "cannot."
- g. Avoid the use of "that" in the Specifications if the statement is clear without it.
- h. The term "and/or" is to be avoided.

- i. In a reference, the use of italics and quotation marks in the document title is not required.
- j. 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)."
- k. In a reference, set the title apart by placing a comma before and after the subject title. Initial caps are used in the title.

## **3.2 Acronyms and Initialisms**

This section addresses two forms of abbreviations: acronyms which are words formed from the abbreviations (e.g., LOCA) and initialisms, which are abbreviations for which each letter is pronounced (e.g., ECCS).

### **3.2.1 General Guidance**

- a. When referring to specific nomenclature, use only those acronyms and initialisms that are clearly recognized by the user.
- b. While abbreviations are also used for symbols and units of measure, the guidelines set forth here do not apply to them. See Writer's Guide Section 3.3.4.

### **3.2.2 Specific Use**

- a. 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 parentheses. Use the abbreviation alone on all subsequent references in that Specification or Bases.

This guideline applies to first references occurring in the Chapter or Specification title, but not those occurring in the document header or footer. Do not define abbreviations in headers or footers.

If a title containing an undefined abbreviation is referenced, do not alter the title to define it. Define the abbreviation upon its first appearance in unquoted material.

- b. Some acronyms and initialisms are commonly used and understood. In many instances they are more commonly understood than the complete spelled out phrase. These may be used without initially defining them with the full phrase.

- c. When the header for a Specification or Bases contains a phrase for which a conventionally used acronym or initialism exists, use the acronym, rather than the phrase, in the header. Do this even if the abbreviation is not defined in the Bases or Specification.
- d. Do not invent abbreviations for frequently used phrases; use only those conventionally used at the unit and throughout the unit's Technical Specifications. When using a phrase that contains an acceptable acronym or initialism, use the acronym or initialism in conjunction with any necessary additional words, rather than making up a new abbreviation.
- e. For acronyms, which are words formed from the first letter of a series of words such as LOCA, articles should agree with the abbreviation as it is pronounced. For example, "an" is appropriate instead of "a" for ECCS and MSLB.
- f. Abbreviations for words pluralized via the addition of an "s" usually require an "s" themselves when representing the plural form of the word. In these cases, add a lower-case "s"; no apostrophe or other punctuation is needed. At the end of a word to notate possible single or plural reference, the use of "(s)" should be avoided, however, in those cases where it clarifies the intent of the statement its use is acceptable.
- g. Do not define abbreviations for defined terms, as they have already been defined in Specification 1.1 of the Technical Specifications.

### **3.3 Sentence Structure**

#### **3.3.1 General Guidance**

- a. Minimize the use of compound sentences that combine related actions or thoughts. Attempt to discuss only one thought per sentence. Do not combine unrelated actions or thoughts into a compound sentence.
- b. Enhance clarity by using short, simple sentences. Avoid using superfluous words and phrases. "That" and "that are" can often be deleted from a sentence without affecting meaning.
- c. Generally, sentences are simpler and clearer when negatives are avoided. Avoid the use of double negatives.
- d. Write instruction or procedural steps as imperative statements, also known as direct command statements. In imperative statements, the subject "you" is understood rather than written.

- e. In general, active verbs are preferred. Avoid passive verbs in requirements and actions. Passive verbs should be used in precautionary and cautionary statements and notes.
  - 1. Active verb: "Isolate each affected penetration."
  - 2. Passive verb: "Each affected penetration is isolated."
- f. When a verb has three or more objects, emphasize them by listing them separately in an ordered list (see Section 2.1.3 of this guide for ordered list format guidelines). Also use ordered lists to simplify complex sentences by removing information from the body of the sentence, thus making it easier to read.
- g. Avoid overuse of parenthetical elements within sentences. They generally make the sentence longer, more complicated, and more difficult to understand. However, parenthesis should be used for the following:
  - 1. References used as asides within text;
  - 2. Examples and illustrations using e.g. and i.e.;
  - 3. Additions of the letter "s" to words when the word may be either singular or plural, (i.e., train(s)); and
  - 4. Abbreviations of Definitions.
- h. Convey needed emphasis through phrasing and word choice, not through the use of underline, bold, and italics. Because it does not copy well, italics and bold are not used anywhere in the Technical Specifications. Underline is used only in accordance with specified format guidelines.
- i. Sentence fragments may be used in Specifications. Avoid the use of articles in Specification table text.

### 3.3.2 Capitalization

- a. Write the following items in all capital letters:
  1. Defined terms;
  2. Acronyms and initialisms;
  3. Table column headings;
  4. Chapter titles when used as a heading;
  5. The word "NOTE" or "NOTES" when used as a heading; and
  6. Logical connectors.

- b. In Specification 1.1 of the Technical Specifications numerous important terms are defined. When used in accordance with the given definitions, these words 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.

These words and phrases constitute defined terms only when written exactly as they are in Specification 1.1. When words are added to or deleted from these terms, their meanings may be altered, and they may no longer be treated as defined terms.

Defined:      **END OF CYCLE RECIRCULATION PUMP TRIP  
(EOC-RPT) SYSTEM RESPONSE TIME**

Not defined: End of Cycle Recirculation Pump Trip System

Some words that match the defined term spelling, such as "mode," can be used in such a way their meanings do not coincide with Specification 1.1 definitions. When this occurs, they do not constitute defined terms and should not be capitalized.

- c. Unlike acronyms, which are pluralized via the addition of a lower-case "s," defined terms are pluralized via the addition of a capital "S."
- d. Along with proper names, the first word in a sentence, and other words for which good English dictates the use of initial caps, use initial caps for the following items:
  1. Header and Footer Text
  2. Component Nomenclature (i.e., Containment Pressure-High High Signal)

3. Table Names and Headings - Note: It is important to distinguish between terms used exactly as they are in the table, and terms used generically. Initial caps are used only for specific references to table data. For instance, if "Surveillance" refers to a prescribed activity in an SR table, it should be initial cap. If it is used generically, keep it lowercase.
4. System Names - usually when the word "system" follows a phrase, use initial caps for the phrase and "System." If the same phrase were to stand alone or be followed by a word other than "system" ("train," "loop," "subsystem," etc.), none of the words would be capitalized. An exception would be "trip system" which is lowercase. If the word "systems" is used once with two or more phrases, its meaning is generic and initial caps are not used, (i.e., the containment spray and containment cooler systems).
5. Organizational Staff Titles.
6. Names of Documents and Specifications (i.e., Reference 3, (Ref. 3), Operating License).
7. Table and Figure titles.
8. Titles, (i.e., Bases Control Program, Inservice Testing Program and Licensee Event Report, Bases, Safety Limit, Specification 3.6.1, "Primary Containment").

### **3.3.3 Number Representation**

- a. Write out numbers one through nine and use figures for numbers greater than nine, with the following exceptions:
  1. Use figures for fractions and all numbers representing values or MODES, followed by a unit of measure or time, or used with a specific reference.
  2. Write out all numbers that form the first word of a sentence.
  3. Use figures at all times in the Completion Time and Frequency columns; for all Specification numbers; and ordered list, Condition, Required Action and Surveillance identifiers.
- b. When five or more digits are used, separate every three digits with a comma.
- c. Use either fractions or decimal values, whichever best coincides with the nomenclature for the unit in question.

When using fractions, enhance clarity by using the typeset, one-character versions whenever possible. Leading zeros are required for decimal values less than one.

- d. Do not use superscripted exponents. Use 2E-8 instead of  $2 \times 10^{-8}$ .
- e. Avoid the use of the  $\pm$  symbol to express tolerances. When possible, state the value as an acceptable range, such as " $\geq xx$  and  $\leq yy$ ," so that the user does not have to perform calculations. If a midpoint or nominal value must be provided, express it as a value followed by a range. In cases where it may not be possible or desirable to specify the values for a range, the  $\pm$  may be used.
- f. Do not use a hyphen to represent range, because it might be confused with a minus sign. Use 53°F to 63°F instead of 53°F - 63°F.
- g. Avoid the use of ratios. If necessary, do not use colons to indicate ratios or proportions, instead use the word "to" in its place.

### 3.3.4 Symbols and Units of Measure

- a. Units used in Specifications should correlate with the units the operator reads from the instrumentation.
- b. In text, when referring to "percent," "feet," or any word or phrase that could serve as a unit of measure, and the word is not tied to a number, use the entire word or phrase. Do not use the abbreviation.  
  
If the unit is tied to a number, consideration should be given to utilizing the units of measurement, as the operator reads them. Usually, this will be an abbreviation. The same abbreviation is used for the singular and plural of a unit of measure. Keep unit abbreviations and the numbers to which they refer on the same line.
- c. When multiple numbers apply to a single unit, as in a range, use the symbol or unit after each item of the range, (i.e.,  $\geq 3300$  kW and  $\leq 3500$  kW).
- d. Widely understood symbols (i.e.,  $\Delta k/k$ , %, ft) should be used in tables, figures, and text in place of the words the symbols represent. Keep symbols and the numbers to which they refer on the same line. Do not follow abbreviations, such as gal, ft, or lbm, with a period.
- e. Avoid the use of formulas and calculations where possible. If required, they should be clearly set out, and each term and its units should be defined.

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## **4 CONTENT**

### **4.1 Technical Specifications Content**

#### **4.1.1 Chapter 1.0 "Use and Application" Content**

- a. Definitions (Specification 1.1) contains a list of defined terms and corresponding definitions as used throughout the Technical Specifications. A note is included at the beginning of the list to the effect that all defined terms appear in all capitalized type throughout the Technical Specifications and Bases.
- b. Logical Connectors (Specification 1.2) contains the required conventions for logical connectors. Included are nesting conventions for Required Actions so that the Technical Specification user can understand the logic.
- c. Completion Times (Specification 1.3) contains the conventions used for Completion Times in the Required Actions. This information will help users interpret Completion Times when using the Technical Specifications.
- d. Frequency (Specification 1.4) contains a discussion of the conventions associated with Surveillance Requirement Frequencies. This section will include examples and conventions so that the Technical Specification user can apply appropriate interpretations.

#### **4.1.2 Chapter 2.0 "Safety Limits" Content**

- a. The Safety Limit describes limits on key process parameters. If applicable, within the statement of the Safety Limit is the statement of the MODES in which the Safety Limit is applicable.
- b. Each Safety Limit violation statement consists of an action and a time allowed to complete the action.

#### **4.1.3 Chapter 3 General Content**

- a. "Each" refers to more than one item, where as "the" refers to only one item.

In general, the LCO requirement for multiple component operability can be stated as "the components shall be OPERABLE" or alternatively could be stated as "each component shall be OPERABLE."

However, as a matter of consistency and convention, in instances where an Actions Note allows for separate Condition entry for each component, it is preferable to state the LCO as consisting of separate (but identical) requirements on each component, e.g., "Each component..." If no Note is provided, it is then preferable to state the LCO as a single requirement, e.g., "The components..."

- b. "Required" is specifically used in Conditions, Required Actions and Surveillances to denote reference to equipment which is "required" by the LCO for the specific existing Applicability. Typically (for operating MODES), any component referred to is "required." In this case no clarification is needed and "required" is not specifically stated in the Conditions, Required Actions, and Surveillances. In cases where the LCO only requires some of all possible components be used to satisfy the LCO requirement, then the clarification of "required" is used in the Conditions, Required Actions, and Surveillances. Typically, it is inappropriate to state "required" in the LCO, as the LCO is the statement of what is required.

#### 4.1.4 Chapter 3 LCO Content

- a. The LCO describes as simply as possible the lowest functional capability or performance levels of equipment required for safe operation of the facility. Process parameters required to preserve the initial condition assumptions of the safety analysis are also the subject of LCOs. It is acceptable to generically refer to the system, subsystem, component or parameter which is the subject of the LCO, and provide the specific scope/boundaries in the Bases.
- b. Typically, LCOs which require more than one parameter limit be met will only refer to the parameters as required to be "within limits." Typically, an LCO which requires a single limit on a single parameter will specify the precise limit within the LCO. In both instances, a reference to where the limit(s) are, is an acceptable alternative (i.e., "...within limits as specified in the COLR").
- c. While use of Logical Connectors (all caps, underlined "AND" and "OR") is a requirement in separating discrete items within the Actions table, they are at the user's discretion in writing LCOs. Simple lists with lead in guidance to meet all or only one of the items in the list, may use "and" and "or" respectively, within the text. More complex

presentations may use logical connectors, or may use a mix of "and" or "or" within the text, and separated "OR" or "AND" respectively.

- d. Notes associated with the LCO will always follow the LCO. LCO Notes may allow a limited exception to the LCO requirement stated above the Note. Their use should be minimized. It is inherently understood what requirement the Note is referring to, based on the format used. It is therefore not appropriate to add clarifying clauses such as "For this LCO..."

#### 4.1.5 Chapter 3 Applicability Content

- a. An Applicability statement is included for each LCO. This consists of a simple listing of the MODES or Conditions during which the LCO is applicable.
- b. Logical Connectors are not used in writing Applicability statements.
- c. Notes associated with the Applicability will always follow the Applicability statement. These Notes may allow a limited exception to the Applicabilities stated above the Note. Their use should be minimized. Typically, Applicability modifications occur within the text of the Applicability. See examples below. It is inherently understood what the Note is referring to, based on the format used. It is inappropriate to add clarifying clauses such as "These Applicabilities ..."
- d. Qualifiers are included with the specific MODES to which they apply, rather than being included as Notes. For example:
  - 1. The Applicability may be a simple statement of the applicable MODE or MODES. Notice that when more than two MODES or Conditions are specified, a comma should be used preceding the word "and."  
  
APPLICABILITY: MODE 1.  
  
APPLICABILITY: MODES 1, 2, and 3.
  - 2. The Applicability may also have a simple modifier clause applying to all of the stated conditions.  
  
APPLICABILITY: MODE 1 > 20% RTP.  
  
APPLICABILITY: MODES 3, 4, and 5 with the RTBs open.
  - 3. A modifier may be applied to a single condition. In this case, the MODES being modified should be put on a separate line from

the MODES not being modified. This results in more than one Applicability statement. Each statement ends in a comma except the last statement which ends in a period. No conjunctions are used to connect each statement.

When an Applicability statement must be wrapped to a second line, this second line should be indented an additional five spaces, to prevent it being confused with new phrases of the Applicability statement.

- APPLICABILITY:     MODE 3 with pressurizer pressure  
                           $\geq [1,700]$  psia,  
                          MODE 4.
- APPLICABILITY:     MODES 1, 2, and 3,  
                          MODE 4 when steam generators are  
                          used for decay heat removal.
- APPLICABILITY:     MODE 4 when the temperature of  
                          any cold leg is  $\leq [255]$  °F,  
                          MODE 5,  
                          MODE 6 with reactor vessel  
                          head on.

#### 4.1.6 Chapter 3 Actions Content

- a. Conditions shall be broken down whenever possible into separate statements describing a single Condition unless multiple Conditions have identical Required Actions. This allows the corresponding Required Actions to be written simply and directly.
- b. Conditions should be ordered from the least to the most degraded Condition. Where the probability of multiple Conditions occurring is essentially the same, the Condition warranting the most immediate attention should be listed first.
- c. Conditions should use the word "inoperable" in lowercase letters to describe the failure to meet the LCO, when appropriate. Conversely, write the associated Required Actions based on correcting the deviated Condition and use the word OPERABLE (in all capitalized type because it is a defined term). Within the Required Action, do not refer to the component as "inoperable" unless necessary for understanding; it is normally understood that the Required Action is referring to the inoperable component.
- d. Keep the wording in Required Actions as brief as possible. Be consistent in the use of verbs and tense. Use the same wording

structure between Specifications. Do not use articles unless necessary for clarity.

- e. Occasionally an LCO requires OPERABILITY of only some of the components of a particular function which could be used to satisfy the requirement (i.e., two offsite circuits when three are installed and available). In this event, the Conditions, Required Actions and Surveillances which refer to the item(s) required by the LCO are preceded by "required." "Required" would not be used in the LCO.
- f. Typically, Conditions and Required Actions referring to parameter limits follow the rule for LCOs. For LCOs which require more than one parameter limit be met, the Conditions and Required Actions will only refer to the parameters as "not within limits" or "within limits." For an LCO which requires a single limit on a single parameter, the Conditions and Required Actions will specify the precise limit.
- g. A Required Action which requires restoration, such that the Condition is no longer met, is considered superfluous. It is only included if it would be the only Required Action for the Condition or it is needed for presentation clarity.
- h. Care must be exercised in determining the use of plurals in Required Actions. If the associated Condition allows for multiple components failing the LCO, and there is no exception allowing separate Condition entry for each component, then the Required Action should be written to address all potential component"(s)," or "each" potential component. This should be done without the use of the word "all." If separate Condition entry is allowed, the Required Actions should only refer to the single component associated with the specific Condition entry.
- i. Other guidance to be used in writing ACTIONS is as follows:
  - 1. The use of logical connectors (all caps, underlined "AND" and "OR") is a requirement in separating discrete items within the ACTIONS table.
  - 2. An ACTIONS Note that is applicable to all Conditions and Required Actions (such as allowing separate Condition entry for each inoperable component) is placed between the table heading "ACTIONS" and the table itself.
  - 3. Required Actions directing a MODE change (i.e., "Be in MODE X") will not refer to the MODE as "at least." This will be an understood intent of this type of Required Action.

4. Completion Times modified to take exception to the convention of beginning upon entry into the Condition (e.g., required to be measured from some other event), will be presented with the modifier "...from discovery of..." A common example will be a limit on the total time an LCO is not met. In this case: X [time] from discovery of failure to meet the LCO.
5. Conditions which are entered as a result of failing to satisfactorily complete another Required Action are to be written with the following guidance:
  - i. The Condition text shall begin, "Required Action and associated Completion Time..." Note the use of singular.
  - ii. If the Condition is only entered for failure of some of the Required Actions, the above phrase shall continue with a specific listing of Conditions (if all Required Actions of the Condition apply) or specific Required Actions. For example, "...of Condition A, B, or D..." No listing is provided if any/all Required Action failures would lead to entering this Condition.
  - iii. The Condition wording continues with "...not met."
  - iv. Optional ending criteria may be added as required, such as "...during movement of irradiated fuel assemblies." If the Condition is not limited to specific Applicabilities, the "...not met" phrase above completes the Condition.
  - v. The Condition shall be inserted after the last Condition or Required Action to which it could apply.
- j. It is desired to accomplish an action without delay (given the potential surrounding circumstances), but the time necessary to complete the action may vary widely based on a number of unknowns, it may be inappropriate to require the completion of the action within a specific time. In this case the acceptable presentation is for the Required Action to state "Initiate action to...", and state its Completion Time as "Immediately."
- k. Notes associated with a Condition will always be to the right of the Condition designator. It is inherently understood what requirement the Note is referring to, based on the format used. It is therefore not appropriate to add clarifying clauses such as "For this Condition..."
- l. Notes associated with a Required Action will be to the right of the Required Action designator, except that the Note is the full width of the

Required Action column when the Note applies to all the Required Actions of a Condition. If there is a single Required Action in the Condition, a Note associated with the Required Action will be to the right of the Required Action designator. It is inherently understood what requirement the Note is referring to, based on the format used. It is therefore not appropriate to add clarifying clauses such as "For this Required Action..."

- m. Do not use Notes in the Completion Time column if the Condition has more than one associated Required Action, unless the Note applies to the last Completion Time associated with the Required Action and is located directly above only that Completion Time and is the full width of the Completion Time column.

#### 4.1.7 Chapter 3 Surveillance Requirements (SRs) Content

- a. Surveillance Requirements consist of short descriptions of each Surveillance and its Frequency of performance (implied as "once per"). These statements should be as brief as possible but should also fully identify those requirements appropriate to ensure compliance with the LCO. Where possible, begin each Surveillance Requirement with a verb, e.g., "Verify." Do not use the words "Demonstrate" or "Ensure." Be consistent in use of terms and sentence structure between Surveillance Requirements and Specifications. Surveillance Requirements are tabulated from the shortest to the longest frequency interval.
- b. Surveillances on parameter limits will specify, to the extent practical, the limit. This applies whether or not the LCO also requires the precise limit. Reference to where the limit(s) may be located is an acceptable alternative (i.e., "...within limits specified in the COLR").
- c. While use of Logical Connectors (all caps, underlined "AND" and "OR") is a requirement in separating discrete items within the ACTIONS table, they are at the user's discretion in writing Surveillance Requirements. Simple lists with lead in guidance to meet all or only one of the items in the list, may use "and" and "or" respectively, within the text. More complex presentations may use logical connectors, or may mix "and" and "or" within text, and separated "OR" or "AND" respectively.
- d. Notes associated with a Surveillance will always be to the right of the Surveillance number. Surveillance Notes may allow a limited exception to the Surveillance Requirement acceptance criteria or requirement to perform. Refer to the "Specific Guidance Related to SR 3.0.4" section below for further discussion. It is inherently understood what

requirement the Note is referring to, based on the format used. It is therefore not appropriate to add clarifying clauses such as "For this SR..."

- e. Do not use Notes in the Frequency column if the Surveillance has more than one associated Frequency, unless the Note applies to the last interval associated with the Frequency and is located directly above only that Frequency and is the full width of the Frequency column.
- f. The following specific guidance is related to SR 3.0.4 (refer also to Technical Specification 1.4 for discussion and examples).

Situations where a Surveillance could be required (i.e., its Frequency could expire), but it is not possible or not desired to be performed until sometime after the associated LCO is within the Applicability, represent potential SR 3.0.4 conflicts. To avoid these conflicts, the Surveillance Requirement (i.e., the Surveillance and/or the Frequency) is stated such that it is only "required" when it can be and should be performed. With a Surveillance Requirement satisfied, SR 3.0.4 imposes no restriction. Taking explicit exception to the requirements of SR 3.0.4 is not an appropriate mechanism for addressing these conflicts.

To specify the precise requirements for performance of a Surveillance, such that exceptions to SR 3.0.4 would not be necessary, the Frequency may be specified such that it is not "due" until the specific conditions needed are met. Alternately, the Surveillance may be stated as not required (to be met or performed) until a particular event, condition, or time has been reached. When a Surveillance is noted as "only required" or "not required" it must be accompanied by either "to be met" or "to be performed."

The use of "met" or "performed" in these instances convey specific meanings. A Surveillance is "met" only when the acceptance criteria is satisfied. Acceptance criteria known to be failed, even without a Surveillance specifically being "performed," constitutes a Surveillance not "met." "Performance" refers only to the requirement to specifically determine the ability to meet the acceptance criteria.

- g. The terms "only required" and "not required" are used as necessary to modify Surveillance Frequency requirements in order to specify the precise requirements for performance of a Surveillance and avoid potential SR 3.0.4 conflicts. Notes written to avoid potential SR 3.0.4 conflicts which contain a time requirement, are more clearly stated as "not required." For example, the statement "Not required to be performed until 1 hour after any control rod is withdrawn" clearly provides relaxation of the Frequency for the necessary 1 hour. This

Note also ensures the existing Frequency is maintained at all other times.

Notes written to avoid potential SR 3.0.4 conflicts which do not contain a time requirement are more clearly stated as "only required." For example, "Only required to be performed when handling irradiated fuel assemblies" clearly restricts the requirement to one particular plant condition while providing no confusion regarding the required Frequency. For additional guidance and examples refer to Technical Specification 1.4.

#### **4.1.8 Chapter 4.0 "Design Features" Content**

- a. Design Features to be included are those features of the unit such as materials of construction and geometric arrangements, not covered in Chapter 3 of the Technical Specifications, which, if altered or modified, would have a significant effect on safety.
- b. Notes associated with a Design Feature will always be to the right of the Design Feature designator. It is inherently understood what requirement the Note is referring to, based on the format used. It is therefore not appropriate to add clarifying clauses such as "For this Design Feature..."

#### **4.1.9 Chapter 5.0 "Administrative Controls" Content**

- a. Administrative controls to be included are the provisions relating to organization and management, procedures, record keeping, reviews and audits, programs, and reporting as necessary to assure operation of the unit in a safe manner.
- b. Notes associated with an Administrative Control will be to the right of the Administrative Control designator if one exists and is otherwise located above the affected text. It is inherently understood what requirement the Note is referring to, based on the format used. It is therefore not appropriate to add clarifying clauses such as "For this Administrative Control..."

#### **4.2 Bases Content**

The Bases are not part of the Technical Specifications. Their existence is mandated by 10 CFR 50.36. Specifications in Chapter 2.0 and Chapter 3 have written Bases.

#### 4.2.1 General Bases Content

- a. There will be a Bases written for each Chapter, Section or Specification as described in the Writer's Guide Section 2.7. Each part of the Bases should contain sufficient information to ensure an adequate basis for an understanding of the requirements. Since each Specification may vary in applicability and requirements, the level of information contained in the Bases will differ accordingly. Therefore, an adequate Bases may address some of, all of, or more than that specified in the following general guidelines for Bases content.
- b. Because the Bases format for Chapter 2.0 Safety Limits and Section 3.0, LCO and SR Applicability Specifications differ from other Chapter 3 Bases, some of the subsections outlined below will not be applicable to all Specification Bases.
- c. Discuss the individual limits, and their relationship to the protection of the fuel clad integrity, pressure boundary integrity or containment integrity. Discuss how each limit is measured and the parameters used to verify acceptance.
- d. Units used in Specifications should correlate with the units the operator reads from the instrumentation. These units may not always correspond to the parameters used in the corresponding safety analysis. When this occurs, the Bases for that Specification should explain the relationship between the different unit parameters.
- e. For example, if an LCO identifies tank volumes in percent of span, and the safety analysis is written using deliverable gallons, the Bases should draw a parallel between the percent of span, the number of deliverable gallons, and the number of unavailable gallons.
- f. When references are made to documents within the Bases text, include the document title with any necessary numbers, sections, or appendices. Do not include titles for Code of Federal Regulations sections. Use of titles for FSAR sections is optional.
- g. References in the "References" subsection should be in numeric order and match the order of their discussion in the text.
- h. Notes will be to the right of the designator if one exists and is otherwise located above the affected text.

#### 4.2.2 Background

Discuss the function and provide a description of each system or component. These discussions should include:

- a. A description of the system (train, channel, component, etc.), limit(s) or function(s) including as applicable:
  - Major components;
  - Flow paths;
  - Operational aspects; and
  - Unique features.

All of this information should be discussed only as it relates to the Specification being covered. Information that is related to the design or function which is not governed by the Specification is for information only, and is not intended to imply it is a part of the Specification. When information is adequately addressed elsewhere that document may be referenced.

- b. Identify what limits are protected by the Specification and what are the consequences of exceeding that limit. This should include the following as applicable:
  - Safety Limits
  - General Design Criteria
  - Other Acceptance Criteria

#### 4.2.3 Applicable Safety Analyses

Discuss the analysis and evaluations included in the safety analysis from which the Specification has been derived, including (as applicable):

- a. the applicable design basis accident and transient analyses;
- b. major input assumptions, particularly single failures as they relate to the effects of the required function on the accident and/or transient analyses;
- c. the relationship of this specification to the acceptance criteria used in the analysis, e.g., DNBR, peak clad temperature; and
- d. the applicable selection criterion from 10 CFR 50.36(c)(2)(ii).

#### **4.2.4 Limiting Condition For Operation (LCO) (or Safety Limits)**

- a. Define the precise scope of the LCO and explain why the requirement is appropriate.
- b. Discuss why it was determined to be the lowest functional capability or performance level for the system/component necessary for safe operation of the facility.
- c. Discuss the individual limits and their relationship to the protection of the fuel clad integrity, pressure boundary integrity or containment integrity. Discuss what parameters are measured and used to verify acceptance with the specified limit.
- d. Discuss any other facets of the LCO that may be required, for example:
  - conditions required;
  - numbers of components required (single failure criteria);
  - required flow paths;
  - parameter requirements;
  - exceptions or notes; and
  - implications of LCO violations.

#### **4.2.5 Applicability**

- a. Explain why the Specification compliance is required in the given MODES and plant conditions and why it is not required in other MODES (or provide a reference to another Specification that covers other MODES).
- b. Discuss design basis events addressed in various MODES.
- c. Discuss conditions encompassed by safety analysis.
- d. Describe related LCOs and relationship to other MODES of operation, if appropriate.
- e. Discuss variations in requirements between MODES.

#### **4.2.6 Actions (or Safety Limit Violation)**

For each Required Action:

- a. Explain why it is an acceptable deviation from the LCO on the basis that:

- protection is still provided;
  - the probability of an event during the period covered is low; or
  - the Required Actions compensate for LCO deviations.
- b. Explain why Completion Times are acceptable.
  - c. Describe why MODE changes are required and why this is acceptable from a plant safety concern.
  - d. Explain the basis or source of all numbers in the Required Action (e.g., Completion Times, parameter values or component requirements).

#### **4.2.7 Surveillance Requirements**

- a. Discuss how the Surveillance demonstrates compliance with the LCO requirements including the basis of specified acceptance criteria.
- b. Provide justification for Surveillance Frequencies (e.g., engineering judgment, PRA) and parameter values.
- c. Discuss relationship to ASME Section XI requirements, if applicable.
- d. Explain why the Surveillance is necessary at the Frequency specified.

#### **4.2.8 References**

- a. Provide a list of documents where more detailed information pertinent to the Specification can be located. Include a list of:
  - sections of the FSAR where above information is contained;
  - applicable reports (topical, technical);
  - applicable industry codes and ANSI Standards; and
  - applicable sections of the Code of Federal Regulations.
- b. 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.

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## **5 SPECIAL GUIDANCE FOR NUREGS 1430, 1431, 1432, 1433, AND 1434**

### **5.1 The Generic Improved Standard Technical Specifications**

This document is to be used in the preparation of plant specific Improved Technical Specifications. Guidance only applicable to the five generic Improved Standard Technical Specifications is given in this section.

#### **5.1.1 Repeated Specifications**

- a. To accommodate various plant designs, certain Specifications are repeated with minor modifications but have the same title in the header: e.g. - Containment (Atmospheric), Containment (Sub atmospheric), Containment (Dual), and Containment (Ice Condenser). In the plant-specific utilization of these specifications, the parenthetical label in the title is removed.
- b. For these repeated specifications, the LCO, title, and page numbers are followed by a sequential letter (e.g., 3.6.6A). All references to these specifications should contain the appropriate sequential letter for the reference. In the plant-specific utilization of these specifications, the sequential letter is removed.
- c. Page numbers are restarted at "1" for each repeated Specification.

#### **5.1.2 Brackets**

- a. Typically, brackets are used in the generic Technical Specifications and Bases to indicate where plant specific input is needed. Various types of material may be bracketed, such as Conditions, Required Actions, Surveillances, values, system or component names, or descriptive material, or entire specifications. Brackets may contain information from either the lead plant or typical vendor information. Plant-specific Improved Technical Specifications contain the appropriate material, or omit the material, for the particular plant in lieu of brackets.
- b. Brackets are placed to the left and right of the affected material. The bracket format does not allow placing brackets on Required Action lines with logical connectors (e.g., AND, OR). As a result, any logical connector between a non-bracketed and bracketed Required Action is

not bracketed. An implementing plant must remove the associated logical connector if the bracketed Required Action is removed.

- c. The bracket format does not include the Condition label. Optional Conditions are bracketed starting with the Condition text and ending at the end of the Completion Time text.
- d. The bracket format does not include bracketing the SR number. As a result, optional SRs are bracketed starting with the Surveillance text and ending with the end of the Frequency.
- e. Condition labels and SR numbers subsequent to optional Conditions and SRs are not bracketed.
- f. References to bracketed material are bracketed to assist in identifying material that may change. References to subsequent Conditions, Required Actions, and Surveillances are not bracketed.
- g. Surveillance Frequencies of "[18] months" which are described in the Bases as chosen to allow the Surveillance Requirement to be performed during a refueling outage represent the plant-specific refueling frequency (e.g., 12, 18, or 24 months).
- h. If the purpose of the brackets is not clear, a Reviewer's Note (see Writer's Guide Section 5.1.5) may be provided in the associated Bases to explain its application.

### **5.1.3 Punctuation**

Nearly all of the semicolons used throughout the generic technical specifications were changed to commas (especially in lists of items) during the development of Revision 2 of the Improved Standard Technical Specifications. Many of the commas used in lists of items were deleted. Most colons introducing lists of items were deleted. These changes were not corrected in subsequent revisions of the ISTS NUREGs. These changes are not consistent with the Writer's Guide and should be corrected to be consistent with the Writer's Guide (and the ISTS Revision 0 and Revision 1 format) during the development of the plant specific ITS.

### **5.1.4 Running Headers**

In the Bases, running headers and the term "continued" are only applied to Bases sections. If the Bases for a particular Surveillance, Required Action, or a Bases subsection breaks across a page, there is no header for that Surveillance, Required Action, or subsection at the top of the next page. This format is not consistent with the Writer's Guide. This change was made to

simplify the maintenance of the generic Improved Standard Technical Specifications and should be corrected to be consistent with the Writer's Guide (and the ISTS Revision 0 and Revision 1 format) during the development of the plant specific ITS.

#### **5.1.5 Reviewer's Notes**

Reviewer's Notes are included as needed to provide guidance in the conversion of the generic Improved Standard Technical Specifications to plant-specific Improved Technical Specifications. Reviewer's Notes are formatted like other Notes (see Writer's Guide Section 2.1.4), but are titled "REVIEWER'S NOTE" or "REVIEWER'S NOTES" instead of "NOTE" or "NOTES." The Bases are the preferred location for Reviewer's Notes.

#### **5.1.6 Front Matter**

- a. A Title Page is not included in NUREGs 1430, 1431, 1432, 1433, or 1434, but should be included in the plant specific ITS.
- b. A List of Effective Pages is not included in NUREGs 1430, 1431, 1432, 1433, or 1434, but should be included in the plant specific ITS.
- c. The Table of Contents format is changed to include the latest revision of each entry, in lieu of a List of Effective Pages. During the development of the plant specific ITS, the Table of Contents should be revised to be consistent with the final plant specific ITS.

#### **5.1.7 Inequality Signs**

In Revision 2 of the Improved Standard Technical Specifications, the font of the inequality signs was inconsistent and can lead to the symbol not being printed properly. These symbols should be revised to be consistent in the plant specific ITS. This was corrected in Revision 3 of the Improved Standard Technical Specifications.

#### **5.1.8 Required Action Notes**

In Revision 2 of the Improved Standard Technical Specifications, notes that apply to all Required Actions of a specific Condition did not span the width of the Required Actions column. This change is not consistent with the Writer's Guide and should be corrected to be consistent with the Writer's Guide (and the ISTS Revision 0, 1 and Revision 3 format) during the development of the plant specific ITS. This was corrected in Revision 3 of the Improved Standard Technical Specifications.

### **5.1.9 Required Actions That Cross Pages**

In Revisions prior to Revision 2, if a Required Action was split across pages, the Condition letter was repeated on the following page one blank line below the single line below the column heading. The term "(continued)" appears two spaces to the right of the letter. The Required Action text will begin on the same line as the "(continued)." ISTS Revisions 2 & 3 does not contain any text in the Condition column for Required Actions that cross pages. This omission was made to facilitate revision of the ISTS. This information should be added to the plant-specific ITS for human factors considerations.

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## INDEX

Abbreviations.....	33, 34, 36, 41, 42, 44, 47, 48
Acronyms.....	5, 18, 41, 42, 45
Chapters	
1.0.....	7, 12, 17, 50
2.0.....	7, 12, 21, 35, 36, 50, 59, 61, 62
3.0.....	7, 12, 13, 21, 23, 26, 27, 35, 50, 51, 52, 53, 56, 59
4.0.....	7, 12, 21, 58
5.0.....	7, 12, 31, 58
Code of Federal Regulations.....	60
COLR.....	51, 56
Completion times.....	19, 50, 55, 62
Continued.....	12, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 29, 30, 32, 33, 34, 37, 66, 67
Decimal align.....	1, 31
Defined terms.....	1, 18, 42, 44, 45, 50
Failure to meet the LCO.....	55
Figures.....	4, 12, 13, 14, 38, 40, 46, 48
Fonts.....	4, 5, 10, 14
Footnotes.....	4, 14, 31, 38
Formatting	
Bold.....	44
Italic.....	41, 44
Underlining.....	44
Frequency.....	19, 46, 50, 56, 57, 58, 62, 66
Front matter.....	5, 15, 67
Initialisms.....	41, 42, 45
Lines, single and double ..	10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38
List of effective pages.....	15, 16, 67
Logical connectors.....	2, 9, 19, 45, 50, 51, 52, 54, 57
Margins.....	4, 18, 19, 20, 22, 23, 24, 25, 26, 28, 30, 32, 33, 34, 35, 36, 37
Binding.....	1, 3, 4
Nesting.....	2, 9
Nomenclature.....	40, 41
Notes.....	7, 8, 9, 12, 18, 26, 27, 28, 29, 38, 51, 52, 54, 56, 57, 58, 59, 60, 66
Applicability.....	8
Completion Time.....	56
LCO.....	8, 52
Width.....	9
Numbers.....	36
Exponents.....	47
Fractions.....	46, 47

Ranges.....	47, 48
Ratios.....	47
Representation.....	46, 59
Tolerances.....	47
Ordered lists.....	2, 7, 9, 28, 32, 43, 46
Page	
Blank.....	3, 5
Landscape.....	1, 4
Oversized.....	3
Portrait.....	2, 4
Sides.....	3, 4, 38
Size.....	3
Plurals.....	42, 43, 45, 47, 54
Quotation marks.....	41
References.....	36, 41, 43, 46, 51, 60, 61, 63
Order.....	60
Required Action and associated Completion Time not met.....	55
Restore actions.....	54
Sections	
1.1.....	18, 45, 50
1.2.....	10, 19, 50
1.3.....	19, 50
1.4.....	19, 50
3.0.....	23, 33, 59
3.3.....	7, 31, 35
Sentences.....	43
Separate Condition entry.....	51, 54, 55
Single versus multiple limits.....	51, 54
SR 3.0.4 exceptions.....	57
Symbols.....	41, 47, 48
Table	
Instrumentation function.....	31
MODE.....	19
Table of contents.....	15, 16, 67
Tabs.....	2
Title page.....	5, 15
Units of measure.....	41, 47
Vocabulary.....	40
Widow / orphan.....	2, 33, 35, 38
Word usage	
And / or.....	41
Articles.....	40, 42, 44
Contractions.....	40
Demonstrate.....	56
Each.....	50, 51
Ensure.....	56

Immediately .....	56
inoperable.....	53, 55
OPERABLE.....	51, 53
Required.....	51, 54
Systems names .....	46
That .....	40, 43
Verify .....	56