AACE® International

Technical Paper Style Guide

Prepared by the AACE International Technical Board

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Contents

1. Purpose

The purpose of this document is to establish the format and writing style for all technical documents published by AACE International. The intent is to achieve technical documents that are clearly written, and consistent in style and form.

2. General Requirements

2.1. Authorship

All technical documents are to be original documents of the author(s). If a co-author is identified, then the co-author must have substantially contributed to the writing of the document. If a contributor is identified, then the contributor must have contributed to the writing or editing of the document.

2.2. Plagiarism

Plagiarism is the use of another person's words, thoughts, ideas, or other works without explicit acknowledgment of the original author and source. Plagiarism is unethical and unacceptable. AACE International conducts plagiarism checks on all technical papers submitted to the Association; and violators may face severe penalties.

2.3. AACE International Document Templates

All technical documents should be submitted to AACE International in Microsoft Word, and formatted utilizing the appropriate AACE International template available from the AACE International website.

3. Style

3.1. General

The style of writing for all AACE International technical documents shall be written in third person form. A technical writing style (not conversational) must be employed. Documents should be easy to read and grammatically correct. Humor should be avoided, and the inclusion of cartoons is prohibited.

Use the formatting included in the AACE International document templates. All text should remain in black font. Use of bold or italics for emphasis is allowed, but should be limited. Do not use quotes for emphasis.

3.2. Language and Spelling

The official language for all AACE International technical documents is American English. Webster's Third New International Dictionary of the English Language shall be used as the arbitrator of correct spelling. All spelling, use of prepositions, use of verbs, and punctuation should follow the standards of American English.

3.3. Table of Contents

Technical papers must include a table of contents listing all major section headings of the document.

3.4. Abbreviations and Acronyms

The use of abbreviations and acronyms (both technical and nontechnical) should be minimized unless necessary for clarity and style. Do not overuse abbreviations and acronyms to simplify the process of writing. Use them where, in context, they can aid in clarity and lucidity of the document.

If necessary, commonly accepted abbreviations should be used. Abbreviations that are not commonly known should be defined in the document. In most cases, abbreviations should be in lowercase letters or with the first letter capitalized (e.g., Ave. for avenue; or psi for pounds per square inch).

Acronyms may be used if they are first referenced in parenthesis immediately following the first use of the applicable term to which they apply. Generally, most acronyms should be in all capital letters.

3.5. Capitalization

Capitalization should be restricted to proper nouns (a unique or specific individual, location, or entity). Generic categories of an entity (such as project manager, cost estimate, procurement, etc.) are not proper nouns and should not be capitalized.

Capitalize the first word and all major words (not articles, prepositions or coordinating conjunctions) in document titles and headings.

3.6. Sentences

The document should be written in complete sentences. A sentence expresses a complete thought, and most commonly contains both a noun and a verb. Sentence fragments are not to be used. Conjunction and compound sentences should be used with care. Each sentence should contribute to developing the subject matter of the paper.

3.7. Paragraphs

Each paragraph should typically contain a minimum of two sentences, and generally include three to five sentences. Each paragraph should develop a thought that is important to the subject matter.

3.8. Jargon

Jargon or colloquial terms unique to a particular industry or discipline should be avoided. Words or terms not familiar to the intended audience should be defined or explained. Clarity of the subject matter should always be emphasized.

3.9. Numbers

Numbers beginning a sentence should be spelled out (except to denote a year). Numbers from one to ten should usually be spelled out unless used with dimensional terms. Hyphenate all compound numbers between twenty-one and ninety-nine.

Numbers above ten should be expressed by arabic numerals (or figures); except for whole numbers used in combination with *hundred*, *thousand*, *million*, etc. Figures and spelled out numbers should not be mixed within the same sentence.

Use commas in expressing numbers of 1,000 or more. Use the decimal point to express the value less than one (e.g. 25,403.66). When using figures and the decimal point to indicate a value less than one, precede the decimal point with a zero (e.g. 0.43).

Fractions can be expressed using figures (e.g. 7 ¼ percent).

To indicate the time of day, use figures with a colon to delineate minutes followed by a space and the indication of am or pm (e.g. 9:00 am, 12:42 pm). For clarity, use noon and midnight instead of 12:00 pm and 12:00 am.

When specifying currency, use the appropriate currency symbol before the number; and do not include the name of the currency after the number (e.g. $4,503 not $4,503 dollars).

3.10. Dates

Either spell out the month (e.g., September 24, 1956); or use the convention of yyyy-mm-dd (1956-09-24).

3.11. Units of Measure

It is strongly recommended that units of measure should be expressed using the International System of Units (the metric system) for identification of quantity, temperature, etc.; however, the use of imperial (non-metric) units of measure is acceptable. Consider including both international (metric) and imperial units of measure when it does not disrupt the flow of the paper. There is no need to convert the naming of common items, such as 2" diameter pipe, to metric equivalents.

3.12. Currency

When possible, maintain the same currency units throughout the document. Use the appropriate currency symbol in front of the value, and do not include the name of the currency after the value.

3.13. Tables

A table is always distinguished as having rows and columns of information. It is preferred that tables are created in Microsoft Word table format, or inserted as an

object from a table created with Microsoft Excel or Visio. Alternatively, a table may be inserted as a graphical image of a table.

All tables should include a caption directly underneath the table, which contains the table number and a description. The caption should typically be limited to ten words or less, and be displayed in the caption style.

3.14. Figures

Figures should be introduced and discussed in the body of the text. Tell the reader why it is included and what the figure is intended to illustrate.

Figures should be inserted in one of the standard image formats (.jpg, .tiff, .png, etc.), or as a Microsoft Visio object. Figures should be clear when scaled to a standard 8.5" X 11" page format. Figures may be provided to AACE International as a separate files, in which case the author should identify the insertion point for each figure by: [INSERT FIGURE X HERE].

Figures should typically include limited use of color as many readers may be color-blind. When possible, use shading or other graphical elements in place of color.

All figures should include a caption directly underneath the figure, which contains the figure number and a description. The caption should typically be limited to ten words or less, and be displayed in the caption style.

If the figure is a screenshot from a software application then note the software and version number used to create the screenshot. This can be placed in the caption as shown in the following example:

Sample caption: Figure 3 – Example of the critical path (created by XYZ Software, Version 12.2)

Alternatively, if several screenshots from the same software application are included in the document then a footnote may be included in the document associated with the first relevant figure:

Sample footnote: Figures 3, 4, and 7 were created using XYZ Software, Version 12.2

All photographs, illustrations and other figures (if not original content from the author) will require copyright releases from the content owner, and must be submitted at the time of document submission. This includes figures from other AACE International publications.

3.15. Mathematical Expressions and Equations

Mathematical expressions and equations should be displayed on a separate line of their own if they are referenced, or if they are difficult to read in the body of the text. When displayed on a separate line of their own, the expression or equation should be flush

left, and numbered or labeled. The number or label is enclosed in parentheses and spaced to the right margin of the expression or equation (note this requires use of the tab features of Microsoft Word), as shown in the following example:

$$1^3 + 2^3 + \ldots + n^3 = (1 + 2 + \ldots + n)^2 \tag{1}$$

This will allow the expression or equation to be referenced later in the document. In the cross-reference, refer to the equation number as in the following example:

In equation (1), we see that…

3.16. Footnotes and Endnotes

Footnotes and endnotes are permissible in order to provide clarity; however, their use should be minimized. Footnotes and endnotes should not be utilized in place of a list of references.

3.17. Quotes

The use of quotations should be minimized, and employed only for the purpose of providing key points from other technical references. All quotations require citations (including page number) to identify the source.

3.18. Citations

Cite all quotations and other necessary references by number in the order they first appear in the document. Within the text of the document, refer to a reference by identifying the reference number (and page number if applicable) within hard brackets. See the following example:

Sample citation: Thomas Edison defined genius as 1 percent inspiration and 99 percent perspiration. [1, p.144].

Sample quote: A base estimate is defined as "Estimate excluding escalation, foreign currency exchange, contingency and management reserves." [8, p.12]

When necessary, legal citations may utilize in-line referencing. See the following example:

Sample legal citation: A board decision, however, has extended this concept of the evolving critical path to the extreme, finding that the final, as-built schedule should be relied upon as the ultimate critical path that dictates which delays were, in fact, critical. See Sante Fe, Inc., VABCA No. 1943 – 1946, 84-2 BCA ¶ 17,341 (1984).

3.19. Trademarks

Do not include product or other trademarks in the document.

3.20. List of References

A List of References should be included at the end of the document that provides complete publishing information in order for the reader to easily identify the referenced publication. See the following two examples for proper formatting of references:

[1] AACE International, "Risk Analysis and Contingency Determination Using Parametric Estimating – Example Models as Applied for the Process Industries," Recommended Practice 43R-08, AACE International, Morgantown, WV, (latest revision).

[2] Finnerty, John D., Project Financing-Asset Based Financial Engineering, 3rd edition, John Wiley & Sons, Hoboken, NJ, 2013.

Website references are discouraged in all technical documents. If a reference must be included from a website in order to meet proper citation of a source, a copy of the webpage in .pdf format must be included with the submission of the paper. Website references should be from acknowledged technical sources.

3.21. Appendices

Include ancillary or supporting information in an appendix if required to avoid distracting the reader from the main content of the document. Tables or figures that may be too large to be legible in 8-1/2" X 11" page format may be included in an appendix.