

Preparation of a Formatted Conference Paper for an IEEE Power & Energy Society Conference

Jeffrey H. Nelson, SMIEEE
Electric System Projects
Tennessee Valley Authority
Chattanooga, Tennessee USA
jeffrey.nelson@xxxx.com

William Stanley, Jr., Benjamin G. Lamme
and Oliver B. Shallenberger
Westinghouse Electric Company
Pittsburgh, Pennsylvania USA

Abstract—Basic guidelines for the preparation of a technical paper for an IEEE Power & Energy Society Conference are presented. This electronic document is a “live” template. The various components of your paper [title, text, headings, etc.] are already defined, as illustrated by the portions given in this document. The abstract is limited to 150 words and cannot contain equations, figures, tables, or references. It should concisely state what was done, how it was done, principal results, and their significance.

Index Terms—The author shall provide up to 5 keywords (in alphabetical order) to help identify the major topics of the paper. The thesaurus of IEEE indexing keywords is posted at http://www.ieee.org/organizations/pubs/ani_prod/keywrd98.txt.

I. INTRODUCTION (HEADING 1)

This template provides authors with most of the formatting specifications needed for preparing electronic versions of PES Conference papers. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent or later production of electronic products, and (3) conformity of style throughout a conference’s proceedings. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

II. EASE OF USE

A. Template (Heading 2)

This template has been tailored for output on US letter-sized paper.

B. Maintaining the Integrity of the Specifications

The template is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the heading margin in this template measures proportionately more than is customary. This measurement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations.

III. CONFERENCE PAPER PREPARATION

Conference papers are limited to a maximum of five pages. Please use automatic hyphenation and check your spelling. Additionally, be sure your sentences are complete and that there is continuity within your paragraphs. Check the numbering of your graphics (figures and tables) and make sure that all appropriate references are included.

Please take note of the following items when proofreading spelling and grammar:

A. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, ac, dc, and rms do not have to be defined. Do not use abbreviations in the title or section headings unless they are unavoidable.

B. Units

- Metric units are preferred for use in IEEE publications in light of their global readership and the inherent convenience of these units in many fields. In particular, the use of the International System of Units (Système Internationale d’Unités or SI Units) is advocated. This system includes a subsystem of units based on the meter, kilogram, second, and ampere (MKSA). U.S. Customary units, or British units, may be used as secondary units (in parentheses). An

exception is when U.S. Customary units are used as identifiers in trade, such as 3.5-inch disk drive.

- Avoid combining SI and U.S. Customary units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
- Do not mix complete spellings and abbreviations of units: “Wb/m²” or “webers per square meter”, not “webers/m²”. Spell out units when they appear in text: “. . . a few henries”, not “. . . a few H”.
- Use a zero before decimal points: “0.25”, not “.25”. Use “cm³”, not “cc”. (*bullet list*)

C. Equations

The equations are an exception to the prescribed specifications of this template. You will need to determine whether or not your equation should be typed using either the Times New Roman or the Symbol font (please no other font). To create multileveled equations, it may be necessary to treat the equation as a graphic and insert it into the text after your paper is styled. Use of the Microsoft Equation Editor or the *MathType* commercial add-on for MS Word for math objects in your paper is permissible (Insert | Equation *or* MathType Equation). "Float over text" should *not* be selected.

Number equations consecutively. Equation numbers, within parentheses, are to position flush right, as in (1), using a right tab stop. To make your equations more compact, you may use the solidus (/), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash, as shown in (1), rather than a hyphen for a minus sign. Punctuate equations with commas or periods when they are part of a sentence, as in

$$\alpha - \beta + \delta = \chi. \quad (1)$$

Note that the equation above is centered using a center tab stop. Be sure that the symbols in your equation have been defined before or immediately following the equation. Use “(1)”, not “Eq. (1)” or “equation (1)”, except at the beginning of a sentence: “Equation (1) is . . .”

D. Footnotes

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the reference list. Use letters for table footnotes.

E. Some Common Mistakes

- The word “data” is plural, not singular.
- The subscript for the permeability of vacuum μ_0 , and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.

- In American English, commas, semi-/colons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
- A graph within a graph is an “inset”, not an “insert”. The word alternatively is preferred to the word “alternately” (unless you really mean something that alternates).
- Do not use the word “essentially” to mean “approximately” or “effectively”.
- In your paper title, if the words “that uses” can accurately replace the word “using”, capitalize the “u”; if not, keep using lower-cased.
- Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.
- Do not confuse “imply” and “infer”.
- The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.
- There is no period after the “et” in the Latin abbreviation “et al.”.
- The abbreviation “i.e.” means “that is”, and the abbreviation “e.g.” means “for example”.

IV. USING THE TEMPLATE

This document should be used as a template for preparing your Conference paper. You may type over sections of the document, cut and paste into it, and/or use markup styles.

Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper.

A. Authors and Affiliations

The template is designed so that author affiliations are not repeated each time for multiple authors of the same affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization). This template was designed for two affiliations.

1) *For author/s of only one affiliation (Heading 3):* To change the default, adjust the template as follows.

a) *Selection (Heading 4):* Highlight all author and affiliation lines.

b) *Change number of columns:* Select the Columns icon from the MS Word Standard toolbar and then select “1 Column” from the selection palette.

c) *Deletion*: Delete the author and affiliation lines for the second affiliation.

2) *For author/s of more than two affiliations: To change the default, adjust the template as follows.*

a) *Selection*: Highlight all author and affiliation lines.

b) *Change number of columns*: Select the “Columns” icon from the MS Word Standard toolbar and then select the number of columns desired from the selection palette.

c) *Highlight author and affiliation lines of affiliation 1 and copy this selection.*

d) *Formatting*: Insert one hard return immediately after the last character of the last affiliation line. Then paste down the copy of affiliation 1. Repeat as necessary for each additional affiliation.

e) *Reassign number of columns*: Place your cursor to the right of the last character of the last affiliation line of an even numbered affiliation (e.g., if there are five affiliations, place your cursor at end of fourth affiliation). Drag the cursor up to highlight all of the above author and affiliation lines. Go to Column icon and select “2 Columns”. If you have an odd number of affiliations, the final affiliation will be centered on the page; all previous will be in two columns.

B. Identify the Headings

Headings are organizational devices that guide the reader through your paper. There are two types: component headings and text headings.

Component headings identify the different components of your paper and are not topically subordinate to each other. Examples include ACKNOWLEDGMENTS and REFERENCES and, for these, the correct style to use is “Heading 5”. Use “figure caption” for your Figure captions, and “table heading” for your table title. Run-in headings, such as “Abstract”, will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the heading from the text.

Text headings organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text heading because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the next level heading (uppercase Roman numerals) should be used and, conversely, if there are not at least two sub-topics, then no subheadings should be introduced. Styles named “Heading 1”, “Heading 2”, “Heading 3”, and “Heading 4” are prescribed.

C. Figures and Tables

1) *Positioning Figures and Tables*: Large figures and tables may span across both columns. Figure captions should be below the figures; table headings should appear above the tables. Insert figures and tables after they are cited in the text as close to the citation as possible. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

TABLE I. TABLE TYPE STYLES

Table Heading	Table Column Heading		
	Table column subheading	Subheading	Subheading
copy	More table copy ^a		

a. Example of a Table footnote. (Table footnote)

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” or “Magnetization {A[m(1)]}”, not just “A/m”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K”.

Figures and tables should be numbered consecutively. Use Arabic numerals for figures and Roman numerals for tables.

We suggest that you use a text box to insert a graphic (which is ideally a 300 dpi TIFF or EPS file, with all fonts embedded) because, in an MSW document, this method is somewhat more stable than directly inserting a picture.

To have non-visible rules on your frame, use the MSWord “Format” pull-down menu, select Text Box > Colors and Lines to choose No Fill and No Line.

Figure 1. Example of a figure caption. (figure caption)

ACKNOWLEDGMENT (HEADING 5)

The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression, “One of us (R. B. G.) thanks . . .” Instead, try “R. B. G. thanks”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

The following is an example of an acknowledgment.

The authors gratefully acknowledge the contributions of T. Edison, G. Westinghouse, N. Tesla, A. Volta and A. Ampere to the electric power industry.

REFERENCES

References are important to the reader; therefore, each citation must be complete and correct. There is no editorial check on references; therefore, an incomplete or wrong reference will be published unless caught by a reviewer and will detract from the authority and value of the paper. References should be readily available publications.

List only one reference per reference number. If a reference is available from two sources, each should be listed as a separate reference.

The template will number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2].

Multiple references [3], [4] are each numbered with separate brackets [4]-[6]. Refer simply to the reference number, as in [7]—do not use “Ref. [7]” or “reference [7]” except at the beginning of a sentence: “Reference [7] was the first . . .”

Unless there are six authors or more give all authors' names; do not use “et al.”. Papers that have not been published, even if they have been submitted for publication, should be cited as “unpublished” [8]-[10]. Capitalize only the first word in a paper title, except for proper nouns and element symbols. For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [11]. Papers that have been accepted for publication, but not yet published, should be cited as “in press” [12].

Samples of the correct formats for various types of references are given below [1]-[16].

Periodicals:

- [1] J. F. Fuller, E. F. Fuchs, and K. J. Roesler, "Influence of harmonics on power distribution system protection," *IEEE Trans. Power Delivery*, vol. 3, pp. 549-557, Apr. 1988.
- [2] R. J. Vidmar. (1992, Aug.). On the use of atmospheric plasmas as electromagnetic reflectors. *IEEE Trans. Plasma Sci.* [Online]. 21(3), pp. 876-880. Available: <http://www.halcyon.com/pub/journals/21ps03-vidmar>

Books:

- [3] E. Clarke, *Circuit Analysis of AC Power Systems*, vol. I. New York: Wiley, 1950, p. 81.
- [4] G. O. Young, "Synthetic structure of industrial plastics," in *Plastics*, 2nd ed., vol. 3, J. Peters, Ed. New York: McGraw-Hill, 1964, pp. 15-64.
- [5] J. Jones. (1991, May 10). *Networks*. (2nd ed.) [Online]. Available: <http://www.atm.com>

Technical Reports:

- [6] E. E. Reber, R. L. Mitchell, and C. J. Carter, "Oxygen absorption in the Earth's atmosphere," Aerospace Corp., Los Angeles, CA, Tech. Rep. TR-0200 (4230-46)-3, Nov. 1968.
- [7] S. L. Talleen. (1996, Apr.). The Intranet Architecture: Managing information in the new paradigm. Amdahl Corp., Sunnyvale, CA.

[Online]. Available: <http://www.amdahl.com/doc/products/bsg/intra/infra/html>

Unpublished Papers:

- [8] D. Ebehard and E. Voges, "Digital single sideband detection for interferometric sensors," unpublished, presented at the 2nd Int. Conf. Optical Fiber Sensors, Stuttgart, Germany, 1984.
- [9] Process Corp., Framingham, MA. "Intranets: Internet technologies deployed behind the firewall for corporate productivity," unpublished. Presented at INET96 Annu. Meeting. [Online]. Available: <http://home.process.com/Intranets/wp2.htm>
- [10] G. N. Lester and J. H. Nelson, "History of Circuit Breaker Standards," unpublished. Presented at the IEEE/PES General Meeting, 24 July 2008. [Online]. Available IEEE/PES Switchgear Committee web site: <http://www.ewh.ieee.org/soc/pes/switchgear/Presentations/2008CBtutorial/speaker1paper.pdf>

Papers Published in Translation Journals:

- [11] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interface," *IEEE Transl. J. Magn. Japan*, vol. 2, pp. 740-741, August 1987 [Digests 9th Annual Conf. Magnetics Japan, p. 301, 1982].

Papers Accepted for Publication (but not yet published):

- [12] E. H. Miller, "A note on reflector arrays," *IEEE Trans. Antennas Propagat.*, in press.

Papers from Conference Proceedings (Published):

- [13] J. L. Alquieres and J. C. Praca, "The Brazilian power system and the challenge of the Amazon transmission," in *Proc. 1991 IEEE Power Engineering Society Transmission and Distribution Conf.*, pp. 315-320.

Dissertations:

- [14] S. Hwang, "Frequency domain system identification of helicopter rotor dynamics incorporating models with time periodic coefficients," Ph.D. dissertation, Dept. Aerosp. Eng., Univ. Maryland, College Park, 1997.

Standards:

- [15] *IEEE Guide for Application of Shunt Power Capacitors*, IEEE Std. 1036-2010, Sep. 2010.

Patents:

- [16] G. Brandli and M. Dick, "Alternating current fed power supply," U.S. Patent 4 084 217, Nov. 4, 1978.