STYLE SHEET for *Fire Protection Engineering*

Abbreviations

Spell out abbreviations at first reference. Enclose the abbreviated term in parentheses following the spelled out term. In all subsequent references, use only the abbreviation.

These common abbreviations need not be spelled out:

ac	Alternating current
a.m.	Ante meridian
A.D.	Anno Domini
B.C.	Before Christ
dc	Direct current
P.E.	Professional Engineer/-ing (U.S.)
P. Eng.	Professional Engineer (Canada)
p.m.	Post meridian

These organizational abbreviations need not be spelled out:

ANSI	American National Standards Institute
ASTM	American Society of Testing Materials
NFPA	National Fire Protection Association
SFPE	Society of Fire Protection Engineers
UL	Underwriters Laboratories Inc.

Abbreviations for most units of measurement need not be spelled out. Abbreviate units of measurement in accordance with ASTM E 380. Also use the symbols designated by ASTM E 380 for prefixes to these units, as in km, mm, μm, etc. Except for in., do not use periods after units of measurement. Always use abbreviations for units of measurement in singular form only. For example, use 10 lb rather than 10 lbs.

Compound Words, Hyphenated Words and Two-Word Terms

Check a dictionary to determine whether a term is compound or hyphenated, or whether it is two words. Hyphenate adjective-noun combinations when they are used before nouns but not when they are used after linking verbs. Example: *The solid-state device* (before the noun) or *The device is solid state* (after the verb). Exception: Do not hyphenate combinations of chemical terms, such as *sodium chloride solution.*

Do not hyphenate prefixes. Example: *NFPA subcommittee,* not *sub-committee*.

Use the following forms:

abovegrade (adjective)
aboveground (adjective)
air flow (noun)
airflow (adjective)
antifreeze
autoignition (noun and adjective)
back up (verb)
backup (noun)
back-up (adjective)
build up (verb)
buildup (noun)
bypass (verb, noun and adjective)
C-factor
cast iron (noun)
cast-iron (adjective)
closed head
current-limiting (adjective)
cut off (verb)
cutoff (noun)
cut-off (adjective)
cut out (verb)
cutout (noun)
cut-out (adjective)
de-energize
electric motor-driven pump
explosionproof
fire door (noun)
fire-door (adjective)
firefighter (noun)
firefighting (noun)
fire-fighting (adjective)
fireproofing
fire resistance (noun and adjective)
fire-resistant (adjective)
fire resistive (adjective)
fire-retardant (adjective)
fire-stop (verb)
fire stop (noun)
firestopping (noun)
fire-stopping (adjective)
firetube
flameproof
flamespread
flammable (not inflammable)
flashpoint
foamed plastic (not foam plastic)
foam-water deluge
follow up (verb)
follow-up (noun and adjective)
hydroelectric
inservice (adjective)
K-factor
large-drop sprinkler
large orifice sprinkler
lead-acid battery
liquid-cooled
light-off (adjective)
light off (verb)
lightoff (noun)
lightweight (noun and adjective)
load bearing (adjective)
metal-clad
mineral-insulated
motor-generator set
multipurpose
multistory

non (use as prefix without a hyphen)
nonsprinklered (not unsprinklered)
open head
over (no hyphen when used as prefix)
photoelectric
preaction
rate-of-rise detector
rubber-lined (adjective)
short-circuit (adjective)
short circuit (noun)
shut down (verb)
shutdown (noun)
shut-down (adjective)
shut off (verb)
shutoff (noun)
shut-off (adjective)
single-phase
stand by (verb)
standby (noun and adjective)
steam smothering systems
total flooding
turbine-generator
underground
water flow (noun and adjective)
water mist
waterproof
water spray (adjective)
water spray (noun)
watertight
watertube

Equations

If you use Word or WordPerfect, set all equations in the Equation Editor (available on both IBM and Mac for both pieces of software). To access the editor from your document, select Insert – Object – Equation. If Equation does not appear in the drop-down menu, you will need to install it. Run a reinstall of your software, select custom installation, and select Equation Editor from the list.

Equivalent Measurements

Use ASTM E 380 for conversion factors. Use the same number of significant figures in the equivalent measurement as in the original value.

In most cases, specify metric units first followed by the English equivalent in parentheses. However, if the original source is English units, cite those units first. Example: *a ½ in. (12.7 mm) orifice sprinkler*. In this case, the ½ in. is exact and the conversion is an approximation.

If the converted value is a nominal value rather than a direct conversion, use the term nominal. Examples: *a 55 gal (200 L nominal) drum, a ½ in. (15 mm nominal) pipe size*.

Graphs

Graphs present numerical data in visual form. The main types of graphs are bar graphs, line graphs and pie charts. Bar graphs represent quantities using scaled horizontal or vertical bars of equal thickness. Prepare bar graphs as follows:

- Mark each bar by shading or crosshatching.
- Include keys to identify subdivisions of the bars, if any.

Line graphs show the relationship between two variables by plotting points on x-y axes, and connecting the points to form a line. Prepare line graphs as follows:

- Label the horizontal and vertical axes, including units.
- Have the axes intersect at (0, 0) and mark numbers to scale. If an axis must extend to large numbers, insert a break between 0 and the next number on that axis.
- Provide scales in equivalent units of measurement in below or to the left of the primary scales.
- Identify each line with a label or legend. Use distinct lines, such as dotted and dashed lines or otherwise uniquely marked lines.
- Minimize grid lines so the plotted lines stand out.
- Remove portions of grid lines that pass through any labels or the keys. Do not repeat information from labels and keys in the caption.

Pie charts present data as wedge-shaped sections of a circle. The circle represents 100% of a given quantity. Wedges subdivide the whole. Prepare pie charts as follows:

- Begin at the 10 o'clock position, and sequence wedges clockwise, from largest to smallest.
- Shade wedges clockwise, from light to dark, or use crosshatching.
- Give percentage values for each wedge, and display the values inside the wedges.
- Clearly label the wedges.
- Keep labels horizontal.
- Make sure all percentage values add up to 100%.
- Do not use more than five or six wedges.

Consider the following points for all graphs:

- Provide a title that clearly specifies what data are shown in the graph.
- Do not crowd too much data in a single graph.
- Indicate any source of information below the graph.
- Refer to graphs in the text, and place each graph as soon as possible after the text refers to it.

Nomenclature

Define nomenclature either as each symbol is used or in a Nomenclature section at the end. Whenever possible, use the same nomenclature as common fire protection references, such as *The SFPE Handbook of Fire Protection Engineering*. In many cases, this requires the capability of setting upper and lower case Greek letters and other scientific symbols.

Preferred Spelling

Modern usage tends toward simpler spelling where two spellings are possible. As a general rule, do not use British spelling. Preferred spelling includes:

aesthetics	(not esthetics)
arrester	(not arrestor)
color	(not colour)
gage	(not gauge)
ignitable	(not ignitible)
igniter	(not ignitor)
organize	(not organise)
pendent*	(not pendant)
signaling	(not signalling)
sterilize	(not sterilise)
vapor	(not vapour)

*when referring to sprinklers

Quotation Marks

Always place commas and periods inside quotation marks. Always place semicolons and colons outside quotation marks. Place all other punctuation inside quotation marks if it is part of the quoted material and outside if it is not.

Ranges

When specifying ranges of dimensions, temperatures, percentages or other units, use the symbol after both the first and second values in the range. For example, use 1 in. – 3 in., 50°F – 75°F, or 5% – 10%. Use an en dash to indicate ranges.

Show conversions for ranges in this style:

1 in. – 3 in. (3 cm – 8 cm)

Use the word “minus” if any term in a range is a negative number. Example:

25°F – 50°F (minus 4°C – 14°C)

References

Cite references in accordance with *The Chicago Manual of Style*. For example, see Part 2, Chapter 16, Documentation 2 in the 14th edition.

Superscripts and Subscripts

Size and position superscripts and subscripts in text the same way as in equations. Place superscripts for numbering references after the last word of the work being referenced. If a period or a comma follows the work being referenced, put the superscript after the period or the comma.

Symbols

Use common mathematical symbols, such as %, $\sqrt{\ }$, and °, rather than writing out the words. An exception to this would be when using these terms in the indefinite sense. Example: *The next step is checking the percent change*.

Tables

Tables organize large amounts of related data for easy reference. Prepare tables as follows:

- Provide a table title that clearly specifies what the table entries are.
- Provide titles for table row(s) and column(s) that clearly identify what is varying in those row(s) and column(s).
- Put units of measurement (with equivalent units of measurement following in parentheses) with the row and column titles rather than in every table entry.
- Put values for equivalent units in parentheses after each numerical table entry.
- If room does not permit putting equivalent unit values after each table entry, specify the conversion factors in notes at the bottom of the table. For example, specify 1 ft = 0.305 m in the notes.
- Refer to tables in the text, and place each table as soon as possible after the text refers to it.
- If tables are longer than one page, repeat the table row and column titles on subsequent pages.

Terminology

Keep technical terminology consistent. Use the same term to refer to the same thing. For example, if using the term *water demand* to mean the flow and pressure required at the base of a sprinkler riser, do not use the term *system design* to mean the same thing.