9. Abbreviations and Letter Symbols

- **9.1.** Abbreviations and letter symbols are used to save space and to avoid distracting the reader by use of repetitious words or phrases.
- **9.2.** The nature of the publication governs the extent to which abbreviations are used. In the text of technical and legal publications, and in parentheses, brackets, footnotes, sidenotes, tables, leaderwork, and bibliographies, many words are frequently abbreviated. Heads, legends, tables of contents, and indexes follow the style of the text.
- **9.3.** Internal and terminal punctuation in symbols represening units of measure are to be omitted to conform with practice adopted by scientific, technical, and industrial groups. Where the omission of terminal punctuation causes confusion; e.g., the symbol *in* (inch) mistaken for the preposition *in*, the symbol should be spelled out.
- **9.4.** Standard and easily understood forms are preferable, and they should be uniform throughout a job. Abbreviations not generally known should be followed in the text by the spelled-out forms in parentheses the first time they occur; in tables and leaderwork such explanatory matter should be supplied in a footnote. As the printer cannot rewrite the copy, the author should supply these explanatory forms.
- **9.5.** In technical matter, symbols for units of measure should be used only with figures; similarly, many other abbreviations and symbols should not appear in isolation. For example, *energy is measured in foot-pounds*, NOT *energy is measured in ft•lbs*.

Capitals, hyphens, periods (points), and spacing

9.6. In general, an abbreviation follows the capitalization and hyphenation of the word or words abbreviated. It is followed by a period unless otherwise indicated.

c.o.d. St. but ft•lb

9.7. Abbreviations and initials of a personal name with points are set without spaces. Abbreviations composed of contractions and initials or numbers, will retain space.

H.S.T. B.S., LL.D., Ph.D., B.Sc. I.F.K. H.R. 116 (but S. 116, S. Con. L.B.J. Res. 116) U.S. C.A.D.C. (but App. D.C.) U.N. A.B. Secrest, D.D.S. U.S.C. (but Rev. Stat.) A.F. of L.-CIO (AFL-CIO preferred) but A.D., B.C. AT&T Texas A&M e.s.t. i.e., e.g. (but op. cit.) R&D

9.8. Except as otherwise designated, points and spaces are omitted after initials used as shortened names of governmental agencies and of other organized bodies. "Other organized bodies" shall be interpreted to mean organized bodies that have become popularly identified with a symbol, such as MIT (Massachusetts Institute of Technology), GM (General Motors), GMAC (General Motors Acceptance Corp.), etc. (See "List of Abbreviations.") Symbols, when they appear in copy, may be used for acts of Congress. Example: ARA (Area Redevelopment Act).

VFW TVA ARC NLRB AFL-CIO ASTM

Geographic terms

9.9. *United States* must be spelled out when appearing in a sentence containing the name of another country. The abbreviation *U.S.* will be used when preceding the word *Government* or the name of a Government organization, except in formal writing (treaties, Executive orders, proclamations, etc.); congressional bills; legal citations and courtwork; and covers and title pages.

U.S. Government

U.S. Congress

U.S. Department of Health and Human Services

U.S. district court

U.S. Supreme Court (but Supreme Court of the United States)

U.S. Army (but Army of the United States)

U.S. monitor Nantucket

U.S.-NATO assistance

U.S. Government efforts to control inflation must be successful if the United States is to have a stable economy.

but British, French, and United States Governments; United States-British talks

9.10. With the exceptions in the preceding rule, the abbreviation *U.S.* is used in the adjective position, but is spelled out when used as a noun.

U.S. foreign policy
U.S. farm-support program
U.S. attorney
U.S. citizen
United States Steel Corp.
(legal title)
Foreign policy of the
United States

United States Code (official title) *not* Temperatures vary in the U.S.

- **9.11.** The names of foreign countries are not abbreviated, with the exception of the former U.S.S.R., which is abbreviated due to its length.
- **9.12.** In other than formal usage as defined in rule 9.9, all States of the United States, Puerto Rico, and the Virgin Islands are abbreviated immediately following any capitalized geographic term, including armory, arsenal, airbase, airport, barracks, depot, fort, Indian agency, military camp, national cemetery (also forest, historic site, memorial, seashore, monument, park), naval shipyard, proving ground, reservation (forest, Indian, or military), and reserve or station (military or naval).

Prince George's County, MD

Mount Rainier National Forest,
WA

Stone Mountain, GA

National Naval Medical Center,
Bethesda, MD

Mark Twain National Wildlife
Refuge, IL-IA-MO (note use of Leavenworth freight yards,

hyphens here) Kansas Richmond, VA Altoona sidetrack, Wisconsin

9.13. The Postal Service style of two-letter State, Province, and freely associated State abbreviations is to be used.

United States

[Including freely associated States] Alabama.....AL Kentucky.....KY Ohio.....OH Louisiana.....LA Oklahoma.....OK Alaska..... AK American Samoa AS Maine.....ME OregonOR Marshall Islands MH Arizona.....AZ PalauPW Arkansas.....AR Maryland......MD Pennsylvania.....PA Massachusetts MA CaliforniaCA Puerto Rico PR ColoradoCO Michigan.....MI Rhode Island.....RI ConnecticutCT Minnesota MN South CarolinaSC Delaware......DE Mississippi......MS South Dakota.....SD District of Columbia DC Missouri...... MO Tennessee.....TN Federated States of Montana.....MT Texas.....TX Micronesia.....FM UtahUT Vermont.....VT FloridaFL NevadaNV Georgia.....GA New Hampshire.....NH Virgin Islands.....VI Guam.....GU New Jersey.....NJ Virginia.....VA Washington.....WA Hawaii.....HI New Mexico.....NM New YorkNY West Virginia.....WV Idaho.....ID North Carolina.....NC Illinois.....IL Wisconsin.....WI Indiana.....IN North DakotaND Wyoming......WY Iowa.....IA Northern Mariana Kansas.....KS Islands.....MP Canada Northwest Territories NT Prince Edward IslandPE AlbertaAB British ColumbiaBC Nova ScotiaNS OuebecOC Nunavut.....NU Manitoba.....MB SaskatchewanSK New Brunswick.....NB Ontario.....ON YukonYT Newfoundland and Labrador ... NL

- **9.14.** The names of other insular possessions, trust territories, and *Long Island*, *Staten Island*, etc., are not abbreviated.
- **9.15.** The names of Canadian Provinces and other foreign political subdivisions are not abbreviated except as noted in rule 9.13.

Addresses

- **9.16.** Words such as *Street, Avenue, Place, Road, Square, Boulevard, Terrace, Drive, Court,* and *Building,* following a name or number, are abbreviated in footnotes, sidenotes, tables, leaderwork, and lists.
- **9.17.** In addresses, a single period is used with the abbreviations *NW*., *SW*., *NE*., *SE*. (indicating sectional divisions of cities) following name or number. *North*, *South*, *East*, and *West* are spelled out at all times.

9.18. The word *Street* or *Avenue* as part of a name is not abbreviated even in parentheses, footnotes, sidenotes, tables, lists, or leaderwork.

14th Street Bridge

Ninth Avenue Bldg.

9.19. The words *County, Fort, Mount, Point*, and *Port* are not abbreviated. *Saint* (*St.*) and *Sainte* (*Ste.*) should be abbreviated.

Descriptions of tracts of land

9.20. If fractions are spelled out in land descriptions, *half* and *quarter* are used (not *one-half* or *one-quarter*).

south half of T. 47 N., R. 64 E.

9.21. In the description of tracts of public land the following abbreviations are used (periods are omitted after abbreviated compass directions that immediately precede and close up on figures):

SE¼NW¼ sec. 4, T. 12 S., R. 15 E., of the Boise Meridian

lot 6, NE1/4 sec. 4, T. 6 N., R. 1 W.

N½ sec. 20, T. 7 N., R. 2 W., sixth principal meridian

Tps. 9, 10, 11, and 12 S., Rs. 12 and 13 W.

T. 2 S., Rs. 8, 9, and 10 E., sec. 26

T. 3 S., R. 1 E., sec. 34, W½E½, W½, and W½SE¼SE¼

sec. 32 (with or without a township number)

9.22. In case of an unavoidable break in a land-description symbol group at end of a line, use no hyphen and break after fraction.

Names and titles

9.23. The following forms are not always abbreviations, and copy should be followed as to periods:

Al Ben Fred Walt Alex Ed Sam Will

9.24. In signatures, an effort should be made to retain the exact form used by the signer.

George Wythe

Geo. Taylor

9.25. In company and other formal names, if it is not necessary to preserve the full legal title, such forms as *Bro.*, *Bros.*, *Co.*, *Corp.*, *Inc.*, *Ltd.*, and & are used. *Association* and *Manufacturing* are not abbreviated.

Radio Corp. of America
Aluminum Co. of America
Standard Oil Co. of New Jersey
H.J. Baker & Bro.
Jones Bros. & Co.
American Telephone &
Telegraph Co.
Norton Enterprises, Inc.
Maryland Steamship Co., Ltd.

Electronics Manufacturing Co.
Texas College of Arts & Industries
Robert Wilson & Associates, Inc.
U.S. News & World Report
Baltimore & Ohio Railroad
Mine, Mill & Smelter Workers

Maryland Steamship Co., Ltd. Chesapeake & Delaware Canal Fairmount Building & Loan

Government units.

Little Theater Company Senate Banking, Housing and Urban Affairs Committee

hut

Association Urban Affairs Committee

9.26. Company and Corporation are not abbreviated in names of Federal

Commodity Credit Corporation Federal Savings and Loan Insurance Corporation Pension Benefit Guaranty Corporation

- **9.27.** In parentheses, footnotes, sidenotes, tables, and leaderwork, abbreviate the words *railroad* and *railway* (*RR*. and *Ry*.), except in such names as "Washington Railway & Electric Co." and "Florida Railroad & Navigation Corp." SS for *steamship*, *MS* for *motorship*, etc., preceding name are used at all times.
- **9.28.** In the names of informal companionships the word *and* is spelled out.

Gilbert and Sullivan

Currier and Ives

9.29. In other than formal usage, a civil, military, or naval title preceding a name is abbreviated if followed by first or given name or initial; but *Mr.*, *Mrs.*, *Miss*, *Ms.*, *M.*, *MM.*, *Messrs.*, *Mlle.*, *Mme.*, and *Dr.* are abbreviated with or without first or given name or initial.

United States military titles and abbreviations

Officer rank

Officer ranks in the United States military consist of commissioned officers and warrant officers. The commissioned ranks are the highest in the military. These officers hold presidential commissions and are confirmed at their ranks by the Senate. Army, Air Force, and Marine Corps officers are called company grade officers in the pay grades of O–1 to O–3, field grade

officers in pay grades O-4 to O-6, and general officers in pay grades O-7 and higher. The equivalent officer groupings in the Navy are called junior grade, mid-grade, and flag.

Warrant officers hold warrants from their service secretary and are specialists and experts in certain military technologies or capabilities. The lowest ranking warrant officers serve under a warrant, but they receive commissions from the President upon promotion to chief warrant officer 2. These commissioned warrant officers are direct representatives of the President of the United States. They derive their authority from the same source as commissioned officers but remain specialists, in contrast to commissioned officers, who are generalists. There are no warrant officers in the Air Force.

	Army	Navy Coast Guard	Marines	Air Force
	General of the Army (Reserved for wartime only)	Fleet Admiral (Reserved for wartime only)		General of the Air Force (Reserved for wartime only)
O10	General GEN Army Chief of Staff	Admiral ADM Chief of Naval Operations and Commandant of the Coast Guard	General Gen. Commandant of the Marine Corps	General Gen. Air Force Chief of Staff
O9	Lieutenant General LTG	Vice Admiral VADM	Lieutenant General Lt. Gen.	Lieutenant General Lt. Gen.
O8	Major General MG	Rear Admiral Upper Half RADM	Major General Maj. Gen.	Major General Maj. Gen.
O7	Brigadier General BG	Rear Admiral Lower Half RDML	Brigadier General Brig. Gen.	Brigadier General Brig. Gen.
O6	Colonel COL	Captain CAPT	Colonel Col.	Colonel Col.
O5	Lieutenant Colonel LTC	Commander CDR	Lieutenant Colonel Lt. Col.	Lieutenant Colonel Lt. Col.
04	Major MAJ	Lieutenant Commander LCDR	Major Maj.	Major Maj.
О3	Captain CPT	Lieutenant LT	Captain Capt.	Captain Capt.

	Army	Navy Coast Guard	Marines	Air Force
O2	First Lieutenant 1LT	Lieutenant Junior Grade LTJG	First Lieutenant 1st Lt.	First Lieutenant 1st Lt.
O1	Second Lieutenant 2LT	Ensign ENS	Second Lieutenant 2nd Lt.	Second Lieutenant 2nd Lt.
W5	Chief Warrant Officer CW5	Chief Warrant Officer CWO5	Chief Warrant Officer 5 CWO5	NO WARRANT
W4	Chief Warrant Officer 4 CW4	Chief Warrant Officer 4 CWO4	Chief Warrant Officer 4 CWO4	NO WARRANT
W3	Chief Warrant Officer 3 CW3	Chief Warrant Officer 3 CWO3	Chief Warrant Officer 3 CWO3	NO WARRANT
W2	Chief Warrant Officer 2 CW2	Chief Warrant Officer 2 CWO2	Chief Warrant Officer 2 CWO2	NO WARRANT
W1	Warrant Officer 1 WO1	Warrant Officer 1 WO1	Warrant Officer 1 WO	NO WARRANT

Source: http://www.defenselink.mil/specials/insignias/officers.html.

Enlisted rank

Service members in pay grades E-1 through E-3 are usually either in some kind of training status or on their initial assignment. The training includes the basic training phase where recruits are immersed in military culture and values and are taught the core skills required by their service component.

Basic training is followed by a specialized or advanced training phase that provides recruits with a specific area of expertise or concentration. In the Army and Marines, this area is called a military occupational specialty; in the Navy it is known as a rate; and in the Air Force it is simply called an Air Force specialty.

Leadership responsibility significantly increases in the mid-level enlisted ranks. This responsibility is given formal recognition by use of the terms noncommissioned officer and petty officer. An Army sergeant, an Air Force staff sergeant, and a Marine corporal are considered NCO ranks. The Navy NCO equivalent, petty officer, is achieved at the rank of petty officer third class.

At the E–8 level, the Army, Marines, and Air Force have two positions at the same pay grade. Whether one is, for example, a senior master sergeant or a first sergeant in the Air Force depends on the person's job. The same is true for the positions at the E–9 level. Marine Corps master gunnery sergeants and sergeants major receive the same pay but have different responsibilities. E–8s and E–9s have 15 to 30 years on the job, and are commanders' senior advisers for enlisted matters.

A third E–9 element is the senior enlisted person of each service. The sergeant major of the Army, the sergeant major of the Marine Corps, the master chief petty officer of the Navy, and the chief master sergeant of the Air Force are the spokespersons of the enlisted force at the highest levels of their services.

	Ar	my	Navy Coast Guard		Marines		Air Force		
E9	of the	nt Major Army 1A)	Master Chief Petty Officer of the Navy (MCPON) and Coast Guard (MCPOCG)		Sergeant Major of the Marine Corps (SgtMajMC)		Chief Master Sergeant of the Air Force (CMSAF)		
E9	Sergeant Major (SGM)	Command Sergeant Major (CSM)	Master Chief Petty Officer (MCPO)	Fleet/ Command Master Chief Petty Officer	Sergeant Major (SgtMaj)	Master Gunnery Sergeant (MGySgt)	Chief Master Sergeant (CMSgt)	First Sergeant	Command Chief Master Sergeant (CCM)
E8	Master Sergeant (MSG)	First Sergeant (1SG)	Senior Chief Petty Officer (SCPO)		Master Sergeant (MSgt)	First Sergeant	Senior Master Sergeant (SMSgt)	First S	ergeant
E7	Sergeant l (SI	First Class FC)	Chief Petty Officer (CPO)		Gunnery Sergeant (GySgt)		Master Sergeant (MSgt)	Sergeant First Sergeant	
E6	Staff Se (SS	ergeant SG)	Petty Officer First Class (PO1)		Staff Sergeant (SSgt)		Technical Sergeant (TSgt)		
E5		eant GT)	Petty Officer Second Class (PO2)		Sergeant (Sgt)		Staff Sergeant (SSgt)		
E4	Corporal (CPL)	Specialist (SPC)	Third	Officer Class O3)	Corporal (Cpl)		Senior Airman (SrA)		

	Army	Navy Coast Guard	Marines	Air Force
E3	Private First Class	Seaman	Lance Corporal	Airman First Class
	(PFC)	(SN)	(LCpl)	(A1C)
E2	Private E–2	Seaman Apprentice	Private First Class	Airman
	(PV2)	(SA)	(PFC)	(Amn)
E1	Private	Seaman Recruit (SR)	Private	Airman Basic

Source: http://www.defenselink.mil/specials/insignias/enlisted.html.

- **9.30.** Spell out *Senator*, *Representative*, and *commandant*.
- **9.31.** Unless preceded by *the*, abbreviate *Honorable*, *Reverend*, and *Monsignor* when followed by the first name, initials, or title.

Hon. Elihu Root; the Honorable Elihu Root; the Honorable Mr. Root the Honorables John Roberts, John Paul Stevens, and Ruth Bader Ginsberg Rev. Martin Luther King, Jr.; the Reverend Dr. King; Rev. Dr. King; Reverend King (not Rev. King, nor the Reverend King)

Rt. Rev. James E. Freeman; the Right Reverend James E. Freeman; Very Rev. Henry Boyd; the Very Reverend Henry Boyd

Rt. Rev. Msgr. John Bird; the Right Reverend Monsignor John Bird

9.32. The following and similar forms are used after a name:

Esq., Jr., Sr.

2d, 3d (or II, III) (not preceded by comma)

Degrees: LL.D., M.A., Ph.D., etc.

Fellowships, orders, etc.: FSA Scot, F.R.S., K.C.B., C.P.A., etc.

9.33. The abbreviation *Esq.* and other titles such as *Mr.*, *Mrs.*, and *Dr.*, should not appear with any other title or with abbreviations indicating scholastic degrees.

John L. Smith, Esq., *not* Mr. John L. Smith, Esq., *nor* John L. Smith, Esq., A.M.; *but* James A. Jones, Jr., Esq.

Ford Maddox, A.B., Ph.D., not Mr. Ford Maddox, A.B., Ph.D.

George Gray, M.D., *not* Mr. George Gray, M.D., *nor* Dr. George Gray, M.D. Dwight A. Bellinger, D.V.M.

9.34. *Sr.* and *Jr.* should not be used without first or given name or initials, but may be used in combination with any title.

A.K. Jones, Jr., or Mr. Jones, Junior, *not* Jones, Jr., *nor* Jones, Junior President J. B. Nelson, Jr.

9.35. When name is followed by abbreviations designating religious and fraternal orders and scholastic and honorary degrees, their sequence is as follows: Orders, religious first; theological degrees; academic degrees earned in course; and honorary degrees in order of bestowal.

```
Henry L. Brown, D.D., A.M., D.Lit.
T.E. Holt, C.S.C., S.T.Lr., LL.D., Ph.D.
Samuel J. Deckelbaum, P.M.
```

9.36. Academic degrees standing alone may be abbreviated.

John was graduated with a B.A. degree; but bachelor of arts degree (lowercase when spelled out).

She earned her Ph.D. by hard work.

9.37. In addresses, signatures, lists of names, and leaderwork but not in tables nor in centerheads, *Mr.*, *Mrs.*, and other titles preceding a name, and *Esq.*, *Jr.*, *Sr.*, *2d*, and *3d* following a name, are set in roman caps and lowercase if the name is in caps and small caps. If the name is in caps, they are set in caps and small caps, if small caps are available—otherwise in caps and lowercase.

Parts of publications

9.38. The following abbreviations are used for parts of publications mentioned in parentheses, brackets, footnotes, sidenotes, list of references, tables, and leaderwork, when followed by figures, letters, or Roman numerals.

```
app., apps. (appendix, appendixes)
art., arts. (article, articles)
bull., bulls. (bulletin, bulletins)
ch., chs. (chapter, chapters)
col., cols. (column, columns)
ed., eds. (edition, editions)
fig., figs. (figure, figures)
No., Nos. (number, numbers)
p., pp. (page, pages)
par., pars. (paragraph,
paragraphs)
```

```
pl., pls. (plate, plates)
pt., pts. (part, parts)
sec., secs. (section, sections)
subch., subchs. (subchapter,
subchapters)
subpar., subpars. (subparagraph,
subparagraphs)
subpt., subpts. (subpart, subparts)
subsec., subsecs. (subsection,
subsections)
supp., supps. (supplement,
supplements)
vol., vols. (volume, volumes)
```

9.39. The word *article* and the word *section* are abbreviated when appearing at the beginning of a paragraph and set in caps and small caps followed by a period and an en space, except that the first of a series is spelled out.

```
ART. 2; SEC. 2; etc.; but ARTICLE 1; SECTION 1
ART. II; SEC. II; etc.; but ARTICLE I; SECTION I
```

9.40. At the beginning of a legend, the word *figure* preceding the legend number is not abbreviated.

FIGURE 4.—Landscape.

Terms relating to Congress

9.41. The words *Congress* and *session*, when accompanied by a numerical reference, are abbreviated in parentheses, brackets, and text footnotes. In sidenotes, lists of references, tables, leaderwork, and footnotes to tables and leaderwork, the following abbreviations are used:

106th Cong., 1st sess. Public Law 84, 102d Cong. 1st sess., 106th Cong. Private Law 68, 102d Cong.

9.42. In references to bills, resolutions, documents and reports in parentheses, brackets, footnotes, sidenotes, tables, and leaderwork, the following abbreviations are used:

H.R. 416 (House bill) S. 116 (Senate bill)

The examples above may be abbreviated or spelled out in text.

H. Res. 5 (House resolution)

H. Con. Res. 10 (House concurrent resolution)

H.J. Res. 21 (House joint resolution)

S. Res. 50 (Senate resolution)

S. Con. Res. 17 (Senate concurrent resolution)

S.J. Res. 45 (Senate joint resolution)

H. Conf. Rept. 10 (House conference report)

H. Doc. 35 (House document)

S. Doc. 62 (Senate document)

H. Rept. 214 (House report)

S. Rept. 410 (Senate report)

Ex. Doc. B (Executive document)

Ex. F (92d Cong., 2d sess.)

Ex. Rept. 9 (92d Cong., 1st sess.)

Misc. Doc. 16 (miscellaneous document)

Public Res. 47

9.43. References to statutes in parentheses, footnotes, sidenotes, tables, leaderwork, and congressional work are abbreviated.

Rev. Stat. (Revised Statutes); 43 Rev. Stat. 801; 18 U.S.C. 38 Supp. Rev. Stat. (Supplement to the Revised Statutes) Stat. L. (Statutes at Large) but Public Law 85–1; Private Law 68

Calendar divisions

9.44. Names of months followed by the day, or day and year, are abbreviated in footnotes, tables, leaderwork, sidenotes, and in bibliographies. (See examples, rule 9.45.) *May, June*, and *July* are always spelled out. In narrow columns in tables, however, the names of months may be abbreviated even if standing alone. Preferred forms follow:

Jan.Apr.Oct.Feb.Aug.Nov.Mar.Sept.Dec.

9.45. In text only, dates as part of a citation or reference within parentheses or brackets are also abbreviated.

(Op. Atty. Gen., Dec. 4, 2005)

(Congressional Record, Sept. 25, 2007)

[From the New York Times, Mar. 4, 2008]

[From the Mar. 4 issue]

On Jan. 25 (we had commenced on Dec. 26, 2005) the work was finished. (In footnotes, tables, leaderwork, and sidenotes)

On January 25, a decision was reached (Op. Atty. Gen., Dec. 4, 2006). (Text, but with citation in parentheses)

but On January 25 (we had commenced on December 26, 2008) the work was finished. (Not a citation or reference in text)

9.46. Weekdays are not abbreviated, but the following forms are used, if necessary, in lists or in narrow columns in tables:

Sun. Wed. Fri.
Mon. Thurs. Sat.
Tues.

Time zones

9.47. The following forms are to be used when abbreviating names of time zones:

> AKDT—Alaska daylight time GMAT—Greenwich mean AKST-Alaska standard time astronomical time AKT—Alaska time (implies GMT—Greenwich mean time standard or daylight time) HDT—Hawaii-Aleutian daylight time

AST—Atlantic standard time

AT—Atlantic time

CDT—central daylight time CST-central standard time

CT-central time

DST—daylight saving (no "s") time EDT-eastern daylight time EST—eastern standard time

ET-eastern time

GCT-Greenwich civil time

(not observed in HI)

HST—Hawaii-Aleutian standard time

LST—local standard time MDT-mountain daylight time MST-mountain standard time

MT— mountain time PDT—Pacific daylight time PST-Pacific standard time

PT—Pacific time

UTC-coordinated universal time

Acronyms and coined words

To obtain uniform treatment in the formation of acronyms and 9.48. coined words, apply the formulas that follow:

> Use all capital letters when only the first letter of each word or selected words is used to make up the symbol:

APPR (Army package power reactor)

EPCOT (Experimental Prototype Community of Tomorrow)

MAG (Military Advisory Group)

MIRV (multiple independently targetable reentry vehicle)

SALT (strategic arms limitation talks); (avoid SALT talks)

STEP (supplemental training and employment program)

Use all capital letters where first letters of prefixes and/or suffixes are utilized as part of established expressions:

CPR (cardiopulmonary resuscitation)

ESP (extrasensory perception)

FLIR (forward-looking infrared)

Copy must be followed where an acronym or abbreviated form is copyrighted or established by law:

ACTION (agency of Government; not an acronym)

MarAd (*Mar*itime *Ad*ministration)

NACo (National Association of Counties)

MEDLARS (Medical Literature Analysis and Retrieval System)

Use caps and lowercase when proper names are used in shortened form, any word

of which uses more than the first letter of each word:

Conrail (Consolidated Rail Corporation)

Pepco (Potomac Electric Power Co.)

Inco (International Nickel Co.)

Aramco (Arabian-American Oil Co.)

Unprofor (United Nations Protection Force)

Use lowercase in common-noun combinations made up of more than the first letter of lowercased words:

loran (long-range navigation) sonar (sound navigation ranging) secant (separation control of aircraft by nonsynchronous techniques)

9.49. The words *infra* and *supra* are not abbreviated.

Terms of measure

9.50. Compass directions are abbreviated as follows:

N.	S.	ESE.
NE.	NNW.	10° N. 25° W.
E.	W.	NW. by N. ¼ W.
SW		

9.51. The words *latitude* and *longitude*, followed by figures, are abbreviated in parentheses, brackets, footnotes, sidenotes, tables, and leaderwork, and the figures are always closed up.

- **9.52.** Avoid breaking latitude and longitude figures at end of line; space out line instead. In case of an unavoidable break at end of line, use hyphen.
- **9.53.** Temperature and gravity are expressed in figures. When the degree mark is used, it must appear closed up to the capital letter, not against the figures. Note the following related abbreviations and letter symbols and their usages:

abs, absolute	API, American Petroleum
Bé, Baumé	Institute
°C,¹ degree Celsius²	Twad, Twaddell
°F, degree Fahrenheit	100 °C
°R, degree Rankine	212 °F¹
K, kelvin	671.67 °R
273.15 K	18 °API
°A PI	

¹Without figures preceding it, *C or *F should be used only in boxhead and over figure columns in tables.

²Preferred form (superseding Centigrade).

9.54. References to meridian in statements of time are abbreviated as follows:

```
10 a.m. (not 10:00 a.m.) 12 p.m. (12 noon) 2:30 p.m. 12 a.m. (12 midnight)
```

- **9.55.** The word *o'clock* is not used with abbreviations of time. *not* 10 o'clock p.m.
- **9.56.** Metric unit letter symbols are set lowercase roman unless the unit name has been derived from a proper name, in which case the first letter of the symbol is capitalized (for example Pa for pascal and W for watt). The exception is the letter L for liter. The same form is used for singular and plural. The preferred symbol for *cubic centimeter* is cm^3 ; use cc only when requested.

A space is used between a figure and a unit symbol except in the case of the symbols for degree, minute, and second of plane angle.

3	3 m 45 mm		25 °C		but 33°15'21"	
Prej	fixes for multip	les and s	ubmultiples			Metric units
E P T G M k	exa (10 ¹⁸) peta (10 ¹⁵) tera (10 ¹²) giga (10 ⁹) mega (10 ⁶) kilo (10 ³) hecto (10 ²)	d c m μ n	deci (10 ⁻¹) centi (10 ⁻²) milli (10 ⁻³) micro (10 ⁻⁶) nano (10 ⁻⁹) pico (10 ⁻¹²) femto (10 ⁻¹⁵)		m g L	meter (for length) gram (for weight or mass) liter (for capacity)
da	deka (10)	a	atto (10^{-18})			
	Length		Area			Volume
km hm	kilometer hectometer	$\frac{\text{km}^2}{\text{hm}^2}$	square kilometer		km³ hm³	cubic kilometer
dam m	decameter	dam² m²	square decamete square meter		dam³ m³	cubic dekameter cubic meter
dm cm	decimeter centimeter	dm ² cm ²	square decimete square centimete	er	dm³ cm³	cubic decimeter cubic centimeter
mm	millimeter	mm^2	square millimete	er	mm^3	cubic millimeter

	Weight		Land area		Capacity of containers
kg	kilogram	ha	hectare	kL	kiloliter
hg	hectogram	a	acre	hL	hectoliter
dag	dekagram			daL	dekaliter
g	gram			L	liter
dg	decigram			dL	deciliter
cg	centigram			cL	centiliter
mg	milligram			mL	milliliter
μg	microgram				

9.57. A similar form of abbreviation applies to any unit of the metric system.

A	ampere	V	volt	mF	millifarad
VA	voltampere	W	watt	mH	millihenry
F	farad	kc	kilocycle	μF	microfarad (one-
Н	Henry	kV	kilovolt		millionth of a farad)
Hz	Hertz	kVA	kilovoltampere		
J	joule	kW	kilowatt		

9.58. The following forms are used when units of English weight and measure and units of time are abbreviated, the same form of abbreviation being used for both singular and plural:

	Length		Area and volume
in	inch	in ²	square inch
ft	foot	in ³	square inch cubic inch
yd	yard	mi ²	square mile
mi	mile (statute)	ft ³	cubic foot
Time	Weight		Capac

	Time		Weight		Capacity
yr	year	gr	grain	gill	(not abbreviated)
mo	month	dr	dram	pt	pint
d	day	oz	ounce	qt	quart
h	hour	lb	pound	gal	gallon
min	minute	cwt	hundredweight	pk	peck
S	second	dwt	pennyweight	bu	bushel
		ton(s)	(not abbreviated)	bbl	barrel
		but t	metric ton (tonne)		

9.59. In astrophysical and similar scientific matter, magnitudes and units of time may be expressed as follows:

 $5^{h}3^{m}9^{s}$ 4.5^h

Money

9.60. The following are some of the abbreviations and symbols used for indicating money:

(For the abbreviations of other terms indicating currency, see the table "Currency" in Chapter 17 "Useful Tables.")

\$, dol (dollar) Mex \$2,650 c, ct, ¢ (cent, cents) \mathbb{P} (peso) TRL175 (Turkish) £ (pound) USD15,000 d (pence) \mathbb{E} (euro)

Use "USD" if omission would result in confusion.

Standard word abbreviations

9.61. If abbreviations are required, use these forms:

2,4D (insecticide) AFL-CIO-American Federation 3d-third of Labor and Congress of 4°-quarto Industrial Organizations 8°-octavo AID—Agency for International A1 (rating) Development A.A.—Alcoholics Anonymous AIDS—acquired immuno-AARP-American Association of deficiency syndrome Retired Persons a.k.a.-also known as abbr.—abbreviation A.L.R.—American Law Reports abs.—abstract AM-amplitude modulation (no acct.-account periods) ACDA—Arms Control and A.M.—(anno mundi) in the year of the world Disarmament Agency ACTH—adrenocorticotropic A.M. or M.A.—master of arts hormone a.m.—(ante meridiem) before noon A.D.—(anno Domini) in the year Am. Repts.—American Reports of our Lord (A.D. 937) Amtrak—National Railroad ADDH-attention deficit disorder Passenger Corporation with hyperactivity AMVETS—American Veterans of ADHD—attention deficit hyper-World War II; Amvet(s) activity disorder (individual) AEF—American Expeditionary antilog—antilogarithm (no period) Forces AOA—Administration on Aging AF—audiofrequency API-American Petroleum AFB-Air Force Base Institute

APO—Army post office (no periods) App. D.C.—District of Columbia Appeal Cases App. Div.—Appellate Division APPR—Army package power reactor approx.—approximately ARC-American Red Cross ARS—Agricultural Research Service ASCS—Agricultural Stabilization and Conservation Service ASME—American Society of Mechanical Engineers A.S.N.—Army service number ASTM—American Society for Testing and Materials ATM—automatic teller machine Atl.—Atlantic Reporter; A.2d, Atlantic Reporter, second series AUS—Army of the United States Ave.—avenue AWACS—airborne warning and control system AWOL—absent without leave B.A. or A.B.—bachelor of arts BBB-Better Business Bureau B.C.—before Christ (1200 B.C.) B.C.E.—Before Common Era BCG—(bacillus Calmette-Guerin) antituberculosis vaccine bf.-boldface BGN—Board on (not of) Geographic Names BIA—Bureau of Indian Affairs BIS—Bank for International Settlements Blatch. Pr. Cas.—Blatchford's Prize Cases Bldg.—building B. Lit(t). or Lit(t).B.—bachelor of literature

BLM-Bureau of Land Management BLS—Bureau of Labor Statistics Blvd.-boulevard b.o.—buyer's option B.S. or B.Sc.—bachelor of science c. and s.c.—caps and small caps ca.—(circa) about ca-centiare CACM—Central American Common Market CAD—computer-aided design CAP—Civil Air Patrol CARE—Cooperative for American Remittances to Everywhere, Inc. CAT scan—computerized axial tomography C.C.A.—Circuit Court of Appeals CCC—Commodity Credit Corporation CCITT—Consultative Committee for International Telegraphy and Telephony C.Cls.—Court of Claims C.Cls.R.—Court of Claims Reports C.C.P.A.—Court of Customs and Patents Appeals CCR—Commission on Civil Rights CDC—Centers for Disease Control and Prevention C.E.—Common Era CEA—Council of Economic Advisers cf.—(confer) compare or see CFR—Code of Federal Regulations CFR Supp.—Code of Federal Regulations Supplement CHAMPUS—Civilian Health and Medical Program of the Uniformed Services CIA—Central Intelligence Agency CIC—Counterintelligence Corps C.J.—(corpus juris) body of law; Chief Justice

CNN—Cable News Network	DHS—Department of Homeland
CO—commanding officer	Security
Co.—company (commercial)	Dist. Ct.—District Court
c.o.d.—cash on delivery	D.Lit(t). or Lit(t).D.—doctor of
COLA—cost-of-living adjustment	literature
Comp. Dec.—Comptroller's	DNC—Domestic Names
Decisions (Treasury)	Committee (BGN)
Comp. Gen.—Comptroller	do.—(ditto) the same
General Decisions	DOC—Department of Commerce
con.—continued	DOD—Department of Defense
conelrad—control of	DOE—Department of Energy
electromagnetic radiation	DOJ—Department of Justice
(civil defense)	DOL—Department of Labor
Conus—continental United States	DOS—Department of State
Corp.—corporation (commercial)	DOT—Department of
cos—cosine (no period)	Transportation
cosh—hyperbolic cosine (no	DP—displaced person (no period)
period)	D.P.H.—doctor of public health
cot—cotangent (no period)	D.P.Hy.—doctor of public hygiene
coth—hyperbolic cotangent (no	DPT—diphtheria, pertussis,
period)	tetanus innoculation
c.p.—chemically pure	dr.—debit; debtor
C.P.A.—certified public	Dr.—doctor; drive
accountant	d.s.t.—daylight saving (no "s") time
CPI—Consumer Price Index	D.V.M.—doctor of veterinary
CPR—cardiopulmonary	medicine
resuscitation	E.—east
cr.—credit; creditor	EDGAR—Electronic Data
C–SPAN—Cable Satellite Public	Gathering, Analysis and
Affairs Network	Retrieval (SEC)
csc—cosecant (no period)	EEOC—Equal Employment
csch—hyperbolic cosecant (no	Opportunity Commission
period)	EFTA—European Free Trade
Ct.—court	Association
Dall.—Dallas (U.S. Supreme	EFTS—electronic funds transfer
Court Reports)	system
DAR—Daughters of the American	e.g.—(exempli gratia) for example
Revolution	EHF—extremely high frequency
d.b.a.—doing business as	emcee—master of ceremony
_	e.o.m.—end of month
d.b.h.—diameter at breast height	EOP—Executive Office of the
D.D.—doctor of divinity	President
D.D.S.—doctor of dental surgery	
DDT—dichlorodiphenyl-	EPA—Environmental Protection
trichloroethane	Agency

Operations Fund

et al.—(et alii) and others FHA—Federal Housing et seq.—(et sequentia) and the Administration FmHA—Farmers Home following etc.—(et cetera) and so forth Administration EU—European Union FHLBB—Federal Home Loan Euratom—European Atomic Bank Board **Energy Community** FHWA—Federal Highway Euro—currency (common) Administration Eurodollars—U.S. dollars used to FICA—Federal Insurance finance foreign trade Contributions Act Ex. Doc. (with letter)—executive FLSA—Fair Labor Standards Act document FM—frequency modulation Ex-Im Bank—Export-Import FMC—Federal Maritime Bank of the United States Commission FMCS-Federal Mediation and f., ff.—and following page (pages) FAA—Federal Aviation Conciliation Service Administration FNMA—Federal National FACS—Faculty of the American Mortgage Association College of Surgeons (Fannie Mae) FNS-Food and Nutrition Service FAO-Food and Agriculture f°-folio Organization f.a.s.—free alongside ship f.o.b.—free on board FPC—Federal Power Commission FAS—Foreign Agricultural Service FPO—fleet post office (no periods) FBI—Federal Bureau of FR—Federal Register Investigation (publication) FCA-Farm Credit FRG—Federal Republic of Administration Germany FCC-Federal Communications FRS—Federal Reserve System Commission FS-Forest Service FCIC—Federal Crop Insurance FSLIC—Federal Savings and Loan Corporation **Insurance Corporation** FCSC—Foreign Claims FSS—Federal Supply Service Settlement Commission F.Supp.—Federal Supplement FTC—Federal Trade Commission FDA—Food and Drug Administration FWS—Fish and Wildlife Service FDIC—Federal Deposit Insurance GAO-Government Corporation Accountability Office FDLP—Federal Depository GATT—General Agreement on Library Program Tariffs and Trade GDR-German Democratic Fed.—Federal Reporter; F.3d, Federal Reporter, third series Republic FEOF—Foreign Exchange GI-general issue; Government

issue

IADB—Inter-American Defense

Board

GIS—Geographic Information

System

G.M.&S.—general, medical, and IAEA—International Atomic surgical Energy Agency GNMA—Government National ibid.—(ibidem) in the same place Mortgage Association ICBM—intercontinental ballistic (Ginnie Mae) missile GNP—gross national product id.—(idem) the same Gov.—Governor IDA—International Development GPO—Government Printing Association Office IDE—integrated drive electronics GPS—Global Positioning System i.e.—(id est) that is gr. wt.-gross weight IEEE—Institute of Electrical and GSA—General Services **Electronic Engineers** IF—intermediate frequency (no Administration GSE—Government-Sponsored periods) Enterprise IFC—International Finance H.C.—House of Commons Corporation H. Con. Res. (with number)— IMCO—Intergovernmental House concurrent resolution Maritime Consultative H. Doc. (with number)—House Organization document IMF—International Monetary hazmat-hazardous material Fund HDTV—high definition television Insp. Gen. (also IG)—inspector HE—high explosive (no periods) general HF—high frequency (no periods) Interpol—International Criminal HHS-Health and Human Police Organization Services (Department of) IOU-I owe you HIV—human immunodeficiency IQ—intelligence quotient IRA—individual retirement H.J. Res. (with number)—House account joint resolution IRBM—intermediate range HMO—health-maintenance ballistic missile IRE—Institute of Radio Engineers organization HOV—high-occupancy vehicle IRO—International Refugee How.—Howard (U.S. Supreme Organization Court Reports) IRS—Internal Revenue Service H.R. (with number)—House bill ISO—International Standards H. Rept. (with number)—House Organization report ITO—International Trade H. Res. (with number)—House Organization resolution ITU—International **HUD**—Housing and Urban Telecommunications Union Development (Department of) JAG—Judge Advocate General

M.D.—doctor of medicine jato—jet-assisted takeoff J.D.—(jurum or juris doctor) MDAP-Mutual Defense doctor of laws Assistance Program JOBS—Job Opportunities in the MediCal—Medicaid California memo-memorandum **Business Sector** JIT—just in time MF—medium frequency; Jpn.—Japan or Japanese where microfiche necessary to abbreviate MFN-most favored nation Jr.—junior MIA—missing in action (plural Judge Adv. Gen.-Judge Advocate MIA's) General MIRV—multiple independently LAFTA—Latin American Free targetable reentry vehicle Trade Association Misc. Doc. (with number) lat.—latitude miscellaneous document Mlle.—mademoiselle LC—Library of Congress LCD—liquid crystal display Mme.-madam lc.—lowercase Mmes.—mesdames L.Ed.—Lawyer's edition (U.S. mo.-month Supreme Court Reports) MOS—military occupational liq.—liquid specialty lf.—lightface M.P.—Member of Parliament LF—low frequency MP—military police LL.B.—bachelor of laws Mr.—mister (plural Messrs.) LL.D.—doctor of laws MRI-magnetic resonance loc. cit.—(loco citato) in the place imaging cited Mrs.-mistress log (no period)—logarithm Ms.—feminine title (plural Mses.) M.S.—master of science long.—longitude loran (no periods)—long-range MS.—MSS., manuscript, navigation manuscripts lox (no periods)—liquid oxygen MSC—Military Sealift Command LPG—liquefied petroleum gas Msgr.-monsignor Ltd.—limited m.s.l.-mean sea level MSNBC-Microsoft National Lt. Gov.—lieutenant governor M—money supply: M1, M2, etc. Broadcasting Co. M.—monsieur; MM., messieurs MTN-multilateral trade m.—(meridies) noon negotiations M-more N.—north NA—not available; not applicable MAC—Military Airlift Command MAG—Military Advisory Group NACo.—National Association of Counties MarAd—Maritime Administration NAFTA—North American Free MC—Member of Congress Trade Agreement (emcee, master of ceremonies)

n.s.p.f.—not specifically provided

NAS—National Academy of

Sciences for NW.-northwest NASA-National Aeronautics and Space Administration OAPEC—Organization of Arab NATO—North Atlantic Treaty Petroleum Exporting Organization Countries NCUA—National Credit Union OAS—Organization of American Administration States NE.—northeast OASDHI—Old-Age, Survivors, n.e.c.-not elsewhere classified Disability, and Health n.e.s.-not elsewhere specified Insurance Program OASI-Old-Age and Survivors net wt.—net weight N.F.—National Formulary Insurance NFAH—National Foundation on OCD—Office of Civil Defense the Arts and the Humanities OD—officer of the day NIH—National Institutes of OD—overdose; Odd, overdosed Health O.D.—doctor of optometry NIST—National Institute of OECD—Organization for Standards and Technology Economic Cooperation and n.l.—natural log or logarithm Development NLRB—National Labor Relations OK—Oked, Oking, Oks Board OMB—Office of Management and NNTP—Network News Transfer Budget Protocol Op. Atty. Gen.—Opinions of the No.—Nos., number, numbers Attorney General op. cit.—(opere citato) in the work NOAA—National Oceanic and Atmospheric Administration cited n.o.i.b.n.—not otherwise indexed OPEC—Organization of Petroleum Exporting by name n.o.p.—not otherwise provided Countries (for) OSD—Office of the Secretary of n.o.s.—not otherwise specified Defense NOVS-National Office of Vital OTC—Organization for Trade Statistics Cooperation NPS—National Park Service PA—public address system NRC—Nuclear Regulatory Pac.—Pacific Reporter; P.2d, Pacific Reporter, second Commission NS—nuclear ship series NSA—National Security PAC—political action committee (plural PAC's) Agency NSC—National Security Council Passed Asst. Surg.—passed NSF-National Science assistant surgeon Foundation PBS—Public Building Service n.s.k.-not specified by kind PCV—Peace Corps Volunteer

Pet.—Peters (U.S. Supreme Court

Rev.—reverend

Reports) Rev. Stat.—Revised Statutes Ph-phenyl RF—radiofrequency Phar.D.—doctor of pharmacy R.F.D.—rural free delivery Ph.B. or B.Ph.—bachelor of Rh—Rhesus (blood factor) philosophy RIF—reduction(s) in force; RIFed, Ph.D. or D.Ph.—doctor of RIFing, RIFs philosophy R.N.—registered nurse Ph.G.—graduate in pharmacy ROTC—Reserve Officers' PHS—Public Health Service Training Corps PIN—personal identification RR.—railroad number RRB-Railroad Retirement Board Pl.—place Rt. Rev.—right reverend p.m.—(post meridiem) after noon Ry.—railway P.O. Box (with number)—but post S.—south; Senate bill (with office box (in general sense) number) POP-Point of Presence; Post SAC—Strategic Air Command Office Protocol SAE—Society of Automotive POW-prisoner of war (plural Engineers POWs) S&L(s)—savings and loan(s) PTSD—post-traumatic-stress SALT—strategic arms limitation disorder talks Private Res. (with number)— SAR—Sons of the American Revolution private resolution Prof.—professor SBA—Small Business pro tem—(pro tempore) Administration temporarily sc.—(scilicet) namely (see also ss) P.S.—(post scriptum) postscript; s.c.—small caps public school (with number) S. Con. Res. (with number)— PTA—parent-teachers' association Senate concurrent resolution Public Res. (with number)—public s.d.—(sine die) without date resolution SDI—Strategic Defense Initiative PX—post exchange S. Doc. (with number)—Senate QT—on the quiet document racon-radar beacon SE.—southeast SEATO—Southeast Asia Treaty radar-radio detection and Organization ranging R&D—research and development SEC—Securities and Exchange rato-rocket-assisted takeoff Commission Rd.—road sec-secant RDT&E—research, development, sech—hyperbolic secant testing, and evaluation 2d-second REA—Rural Electrification SHF—superhigh frequency Administration shoran—short range (radio)

CI Systems International d'Unités	CMAT angial waanana and
SI—Systeme International d'Unités sic—thus	SWAT—special weapons and tactics (team)
sin—sine	T.—Tps., township, townships
sinh—hyperbolic sine	tan—tangent
S.J. Res. (with number)—Senate	tann—hyperbolic tangent
joint resolution	TB—tuberculosis
sonar—sound, navigation, and	T.D.—Treasury Decisions
ranging (no period)	TDY—temporary duty
SOP—standard operating	Ter.—temporary duty Ter.—terrace
	t.m.—true mean
procedure	TNT—trinitrotoluol
SOS—wireless distress signal	TV—television
SP—shore patrol SPAR—Coast Guard Women's	
	TVA—Tennessee Valley Authority
Reserve (semper paratus—	uc.—uppercase
always ready)	UHF—ultrahigh frequency UMTA—Urban Mass
sp. gr.—specific gravity	
Sq.—square (street)	Transportation
Sr.—senior	Administration
S. Rept. (with number)—Senate	U.N.—United Nations
report	UNESCO—United Nations
S. Res. (with number)—Senate	Educational, Scientific, and
resolution	Cultural Organization
SS—steamship	UNICEF—United Nations
ss—(scilicet) namely (in law) (see	Children's Fund
also sc.)	U.S.—U.S. Supreme Court Reports
SSA—Social Security	U.S.A.—United States of America
Administration	USA—U.S. Army
SSS—Selective Service System	USAF—U.S. Air Force
St.—Ste., SS., Saint, Sainte, Saints	U.S.C.—United States Code
St.—street	U.S.C.A.—United States Code
Stat.—Statutes at Large	Annotated
STP—standard temperature and	U.S.C. Supp.—United States Code
pressure	Supplement
Sup. Ct.—Supreme Court	USCG—U.S. Coast Guard
Reporter	USDA—U.S. Department of
Supp. Rev. Stat.—Supplement to	Agriculture
the Revised Statutes	USES—U.S. Employment Service
Supt.—superintendent	U.S. 40—U.S. No. 40, U.S.
Surg.—surgeon	Highway No. 40
Surg. Gen.—Surgeon General	USGS—U.S. Geological Survey
SW.—southwest	USIA—U.S. Information Agency
S.W.2d—Southwestern Reporter,	USMC—U.S. Marine Corps
second series	USN—U.S. Navy

USNR-U.S. Naval Reserve w.a.e.—when actually employed U.S.P.—United States Wall.—Wallace (U.S. Supreme Pharmacopeia Court Reports) USPS-U.S. Postal Service wf-wrong font U.S.S.-U.S. Senate Wheat.—Wheaton (U.S. Supreme v. or vs.—(versus) against Court Reports) VA—Department of Veterans WHO-World Health Affairs Organization VAT-value added tax WIPO—World Intellectual VCR-video cassette recorder Property Organization WMAL-WRC, etc., radio stations VHF—very high frequency VIP—very important person w.o.p.-without pay viz—(videlicet) namely Yale L.J.—Yale Law Journal VLF—very low frequency ZIP Code—Zone Improvement VTR—video tape recording Plan Code (Postal Service) W.-west ZIP+4-9-digit ZIP Code

Standard letter symbols for units of measure

9.62. The same form is used for singular and plural senses.

Bd—baud A—ampere Å—angstrom bd. ft.-board foot (obsolete); use fbm a—are Bé—Baumé a—atto (prefix, one-quintillionth) Bev (obsolete); see GeV Bhn—Brinell hardness number aA-attoampere abs—absolute (temperature and bhp—brake horsepower gravity) bm-board measure ac-alternating current bp—boiling point Btu-British thermal unit AF—audiofrequency Ah-ampere-hour bu-bushel A/m—ampere per meter c—¢, ct; cent(s) AM—amplitude modulation c—centi (prefix, one-hundredth) asb-apostilb C-coulomb °C—degree Celsius At-ampere-turn at-atmosphere, technical cal—calorie (also: cal,,, International atm-atmosphere Table; cal, —thermochemical) at wt-atomic weight cd/in²—candela per square inch au-astronomical units cd/m²—candela per square meter avdp—avoirdupois cg-centigram b-barn cd•h-candela-hour B-bel Ci-curie b-bit cL-centiliter bbl-barrel cm-centimeter bbl/d-barrel per day c/m-cycles per minute

cm²—square centimeter FM—frequency modulation cm3-cubic centimeter ft-foot cmil—circular mil ft2-square foot cp—candlepower ft3—cubic foot cP-centipoise ftH₂O—conventional foot of water cSt—centistokes ft•lb—foot-pound cwt-hundredweight ft•lbf—foot-pound force D—darcy ft/min-foot per minute d-day ft2/min-square foot per minute d—deci (prefix, one-tenth) ft³/min—cubic foot per minute d—pence ft-pdl—foot poundal da—deka (prefix, 10) ft/s—foot per second dag-dekagram ft2/s-square foot per second daL—dekaliter ft3/s-cubic foot per second dam-dekameter ft/s²—foot per second squared dam²—square dekameter ft/s3—foot per second cubed dam3—cubic dekameter G—gauss dB-decibel G—giga (prefix, 1 billion) dBu-decibel unit g-gram; acceleration of gravity dc-direct current Gal—gal cm/s2 dg—decigram gal—gallon dL—deciliter gal/min—gallons per minute dm-decimeter gal/s—gallons per second dm²—square decimeter GB—gigabyte dm3-cubic decimeter Gb—gilbert dol-dollar g/cm3-gram per cubic centimeter doz-dozen GeV—gigaelectronvolt dr-dram GHz—gigahertz (gigacycle per second) dwt-deadweight tons gr-grain; gross dwt-pennyweight h—hecto (prefix, 100) dyn-dyne H—henry EHF—extremely high frequency h-hour ha-hectare emf-electromotive force emu-electromagnetic unit HF—high frequency hg-hectogram erg-erg esu-electrostatic unit hL-hectoliter eV-electronvolt hm-hectometer °F—degree Fahrenheit hm²—square hectometer F—farad hm³—cubic hectometer f—femto (prefix, one-quadrillionth) hp-horsepower fbm-board foot; board foot measure hph—horsepower-hour fc-footcandle Hz—hertz (cycles per second) fL-footlambert id-inside diameter fm-fentometer ihp-indicated horsepower

lbf/ft2-pound-force per square foot

in-inch lbf/ft3-pound-force per cubic foot in2-square inch lbf/in²—pound-force per square inch in3—cubic inch (see psi) in/h—inch per hour lb/ft—pound per foot inH,O—conventional inch of water lb/ft2—pound per square foot inHg-conventional inch of mercury lb/ft3—pound per cubic foot in-lb-inch-pound lct—long calcined ton in/s-inch per second ldt-long dry ton J—joule LF—low frequency lin ft-linear foot J/K—joule per kelvin K—kayser l/m—lines per minute lm-lumen K—kelvin (use without degree symbol) lm/ft2-lumen per square foot k-kilo (prefix, 1,000) k-thousand (7k=7,000) lm/m²—lumen per square meter kc-kilocycle; see also kHz (kilohertz), lm•s—lumen second kilocycles per second lm/W-lumen per watt kcal-kilocalorie l/s—lines per second keV-kiloelectronvolt L/s—liter per second kG-kilogauss lx-lux M—mega (prefix, 1 million) kg—kilogram kgf—kilogram-force M—million (3 M=3 million) kHz-kilohertz (kilocycles per second) m-meter kL-kiloliter m-milli (prefix, one-thousandth) klbf-kilopound-force M1—monetary aggregate km-kilometer m2-square meter km2-square kilometer m3-cubic meter km3-cubic kilometer μ—micro (prefix, one-millionth) km/h—kilometer per hour μm-micrometer kn—knot (speed) mA—milliampere kΩ-kilohm μA—microampere MB-megabyte kt-kiloton; carat kV-kilovolt mbar—millibar kVA-kilovoltampere ubar-microbar kvar-kilovar Mc—megacycle; see also MHz kW-kilowatt (megahertz), megacycles per kWh-kilowatthour second L-lambert mc—millicycle; see also mHz L-liter (millihertz), millicycles per lb—pound second mD-millidarcy lb ap—apothecary pound lb—avdp, avoirdupois pound meq-milliquivalent lbf-pound-force MeV-megaelectronvolts mF-millifarad lbf/ft—pound-force foot

μF—microfarad

mC milligance	n nana (profix ana hillianth)
mG—milligauss	n—nano (prefix, one-billionth) N—newton
mg—milligram	
µg—microgram	nA—nanoampere
Mgal/d—million gallons per day	nF—nanofarad
mH—millihenry	N•m—newton meter
μH—microhenry	N/m ² —newton per square meter
MHz—megahertz	nmi—nautical mile
mHz—millihertz	Np—neper
mi—mile (statute)	ns—nanosecond
mi ² —square mile	N•s/m²—newton second per square
mi/gal—mile(s) per gallon	meter
mi/h—mile(s) per hour	nt—nit
mil—mil	od—outside diameter
min—minute (time)	Oe—oersted (use of A/m, amperes per
μin—microinch	meter, preferred)
mL—milliliter	oz—ounce (avoirdupois)
mm—millimeter	p—pico (prefix, one-trillionth)
mm ² —square millimeter	P—poise
mm³—cubic millimeter	Pa—pascal
μm²—square micrometer	pA—picoampere
μm³—cubic micrometer	pct—percent
μμ—micromicron (use of compound	pdl—poundal
prefixes obsolete; use pm,	pF—picofarad (micromicrofarad,
picometer)	obsolete)
μμf—micromicrofarad (use of	pF—water-holding energy
compound prefixes obsolete; use	pH—hydrogen-ion concentration
	· · · · · · · · · · · · · · · · · ·
pF)	ph—phot; phase
mmHg—conventional millimeter of	pk—peck,
mercury	p/m—parts per million
mΩ—megohm	ps—picosecond
mo—month	psi—pounds per square inch
mol—mole (unit of substance)	pt—pint
mol wt—molecular weight	pW—picowatt
mp—melting point	qt—quart
ms—millisecond	quad—quadrillion (10 ¹⁵)
μs—microsecond	°R—rankine
Mt—megaton	°R—roentgen
mV—millivolt	R—degree rankine
μV—microvolt	R—degree reaumur
MW—megawatt	rad—radian
mW—milliwatt	rd—rad
μW—microwatt	rem—roentgen equivalent man
MWd/t—megawatt-days per ton	r/min—revolutions per minute
Mx—maxwell	rms—root mean square
	ī

r/s—revolutions per second tsp-teaspoonful s-second (time) Twad-twaddell s—shilling u-(unified) atomic mass unit S-siemens UHF—ultrahigh frequency sb-stilb V-volt scp—spherical candlepower VA—voltampere soft-second-foot var—var shp—shaft horsepower VHF—very high frequency slug-slug V/m—volt per meter W-watt sr-steradian Wb-weber sSf-standard saybolt fural sSu-standard saybolt universal Wh-watthour stdft3—standard cubic foot (feet) W/(m•K)—watt per meter kelvin Sus—saybolt universal second(s) W/sr-watt per steradian T-tera (prefix, 1 trillion) W/(sr•m²)—watt per steradian square Tft3-trillion cubic feet meter T-tesla *x*—unknown quantity (italic) t-tonne (metric ton) yd-yard tbsp-tablespoonful yd2-square yard yd3-cubic yard thm-therm ton-ton yr-year

Standard Latin abbreviations

9.63. When Latin abbreviations are used, follow this list.

a.—annus, year; ante, before ad inf.—ad infinitum, to infinity A.A.C.—anno ante, Christum in the ad init.—ad initium, at the beginning year before Christ ad int.—ad interim, in the meantime ad lib.—ad libitum, at pleasure A.A.S.—Academiae Americanae Socius, Fellow of the American ad loc.—ad locum, at the place Academy [Academy of Arts and ad val .- ad valorem, according to Sciences A.I.—anno inventionis, in the year of A.B.—artium baccalaureus, bachelor the discovery al.-alia, alii, other things, other ab init.—ab initio, from the beginning persons abs. re.—absente reo, the defendant A.M.—anno mundi, in the year of the being absent world; Annus mirabilis, the A.C.—ante Christum, before Christ wonderful year [1666]; a.m., ante A.D.—anno Domini, in the year of our meridiem, before noon Lord an.—anno, in the year; ante, before a.d.—ante diem, before the day ann.-annales, annals; anni, years ad fin.-ad finem, at the end, to one end A.R.S.S.—Antiquariorum Regiae ad h.l.—ad hunc locum, to this place, Societatis Socius, Fellow of the Royal Society of Antiquaries on this passage

- A.U.C.—anno urbis conditae, ab urbe conolita, in [the year from] the building of the City [Rome], 753 B.C.
- B.A.—baccalaureus artium, bachelor of arts
- B. Sc.—baccalaureus scientiae, bachelor of science
- C.—centum, a hundred; condemno, I condemn, find guilty
- c.-circa, about
- cent.—centum, a hundred
- cf.—confer, compare
- C.M.—chirurgiae magister, master of surgery
- coch.-cochlear, a spoon, spoonful
- coch. amp.—cochlear amplum, a tablespoonful
- coch. mag.—cochlear magnum, a large spoonful
- coch. med.—cochlear medium, a dessert spoonful
- coch. parv.—cochlear parvum, a teaspoonful
- con.—contra, against; conjunx, wife
- C.P.S.—custos privati sigilli, keeper of the privy seal
- C.S.—custos sigilli, keeper of the seal
- cwt.—c. for centum, wt. for weight, hundredweight
- D.—Deus, God; Dominus, Lord; d., decretum, a decree; denarius, a penny; da, give
- D.D.—divinitatis doctor, doctor of divinity
- D.G.—Dei gratia, by the grace of God; Deo gratias, thanks to God
- D.N.—Dominus noster, our Lord
- D. Sc.—doctor scientiae, doctor of science
- d.s.p.—decessit sine prole, died without issue
- D.V.—Deo volente, God willing

- dwt.—d. for denarius, wt. for weight pennyweight
- e.g.—exempli gratia, for example
- et al.—et alibi, and elsewhere; et alii, or aliae, and others
- etc.-et cetera, and others, and so forth
- et seq.—et sequentes, and those that follow
- et ux.-et uxor, and wife
- F.—filius, son
- f.—fiat, let it be made; forte, strong
- fac.—factum similis, facsimile, an exact copy
- fasc.—fasciculus, a bundle
- fl.—flores, flowers; floruit, flourished; fluidus, fluid
- f.r.—folio recto, right-hand page
- F.R.S.—Fraternitatis Regiae Socius, Fellow of the Royal Society
- f.v.—folio verso, on the back of the leaf
- guttat.—guttatim, by drops
- H.—hora, hour
- h.a.—hoc anno, in this year; hujus anni, this year's
- hab. corp.—habeas corpus, have the body—a writ
- h.e.—hic est, this is; hoc est, that is
- h.m.—hoc mense, in this month; huius mensis, this month's
- h.q.—hoc quaere, look for this
- H.R.I.P.—hic requiescat in pace, here rests in peace
- H.S.—hic sepultus, here is buried; hic situs, here lies; h.s., hoc sensu, in this sense
- H.S.S.—Historiae Societatis Socius, Fellow of the Historical Society
- h.t.—hoc tempore, at this time; hoc titulo, in or under this title
- I—Idus, the Ides; i., id, that; immortalis, immortal
- ib. or ibid.—ibidem, in the same place
- id.—idem, the same
- i.e.—id est, that is

- imp.—imprimatur, sanction, let it be printed
- I.N.D.—in nomine Dei, in the name of God
- in f.—in fine, at the end
- inf.—infra, below
- init.—initio, in the beginning
- in lim.—in limine, on the threshold, at the outset
- in loc.—in loco, in its place
- in loc. cit.—in loco citato, in the place cited
- in pr.—in principio, in the beginning in trans.—in transitu, on the way
- i.q.—idem quod, the same as
- i.q.e.d.—id quod erat demonstrandum, what was to be proved
- J.—judex, judge
- J.C.D.—juris civilis doctor, doctor of civil law
- J.D.—jurum or juris doctor, doctor of laws
- J.U.D.—juris utriusque doctor, doctor of both civil and canon law
- L.—liber, a book; locus, a place
- £—libra, pound; placed before figures thus £10; if l., to be placed after, as 401.
- L.A.M.—liberalium artium magister, master of the liberal arts
- L.B.—baccalaureus literarum, bachelor of letters
- lb.—libra, pound (singular and plural)
- L.H.D.—literarum humaniorum doctor, doctor of the more humane letters
- Litt. D.—literarum doctor, doctor of letters
- LL.B.—legum baccalaureus, bachelor of laws
- LL.D.—legum doctor, doctor of laws
- LL.M.—legum magister, master of laws
- loc. cit.—loco citato, in the place cited

- loq.—loquitur, he, or she, speaks
- L.S.—locus sigilli, the place of the seal
- l.s.c.—loco supra citato, in the place above cited
- £ s. d.—librae, solidi, denarii, pounds, shillings, pence
- M.—magister, master; manipulus, handful; medicinae, of medicine; m., meridies, noon
- M.A.—magister artium, master of arts
- M.B.—medicinae baccalaureus, bachelor of medicine
- M. Ch.—magister chirurgiae, master of surgery
- M.D.—medicinae doctor, doctor of medicine
- m.m.—mutatis mutandis, with the necessary changes
- m.n.—mutato nomine, the name being changed
- MS.—manuscriptum, manuscript; MSS., manuscripta, manuscripts
- Mus. B.—musicae baccalaureus, bachelor of music
- Mus. D.—musicae doctor, doctor of music
- Mus. M.—musicae magister, master of music
- N.—Nepos, grandson; nomen, name; nomina, names; noster, our; n., natus, born; nocte, at night
- N.B.—nota bene, mark well
- ni. pri.-nisi prius, unless before
- nob.—nobis, for (or on) our part
- nol. pros.—nolle prosequi, will not prosecute
- non cul.-non culpabilis, not guilty
- n.l.—non licet, it is not permitted; non liquet, it is not clear; non longe, not far
- non obs.—non obstante,
 - notwithstanding
- non pros.—non prosequitur, he does not prosecute

- non seq.—non sequitur, it does not follow logically
- O.—octarius, a pint
- ob.—obiit, he, or she, died; obiter, incidentally
- ob. s.p.—obiit sine prole, died without
- o.c.—opere citato, in the work cited
- op.—opus, work; opera, works
- op. cit.—opere citato, in the work cited
- P.—papa, pope; pater, father; pontifex, bishop; populus, people; p., partim, in part; per, by, for; pius, holy; pondere, by weight; post, after; primus, first; pro, for
- p.a.—or per ann., per annum, yearly; pro anno, for the year
- p. ae.-partes aequales, equal parts
- pass.—passim, everywhere
- percent.—per centum, by the hundred pil.—pilula, pill
- Ph. B.—philosophiae baccalaureus, bachelor of philosophy
- P.M.—post mortem, after death
- p.m.-post meridiem, afternoon
- pro tem.—pro tempore, for the time being
- prox.—proximo, in or of the next [month]
- P.S.—postscriptum, postscript; P.SS., postscripta, postscripts
- q.d.—quasi dicat, as if one should say; quasi dictum, as if said; quasi dixisset, as if he had said
- q.e.-quod est, which is
- Q.E.D.—quod erat demonstrandum, which was to be demonstrated
- Q.E.F.—quod erat faciendum, which was to be done
- Q.E.I.—quod erat inveniendum, which was to be found out
- q.l.—quantum libet, as much as you please

- q. pl.—quantum placet, as much as seems good
- q.s.—quantum sufficit, sufficient quantity
- q.v.—quantum vis, as much as you will; quem, quam, quod vide, which see; qq. v., quos, quas, or quae vide, which see (plural)
- R.—regina, queen; recto, right-hand page; respublica, commonwealth
- R∕—recipe, take
- R.I.P.—requiescat, or requiescant, in pace, may he, she, or they, rest in peace
- R.P.D.—rerum politicarum doctor, doctor of political science
- R.S.S.—Regiae Societatis Sodalis, Fellow of the Royal Society
- S.—sepultus, buried; situs, lies; societas, society; socius or sodalis, fellow; s., semi, half; solidus, shilling
- s.a.—sine anno, without date; secundum artem, according to art
- S.A.S.—Societatis Antiquariorum Socius, Fellow of the Society of Antiquaries
- sc.—scilicet, namely; sculpsit, he, or she, carved or engraved it
- Sc. B.—scientiae baccalaureus, bachelor of science
- Sc. D.—scientiae doctor, doctor of science
- S.D.—salutem dicit, sends greetings
- s.d.—sine die, indefinitely
- sec.—secundum, according to
- sec. leg.—secundum legem, according to law
- sec. nat.—secundum naturam, according to nature, or naturally
- sec. reg.—secundum regulam, according to rule

seq.—sequens, sequentes, sequentia, the following S.H.S.—Societatis Historiae Socius,

S.H.S.—Societatis Historiae Socius, Fellow of the Historical Society

s.h.v.—sub hac voce or sub hoc verbo, under this word

s.l.a.n.—sine loco, anno, vel nomine, without place, date, or name

s.l.p.—sine legitima prole, without lawful issue

s.m.p.—sine mascula prole, without male issue

s.n.—sine nomine, without name

s.p.—sine prole, without issue

S.P.A.S.—Societatis Philosophiae Americanae Socius, Fellow of the American Philosophical Society

s.p.s.—sine prole superstite, without surviving issue

S.R.S.—Societatis Regiae Socius or Sodalis, Fellow of the Royal Society

ss-scilicet, namely (in law)

S.S.C.—Societas Sanctae Crucis, Society of the Holy Cross

stat.—statim, immediately

S.T.B.—sacrae theologiae baccalaureus, bachelor of sacred theology S.T.D.—sacrae theologiae doctor, doctor of sacred theology

S.T.P.—sacrae theologiae professor, professor of sacred theology

sub.—subaudi, understand, supply

sup.—supra, above

t. or temp.—tempore, in the time of

tal. qual.—talis qualis, just as they come; average quality

U.J.D.—utriusque juris doctor, doctor of both civil and canon law

ult.—ultimo, last month (may be abbreviated in writing but should be spelled out in printing)

ung.-unguentum, ointment

u.s.—ubi supra, in the place above mentioned

ut dict.—ut dictum, as directed

ut sup.—ut supra, as above

ux.—uxor, wife

v.—versus, against; vide, see; voce, voice, word

v. ——a., vixit ——annos—lived [so many] years

verb. sap.—verbum [satis] sapienti, a word to the wise suffices

v.g.-verbi gratia, for example

viz-videlicet, namely

v.s.—vide supra, see above

Information technology acronyms and initialisms

9.64. If abbreviations are required, use these forms:

AARP—Apple Address Resolution Protocol

ABLS—Automated Bid List System

ABM—asynchronous balanced mode

ACES—access certificates for electronic services

ACP—Access Content Package

ACS—Access Content Storage

ACSIS—Acquisition, Classification, and Shipment Information
System

AES—advanced encryption standard

AIFF—audio interchange file format

AIP—Archival Information Package

AIS—Archival Information Storage ANSI—American National Standards

AP—access processor

Institute

ARK—archival resource key

ARP—address resolution protocol

ASCII—American Standard Code for Information Interchange

ACD 1: (: : :1	EAC C 1
ASP—application service provider	EAC—estimate at completion
BAC—billing address code	EAP—enterprise application platform
BBS—bulletin board service	EBCDIC—Extended Binary Coded
BPEL—business process execution	Decimal Interchange Code
language	ePub—Electronic Publishing Section
BPI—business process information	FAQ—frequently asked question
BPS—business process storage	FBCA—Federal Bridge Certificate
CA—certification authority	Authority
CCSDS—Consultative Committee for	FDDI—fiber distributed data interface
Space Data Systems	FDLP—Federal Depository Library
CD—compact disk	Program
CDN—content delivery network	FDsys—Federal Digital System
CDR—critical design review	FICC—Federal Identity Credentialing
CD-ROM—compact disk read only	Committee
memory	FIFO—first in first out
CE—content evaluator	FIPS—Federal Information Processing
CFR—Code of Federal Regulations	Standard
CGP—Catalog of U.S. Government	FOB—free on board
Publications	FOSI—format output specification
CMS—content management system	instance
CMYK—cyan, magenta, yellow, black	FTP—file transfer protocol
CO—content originator	GAP—GPO Access Package
COOP—continuity of operations plan	GDI—graphical device interface
CP—content processor	GFE—government furnished
CPI—content packet information	equipment
CRC—cyclic redundancy checks	GFI—government furnished
CSV—comma separated variable	information
DBMS—database management system	GGP—gateway-to-gateway protocol
DES—data encryption standard	GIF—graphics interchange format
DIP—Dissemination Information	GILS—Government Information
Package	Locator Service
8	GUI—graphical user interface
DMI—desktop management interface DNS—domain name system	
·	HDTV—high definition television HMAC—key hashed message
DO—digital objects	
DOI—Digital Object Identifier	authentication code
DoS—denial of service	HSM—hardware security module
DPI—dots per inch	HTML—hypertext markup language
DSR—deployment system review	HTTP—hypertext transfer protocol
DSSL—document style and semantics	Hz—Hertz
language	ICMP—internet control message
DVD—digital versatile disc	protocol
EA—enterprise architecture	ID—Information Dissemination
EAD—encoded archival description	IDD—interface design description

Preservation Program

IEEE-Institute of Electronics and NFC-National Finance Center **Electrical Engineers** NIST-National Institute of IETF-Internet Engineering Task Standards and Technology NNTP-network news transfer Force ILS—Integrated Library System protocol IP—internet protocol OAI—Open Archives Initiative IPR—internal progress review OAI-PMH—Open Archives Initiative IPSEC—internet protocol security Protocol for Metadata Harvesting ISO-International Organization for OAIS—Open Archival Information Standardization Systems ISP—internet service provider OCLC—Online Computer Library ISSN—International Standard Serial Center Number OCR—optical character recognition IT—information technology OLTP—online transaction processing ITU—International PRONOM—Practical Online Telecommunications Union Compendium of File Formats JDF—Job Definition Format PTR—program tracking report JPEG—Joint Photographic Experts PURL—persistent uniform resource Group locator LAN-local area network RAID—redundant array of LDAP—lightweight directory access inexpensive disks protocol RAM—random access memory LPI—lines per inch RFC—request for comments MAC—message authentication code RGB-red, green, blue MARC—Machine Readable RI—representation information RMA—reliability, maintainability, Cataloging METS-Metadata Encoding and availability Transmission Standard RPC—remote procedure call RSA-Rivest, Shamir, Adleman MHz-megahertz MIME—multipurpose internet mail (public key decryption algorithm) RTF-rich text format extensions MIPS—millions of instructions per RVTM—requirements verification traceability matrix MMAR-Materials Management SAML—security assertion markup Procurement Regulation language MODS—Metadata Object Descriptive SDLC—software/system development Schema life cycle MPCF—marginally punched SDR—system design review Section 508—Section 508 of the continuous forms NAT—network address translation Rehabilitation Act NDIIPP—National Digital SGML—standard generalized markup Information Infrastructure and language

SHA—secure hash algorithm

SIP—Submission Information Package SLIP—serial line internet protocol SMP—storage management processor SMS—storage management system SMTP—simple mail transfer protocol SNMP—simple network management protocol SPA—simplified purchase agreement SSL—secure sockets layer SSP—system security plan SSR—software specification review TDES—Triple Data Encryption Standard TIFF—tagged image file format TLS—transport layer security UDP—user datagram protocol URL—uniform resource locator URN—uniform resource name/ number

VLAN—virtual local area network VPN—virtual private network VRML—virtual reality modeling language W3C—World Wide Web Consortium WAIS—wide area information service WAN—wide area network WAP—wireless application protocol WAV—waveform audio format WIP—work in process WML—wireless markup language WMS—workflow management system WWW—World Wide Web WYSIWYG-what you see is what you get XML—extensible markup language XMLDsig-xml signature XMLENC—xml encryption