Technical Writing Standards

1. Write out all numbers below 10.
   five automobiles
   • The exceptions to this rule are numbers used with units of measure, dates, times, percentages, page numbers, money.
     4 cm, page 12, $5.00, 6 to 1 odds
   • Any number greater than nine is written in numerals
     6,240 people

2. Place a hyphen between the number and the unit of measure when they modify a noun.
   8-pound baby

3. Decimals and fractions are written as numerals.
   5.765  0.25

4. If a number is an approximation, write it out.
   A third of the power needed

5. When many numbers are presented in the same section of writing, write them as numerals.
   The complete system ran 7 fans, 20 pumps, and 16 scrapers.

6. Do not begin a sentence with numerals.
   Thirty years of data was recorded.

7. When one number appears immediately after another as part of the same phrase, one of the numbers (the smallest) is spelled out.
   Twelve 15 0-ohm resistors

8. Keep all units of measure consistent.
   Force = pound or dyne or Newton not slug, gram, or kilogram

9. Write units of measure as words or symbols; do not use abbreviations.
   12-second delay or 12-s delay not 12-sec delay

10. Multiplication of units is indicated by a raised dot, a division by a slash.
    5.2J/(mol K)

11. If the number is one or a fraction of one, the unit is written in the singular.
    0.8 ton of steel

12. Write secondary units in parentheses after the primary units.
    Install a 2-inch (5.08-centimeter) diameter rod.
13. Center and number equations on a separate line in the text.

14. Keep all division lines (or fractions) and plus or minus signs on the same level.

15. Punctuate words used to introduce equations just as you would words forming part of any sentence.
   On the other hand,
   \[ Y = \frac{a}{b} \times \frac{c}{d} \]

16. Use too few rather than too many symbols.

17. Define the symbols you use.
   Predict the motion using
   \[ F = ma \]
   where, \( F \) is in Newtons, \( m \) is in kilograms, and \( a \) is in meters per second squared.

18. Avoid duplication of symbols.
   The two main factors were time \( (t) \) and temperature \( (T) \).

19. Since symbols are substitutes for words, they must fit grammatically into the structure of the sentence.

20. Two words compounded to form an adjective modifier are hyphenated.
   Space-time continuum

21. Two adjacent nouns are hyphenated if they express a single idea and if, without the hyphen, this idea is not immediately clear.
   light year light-year

22. In a series of three or more terms with a single conjunction, use a comma after each except the last.
   The four most abundant elements in the earth's crust are oxygen, silicon, aluminum, and iron.

23. If a sentence contains an expression within parentheses, the expression is punctuated as if it stood by itself, except that the final stop is omitted (unless it is a question mark or exclamation point).
   The growth rate has increased by 3 percent each month (see Fig. 8). At the science fair, the chemist (or was she an alchemist?) turned vinegar into milk.

   Incorrect: Turning over our papers, the physics examination began.
   Correct: Turning over our papers, we began taking the physics exam.

25. Avoid run-on sentences.

26. Avoid sentence fragments.
27. Avoid abbreviations in writing, and use too few rather than too many.

28. Omit internal and terminal punctuation in abbreviations.
   psi not p.s.i.

29. The abbreviation for a specific word or phrase takes the same case (upper case or lower case) as the word or phrase. An acronym usually is written in capital letters, except when the acronym stands for a unit of measure.
   Westinghouse Corporation (Westinghouse Corp.)
   very high frequency (vhf)
   arts per million (ppm)

30. Avoid using signs in writing.
   Do not write 36". Instead use 36 inches.

31. Capitalize trade names.

32. Do not capitalize words to emphasize their importance.

33. Capitalize the full names of government agencies, departments, divisions, organizations, and companies.

34. Capitalize all proper nouns and adjectives unless usage has made them so familiar that they are no longer associated with the original name.

35. Use the active voice.
   Passive: Control of the furnace is provided by a thermostat.
   Active: A thermostat controls the furnace.

36. Use simple rather than elegant or complex language.
   Complex: The Director of Human Resources deemed it necessary to terminate Joe Smith.
   Simple: Joe Smith was fired.

37. Delete words, sentences, and phrases that do not add to your meaning.

38. Use specific and concrete terms rather than vague generalities
   Vague: He ran fast.
   Specific: He ran the 100-yard dash in 10.2 seconds.

39. Use terms your reader can picture.

40. Use the past tense to describe your experimental work and results.
   The flow rate was measured for each of the three pipe lines.

41. In most other writing, use the present tense.
   Hypotheses, principles, theories, facts, and other general truths are expressed in the present tense. Avoid using "could" or "would".
42. Avoid needlessly technical language. Make the technical depth of your writing compatible with the background of your reader.
   Confusing: Always stabilize mobile dentition. Compatible:
   Keep your loose teeth in place.

43. Break up the writing into short sections.

44. Keep ideas in writing parallel.

45. Use an informal rather than a formal style.
   Formal: It is unfortunate that I was not available when you visited our facilities the other day.
   Informal: I'm sorry I missed you the other day.