Writer's Guide

Procedure Writing to Reduce Field Errors

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1.0   Purpose

To provide guidelines to:

- •   Produce more effective procedures

- •   Promote standardization in the preparation and revision of procedures

- •   Reduce the potential for human performance errors resulting from the use of inadequate procedures

- •   Provide the appropriate level of detail in procedures

2.0   Discussion

2.1 This procedure is intended for use by personnel who prepare or review procedures

2.2 Human factor principles are provided at the beginning of each section. The principle represents a procedure element that can influence human performance. Each principle is followed by an explanation of how to apply it.

    2.2.1   The principle is a short, concise statement of the desired goals to achieve when writing a procedure that reflects human factor considerations.

    2.2.2   The explanation clarifies the relationship between human performance and the principle.

3.0   Responsibilities

3.1 Site Safety is responsible for the review and content of this procedure.

3.2 The Department Head of each site organization is responsible for the development of administrative and technical procedures which address human error reduction techniques, as described in this procedure, for procedures used within their organization.

3.3 Procedure originators and reviewers are responsible for ensuring that procedures:

- •   Are technically correct

- •   Are easy to perform

- •   Address human error reduction techniques

- •   Are prepared in accordance with administrative requirements

4.0   Writing Standards

4.1 Procedure and Page Identification

PRINCIPLE: Provide procedure identification at the beginning of the procedure.

> *EXPLANATION: Helps users locate the correct procedure more quickly. Grouping complete identification information at the beginning of the procedure aids users in efficiently locating the procedure and assists in selecting the correct procedure for performing a specific task.*

PRINCIPLE: Provide information on each page of the procedure that associates the page to that procedure.

> *EXPLANATION: Page identification information ensures effective document control, and allows users to ensure procedures are complete and the pages are in the correct order.*

4.1.1   Procedure Identification Number

   a. Assign a unique identification number to each procedure.

   b. Clearly identify the procedure identification number on each page of the procedure.

4.1.2   Procedure Title

   a. Provide a title for the procedure that is descriptive of the work or system/equipment to which it applies.

   b. Place the title on each page.

   c. Procedure titles should be clear, concise, and descriptive enough to identify the intent of the procedure.

   d. IF a procedure performs several tasks OR performs a task on several models of equipment, THEN:

   • Make the title relatively short.

   • Provide more descriptive information in the purpose/scope section.

4.1.3   Page numbers should be clearly identified on each page of the procedure.

4.2 Revision Information

PRINCIPLE: Identify the current revision of the procedure.

> *EXPLANATION: Mark changes conspicuously to alert the user to potential changes since the last performance. A standard and consistently used method of identifying text revisions reduce the possibility of changes being overlooked during the performance.*

4.2.1 Identify each procedure with a revision number

4.2.2 Revision Marks

    a. Use revision marks to indicate portions of the procedure that have been changed since the last full revision of the procedure.

    b. Locate revision marks as close to the changed text as practical or add a page on the first page of a procedure on which all changed items are displayed in order to show clearly the changed content, time, and responsibility for reminding users.

    c. Revision marks should only be used to identify content changes that are technical in nature.

    d. **DO NOT** use revision marks for major revisions or rewrites of the entire procedure.

    e. Generally, revision marks should **NOT** be used on forms, datasheets, or checklists during full revisions.

4.3 Procedure Organization

PRINCIPLE: Organize procedure information to support the overall direction of the activity.

> *EXPLANATION: Organizing procedure information contributes to the completeness of the procedure and assists the user in locating information for each major task.*

4.3.1 Table of Contents

    a. Use a Table of Contents page to help users quickly find information within procedures more than 5 pages long.

    b. Consistency in section numbering and properly limiting the scope of a procedure minimizes the need for a Table of Contents.

4.3.2 Required Sections

    a. Organize each procedure into sections that meet administrative requirements and are appropriate to the type of task covered.

b. Required sections are established by the responsible Organization's administrative procedures.

4.3.3   Purpose/Scope

a. Provide a statement of purpose or scope as an aid in determining applicability.

b. A purpose statement should identify the goal(s) of the procedure.

c. A scope statement should identify all major tasks and equipment covered by the procedure.

d. Purpose and scope statements should be brief and to the point.

e. **IF** a procedure implements an upper-tier document or requirement, **THEN** the governing requirement should be stated in the purpose/scope section.

4.3.4   Discussion Section

a. Provide a brief description of applicable components, systems, or tasks performed.

b. The level of detail should be sufficient for a qualified individual to understand the background, function, intent of the procedure, and the interrelationships of equipment.

c. **DO NOT** provide instructions to perform an action in the discussion section.

4.3.5   Definitions Section

a. List terms that are peculiar or specific to the understanding of the procedure or which could be misinterpreted.

b. List peculiar acronyms used with the complete nomenclature.

c. **DO NOT** provide instructions to perform an action in the Definitions section.

4.3.6   Responsibilities Section

a. Identify the organizational unit responsible for implementing and performing the procedure.

b. Identify the general responsibilities of performers and reviewers.

c. Identify the responsibilities of interfacing groups.

d. **DO NOT** provide instructions to perform an action in the Responsibilities section.

4.3.7   Precautions Section

a. Identify important measures needed to protect equipment and personnel, or to ensure a reliable process, or test.

b. State why the precaution exists if it is not obvious.

c. Ensure precautions are generic to the performance of the procedure, not specific to certain steps or sections.

d. Ensure precautions containing caution or warning statements applicable during specific steps are also identified at the applicable steps.

4.3.8   Prerequisites Section

a. List all actions or activities required to be completed and those equipment conditions which are required to exist prior to performing the activity.

b. **DO NOT** write statements as "accomplished facts".

Incorrect example: Communications have been established with the Main Control Room.

Correct example: Establish communications with the Main Control Room.

c. Prerequisites may include:

• System mode requirements

• System or equipment condition requirements

• Tagout requirements

• Calibration of special tools

• Communication requirements

• Staging of parts and materials

• Preparation of worksite (such as scaffolding)

• Notification of other organizations which are affected by the activity

• Special permits

4.3.9   Limitations Section

a. List restrictions placed on system or equipment operation, and important operational parameters.

b. Include the required actions if the restrictions are **NOT** met.

c. State why the limitation exists if it is **NOT** obvious.

d. Provide special attention to a potentially degraded degree of protection when one subsystem of a safety system is removed from service.

4.3.10 Materials and/or Test Equipment Section

a. List equipment, materials, and documents that are needed to perform the activity.

b. **IF** numerous items are to be listed, **THEN** arrange items by type.

c. Include the required accuracy for Measuring and Test Equipment.

4.3.11 Procedure Section

a. Provide the step-by-step sequence for accomplishing the activity. This section can be either free-flow text or contain flow charts to aid the user in task completion. Liberal use of pictures and diagrams also increases user understanding.

b. Organize the procedure into logical parts.

c. Identify documents required to be completed as a direct result of performing the procedure.

4.3.12 Acceptance Criteria Section (Optional section, used only in testing procedures)

a. Provide specific quantitative or qualitative criteria, as appropriate, for use in judging the success or failure of the test or process.

b. **IF** acceptance criteria are qualitative, **THEN** be as specific as possible. Avoid vague words like "normal" and "satisfactory".

c. Include required actions to be taken and any required notifications to be made should the acceptance criteria **NOT** be met.

4.3.13 Final Conditions Section

a. Identify the state that systems and equipment manipulated by the procedure are left in.

4.3.14 References Section

a. List key source documents used to develop the procedure and all documents and procedures mentioned in the text of the procedure.

b. References may include:

• Design Documents

• Vendor Manuals

• Drawings

• Procedures and Standards

c. List any commitments that the procedure fulfills and the steps or sections that satisfy them.

4.3.15 Appendices Section

a. List all appendices by designator and by title.

b. Appendices are included in a procedure to provide further information or detail on a particular subject.

c. Appendices may include:

• Flowcharts

• Tables

• Pump Curves

• Sketches

• Graphs

• Illustrations

4.3.16 Documents Section

    a. List all documents directly associated with the procedure by number and by title.

    b. Documents may include:

       • Checklists

       • Data Sheets

       • Forms

       • Lineups

       • Matrices

4.4 Step Numbering and Indentation

PRINCIPLE: Establish procedure steps so they can be readily identified by the user and distinguished from other information.

       EXPLANATION: A procedure step numbering and indentation system aid the user in locating steps and keeping track of their place within the procedure.

4.4.1 Format procedure step numbers to provide visual separation. All procedure step numbers are on the left of a row. Example:

    8.0 MAIN TOPIC TITLE

        8.1 **First Level Subtopic Title** or instruction

           8.1.1 instruction or <u>Second Level Subtopic Title</u>

              a. instruction

                • instruction

4.4.2 The numbering sequence and the indentation method used within a procedure should be applied consistently to avoid confusion.

4.4.3 **IF** sub-steps wrap to the next page, **THEN** the full step number should be used on the first step of the new page.

4.4.4 **DO NOT** use bullets for action steps that need to be performed in order.

4.5 Writing Instructional Steps

PRINCIPLE: Present procedure steps in a format compatible with the use of the procedure.

> *EXPLANATION: The format in which procedure steps are presented contributes directly to their usability and to the resulting efficiency of task performance. If information can be found readily and the structure or format is used consistently, fewer errors occur.*

PRINCIPLE: Ensure the level of detail, procedure steps, step sequence, uniform verbs, number of objects of verbs, and quantitative terms are properly included in the procedure to provide clear and sufficient detail for the procedure user.

> *EXPLANATION: A minimum level of information is needed by any procedure user; additional detail is dependent upon the skill level and experience of the user. Lengthy narrative style paragraphs increase the probability of error or misinterpretation. The procedure step sequence should be identical to the sequence in which the task is to be performed.*
>
> *Uniform verb use in procedures promotes rapid comprehension of procedural steps. Greater uniformity will be obtained if limits, rates, readings, and measurements are expressed quantitatively using units of measurement compatible with instrumentation.*

PRINCIPLE: Use grammar and punctuation exceptions for writing procedures.

> *EXPLANATION: English grammar rules apply to the writing of procedures with only minor exceptions. The exceptions serve to reduce sentence length and increase reading speed, but they do not impair the meaning or interpretation of the procedure.*

4.5.1 Level of Detail

a. Provide guidance in the form of tasks and step-by-step instructions of sufficient detail that interpretation by the least qualified user is minimized.

b. For each step, consider the following key information needed by the user:

- Action verb

- Component identification

- Location

- Expected system response

- Responsible party

c. Prepare procedures with an appropriate level of detail for the intended user considering the following:

- Knowledge of the training and qualification process, as well as the task frequency may be required to determine the proper level of detail.

- Qualifications for performing the task

- Task frequency

- Consequence of error

- Complexity of the task

- User knowledge and skills

d. Cover complex, infrequent, or error-prone evolutions in more detail, making each step as simple as practical.

e. **DO NOT** include detailed steps for actions that are considered routine or standard practice (toolbox skills) of the least experienced intended user.

f. Write instructional steps as short, concise action statements rather than long narrative sentences.

- Avoid redundant or verbose language.

- Use exceptions to normal sentence structure to achieve concise sentences:

— Avoid the use of articles (a, an, the) unless needed for clarity.

— Eliminate other unnecessary words **NOT** needed for clarity.

— Avoid the use of pronouns (the user is understood).

- Limit the number of specific actions within an instructional step to one unless the actions are functionally related.

— Avoid combining steps that are separated by location or time of accomplishment, even though related

- **IF** more than three actions are contained within a step, **THEN** list the items in tabular form or separate the actions into two or more steps.

NOTE

Administrative procedures do not always present information in the same manner as procedures that are used to perform work activities.

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g. Steps that provide background information, describe policies, describe plans, or contain general discussion may be written as paragraphs.

- Each paragraph should only contain one main thought.

- Steps describing the implementation of administrative processes should be written with step-by-step guidance.

h. Organize steps to ensure efficient use of personnel and resources.

- Technical necessity should be the overriding consideration for step sequencing.

- Write instructional steps in the order the steps are expected to be performed. **IF** order is **NOT** important, **THEN** write steps in the order most convenient for performance.

- Consider the environment the user will be in along with the physical layout and organization of equipment to avoid causing excessive travel between locations.

- **DO NOT** sacrifice personnel safety principles for efficiency.

4.5.2 Vocabulary

a. Use simple, well-known words that are easy for the expected user to read and understand, except where standard terms or technical nomenclature is required.

b. Terminology which is subject to interpretation (such as "satisfactory", "as required", "normal") or which may create confusion should be avoided unless specifics are provided to clarify the statement.

c. Use action verbs to the maximum extent practical.

- Instructional action statements should begin with an action verb.

- Select a verb that precisely describes the action, and use it consistently in that context.

- Use the imperative form of verbs.

   Incorrect example: Switch should be placed to ON.

   Correct example: Place switch to ON.

- Where verbal communication is expected to be needed in a noisy environment, avoid verbs that sound similar to ones of opposite meaning, such as "increase" and "decrease".

- Refer To Appendix A (Action Verb List) for a list of recommended action verbs and their intended meaning.

d. Use nouns and verbs consistently throughout the procedure.

e. Avoid the use of synonyms, that is, different words that have a similar meaning. Consistently use the identical word or term for a given action or object.

f. Avoid unnecessary shifts in tense or point of view.

g. Avoid contractions.

h. Write steps so they are positive rather than negative.

*Incorrect example: **IF** seal steam flow is **NOT** sufficient, **THEN DO NOT** run more than one packing exhauster blower.*

Correct example: Run only one packing exhauster blower until enough seal steam flow is provided.

i. Place modifiers as close as practical to the words they are intended to modify.

4.5.3 Punctuation

a. Use punctuation to aid in reading and prevent misunderstanding.

b. Refer To Appendix B (Guide To Punctuation) for a list of recommended punctuation usage.

4.5.4 Numerals and Units of Measure

a. Use Arabic numerals.

b. For units of measure, distance, and time, use the numeral rather than the word. Example: 4 PSIG, 500 GPM, 47 ft, 5%, 2 days

c. In other cases, spell out the word for nine and under. Use the numeral for 10 and above. Example: three technicians, 10 filters

d. For numbers less than one, place a zero before the decimal point. Example: 0.1

e. **IF** combinations of numbers are needed, **THEN** use words and numerals for clarity. Example: twelve 2-pound packages

f. Avoid repeating a spelled-out number in parentheses. Incorrect example: three (3) operators

g. Ensure the number of significant digits is equal to the number of significant digits available from the display and the reading precision available to the user.

h. Use units of measure that actually appear on the instrument specified.

i. Avoid instructions that require conversions between equivalent sets of units. **IF** conversions are necessary, **THEN** provide tables or graphs where the desired value can be obtained without calculation.

4.5.5 Abbreviations, Acronyms, and Symbols

a. Use abbreviations, acronyms, and symbols to benefit the user by saving reading time, ensuring clarity when space is limited, and communicating mathematical ideas.

b. Identify abbreviations, acronyms, and symbols using either of the following methods:

• Preferred method: Define the term in the definitions section of the procedure.

- Acceptable method: Define the term in parentheses after the first use of the word(s) it represents. Example: Occupational Safety and Health Administration (OSHA)

- It is **NOT** necessary to define commonly used and understood terms.

- **DO NOT** overuse abbreviations, acronyms, and symbols.

4.5.6 Concurrent Steps

a. Use a concurrent step for actions that are required to be performed at the same time.

b. **IF** two actions within the same step are concurrent, **THEN** use "while".

c. State specifically which steps are concurrent by using terms such as "simultaneously" or "at the same time".

d. Ensure the number of actions to be performed concurrently is **NOT** beyond the capability of the expected number of users.

4.5.7 Recurrent Steps

a. Use a recurrent step to direct the user to repeatedly perform an action.

b. State specifically how often the action is to be performed and the conditions under which the action no longer needs to be carried out.

4.5.8 Define acceptance values as tolerance bands **NOT** as a plus/minus value.

a. Use the same units as the instrument being read.

b. **IF** there is **NOT** a specific desired value, **THEN** provide the tolerance as a range. Example: Verify pump temperature is within operating band of 450 to 485 °F.

c. **IF** there is a desired or nominal value, **THEN** specify the value followed by the range of acceptable tolerance within parentheses. Example: Adjust voltage to 3.000 VDC (2.990 to 3.010).

4.6 Conditional and Logic Terms

PRINCIPLE: Use logical words to introduce conditional statements prior to the directed action.

> *EXPLANATION: Contingency or conditional decisions should be written to clearly identify the conditions that need to be satisfied prior to the stated action. This information can be presented most clearly when opening statements containing conditional symptoms use logical structure.*

4.6.1 Conditional Terms

a. Use **IF** to identify a condition that may or may not exist. The user skips the action if the condition does not exist.

b. Use **WHEN** to identify an expected condition. The user waits until the condition occurs.

c. Use **THEN** to introduce the action step following the conditional clause.

d. Use **OTHERWISE** to identify the alternate action to be taken when the stated condition does **NOT** exist.

   • Limit the use of "**OTHERWISE**" to those cases in which the user is expected to perform an action in response to the second of two possible conditions.

   • It is **NOT** necessary for each step that begins with "**IF**" to have a corresponding step that addresses the "**OTHERWISE**" situation.

4.6.2 Logic Terms

a. Use **AND** in a conditional clause to mean all the conditions must be met before an action is performed.

b. **IF** three or more conditions exist, **THEN** use a list format. Example:

   WHEN all of the following conditions exist:

   - condition 1, AND
   - condition 2, AND
   - condition 3,

   THEN perform the action.

c. **IF** "and" is used as a conjunction in the action portion of a step, **THEN** it is **NOT** considered a logic word and should **NOT** be emphasized. Example: At the date prompt, enter the current date and press RETURN.

d. Use **OR** in a conditional clause to mean at least one of the conditions must be met before an action is performed.

   • Use **OR** in the inclusive sense (in other words, **OR** means A or B or both).

   • to specify in the exclusive sense, use "either A **OR** B, but **NOT** both".

- **IF** three or more conditions exist, **THEN** use a list format. Example:

    IF any of the following conditions exist:

    - condition 1, **OR**
    - condition 2, **OR**
    - condition 3,

    THEN perform the action.

e. **IF** "or" is used as a conjunction in the action portion of a step, **THEN** it is **NOT** considered a logic word and should **NOT** be emphasized.

f. Use **NOT** to negate a condition.

    - Use **NOT** in place of a negating prefix such as "in-" or "un-". Example: Use "**NOT** adequate" instead of "inadequate".

    - Avoid using negative statements in place of positive phrases. Example: Use "**IF** valve is open" instead of "**IF** valve is **NOT** closed".

g. Avoid using **AND** and **OR** together. Construct conditional clauses so the logic is clear.

    Incorrect example: **IF** condition A **AND** condition B **OR** condition C occurs, **THEN** perform the action.

    Correct example:

    8.1.2 **IF** condition A **AND** condition B occurs, **THEN** perform action.

    8.1.3 **IF** condition C occurs, **THEN** perform action.

4.6.3 Format

a. Emphasize logic and conditional terms.

b. State the conditional term prior to the required action.

Incorrect example: Start pump when level lowers to 60 inches.

*Correct example: **WHEN** level lowers to 60 inches, **THEN** start pump.*

4.7 Emphasis

PRINCIPLE: Use emphasis techniques sparingly and consistently to highlight important words.

EXPLANATION: Emphasis can be used to alert readers to selected words. However, the procedure originator should consider the negative consequences of over use. Consistency of use is important so the user learns to associate specific printing emphasis with specific meanings.

4.7.1   Use the following techniques sparingly and consistently to highlight important words or phrases:

- Additional spacing or indentation

- Underlining

- Capitalization

- Alternate print style (such as italics or bolding)

- Quotation marks

- Framing

4.7.2   Avoid overuse of emphasis as it weakens the impact.

4.8 Location Information and Component Identification

PRINCIPLE: Use specific nomenclature for equipment, parts, tools, controls, and displays that will assist the user in the accurate identification, and provide location information for items that are infrequently used, have poor access or are not labeled.

> *EXPLANATION: Consistent and proper use of specific names and alphanumeric identifiers for equipment, parts, tools, controls, and displays promotes accurate and uniform understanding by users. Ambiguous names, inconsistent use of names, multiple component train identifiers for a single action, and non-unique identifiers increase the possibilities for error. Location information could save users lengthy search time, and aid in identifying items as well as finding them, particularly in cases where an unmarked item is located near other unmarked items with a similar appearance.*

4.8.1   Provide location information when the component to be worked on is used infrequently, has poor access, or is unlabeled.

a.   Provide the location at least the first time the component is mentioned in the procedure or procedure section. **IF** the component is named several times, **THEN** the location information may be omitted after the first use.

b.   Match the identification of equipment with the noun names on equipment labels where the procedure is being used.

c.   Quote names or abbreviations verbatim (including the same method of capitalization) to the names and numbers on panel placards and alarm windows.

d.   **IF** a name is **NOT** displayed on the equipment, **THEN** choose a name in common use and representative of the equipment.

- Avoid ambiguous names.

- Quote position information on labels verbatim.

4.9   Referencing and Branching

PRINCIPLE: Use referencing and branching, as appropriate, to support the job being performed.

EXPLANATION: Referencing and branching routes the procedure user to other steps, pages, or sections within the procedure or to other procedures. Excessive referencing causes procedure errors because users can become frustrated with jumping around in the same procedure or having to reference other procedures/documents. Excessive branching causes procedure errors because users can become confused or lose track of where they are in the task.

4.9.1   Use referencing to send the user to another procedure or to another section or step in the same procedure. The user returns to the point from which referenced.

4.9.2   Use branching to send the user to another procedure or to another section or step in the same procedure. The user does **NOT** return to the initial procedure or step but stays at the new procedure, section, or step.

4.9.3   Eliminate as much referencing and branching as practical.

    a.   Consider the number of procedures the user will need to accomplish the task.

    b.   **DO NOT** specifically reference programmatic procedures that are considered part of job knowledge for the least qualified user.

    c.   **IF** the information can be added to the original procedure without significantly increasing its length, **THEN** add the information to the procedure.

4.9.4   **IF** jumping around in the same procedure can be avoided by repeating a small amount of text, **THEN** repeat the text rather than sending the user forward or backward in the procedure.

4.9.5   Avoid sending the user to information that is hard to find or use. Consider adding the information to the procedure.

4.9.6   **IF** referencing within a procedure results in the repetition of steps, **THEN** make provisions for additional verifications and data recording as necessary.

4.9.7   Ensure that referencing does **NOT** result in an "endless loop".\

4.9.8   Referencing format:

    a.   To indicate a required reference, use "per" or "in accordance with".

    b.   To indicate an optional reference, use "Refer To".

4.9.9   Branching format:

    a.   To branch the user forward in the same procedure or to another procedure, use "Go-To".

    b.   To branch the user backward in the same procedure, use "Return To".

4.10 Placekeeping

PRINCIPLE: When it is necessary to ensure a task or step has been performed correctly, provide a means of documenting completion, and if required, verification.

>> *EXPLANATION: Placekeepers allow the user to know which steps have been completed. Placekeepers aid the user in identifying the correct step to perform following a distraction or following the performance of steps in another procedure.*

4.10.1 Recommended placekeepers are ☐ or _____.

4.10.2 Use placekeepers to help the user keep their place in a procedure and to avoid inadvertent omission of steps.

4.10.3 The use of placekeepers is recommended in procedures that manipulate equipment.

4.10.4 **DO NOT** use placekeepers for steps that require verification signoffs. Placekeepers are preferable to signoffs when a step does **NOT** require verification documentation.

4.11 Coordinating Actions

PRINCIPLE: When two or more persons are required to perform a task, procedure steps should be provided to assist the coordination of the tasks.

>> *EXPLANATION: Effective performance of maintenance, surveillance, test, or calibration procedures often depends on the close coordination of the actions of two or more persons. Errors in communication and omissions of important actions have occurred as a result of improper coordination of interdependent actions. Steps that are required to be performed concurrently or in a fixed sequence or tasks that are performed by persons located remotely from each other are most susceptible to error.*

4.11.1 **IF** two or more people are required to perform a step, **THEN** write the step from the point of view of the person responsible for coordinating the activity.

4.11.2 **IF** a step is intended to be performed by someone other than the primary user, **THEN** identify the person to perform the action.

4.11.3 Procedure headings may be used to delineate responsibility for actions.

4.12 Critical Steps

PRINCIPLE: Critical steps are those steps or actions that are unrecoverable and if performed incorrectly will cause significant harm to people, equipment, quality, or the environment.

>> *EXPLANATION: Critical steps should be distinguished from other information to gain the attention of the user. Because explanatory or descriptive information is intended to help the user perform the step, it should be provided separately from the step.*

4.13 Warnings, Cautions, Notes, and Supplemental Text

PRINCIPLE: Use warnings and cautions to alert the user to conditions that could result in hazards or damage. Use notes to provide descriptive or explanatory information to aid the performance of the procedure. Warnings, cautions, and notes are distinguishable, separate, and presented prior to the applicable step(s).

> *EXPLANATION: Information about conditions or actions that could be hazardous to personnel, damage equipment, or affect operation adversely should be distinguished from other information to gain the attention of the user. Because explanatory or descriptive information is intended to help the user perform the step, it should be provided separately from the step.*

4.13.1 Warnings

   a.   Use warnings to identify information which the user needs to know to prevent personnel injury.

   b.   State the basis for the warning unless it is obvious.

   c.   Warnings that apply generally to a significant portion of the procedure or that should be known beforehand should be classified as a Precaution.

   d.   Warnings shall **NOT** contain action statements.

   e.   Statements telling the user what **NOT** to do are acceptable.

   f.   Place warnings immediately before and on the same page as the procedure step to which it applies.

   g.   Warnings shall be emphasized. Example:

<u>WARNING</u>

Warning statement.

4.13.2 Cautions

   a.   Use cautions to identify information which the user needs to know to prevent equipment damage or an adverse impact on operations.

   b.   State the basis for the caution unless it is obvious.

   c.   Cautions that apply generally to a significant portion of the procedure or that should be known beforehand should be classified as a Precaution.

   d.   Cautions shall **NOT** contain action statements.

   e.   Statements telling the user what **NOT** to do are acceptable.

   f.   Place cautions immediately before and on the same page as the procedure step to which it applies.
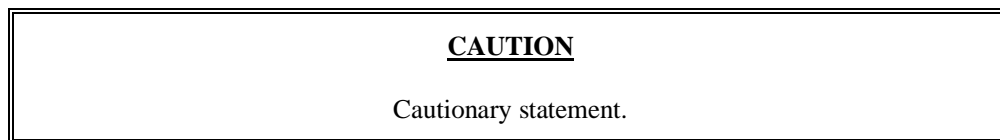
g. Cautions shall be emphasized. Example:

CAUTION

Cautionary statement.

4.13.3 Notes

a. Use notes to provide additional information deemed beneficial to the user.

b. Notes shall **NOT** contain action statements.

c. Notes shall **NOT** contain information to prevent personnel injury, equipment damage, or an adverse impact on operations.

d. Avoid lengthy notes, state information briefly in one or two sentences.

e. Normally, place notes immediately before the procedure step to which it applies.

f. **IF** the information content of a note makes more sense after the step, **THEN** the note may be placed after the associated step.

g. The note and associated step should be located on the same page.

h. Notes shall be emphasized. Example:

NOTE

Information statement.
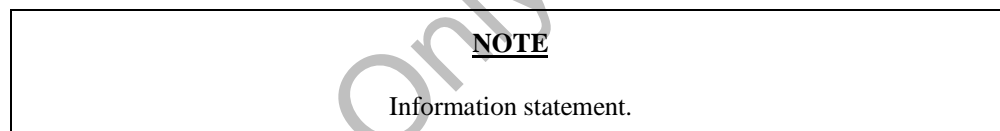
4.13.4 **IF** a combination of Warnings, Cautions, and Notes apply to a step, **THEN** place in that specific order

4.13.5 Supplemental Text

a. Supplemental text contains information that aids the user in performing an action but does not warrant the use of special emphasis.

b. Supplemental text does **NOT** contain action statements.

c. Place supplemental text immediately following and on the same page as the procedure step to which it applies.

d. Identify supplemental text with standard symbols (e.g., arrows, pointers, asterisks, etc.).

4.14 Calculations

PRINCIPLE: Provide space in the procedure for performing required calculations.

EXPLANATION: Providing a space for computations will benefit calculation accuracy. It also facilitates traceability and confirmation of

procedure results because a record of data entries and computations will remain in the procedure.

4.14.1 Minimize the need for mathematical calculations by including tables and graphs.

4.14.2 Provide space in the procedure to perform calculations and provide the needed mathematical constants.

4.14.3 Simplify equations to the maximum extent practical.

4.14.4 Use units that agree with the measured or observed data.

4.14.5 **IF** a calculation is complex (e.g. the user needs a calculator or spreadsheet to perform the math) **THEN** have an independent verifier check the calculation.

4.15 Tables and Figures

PRINCIPLE: Provide tables and graphs as appropriate to aid the user; Ensure tables and graphs are compatible with procedure requirements and the instrument used.

> *EXPLANATION: Tables organize information and help the user acquire and use data. Information can be organized to facilitate calculations, prepare graphs, or compare data.*

PRINCIPLE: Ensure that figures are compatible with the user's needs, and remain legible after reproduction.

> *EXPLANATION: The preparation and use of figures depend on the complexity and detail of the subject. The user must be able to extract information from the figure. The figure is considered from the view the user will need when performing the task. The orientation of a component is its installed position relative to a horizontal plane (floor) and the vertical axis (wall or column). A figure must be legible, labeled, titled, indexed, and structured so the user can readily find needed information. Common symbols that are familiar to the user should be used. If the figure is unclear and confusing, errors due to misunderstanding and misinterpretation may occur.*

4.15.1 Ensure the tables and figures are:

    a. Appropriate for the intended use

    b. Legible

    c. Consistent in terminology and units with procedure text

    d. Properly and completely labeled and identified

    e. Readable under expected conditions of use

4.15.2 Tables and figures may be placed in appendices or integrated within the procedure text. Generally:

    a. A frequently referenced table or figure is best placed as an appendix for ease of location.

      b. A step-related table or figure should be embedded in the text.

4.15.3 Integrating Within Text

      a. **IF** space permits, **THEN** place the figure or table immediately after the step that refers to it.

      b. **IF** space does **NOT** permit, **THEN** place the figure or table at the top of the next page, not allowing any intervening steps.

      c. Number in-text tables and figures separately and consecutively: Table 1, Table 2, Figure 1, Table 3, Figure 2, etc.

      d. Avoid rotating pages if practical.

      e. Orient figures to correspond with the user's view of installed equipment.

4.15.4 Be careful in reproducing material directly from vendor manuals and other existing documentation. Ensure the photocopy or scanned copy is legible.

4.15.5 Ensure the reproduced material is consistent with the procedure text. Remove references to sections or figures in the existing material that do **NOT** exist in the procedure.

4.15.6 Keep illustrations simple. Omit detailed components and parts unless related directly to the procedure.

4.15.7 **IF** using labels to identify parts of an illustration, **THEN** ensure the following:

      a. Lines from the labels touch the related objects.

      b. Lines are uniform, short, and as straight as possible.

      c. Lines do **NOT** cross.

      d. Arrowheads are added.

4.15.8 **IF** using numbers to refer *from* the text *to* applicable details in the illustration, **THEN** ensure the following:

      a. Numbers are placed in a recognizable order on the illustration.

      b. Part numbers match the legend.

      c. A legend identifies the part.

      d. Part numbers are identified in the procedure text immediately after the referenced items.

4.15.9 For graphs, ensure that:

      a. The background grid on the graph paper is reproducible.

      b. The scale is consistent with the accuracy needed by the user.

      c. Curve(s) and the axes have heavier lines than the grid.

4.16 Document Design

PRINCIPLE: When it is necessary to ensure an activity has been performed correctly, provide a means of documenting completion, and if required, review and approval. Design the layout of documents to facilitate easy completion and data review

EXPLANATION: Documents should be used only to record the required information. The information on the document should be organized in the sequence of the activity covered to make the document easy to use. Documents used for administrative processes should contain enough information for the trained user to complete it without the procedure in hand.

Datasheets generally have two users: procedure users (data recorders) and data users. If datasheets are separated from the procedure steps and arranged in a structure such as rows and columns, it will help the data user interpret data. If data collection is integrated within the procedure text, data recorder errors will be minimized.

4.16.1 Documents may include:

- Checklists
- Data Sheets
- Forms
- Lineups
- Matrices

4.16.2 Use documents to record data or signoffs while performing a task or to provide control over administrative tasks performed along with a procedure.

4.16.3 Information contained in documents may be integrated within the procedure text.

4.16.4 Ensure documents are:

- Appropriate for the intended use
- Legible
- Consistent in terminology and units with procedure text
- Readable under expected conditions of use
- Approved by authorities for adequacy before issuing the document.

4.16.5 Use the following guidelines for designing documents:

a. Establish a standard format for similar types of activities and use it consistently.

b. Organize the document to follow the same sequence and numbering scheme as the procedure.

c. Include only information that provides documentary evidence of the requirements being met.

d. Specify the title or type of personnel qualified or required to perform signoffs.

e. Provide sufficient space to record data and signoffs.

5.0   Other Considerations to Reduce Human Errors

5.1 Determine the degree of guidance needed based on experience and frequency of performance using the following chart:

Task Performed by User:	More Than Once Per Week	Less Than Once Per Week
More Than 100 Times Successfully	No Guidance	Checklist
5 to 100 Times Successfully	Checklist	Detailed Guidance
Less Than 5 Times Successfully	Detailed Guidance	Detailed Guidance

5.2 Originators are expected to:

5.2.1 Walkthrough technical procedures and look at equipment affected by the procedure from the user's perspective.

5.2.2 Identify and remove potentially misleading information.

5.2.3 Review applicable design documents and equipment manuals.

5.2.4 Obtain a peer review of draft procedures before distribution for review.

5.2.5 Ensure the peer reviewer clearly understands the purpose, scope, and acceptance tolerances of the review.

5.2.6 Determine appropriate review methods based on risk, review time requirements, and complexity.

    a.   Sequential Review - low effectiveness

    b.   Parallel Review - medium effectiveness

    c.   Interactive Review - high effectiveness

5.2.7 Ensure all reviewers are informed as to the scope of the review and what is intended to be accomplished by their review.

5.2.8 Communicate with Procedure Owners and users throughout the procedure development process.

APPENDIX A – Action Verb List

Verb	Definition
ACTIVATE	To formally institute a special activity or function. To place into operation.
ACTUATE	To put into action, use or motion.
ACKNOWLEDGE	To recognize or make known the receipt of something.
ADD	To combine such that the total is increased. To perform a mathematical addition.
ADJUST	To regulate or manipulate a component or device.
AFFIX	To attach physically or to attach in any way.
ALIGN	To arrange components into the desired configuration.
ALLOW	To permit a stated condition to be achieved before proceeding.
ALTERNATE	To change from one to the other.
ANALYZE	To examine methodically.
ANNOUNCE	To make known publicly.
APPLY	To bring into contact. To put into operation or effect.
ARM	To ready for action or operation.
ASSEMBLE	To bring together (as in a particular place for a particular purpose). To fit together the parts of.
ATTACH	To fasten one thing to another.
AVOID	To prevent the occurrence or effectiveness of. To keep away from.
BACKSEAT	To adjust a valve disk against its backseat in the fully open position.
BALANCE	To adjust several parameters at the same time at a certain point in a system to specified values.
BEND	To turn or force an item from its original shape by applying force to the object.
BLEED	To remove fluid from a piece of equipment at a restricted flow rate.
BLOCK	To inhibit an automatic actuation. To obstruct.
BOLT	To attach or fasten with bolts.
BREAK	To destroy the unity or completeness of. To crack or pierce.
BYPASS	To circumvent a circuit.
CALCULATE	To determine by computation.
CALIBRATE	To standardize by determining the deviation from a standard to ascertain the proper correction factors.
CANCEL	To make or strike out for deletion.
CENTER	To place in the middle of.
CHANGE	To make different in some particular way.
CHARGE	To load or fill.
CHECK	To perform a physical action that determines the state of a variable or status of equipment without directing a change in status.
CLEAN	To rid of dirt, impurities, or extraneous matter.
CLEAR	To move people and objects away.
CLOSE	To change the physical position of a mechanical device so that it prevents physical access or flow, or permits passage of electric current.
COLLECT	To cause the assembly of something in a fixed location or container.
COMPARE	To determine the relationship of the characteristics or values of different items, parameters, or conditions.
COMPLETE	To accomplish specified procedural requirements.
COMPLY	To act in accordance with a requirement.
CONNECT	To join or fasten together.

Verb	Definition
CONSIDER	To look at carefully, examine.
CONSULT	To ask for advice or take counsel. To refer to.
CONTACT	To establish communications with an individual or department.
CONTAIN	To keep within limits. To restrain or control. To have within one's hold.
CONTINUE	To go on with a particular process.
CONTROL	To regulate or establish conditions to regulate.
COORDINATE	To act together in a concerted way. To bring into common action, movement, or condition.
COOL	To reduce the temperature.
CORRECT	To make alterations to reestablish a desired activity or condition. To make or set right.
COUNT	To name or identify individual units to determine the total number of units.
COVER	To protect or shelter equipment.
CUT	To divide into segments. To sever.
CYCLE	To cause repetition of an action or activity.
DECIDE	To make a choice or judgment.
DECLARE	To make known formally.
DECON	To rid of contamination.
DECREASE	To make or become less than or smaller. To cause a reduction in inventory. (Avoid use where verbal communication is expected to be needed in a noisy environment.)
DEENERGIZE	To remove electrical power from a component.
DEFEAT	To prevent a component or subsystem from performing its design function. To bypass.
DELETE	To eliminate especially by blotting out, cutting out, or erasing.
DEPRESS	To push down upon.
DEPRESSURIZE	To reduce pressure in a system or component.
DESCRIBE	To present or give an account of in words.
DETENSION	To de-torque in the proper sequence and in the proper increments.
DETERMINE	To calculate, find out, decide, or evaluate.
DEVELOP	To evolve the possibilities.
DIRECT	To assign a specific task to an individual or group.
DISABLE	To make incapable or ineffective.
DISASSEMBLE	To take apart.
DISCHARGE	To give an outlet or vent to a fluid or other contents.
DISCONNECT	To separate one item from another.
DISCONTINUE	To cease to operate, administer, use, or take.
DISENGAGE	To release something that engages.
DISPATCH	To send personnel to areas of need.
DISPOSE	To remove from a specific location. To get rid of.
DISPOSITION	To provide written justification for the transfer of possession to another.
DIVIDE	To separate into two or more parts, areas, or groups.
DON	To put on an article of wear.
DRAIN	To remove liquid from an enclosure or part of an enclosure, usually to empty.
DUMP	To release a substance from a container or system.
EDIT	To alter, adapt, or refine especially to bring about conformity to a standard or to suit a particular purpose.
ENERGIZE	To supply electrical energy to a component.
ENSURE	To make certain that the desired condition exists, including taking necessary and appropriate actions to achieve the condition.
ENTER	To set foot in. To insert into, write data on, or add to.

Verb	Definition
EQUALIZE	To make the value of a given parameter equal to the value of another parameter.
ESTABLISH	To make arrangements for a stated condition.
ESTIMATE	To approximate the size, extent, or nature of.
EVACUATE	To remove the contents of. To leave.
EVALUATE	To examine and decide. To determine the importance, size, or nature of. To give a value to, based on collected data.
EXAMINE	To closely monitor the condition or characteristics of an object such as a form, report, component, or device.
EXECUTE	To perform the actions prescribed.
EXIT	To leave or withdraw from.
EXPEDITE	To accelerate the process or progress of.
EXTEND	To spread or stretch forth. To stretch out to fullest length.
FILE	To place among official records.
FILL	To add fluid to a system or equipment to a prescribed point.
FILTER	To pass fluid through a sized medium to stop the passage of unwanted material in the effluent.
FLUSH	To remove or clean with a washing action of a liquid.
FORWARD	To transmit. To send onward.
GAG	To install or initiate a restraining device that prevents operation.
GIVE	To convey to another.
GO TO	To stop the performance of the task at the current step and transition to a later step in the same procedure or to a different procedure.
GROUND	To provide an electrical path to a system at zero potential.
GUIDE	To manage or direct movement of.
HOLD	To sustain or keep as in position or amount.
IDENTIFY	To determine. To establish the identity of.
IMPLEMENT	To carry out. To accomplish.
INCLUDE	To take in or comprise as a part of a larger aggregate.
INCORPORATE	To unite thoroughly into something already in existence.
INCREASE	To make or become greater or larger. (Avoid use where verbal communication is expected to be needed in a noisy environment.)
INDICATE	To state or express briefly.
INFLATE	To fill with air or gas.
INFORM	To provide information to an individual or group.
INHIBIT	To prohibit from doing something. To restrain.
INITIAL	To authenticate or approve by affixing one's initials.
INITIATE	To begin a process.
INJECT	To force something into something else.
INPUT	To enter (as data) into a computer or data processing system.
INSERT	To put or thrust in, into, or through.
INSPECT	To measure, observe, or evaluate a feature or characteristic for comparison with specified limits.
INSTALL	To place and attach.
INSTRUCT	To direct or command.
INTERCHANGE	To substitute two items, one for another.
INVENTORY	To determine the quantify of materials on hand.
INVESTIGATE	To search or inquire into.
ISOLATE	To set apart from. To shut off or remove from service.

Verb	Definition
ISSUE	To put forth or distribute.
JOG	To momentarily move a component and then return it to its original state. To give a slight shake or push.
JUMPER	To electrically bypass or actuate a component.
LABEL	To mark or identify.
LATCH	To close or fasten.
LIFT	To disconnect an electrical conductor from a terminal.
LIMIT	To restrict or impose bounds.
LISTEN	To pay attention to sound.
LINE UP	To establish the prerequisites necessary for system operation. To put into alignment.
LOAD	To connect an electrical component or unit to a source of electrical energy. To add weight for testing purposes.
LOCATE	To determine or establish a place or position.
LOCK	To secure in a state which prevents operation.
LOG	To enter into a record of operations or progress.
LOOSEN	To release from restraint.
LOWER	To let down, diminish, move down, pull down, or decrease.
LUBRICATE	To apply a lubricant to a component.
MACHINE	To finish a component by turning, shaping, planing, or milling by machine tools.
MAINTAIN	To continuously control, hold, or keep in a particular state or condition.
MARK	To make notations.
MATCH	To fit together or make it suitable for fitting together.
MATCHMARK	To make identical label marks on opposite sides of a split joint.
MAXIMIZE	To increase to the highest or greatest possible value.
MEASURE	To take or make a measurement.
MINIMIZE	To make as small as possible.
MIX	To intermingle ingredients uniformly.
MONITOR	To watch, observe, or check for a specific purpose.
MOUNT	To put in place or position.
MOVE	To change the place or position of.
NOTIFY	To inform an individual or group.
OBSERVE	To watch with careful attention.
OBTAIN	To get or take possession of.
OPEN	To change the physical position of a mechanical device so that it permits physical access or flow, or prevents the passage of electrical current.
OPERATE	To control equipment to accomplish a specific purpose. To cause to function.
PARALLEL	To place so as to be parallel in direction with something.
PERFORM	To do or carry out a set of actions.
PLACE	To put in a particular state or position.
PLACE IN STANDBY	To return a piece of equipment to an inactive status but ready for a start on demand.
PLAN	To devise a program of events.
PLOT	To represent graphically.
PLUG	To connect or become connected. To stop or insert something.
POSITION	To put in a specific place or condition.
POST	To publish, announce, or advertising by use of a placard.
PREHEAT	To increase the temperature before taking further action.
PREPARE	To make ready for further action.

Verb	Definition
PRESS	To act upon through steady pushing. To exert pressure.
PRESSURIZE	To increase pressure in a system or component.
PREVENT	To keep from happening.
PRINT	To publish in print.
PROCEED	To go to a specific location.
PROCESS	To put through the steps of a prescribed procedure.
PROTECT	To cover or shield from exposure, injury, or destruction.
PROVIDE	To supply or make available.
PULL	To apply force in a manner that causes motion toward the source of the force.
PUMP	To move fluid in a piping system by the use of suction, pressure, or both.
PURGE	To make free of an unwanted substance such as an impurity or foreign material.
PUSH	To apply force in a manner that causes motion away from the source of force.
RACK IN	To physically move a component into position such that it can be operated.
RACK OUT	To physically move a component into position such that it cannot be operated.
RAISE	To cause to rise or elevate.
REALIGN	To arrange components into a desired configuration that was previously in place.
READ	To obtain information visually.
RECIRCULATE	To cause repetitive motion of a fluid in a system.
REENERGIZE	To re-supply electrical energy to a component.
RECONNECT	To join or fasten together in a manner that was previously in place.
RECORD	To document a specified condition or characteristic.
REDUCE	To cause a parameter to decrease in value.
REESTABLISH	To make arrangements for a stated condition, which was, previously in place but currently is not.
REFER TO	To direct attention to.
REFILL	To replenish an exhausted supply.
REGULATE	To control or restrict.
REINSTALL	To install original components in their previous location.
RELEASE	To set free from restraint or confinement.
REMOVE	To take off, move away, or eliminate.
REPAIR	To restore to a sound state.
REPEAT	To do again.
REPLACE	To put something new in the place of.
REPLENISH	To fill or build up again.
REPRESSURIZE	To increase pressure after it has been reduced.
REQUEST	To ask for.
RESET	To physically adjust an adjustable feature back to a previously existing condition.
RESTART	To start a component, which was previously operating but is now stopped.
RESTORE	To bring back or put back into a former or original state.
RESTRAIN	To bind tight.
RESUME	To begin again after cessation or interruption.
RETURN	To restore something to a former state or condition.
RETURN TO	To stop the performance of the task at the current step and transition to a previous step in the same procedure or a procedure, which was previously in effect.
REVIEW	To examine completed actions or documentation.
ROTATE	To cause to turn on an axis.
ROUTE	To send by a selected course of travel. To divert in a specified direction.

Verb	Definition
RUN	To operate. To maintain or control in an operating state.
SAMPLE	To extract a representative portion for the purpose of examination.
SCAN	To look through or over, usually rapidly.
SCRIBE	To mark a line by cutting or scratching with a pointed instrument.
SECURE	To fasten, make safe, or tie.
SEGREGATE	To separate and isolate from the mass.
SELECT	To take by the preference of fitness from a number or group. To pick out. To choose.
SEND	To dispatch.
SEPARATE	To move apart or detach.
SET	To physically move an adjustable feature to a specified value.
SET UP	To place equipment in a preliminary condition to support other actions.
SHAKE	To agitate.
SHED	To remove loads from an electrical power source.
SHIFT	To change mode of operation.
SHRINK	To contract or lessen in value.
SHUT	To change the physical position of a mechanical device so that it prevents physical access or flow, or permits passage of electric current.
SHUT DOWN	To perform operations necessary to cause equipment to cease or suspend operation. To stop.
SILENCE	To stop from making noise.
SIMULATE	To reproduce or represent under test conditions the phenomena likely to occur in actual performance.
SLIDE	To move smoothly along a surface.
SORT	To arrange according to characteristics.
SOUND	To order, signal, or indicate by a sound.
SPLICE	To unite or join two ends together.
STABILIZE	To establish steady-state conditions.
START	To originate motion of an electric or mechanical device, or to check that motion is in progress.
STARTUP	To set in operation or motion.
STATION	To assign to or set into position.
STOP	To cease motion of an electric or mechanical device, or to check that motion is not in progress. To terminate operation or shut down equipment.
STORE	To place in reserve. To hold for later use.
STRAIGHTEN	To make straight by bending.
STROKE	To operate a valve over its full travel.
SUBTRACT	To remove such that the total is decreased. To perform a mathematical subtraction.
SUPPORT	To hold something in place.
SURVEY	To examine as a condition, situation, or value. To appraise.
SUSPEND	To cause to stop temporarily.
SWAP	To change a component or condition to a different configuration.
SWITCH	To change the mode of operation.
SYNCHRONIZE	To make synchronous in operation.
TAG	To provide with an identifying or indicating symbol. To label. To attach or connect a tag to.
TAPE	To fasten, tie, bind, cover, or support with tape.
TERMINATE	To stop an evolution or process.
TEST	To measure characteristics of component performance and to compare them with

Verb	Definition
	prescribed standards.
THROTTLE	To operate a valve in an intermediate position to obtain a certain flow rate.
TIGHTEN	To make tight or tighter.
TORQUE	To cause to twist about its axis.
TRANSFER	To move from a different place, region, or situation.
TRANSPORT	To carry or convey from one place to another.
TRIP	To activate a mechanical or electrical device to perform its intended function, or to check that such a device is activated.
TURN	To adjust with a force on an actuator that positions with a circular movement.
TURN OFF	To stop the flow or shut off.
TURN ON	To cause to operate or flow.
UNLOCK	To remove a locking device such that a component can be operated.
UNPLUG	To remove from a socket or receptacle.
UPDATE	To revise to include the latest information or data.
USE	To utilize the specified equipment or information to perform a task.
UTILIZE	To make use of.
VENT	To permit a gas or liquid confined under pressure to escape at a vent.
VERIFY	To confirm an activity has been implemented or that a condition exists in conformance to specified requirements, without directing a change in status.
WAIT	To cease action until an expectation is achieved.
WIPE	To rub with as if cleaning. To spread. To remove by cleaning.
WITHDRAW	To remove.

APPENDIX B – Guide to Punctuation

Apostrophe
- Use an apostrophe to indicate possession. Example: responsible Organization's administrative procedures
- Avoid the use of apostrophes to indicate plurals, especially with acronyms. Example: use PDRs instead of PDR's
- Avoid the use of apostrophes to indicate a contraction. Example: can't, don't, it's

Brackets
- Use brackets to avoid a double set of parentheses.
- For other applications, use parentheses where possible.

Colon
- Use a colon to introduce a list.
- Use a colon after steps to indicate sub-steps.

Comma
- Use a comma to set off a conditional clause.
- Use a comma to set off an introductory phrase.
- Use a comma to separate elements for clarity or emphasis.
- Use a comma to separate items in a series.
- Use a comma to separate five or more digits in a numeral.

Hyphen
- Use a dictionary as a guide for determining those words that should be hyphenated.
- Use hyphens as they appear in component numbers.
- Use a hyphen when two or more words express a single consent.
- Use a hyphen when a letter is linked with a noun.
  Example: X-ray, O-ring, I-beam
- Use a hyphen when fractions are spelled out. Example: one-half, two-thirds
- **DO NOT** divide words with hyphens at the end of text lines.
- **DO NOT** break component numbers with hyphens at the end of text lines.

Parentheses
- Use parentheses to set off acronyms after they are defined. Example: Analog Trip Module (ATM)
- Use parentheses to indicate the other division's equipment in a procedure applicable to more than one division. Example: 1B21-N075A(B,C,D)
- Use parentheses to set off explanatory information. Example: GETARS Channel 289 (SCRAMD4)
- Use parentheses to specify acceptable ranges following a desired or nominal value. Example: 3.000 VDC (2.990 to 3.010)
- Use parentheses to set off a graphical reference callout following parts and equipment in procedure text.
  Example: Remove O-ring (2)
- **DO NOT** enclose an action step in parentheses.

Period
- Use a period to indicate the end of a sentence.
- Use a period to indicate the decimal place in a number.
- **DO NOT** use periods for:
    - o Acronyms
    - o Abbreviated units of measure, exception: use in. for inch
    - o Lists where items are not complete sentences

Quotation Marks
- Use quotation marks for verbatim computer prompts.
- Use quotation marks to set off words or phrases used in a unique sense. Example: Write the appropriate "changed to" values in the remarks section.

Semicolon
- Avoid use of semicolons because they promote long sentences.

Slant or Slash
- Use a slant to mean "per" in units of measure. Example: ft/sec
- Use a slant to form a fraction.
- Use a slant to separate items such as "Initial/Date".