

U.S. Department of
Homeland Security

United States
Coast Guard



ET1 UNIT 1: UNIT DOCUMENTATION

EPQ 6.A.05 How to Procure Navy Publications and Directives

EPQ 6.A.08 How to Update Unit Drawings and Blueprints

EPQ 6.A.04 How to Record Maintenance Actions

EPQ 6.A.06 How to Audit Safety Lock-Out/Tag-Out Log

**U. S. Coast Guard
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ET1 UNIT 1: UNIT DOCUMENTATION

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**QUESTIONS ABOUT THIS TEXT SHOULD BE
ADDRESSED TO THE SUBJECT MATTER SPECIALIST
FOR THE ELECTRONICS TECHNICIAN RATING**

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Acknowledgments and References

Acknowledgments

Material is included in this pamphlet through courtesy of the designated source. The Coast Guard appreciates permission of the source to use this material, which contributes greatly to the effectiveness of this course. No copies or reproductions of the material are authorized without permission of the appropriate source.

The Coast Guard wishes to thank the following individuals for their expertise and support in the development of this document:

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ET1 Jessica Martin

Dr. Kit Grimm

Mr. Terry Wall

List of References

This pamphlet contains original material developed at the U. S. Coast Guard Training Center, Petaluma, California, and excerpts from the following technical publications:

- *Electronics Manual*, COMDTINST M10550.25 (series)
 - *Ordnance Manual*, COMDTINST M8000.2 (series)
 - *CMplus 5.1 Job Aids*
 - NAVSUP P2003 User Guide for the Naval Logistics Library
 - MLC Standard Operating Procedures
 - *System Integrated Logistics Support (SILS) Command Policy Manual*, COMDTINST M4105.8 (series)
 - ELC Support Gram <http://cgweb.elcbalt.uscg.mil/sptgram/Default.htm>
-

Notice to Students

| | |
|-----------------------------------|--|
| Purpose | This pamphlet serves to provide you with knowledge of how to address certain administration and documentation tasks required of an ET1. |
| Important Note | This text has been compiled for TRAINING ONLY. It should NOT be used in place of official directives or publications. The test information is current according to the references listed. You should, however, remember that it is YOUR responsibility to keep up with the latest professional information available for your rating. Current information is available from the <i>Enlisted Performance Qualifications Manual</i> , COMDTINST M1414.8 (series). |
| Course Content | This course content is based on the requirements stated in the <i>Enlisted Performance Qualifications Manual</i> , COMDTINST M1414.8 (series). |
| Pamphlet Content | This pamphlet contains four lessons: Lesson 1: How to Procure Navy Pubs and Directives Lesson 2: How to Update Unit Drawings and Blueprints Lesson 3: How to Record Maintenance Actions Lesson 4: How to Audit Safety Lock-Out/Tag-Out Log |
| Performance Qualifications | This pamphlet covers the following enlisted performance qualifications (EPQ) for ET1 from the <i>Enlisted Performance Qualifications Manual</i> , COMDTINST M1414.8 (series): 6.A.05 PROCURE Navy Publications and Directives per Electronics Manual, COMDTINST M10550.25 (series); Supply Policy and Procedures Manual CIM4400.19 (series); and the Navy NAVSUP website available at https://n111.ahf.nmci.navy.mil . 6.A.08 UPDATE ship's/unit's drawings and blueprints to match as-built configuration per the Naval Engineering Manual, COMDTINST 9000.6 (series) or Civil Engineering Manual, COMDTINST M11000.11 (series); and applicable MLC Standard Operating Procedures (SOP). |

Continued on next page

Notice to Students (continued)

Performance Qualifications (continued)

6.A.04 RECORD maintenance actions (completed and deferred) into unit work management system per the Electronics Manual, COMDTINST M10550.25 (series); Ordnance Manual, COMDTINST M8000.2 (series); and the CMplus 5.1 Job Aids.

6.A.06 AUDIT Safety Lock-Out/Tag-Out Log per Electronics Manual, COMDTINST M10550.25 (series); and Equipment Tag-Out Procedures, COMDTINST 9077.1 (series).

Read the learning objectives before you begin reading the text. The objectives will guide you through the text and help you answer the questions in the self-quiz at the end of each lesson.

Quizzes

Each lesson has a self-quiz and pamphlets may have a pamphlet review quiz. You will find answers to each quiz on the pages following the quiz. Included are reference pages for the answers.

These self-quizzes are meant to check your comprehension of the material you covered. If you have problems understanding a section, go through it again or ask someone for help. The pamphlet review quiz questions are samples of the type of questions you will find on the end-of-course-test (EOCT).

SWE Study Suggestion

Servicewide exam questions for your rate and pay grade are based on the Professional and Military Requirements sections of the *Enlisted Performance Qualifications Manual*, COMDTINST M1414.8 (series).

If you use the references from this text and consult the *Enlisted Performance Qualifications Manual*, you should have good information for review when you prepare for your servicewide exam (SWE).

Glossary of Terms

A glossary of terms is included at the end of this pamphlet as Appendix C.

Lesson 1

HOW TO PROCURE NAVY PUBLICATIONS AND DIRECTIVES

Overview

| | |
|-------------------------|--|
| Introduction | The Naval Supply Systems Command Naval Logistics Library (NLL) is the central link in the Navy publications supply chain. The NLL provides supply support for Navy publications, instructions, directives, technical manuals, and other digital documents. |
| Lesson Objective | Given a list of publications to be ordered, OBTAIN Navy publications and directives. |
| References | The following reference was used for this lesson: NAVSUP P2003 User Guide for the Naval Logistics Library |

Accessing and Using the Naval Logistics Library

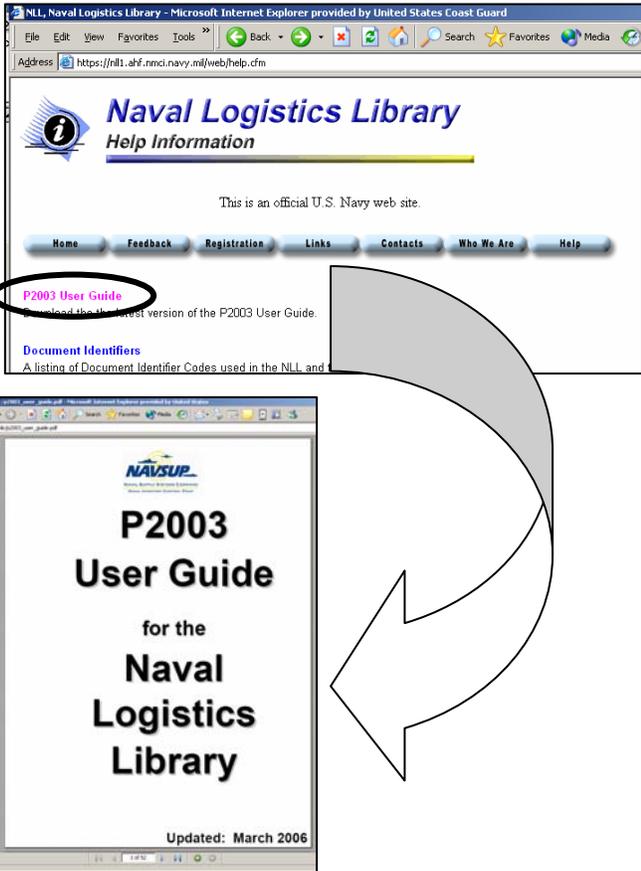
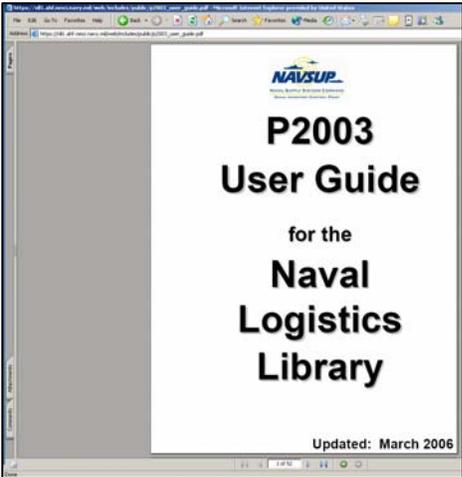
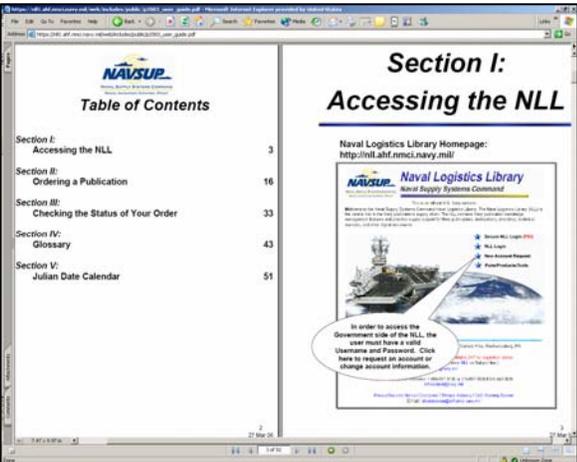
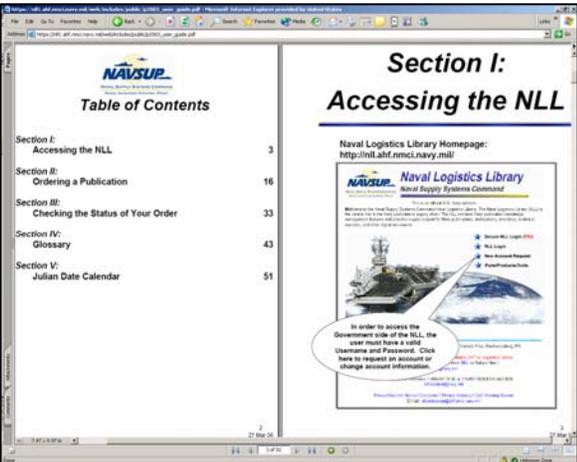
Follow the steps in the table below to access and use the NLL:

| Step | Action |
|------|---|
| 1. | <p>Access the NLL Help Information page at https://nll1.ahf.nmci.navy.mil/web/help.cfm</p>  |

Continued on next page

Accessing and Using the Naval Logistics Library (Continued)

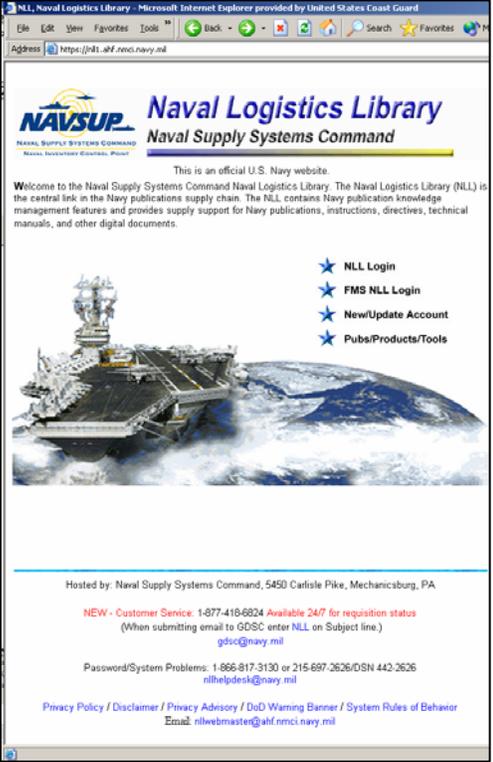
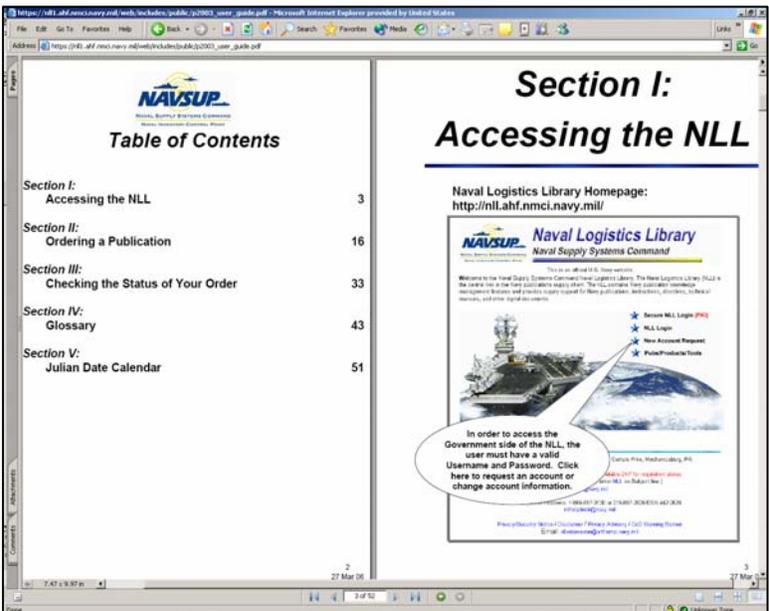
Continue to follow the steps in the table below to access and use the NLL:

| Step | Action |
|------|--|
| 2. | <p data-bbox="297 422 730 491">Download the <i>P2003 User Guide</i> by clicking on the link.</p>  <p data-bbox="617 814 1079 1291">  </p> |
| 3. | <p data-bbox="297 1339 1169 1373">Navigate to <i>Section I, Accessing the NLL</i> of the P2003 User Guide:</p>  <p data-bbox="576 1386 1153 1848">  </p> |

Continued on next page

Accessing and Using the Naval Logistics Library (Continued)

Continue to follow the steps in the table below to access and use the NLL:

| | | |
|-----------|---|--|
| <p>4.</p> | <p>Open another browser window and access the NLL website Home page at https://nll1.ahf.nmci.navy.mil</p> <p>Note: You should now have two windows open: one showing the NLL website Home page (shown at right) and the page showing Section I of the P2003 User Guide. Keep both windows open as you go through the following steps.</p> |  |
| <p>5.</p> | <p>Refer to Section I of the P2003 User Guide and follow instructions for opening an account as a New Government User.</p> <p>Note: You may contact NLL Customer Service at 1-877-418-6824 for questions or concerns about the registration process.</p> |  |

Continued on next page

Accessing and Using the Naval Logistics Library (Continued)

Continue to follow the steps in the table below to access and use the NLL:

- Once you have received your username and password, you may access the NLL to order publications and check the status of your orders; refer to Sections II and III of the P2003 User Guide for step-by-step instructions:

Section II: Ordering A Publication

Now that you have obtained your password, you may enter the Government side of the NLL.

Click here if you have a PKI certificate.

Click here if you DO NOT have a PKI certificate.

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27 Mar 06

Section III: Checking the Status of Your Order

Click here to check the status on an order you have submitted (either online or through normal MILSTRIP requisitioning procedures).

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Practice Exercise

Exercise

Use this exercise to check your comprehension of the lesson material.

Instructions

The answers to the exercise will be in the feedback section.

1. Who provides supply support for Navy publications, instructions, directives, technical manuals, and other digital documents?

2. What reference is the user guide for the Naval Logistics Library?

Feedback

Exercise

Answers

The answers to the exercise are as follows:

| Question | Answer | Reference page |
|-----------------|--|-----------------------|
| 1. | Naval Supply Systems Command Naval Logistics Library (NLL) | 1-1 |
| 2. | NAVSUP P2003 | 1-2 |

Lesson 2

HOW TO UPDATE UNIT DRAWINGS AND BLUEPRINTS

Overview

Introduction Multi-sheet drawings represent the proposed and actual status of cabling and electronic systems at the unit. These drawings are revised and updated throughout the platform's life cycle to reflect configuration changes. In this lesson you will learn:

- To identify different types of drawings;
 - How drawings are distributed;
 - Important elements of a drawing;
 - How to revise a drawing.
-

Lesson Objective Given access to the unit drawings, **UPDATE** the unit's drawings to match as-built configurations.

References The following reference was used for this lesson:

- Naval Engineering Manual, COMDTINST M9000.6 (series)
-

Continued on next page

Ship's Drawings

Introduction

Ship's drawings are printed on Mylar or velum and consist of three sections:

1. Sheet 1 (the first page)
2. Sheet 2 (the second page)
3. Drawings

The first sheet, Sheet 1, will contain information that will apply to all sheets in the drawing, such as the title block. The following sheets will be different layers of the ship's infrastructure and detailed drawings of different parts of the ship. Detailed drawings are used to emphasize a small section of a drawing.

Sheet 1 Example

Depicted below is an example of Sheet 1 or the first sheet of a multi-sheet drawing. Sheet 1 includes the:

1. List of Materials
2. Sheet Index
3. Title Block
4. Revision Block

These items will be explained throughout this lesson.

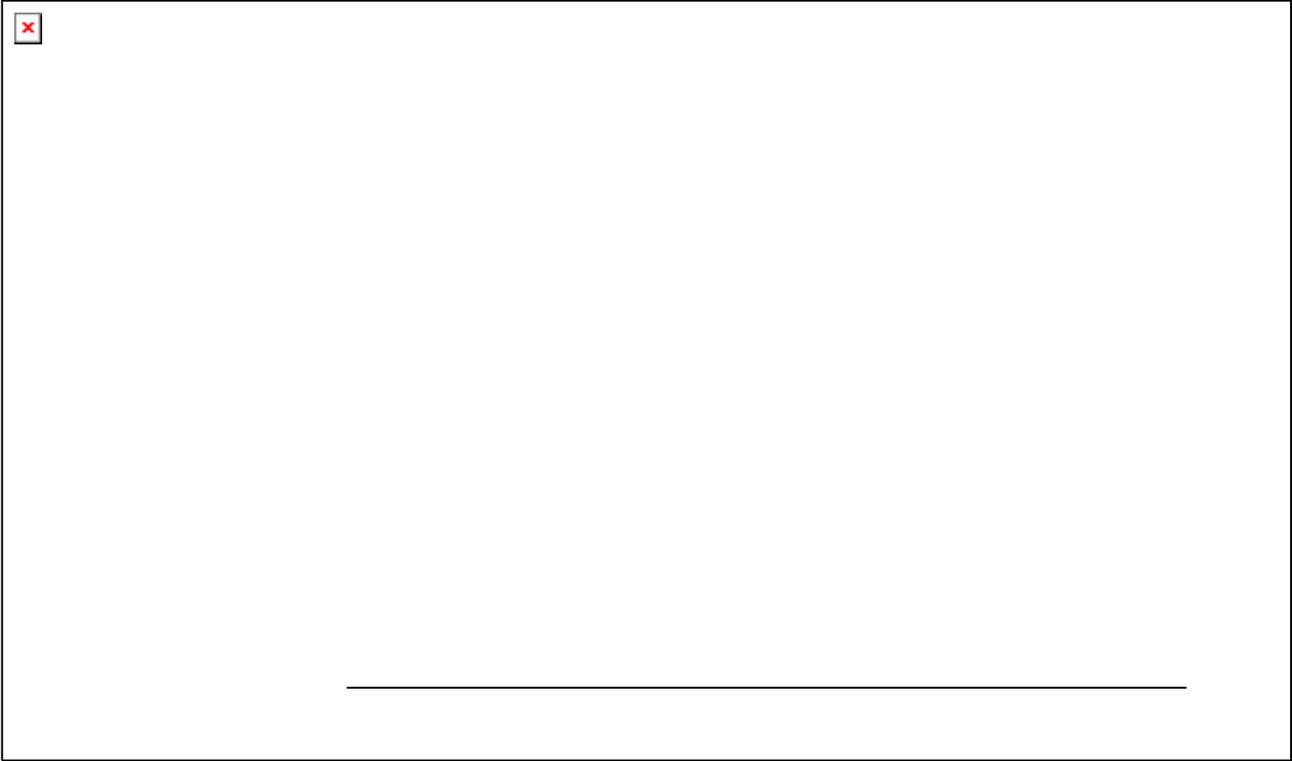
The drawing is a technical drawing of a ship's drawing sheet, labeled "Sheet 1 Example". It is a complex layout with various sections and tables. The drawing is divided into several sections: "GENERAL NOTES" at the top left, a large "LIST OF MATERIAL (QUANTITY FOR ONE SHIP)" table in the center, a "SHEET INDEX" table at the bottom left, and a "TITLE BLOCK" at the bottom right. A "REVISION BLOCK" is also present on the right side. Four numbered callouts (1, 2, 3, 4) point to specific areas: 1 points to the List of Materials table, 2 points to the Sheet Index table, 3 points to the Title Block, and 4 points to the Revision Block. The drawing includes various technical specifications, dimensions, and a grid system.

Continued on next page

Ship's Drawings (Continued)

Detailed Drawings

In the remaining pages, detailed drawings may have many different sections of the ship or only one section. Depicted below is an example of a detailed drawing that includes details of many different sections of the ship.



Types of Drawings

Introduction Drawings are meant to reflect proposed, actual, and current status of cabling or system information at a unit. Your ability to read and understand these drawings is critical to verification and troubleshooting documentation.

Different Types of Drawings There are many types of drawings that you may be exposed to. The table below describes various types of drawings.

NOTE

For a complete definition, refer to the Naval Engineering Manual, M9000.6 (series).

| Drawing Type | Description |
|---------------------------------|---|
| Publication and Manual Drawings | <p>Contained in technical publications and manuals and are generally constructed to a less stringent requirement than engineering drawings. However, in some cases a drawing in a manual or technical publication may be a part of a reduced version of an engineering drawing.</p> <p>Note: <i>These drawings and sketches are not considered part of the engineering drawing set. If someone feels that a drawing provided in a technical publication or manual should be an engineering drawing, they should suggest this to ELC (02T).</i></p> |
| Engineering drawings | <p>Describe hull, mechanical, electrical (HM&E), ordnance, and electronic systems and equipment installed on Coast Guard platforms. They are retained for purposes such as reference documentation, design alterations, and maintenance. Engineering drawings can be further broken down into four types:</p> <ul style="list-style-type: none"> • Platform drawings • Fleet drawings • Contract and Contract Guidance drawings • Procurement, Equipment, Parts and Materials Lists |
| Platform drawings | <p>Refers to a group of cutters, vessels, and/or standard boats belonging to a specific class:</p> <ul style="list-style-type: none"> • 110' "C" Class WPB (110C-WPB) • 225' "B" Class Ocean Going Buoy Tender (225B-WLB) |

Continued on next page

Types of Drawings (Continued)

Different Types of Drawings (Cont'd)

| Drawing Type | Description |
|---|--|
| Fleet Drawings | These are official Coast Guard drawings that apply to more than one platform class. To avoid the high cost and labor intense practice of updating multiple platform class drawings, fleet drawings are used when the drawing applies to more than one platform class unless local circumstances or other factors make their use impractical or specific class drawings exist. |
| Contract and Contract Guidance Drawing | Used in contract packages for new construction and major modifications to guide the contractor in developing the detail design. |
| Procurement, Equipment, Parts and Materials Lists | <p>Under certain conditions, independent lists are generated separately from a drawing. Examples of these lists include:</p> <ul style="list-style-type: none"> • Bill of Materials (BMs): A list of materials associated with a drawing. • Equipment List (EL): A list of equipment associated with a platform. • Parts List (PL): A list of parts associated with an equipment and/or system on a platform. • Procurement List (PR): Contains a list of item to be procured associated with the construction of or modification to a platform. |
| Provisioning Drawings (Logistics and Procurement) | Are used to provision a platform and build allowance documents. The requirements for this type of drawing are spelled out in Provisioning Manual For Major Systems Acquisitions, COMDTINST M4423.2. |
| Diagrammatic Drawings and Sketches | Diagrammatic drawings and sketches are associated with the configuration review and engineering change prototype process. The drawings are “unofficial” drawings used to provide guidance only and are generally converted to “official” engineering drawings after the configuration review and change prototype process has been completed and the engineering change approved. |

Continued on next page

Types of Drawings (Continued)

Different Types of Drawings (Cont'd)

| Drawing Type | Description |
|--------------------------------|--|
| Original Drawing | A drawing printed on mylar or velum and the drawing serves as the “official” drawing of record. An authorized approving official must sign all original drawings and all original drawings will be managed by and stored at the ELC (O2T), unless checked out for authorized revision. |
| Reproducible Copy | A drawing contained on a reproducible media such as sepia or paper. It shall not be printed on mylar or velum. |
| Selected Record Drawings (SRD) | <p>Engineering drawings that contain important life cycle and configuration management information and will be revised throughout the platform's service life.</p> <p style="text-align: center;">NOTE</p> <p style="text-align: center;"><i>Drawings may not be 100% accurate. Verify the accuracy of reference drawings, especially if a drawing is used for contractual purposes, to avoid claims for faulty Government Furnished Information (GFI).</i></p> |
| Non-selected Record Drawings | All remaining drawings, which generally depict details of platform construction, but are not necessarily required to be kept up-to-date. These drawings are retained on file for informational purposes. |
| Dual Title Drawings | Vendor or other third party drawings that are converted to Coast Guard drawings and given a Coast Guard title block, effectively becoming a dual title drawing. |
| As-Built Drawings | Engineering drawings that reflect the as-built condition of a platform, or a group of platforms belonging to the same class (platform class drawings), or to several classes of platforms (fleet drawings). |

Types of Drawings (Continued)

Drawing Distribution

Not all drawings will arrive at the unit in paper form or be maintained at the unit level. The table below lists how drawings are distributed and who is responsible for them.

| Drawings Formats | Responsible Party |
|---|---|
| Original Engineering Drawings (hard copy and AutoCAD files) | ELC (02T) unless officially checked-out for revision. |
| Reproducible Drawings | MLC Pacific and Atlantic |
| Drawings contained on Aperture Cards | The Coast Guard is in the process of phasing out aperture cards and will be distributing drawings on CD-ROM. Until operational platforms and support units receive CD-ROMs, aperture card sets should be maintained. |
| Drawings on CD-ROMs | In the future, engineering drawings will be distributed by ELC on CD-ROMs. ELC will provide each platform, 65' or greater in length, MLCs, CG YARD and NESUs with CD-ROMs. Once received, all units shall be responsible for maintaining the appropriate CD-ROM set(s). |
| Naval Engineering-Technical Information Management System (NE-TIMS) | All units with SWS-III and access to the Coast Guard Intranet (CGDN+) will be provided with access to the NE-TIMS database via the Intranet. Access to the database will provide operational and support unit's real-time access to engineering drawings. |

Title Blocks and Numbering System

Introduction

The title block typically appears on Sheet 1 of a multi-sheet drawing in the lower right corner and provides the following information:

- Drawing title
- Drawing number
- Sheet number
- Scale of the drawing

Title Blocks

Title blocks are required on all engineering drawings and shall follow the American Society for Mechanical Engineering (ASME)/American National Standard Institute (ANSI) Y14.1 or Y14.1M documentation format practices, with the following exceptions and specific requirements:

| Block | Contents |
|-----------------------------|--|
| Block A - Activity | <ul style="list-style-type: none">• “UNITED STATES COAST GUARD” shall be in the upper left corner• “WASHINGTON, D.C. 20593” shall be in the upper right corner• “OFFICE OF NAVAL ENGINEERING” shall be centered on the second line in a larger typeface. |
| Block B - The Drawing Title | This block and the overall height of the title block shall be increased in height to accommodate four separate lines of drawing title text. |
| Block C - Drawing Number | The length of this block shall be increased to accommodate a Coast Guard drawing number of eighteen alpha/numeric characters. |
| Block I - CAGE Code | This block shall read “81340.” |

Continued on next page

Title Blocks and Numbering System (Continued)

Title Block and Drawing Number Exceptions Title blocks are required on all engineering drawings except on vendor standard drawings and similar drawings not specifically prepared for Coast Guard use.

Assigning Vendor Drawings a USCG Drawing Number Coast Guard drawing numbers and title blocks may be assigned to vendor drawings or similar third party drawings by creation of a cover drawing sheet with an index of attached (related) drawings, or by creation of a dual title drawing. This will make them part of the official record. Under certain situations, with ELC (02T) approval, a Coast Guard drawing number may be assigned to a drawing without a Coast Guard title block (e.g., platforms with related drawings received from the Navy). If a Coast Guard number is assigned to a drawing without a Coast Guard title block, then it shall be obvious to the drawing reader that the Coast Guard is responsible for the drawing content.

USCG Numbering System Drawing numbers must be a prominent part of the title block. Plan-set numbers for new platform classes undergoing major renovation shall be assigned by ELC (02T). Drawing numbers shall be structured as follows:

| Plan-set Number Consisting of: | | | | |
|---|---------------------------|---------------------|---|----------------------|
| Platform Length | Platform Sub-Class | Vessel Class | Ship Work Breakdown Structure (SWBS) | Serial Number |
| 110 | A | WPB 521 | | 001 |
| Drawing Number: 110A-WPB-521-001 | | | | |

Continued on next page

Title Blocks and Numbering System (Continued)

Example of a Title Block

A title block is depicted below and includes (the numbers below are associated with the callouts):

1. Activity
2. Drawing Title
3. CAGE Code
4. The Drawing Number

| | | | | | |
|--|--|-----------------------------|--------------|------------------------|-----------|
| U.S.C.G. MLC ATLANTIC 300 EAST MAIN ST., NORFOLK, VA 23510 SUITE 550 | | UNITED STATES COAST GUARD | | WASH [1] N, D.C. 20593 | |
| AMSEC, LLC. (M. ROSENBLATT & SONS GROUP) 5200 W. MERCURY BLVD., SUITE 250 HAMPTON, VA 23605-2750 Phone: 757-696-5555 Contract No./Task No. DTCG80-03-F-##### | | OFFICE OF NAVAL ENGINEERING | | | |
| DESIGN: A.B. SEA /s/ 5/1/03 | | 49 BUSL | | | |
| CHKD: I.M. ABLE /s/ 5/2/03 | | CHAINSTOPPER | | | |
| APVD: C.G. GAR /s/ 5/4/03 | | CONSTRUCTION AND DETAILS | | | |
| APVD: D.D. DAY /s/ 5/6/03 | | (SAMPLE DRAWING) | | | |
| U.S.C.G. APPROVAL 5/6/03 | | (NOT FOR CONSTRUCTION) | | | |
| <i>J. ROMEO (Acting) /s/</i> | | SIZE | FSCM CAGE NO | U.S.C.G. DRAWING NO. | REV |
| MLC ATLANTIC (Vad-2) | | H | 81340 | 49A BUSL-573-000 | A |
| SCALE | | AS NOTED | 10:4 | 80 FT | SHEET 1 3 |

2
 3
 4

Revising a Drawing

Introduction

As an ET, you will revise your local drawings using red pen or pencil and send the changes to ELC (02T) where the original drawing will be updated. You will also send ELC a 4790CK documenting the configuration change. Once the original drawing has been updated, a new drawing will be sent to your unit. It is important to retain the previously shown data, because it may be years before an engineering change is actually accomplished aboard a platform, and the operational and maintenance commands must have information that depicts their actual platform configuration in the interim.

Revision Designator

The revision designator for a drawing shall be identified by an upper case letter or letters. The first revision shall be identified by "A," the second revision by "B," and so forth. Successive changes shall use the next sequential letter, except the letters "I," "O," "Q," "S," "X," and "Z." Upon exhaustion of the alphabet, the next sequential revisions shall be "AA," "AB," etc., and then "BA," "BB," etc.

Revision Designator on Multi-Sheet Drawing

On drawings that consist of more than one sheet, it is common practice for each sheet to carry its own revision designator, as all sheets of the drawing do not necessarily carry the same revision. Only the affected sheets need to be issued when revised, not all the sheets. Sheet one of all drawings will always contain the highest revision character of the drawing as well as any subsequent sheets that contain a revision block, while each remaining sheet carries the revision character associated with the last revision that affects that particular sheet. The revision character on any sheet (except sheet one and subsequent sheets containing revision blocks) can therefore skip letters, such as from D to G.

Continued on next page

Revising a Drawing (Continued)

Revision Block All revision notes for a multi-sheet drawing shall be placed in one revision block, beginning on sheet one and continuing to other sheet(s) as needed for space. In addition to revision details, the revision note identifies the sheet number and applicable panel. The revision block will also indicate the revision character of each sheet of the drawing. With each revision to any part of the drawing, the revision block of sheet one and any subsequent sheets that contain a revision block will be updated to the next sequential revision designator letter. The revision character of unaffected sheets will not be changed.

NOTE

If existing revisions to a drawing have been noted on the individual sheets, that practice may continue as long as a bold print note on sheet one identifies that "REVISION NOTES ARE DETAILED ON INDIVIDUAL SHEETS."

Example of Revision Block

Below is an example of a revision block.

| | | | | 1 | | |
|-----------|-----|-------|------|---|--|---|
| REVISIONS | | | | | | |
| REV | SHT | ZONE | ITEM | DESCRIPTION | DATE | INITIALS & ORG |
| A | 2 | 10-E | 1 | "AS BUILT" PER TYPDESK CHANGED HOLE DIA FROM 7/8" | 3/25/2002 | Approval: JAMES ROMEO /s/ MLCA (Vad-2) U.S. Coast Guard Acting for Edward Li 6 MAY 2003 |
| | 2A | 9 I-P | 2 | ADDED SHEET 2A | | |
| | | | | AMSEC, LLC. (M. ROSENBLATT & SONS GROUP) 5200 W. MERCURY BLVD., SUITE 250 HAMPTON, VA 23605-2750 | Phone: 757-696-5555 Contract No./Task No. DTCG80-03-F-##### PREPARER: Jon Doe /s/ | |

Continued on next page

Revising a Drawing (Continued)

Triangular Revision Symbol

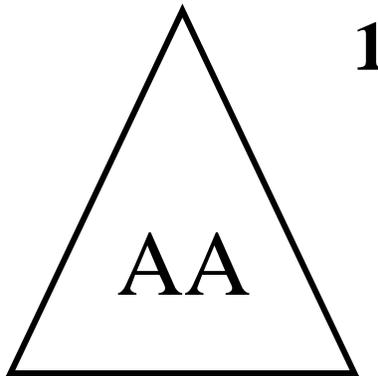
A triangular revision symbol shall be placed adjacent to all revised areas, except where the entire sheet has been added by revision. The triangular symbol shall contain the appropriate revision character.

NOTE

Where multiple items are being revised under the same revision, each item or group of items shall be identified with a superscript number outside the revision symbol that relates to the revision notes in the revision block.

Example of Triangular Revision Symbol

Below is an example of a triangular revision symbol with a superscript.



Continued on next page

Revising a Drawing (Continued)

Multi-Cutter Drawing Revisions

Drawings applicable to more than a single platform may be revised only if changes made do not result in the loss of information describing other platforms. Drawings may include alternative details applicable to different platforms if the applicability is clearly indicated and no alternative detail applicable to any other platform is erased or crossed out.

Revision Procedures

Use the following procedures to revise a local drawing using red pen or pencil.

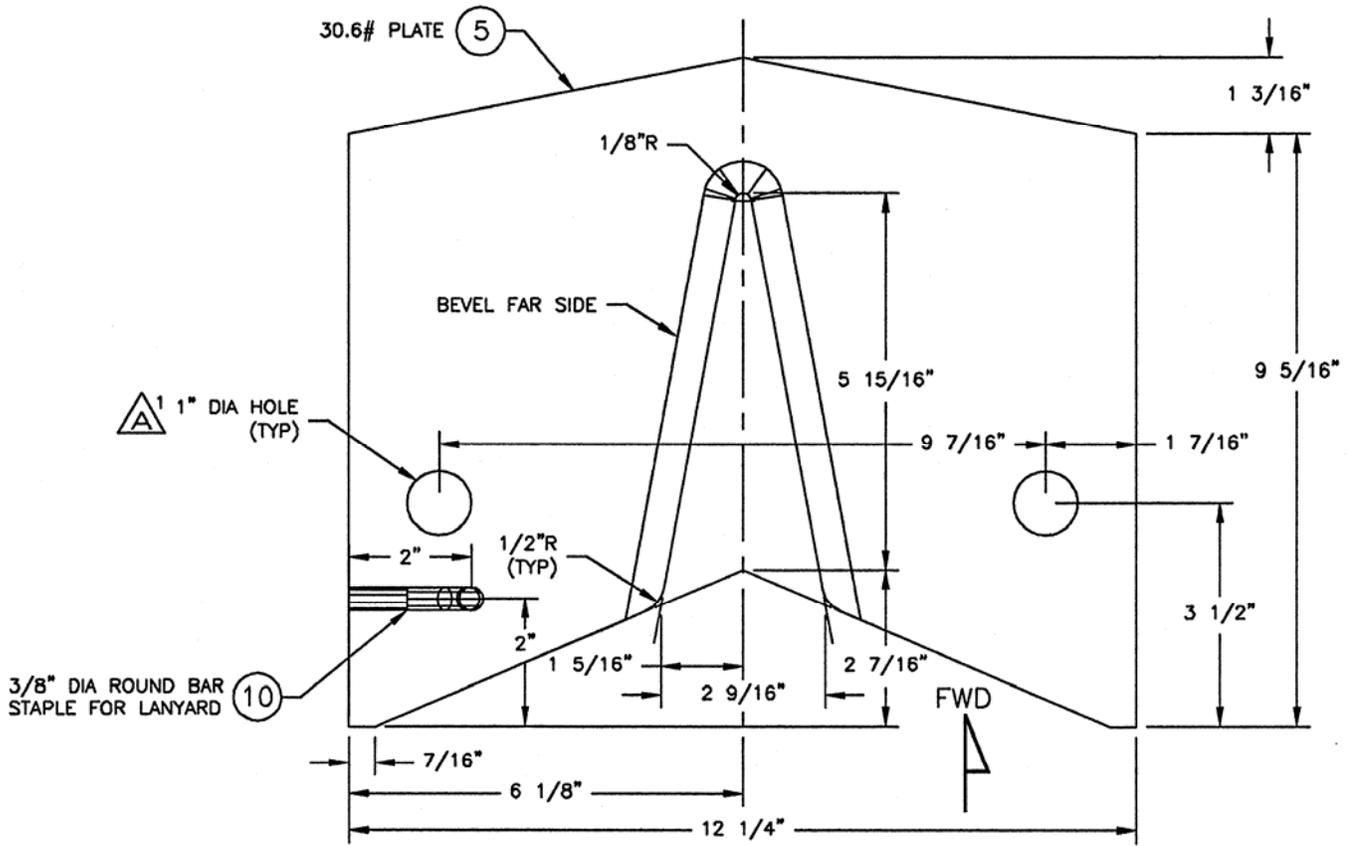
| Step | Action |
|------|---|
| 1 | Write "UNOFFICIAL DRAWING: FOR DRAFT REVISION PURPOSES ONLY" adjacent to the title block. |
| 2 | Retain previously shown data. <i>NOTE: It is important to retain the previously shown data, because it may be years before an engineering change is actually accomplished aboard a platform, and the operational and maintenance commands must have information that depicts their actual platform configuration in the interim.</i> |
| 3 | List a reason for the revision in the revision block. Example Replace bearing material part number 345687, see sheet 3. |
| 4 | Place the revision designator on the sheet being revised and in the revision block on page one of multi-sheet drawings. <i>NOTE: Letters are the most common revision designators, but if numbers have been used, then continue using numbers.</i> |
| 5 | Place a triangular revision symbol adjacent to all areas to be revised. |
| 6 | Hash out old portions and draw the new portions. Add additional sheets if necessary. <i>NOTE: This approach is especially effective when large portions of a drawing must be redrawn or the section to be redrawn is very small and contains many items. This approach also retains the old data for historical purposes.</i> |
| 7 | Send 4790CK and draft drawings to ELC (02T). |

Continued on next page

Revising a Drawing (Continued)

Detailed Revision Drawing

Below is an example of a detailed drawing revision with triangular revision symbols.



PLAN VIEW

DETAIL 10-E $\triangle A^1$

CHAIN PLATE

[6-A,11-A,15-A]

Practice Exercise

Exercise Instructions

Use this exercise to check your comprehension of the lesson material. The answers to the exercise will be in the feedback section.

Exercise 1

Matching the definition with the term

| | Term | Definition |
|-----------|---------------------------------|---|
| 1. _____ | Plan-Set Number | A. Contains revision notes and appears on sheet one. |
| 2. _____ | Publication and Manual Drawings | B. Contains the drawing title, drawing number, sheet number, and scale of the drawing. |
| 3. _____ | Engineering Drawings | C. Appears next to revised areas and may have a superscript. |
| 4. _____ | Original Drawings | D. Identified by sequential uppercase letters and may be sequential numbers. |
| 5. _____ | Reproducible Drawings | E. Constructed with less stringent requirements than engineering drawings. |
| 6. _____ | Title Blocks | F. Lists “US Coast Guard, Washington, D.C. 20593,” and the “Office of Naval Engineering.” |
| 7. _____ | Revision Designator | G. Stored at ELC (02T) and printed on Mylar or velum. |
| 8. _____ | Revision Block | H. Used for reference documentation, design alterations, and maintenance. |
| 9. _____ | Triangular Revision Symbol | I. MLCLANT and MLCPCAC maintain copies. |
| 10. _____ | Block A-Activity | J. It is incorporated into the drawing number and all platform class drawings are assigned one. |

Feedback

Exercise

Answers

The answers to the exercise are as follows:

| Question | Answer | Reference page |
|----------|--------|----------------|
| 1. | J | 2-10 |
| 2. | E | 2-5 |
| 3. | H | 2-5 |
| 4. | G | 2-7 |
| 5. | I | 2-8 |
| 6. | B | 2-11 |
| 7. | D | 2-12 |
| 8. | A | 2-13 |
| 9. | C | 2-14 |
| 10. | F | 2-9 |

Lesson 3

HOW TO RECORD MAINTENANCE ACTIONS

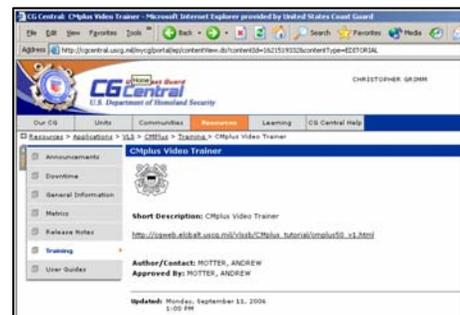
Overview

Introduction

CMplus is an on-line supply and maintenance system for updating and maintaining baseline configuration data and replacement materials. Using CMplus, you can access information relating to inventory, maintenance, requisitioning, and equipment history.

Maintenance Tasks (also known as Maintenance Task Execution, MTEs or Tasks) are used to schedule maintenance and track maintenance history. They are copies of Master Tasks scheduled for a specific date and assigned to a specific work center and billet. Anyone may review and update Maintenance Tasks assigned to his/her billet. With SCHED access privileges, you may update Maintenance Tasks across the entire Unit or by work center, procedure number, or CI.

You may wish to review the online video tutorial for CMplus available through CG Central.



Lesson Objective **RECORD** completed maintenance actions into the local unit's Coast Guard CMplus work management system.

References

The following references were used for this lesson:

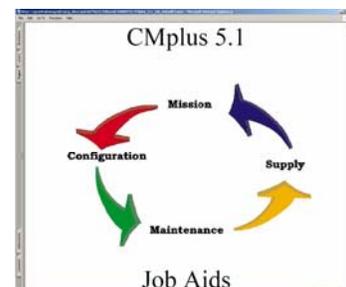
- *Electronics Manual*, COMDTINST M10550.25 (series)
- *Ordnance Manual*, COMDTINST M8000.2 (series)
- *CMplus 5.1 Job Aids*

Reviewing the CMplus 5.1 Job Aids

A comprehensive set of job aids for using CMplus is available through CG Central at the following address:

http://cgcentral.uscg.mil/uscg_docs/portal/MyCG/Editorial/20060731/CMplus_5.1_Job_Aid.pdf?contentId=1621506719&is_qualified=0

You should take a few minutes to access the above and become acquainted with the document's contents.



Continued on next page

CMplus Database Job Aid

Accessing and Using CMplus for Recording Maintenance Actions

The “Maintenance” section of the CMplus 5.1 Job Aids document presents step-by-step instructions for recording maintenance actions.

Follow the steps in the table below to access and use CMplus for these purposes:

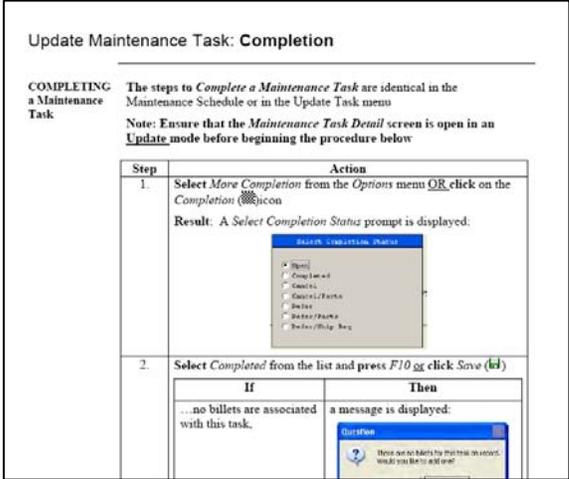
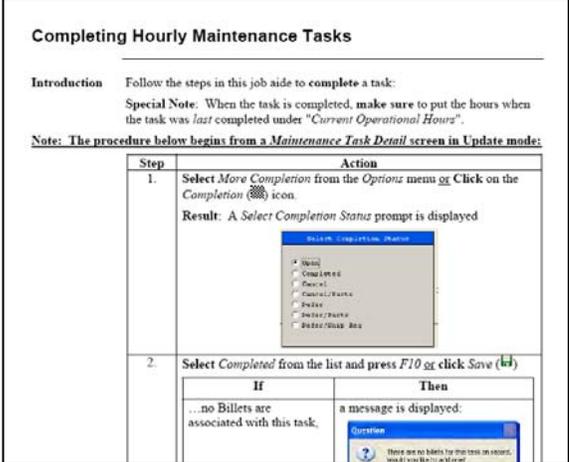
| Step | Action |
|------|--|
| 1. | Determine who is the CMplus System Administrator at your unit. |
| 2. | Contact your unit’s CMplus System Administrator and request that you be added as a User to the CMplus system. |
| 3. | Receive a CMplus User ID and Password from the unit CMplus System Administrator after you have been added as a User. |
| 4. | <p>On a CG standard workstation, click on <i>Start > All Programs > USCG Program Apps > CMplus > the CMplus icon</i> next to your unit’s name.</p>  |
| 5. | <p>Enter your User ID and Password into the dialogue box that appears and click OK.</p>  |
| 6. | From the Maintenance menu on the main CMplus screen that appears, select <i>Tasks > Update Tasks > Procedure Number</i> . The <i>Create Initial Request</i> screen appears. |

Continued on next page

CMplus Database Job Aid

Using CMplus (continued)

Continue to follow the steps in the table below to access and use CMplus to make Initial Requests for materials:

| Step | Action | | | | | | | | | | |
|--|--|------|--------|----|---|----|--|----|------|--|-------------------------|
| 7. | Enter a Maintenance Procedure number into the box that appears and press F10 OR click the OK icon. | | | | | | | | | | |
| 8. | Select a task from the Maintenance Task List that appears and press F10 OR click the OK icon. | | | | | | | | | | |
| 9. | From the Maintenance Task List Detail screen that appears, | | | | | | | | | | |
| <p><i>To complete a maintenance task</i></p> | <p>Follow the instructions that appear on page 2-24 of the Maintenance module of the CMplus 5.1 Job Aids document.</p>  <p>Update Maintenance Task: Completion</p> <p>COMPLETING a Maintenance Task The steps to <i>Complete a Maintenance Task</i> are identical in the Maintenance Schedule or in the Update Task menu Note: Ensure that the <i>Maintenance Task Detail</i> screen is open in an Update mode before beginning the procedure below</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Select <i>More Completion</i> from the <i>Options</i> menu OR click on the <i>Completion</i> (OK) icon Result: A <i>Select Completion Status</i> prompt is displayed:</td> </tr> <tr> <td>2.</td> <td>Select <i>Completed</i> from the list and press F10 OR click <i>Save</i> (OK)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>If</th> <th>Then</th> </tr> </thead> <tbody> <tr> <td>...no billets are associated with this task.</td> <td>a message is displayed:</td> </tr> </tbody> </table> | Step | Action | 1. | Select <i>More Completion</i> from the <i>Options</i> menu OR click on the <i>Completion</i> (OK) icon Result: A <i>Select Completion Status</i> prompt is displayed: | 2. | Select <i>Completed</i> from the list and press F10 OR click <i>Save</i> (OK) | If | Then | ...no billets are associated with this task. | a message is displayed: |
| Step | Action | | | | | | | | | | |
| 1. | Select <i>More Completion</i> from the <i>Options</i> menu OR click on the <i>Completion</i> (OK) icon Result: A <i>Select Completion Status</i> prompt is displayed: | | | | | | | | | | |
| 2. | Select <i>Completed</i> from the list and press F10 OR click <i>Save</i> (OK) | | | | | | | | | | |
| If | Then | | | | | | | | | | |
| ...no billets are associated with this task. | a message is displayed: | | | | | | | | | | |
| <p><i>To complete an hourly maintenance task</i></p> | <p>Follow the instructions that appear on page 3-1 of the Maintenance module of the CMplus 5.1 Job Aids document</p>  <p>Completing Hourly Maintenance Tasks</p> <p>Introduction Follow the steps in this job aide to complete a task: Special Note: When the task is completed, make sure to put the hours when the task was <i>last</i> completed under "<i>Current Operational Hours</i>". Note: The procedure below begins from a <i>Maintenance Task Detail</i> screen in Update mode:</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Select <i>More Completion</i> from the <i>Options</i> menu OR Click on the <i>Completion</i> (OK) icon. Result: A <i>Select Completion Status</i> prompt is displayed</td> </tr> <tr> <td>2.</td> <td>Select <i>Completed</i> from the list and press F10 OR click <i>Save</i> (OK)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>If</th> <th>Then</th> </tr> </thead> <tbody> <tr> <td>...no Billets are associated with this task.</td> <td>a message is displayed:</td> </tr> </tbody> </table> | Step | Action | 1. | Select <i>More Completion</i> from the <i>Options</i> menu OR Click on the <i>Completion</i> (OK) icon. Result: A <i>Select Completion Status</i> prompt is displayed | 2. | Select <i>Completed</i> from the list and press F10 OR click <i>Save</i> (OK) | If | Then | ...no Billets are associated with this task. | a message is displayed: |
| Step | Action | | | | | | | | | | |
| 1. | Select <i>More Completion</i> from the <i>Options</i> menu OR Click on the <i>Completion</i> (OK) icon. Result: A <i>Select Completion Status</i> prompt is displayed | | | | | | | | | | |
| 2. | Select <i>Completed</i> from the list and press F10 OR click <i>Save</i> (OK) | | | | | | | | | | |
| If | Then | | | | | | | | | | |
| ...no Billets are associated with this task. | a message is displayed: | | | | | | | | | | |

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Practice Exercise

Exercise Use this exercise to check your comprehension of the lesson material.
Instructions The answers to the exercise will be in the feedback section.

1. What is the on-line supply and maintenance system for updating and maintaining baseline configuration data and replacement materials?

2. What are Maintenance Tasks also known as?

3. What is the first step in accessing and using CMplus for recording maintenance actions?

Feedback

Exercise

Answers

The answers to the exercise are as follows:

| Question | Answer | Reference page |
|-----------------|---------------------------------------|-----------------------|
| 1. | CMplus | 3-1 |
| 2. | Maintenance Task Execution | 3-1 |
| 3. | Determine CMplus System Administrator | 3-2 |

Lesson 4

HOW TO AUDIT SAFETY LOCK-OUT/TAG-OUT LOG

Overview

Introduction Standardized tag-out procedures for Coast Guard cutters and boats, further customized by each unit, are used to ensure the safety of personnel and to prevent improper operation of systems or equipment when the system or equipment is isolated or in an abnormal condition because of preventive maintenance or a casualty. Locking out is the preferred method of safeguarding against inadvertent operation of the switch.

Tag-out procedures for cutters and boats are governed by *Equipment Tag-Out Procedure* (COMDTINST 9077.1C), and lock-outs at shore units by OSHA regulations.

Lesson Objective Given the local unit's safety lock-out and/or tag-out logs, **AUDIT** the logs in accordance with established Coast Guard and OSHA regulations.

References The following references were used for this lesson:

- *Electronics Manual*, COMDTINST M10550.25 (series)
 - *Equipment Tag-Out Procedure*, COMDTINST 9077.1C
-

Audit Requirements The cognizant department head is responsible for ensuring that checks and audits of all tag-outs are performed once every two weeks.

It is recommended that abbreviated audits also be conducted as part of routine watch relief.

Tag-Out Audit Procedures Review and refer to *Equipment Tag-Out Procedure* (COMDTINST 9077.1C) as necessary during the audit process outlined below:

| Step | Action |
|------|---|
| 1. | Gather and review all applicable tag-out logs and record sheets at your unit. |
| 2. | <p>Check all active tags/labels listed in the Tag-Out Logs for correct installation by visually comparing the information on the Tag-Out Record Sheets, Tag-Out Index, and the Instrument Log with the tag/label on the item for which the tag is posted.</p> <p>Note: <i>When a valve or switch position is prescribed, a visual check that the item is in the tagged position/condition will be made unless removal of a cover, cap, or closure is required. No operation of a valve or switch is authorized as part of a routine tag-out audit.</i></p> |

Continued on next page

The Audit Process

Tag-Out Audit Procedures (continued)

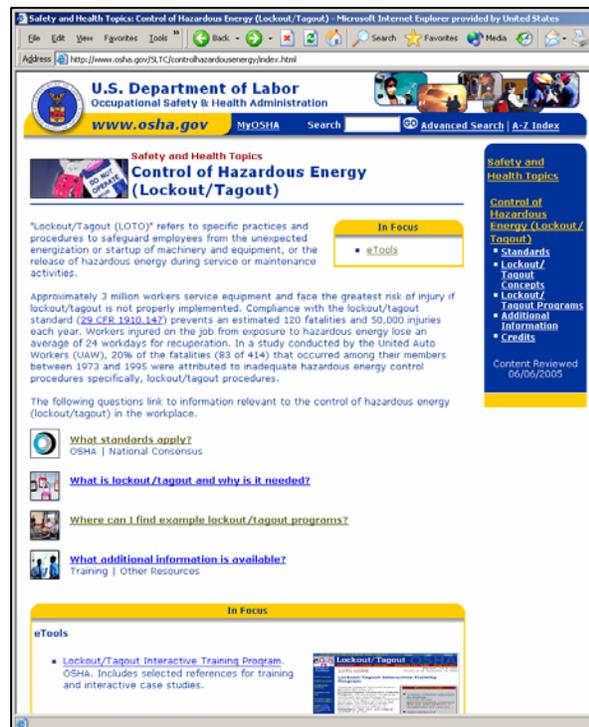
Review and refer to *Equipment Tag-Out Procedure* (COMDTINST 9077.1C) as necessary during the continued audit process outlined below:

| Step | Action |
|------|--|
| 3. | <p>Replace a missing or damaged tag by annotating the DANGER/CAUTION Tag-Out Record Sheet that the tag is missing or damaged.</p> <ul style="list-style-type: none"> • Make the annotation in the “Clearance/Position Condition” column, on the line corresponding to the tag number. • Following tag-out procedures, issue a new tag using the next sequential number on the DANGER/CAUTION Tag-Out Record Sheet. |
| 4. | Note any audit discrepancies on the DANGER/CAUTION Tag-Out Record Sheet; sign and date below the last entry. |
| 5. | After all DANGER/CAUTION Tag-Out Record Sheets have been audited, ensure that the individual responsible for the Tag-Out Log signs and dates the DANGER/CAUTION Tag-Out Index and Record of Audits and notes the number of active tags. |

Lock-Out Audit Procedures

As noted above, safety lock-out procedures at shore units are governed by OSHA regulations. Refer to the relevant OSHA website for detailed guidance:

<http://www.osha.gov/S LTC/controlhazardous energy/index.html>



Practice Exercise

Exercise

Use this exercise to check your comprehension of the lesson material.

Instructions

The answers to the exercise will be in the feedback section.

1. How often are checks and audits of all tag-outs performed?

2. What governs lock-out procedures at shore units?

3. When should abbreviated tag-out audits be conducted?

Feedback

Exercise

Answers

The answers to the exercise are as follows:

| Question | Answer | Reference page |
|-----------------|-----------------------------------|-----------------------|
| 1. | Once every two weeks | 4-1 |
| 2. | OSHA Regulations | 4-1 |
| 3. | As part of a routine watch relief | 4-1 |

Appendix A

PAMPHLET REVIEW QUIZ

1. What unit provides supply support for Navy publications, instructions, directives, technical manuals, and other digital documents?
 - A. NLL
 - B. NIL
 - C. NEL
 - D. NDL

2. Sheet 1 of a multi-sheet drawing contains all but which of the following?
 - A. Sheet Index
 - B. Title Block
 - C. Author's Signature
 - D. Revision Block

3. What type of drawings describe hull, mechanical, electrical (HM&E), ordnance, and electronic systems and equipment installed on Coast Guard platforms?
 - A. Platform Drawings
 - B. Engineering Drawings
 - C. Fleet Drawings
 - D. Contract Guidance Drawings

4. What symbol appears next to revised areas and may have a superscript?
 - A. Square Revision Symbol
 - B. Rectangular Revision Symbol
 - C. Triangular Revision Symbol
 - D. Circular Revision Symbol

5. Who maintains copies of reproducible drawings?

6. Original drawings are printed on Mylar or velum and stored where?

7. On drawings, what is identified by sequential uppercase letters?

8. What on-line supply and maintenance system is used for updating and maintaining baseline configuration data and replacement materials?

9. The cognizant department head is responsible for ensuring that checks and audits of all tag-outs are performed once every _____ week(s).

10. Safety lock-out procedures at shore units are governed by _____.

Appendix B
PAMPHLET REVIEW QUIZ – ANSWER KEY

| Question | Answer | Reference page |
|-----------------|-------------------------------|-----------------------|
| 1. | A. NLL | 1-1 |
| 2. | C. Author's Signature | 2-2 |
| 3. | B. Engineering Drawings | 2-5 |
| 4. | C. Triangular Revision Symbol | 2-14 |
| 5. | MLCLANT and MLCPAC | 2-8 |
| 6. | ELC (02T) | 2-7 |
| 7. | Revision Designator | 2-12 |
| 8. | CMplus | 3-1 |
| 9. | Two | 4-1 |
| 10. | OSHA regulations | 4-1 |

Appendix C

GLOSSARY

| | |
|---|---|
| American National Standard Institute (ANSI) | Private, nonprofit membership organization supported by a diverse constituency of private and public sector organizations that provide a national standard for all blue prints including ship’s drawings. |
| American Society for Mechanical Engineers (ASME) | Nonprofit educational and technical organization that provides a national standard for all blue prints including ship’s drawings. |
| Bill (List) of Material | Contains the part number, name of material, the reference designator as it relates to the drawing, and the quantity. |
| Legend | A key explaining what the different drawing elements represent. |
| Platform Class | <p>A group of cutters, vessels, and/or standard boats belonging to a specific class:</p> <ul style="list-style-type: none"> • 110’ “C” Class WPB—110 C-WPB • 225’ “B” Class Ocean Going Buoy Tender—225 WLB |
| Revision Block | Contains revisions to the drawing and is generally located in the upper right hand corner of sheet one. |
| Sheet Index | A table in the lower left hand corner of sheet 1 of a multi-sheet drawing identifying the items on each sheet. |

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