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TECHNICAL MANUAL

NAVSEA ENGINEERING DRAWING LIFE-CYCLE MANAGEMENT PROCESS

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CHAPTER 1

OVERVIEW OF MANUAL

1.0 PURPOSE.

The NAVSEA Engineering Drawing Life-Cycle Management Process Manual contains implementing guidance and activity responsibilities for the life-cycle management of engineering drawings and associated data within the Naval Sea Systems Command. Requests for permission to depart from the guidance or responsibilities prescribed in this manual will be submitted to NAVSEA 04L.

1.1 SCOPE.

This manual applies to the identification, indexing, digitization, storage, locating, accessing, ordering, distribution, disposal, and life-cycle management of all NAVSEA-cognizant engineering drawings, including all sensitive and Naval Nuclear Propulsion Information (NNPI) (i.e., Not Releasable to Foreign Nationals (NOFORN)) drawings and associated data. Policy regarding the marking and handling of classified and unclassified drawings and associated data is contained in references (ah) and (al) in Appendix C.

1.2 STRUCTURE OF MANUAL.

This manual contains the guidance for executing the life-cycle management of NAVSEA engineering drawings. The major elements of the engineering drawing management process are addressed in separate chapters. Individual activity responsibilities and actions for each element are described in detail.

1.3 ENGINEERING DRAWING REPOSITORIES.

A list of the current NAVSEA engineering drawing repositories is presented in Appendix A.

1.4 NAVSEA CONTINUITY OF OPERATIONS PLAN (COOP).

A copy of the NAVSEA Continuity of Operations Plan (COOP) is presented in Appendix B.

1.5 APPLICABLE DOCUMENTS, REFERENCES, ACRONYMS, AND DEFINITIONS.

Applicable documents and references are contained in Appendix C. A list of acronyms from this manual is contained in Appendix D. Terms and definitions used in the life-cycle management of engineering drawings are contained in Appendix E.

CHAPTER 2

ENGINEERING DRAWINGS AND ASSOCIATED DATA

2.0 ENGINEERING DRAWINGS AND ASSOCIATED DATA.

A drawing is an engineering document or digital data file(s) that discloses (directly or by reference) by means of graphic or textual presentations, or combinations of both, the physical and functional requirements of an item. Associated data can be engineering data such as drawings, associated lists, accompanying documents, manufacturer specifications and standards, or other information prepared by a design activity and relating to the design, manufacture, procurement, test, or inspection of items.

2.1 PARTICIPANTS AND RESPONSIBILITIES.

The key participants and their responsibilities in the engineering drawing management process are identified in NAVSEAINST 9085.2B, Engineering Drawing Acquisition and Life-Cycle Management Policy and Responsibilities, and the succeeding chapters of this manual.

2.2 ENGINEERING DRAWING MANAGEMENT PROCESS.

The engineering drawing management process involves the identification, maintenance, update, digitization, storage, locating, access, distribution or delivery, and disposal of engineering drawings. There are several Department of Defense (DoD) Continuous Acquisition and Life-Cycle Support (CALS) infrastructure systems used by Navy activities to automate these functions. The Military Engineering Data Asset Locator System (MEDALS), an Automated Information System (AIS) that indexes DoD engineering drawings, provides the capability to help users locate a specific drawing. The Joint Engineering Drawing Management and Information Control System (JEDMICS) provides the capability to scan and store engineering drawings and other related data and provides near-immediate on-line access at distributed workstations. JEDMICS converts, stores, protects, processes, locates and retrieves drawing information previously contained on aperture cards, magnetic tape, CD-ROM and Computer-Aided Design (CAD) systems. JEDMICS is officially recognized by the Department of the Navy (DON) as a digital data repository. The Joint Computer-aided Acquisition and Logistics Support (JCALS) Program deploys a set of tools which help users to develop and manage technical manuals and work folders and electronically gives users access to data stored at geographically dispersed repository systems. The JCALS infrastructure employs an approved DoD security solution to control access to unclassified, but sensitive digital data. Data repositories and systems will be certified and accredited to handle data to the proper classification and sensitivity level. For example, NNPI data will only be placed in data repositories and systems (including drawing index systems) that are certified and accredited to handle this NOFORN data. Users should check with their local Information Security personnel to confirm that a system has been certified and accredited for NOFORN information. Questions related to the specific NOFORN protection requirements of reference (al) should be directed to NAVSEA 08.

2.2.1 ENGINEERING DRAWING MAINTENANCE AND INDEXING. Each designated Engineering Drawing Maintenance Activity (EDMA) is responsible for the life-cycle management of its assigned cognizant NAVSEA drawings. The EDMA will maintain its drawings current and provide approved baseline and updated copies of drawing data to the established engineering drawing data repository. Each repository will maintain an automated drawing index system which identifies all cognizant drawings and revision levels for the drawings it is responsible for storing. These drawings could be in digital or non-digital format. The drawing index data will agree with the drawings stored in the repository. JEDMICS repositories will electronically provide periodic drawing Meta (index) data update to the JCALS Global Data Management System (GDMS) server. JEDMICS repositories will provide electronically a specific set of drawing index data directly to MEDALS. This capabil-

ity currently exists for all JEDMICS systems. MEDALS will not populate drawing index data in JCALS GDMS. Non-JEDMICS repositories will be required to forward electronically and periodically a copy of their drawing data index to MEDALS. Users can query MEDALS on-line to locate and order copies of engineering drawings in single or via batch high volume searches. Figure 2-1 depicts the process for the loading/filing and indexing of unclassified engineering drawings.

2.2.2 DIGITAL AND NON-DIGITAL ENGINEERING DRAWING REPOSITORIES. The increased use of digital data has reduced the need for a large number of engineering drawing storage sites but has increased the customer demands upon existing decentralized storage facilities. As appropriate, each repository maintains specific levels of engineering drawing data, i.e., platform or system/equipment level. Engineering drawings are currently stored in both hard copy and digital format. Hard copy formats include paper, mylar or aperture cards. Digital drawing data formats include both raster and vector. Digital drawing data is primarily stored in JEDMICS systems or in other non-JEDMICS digital data storage systems, such as vendor data repositories or in native CAD systems.

a. SHORE-BASED JEDMICS SYSTEMS. Shore-based JEDMICS systems electronically provide periodic drawing Meta (index) data update to the JCALS GDMS server. All JEDMICS repositories will provide electronically a specific set of drawing index data directly to MEDALS. This capability currently exists for all JEDMICS systems. Non-JCALS and non-PC JEDMICS users will need to query MEDALS on-line via dial up means to locate and electronically order a digital or non-digital copy of the drawing from a cognizant repository.

b. SHORE-BASED NON-JEDMICS SYSTEMS. Shore-based non-JEDMICS systems operate within their own local area networks, and most are not currently interconnected with JCALS GDMS and MEDALS systems. CAD-generated 2D vector drawings are normally stored in numerous native CAD systems which serve as local repositories for storing master 2D vector images. These systems also have no wide area interconnectivity.

c. SHIPBOARD DIGITAL DATA LIBRARY SYSTEM. The Advanced Technical Information Support (ATIS) System is the Navy designated user presentation system designed to place current and accurate digital technical data into shipboard and squadron users' hands. Shipboard ATIS provides the Fleet with a standard retrieval method for digital technical data. The user retrieves data on simple-to-use CD-ROM optical disks. The ATIS database and jukebox can be set up to emulate a shore-based JEDMICS repository for use within the JCALS environment. ATIS currently provides a Generic Ships Drawing Index (SDI) Module that is designed to accommodate all of the SDI fields that are typically used by any surface ship or submarine class. This module provides ATIS users with the capability to search for a specific engineering drawing.

2.2.3 ENGINEERING DRAWING ACCESS, RETRIEVAL, AND DISTRIBUTION. All who request a copy of an engineering drawing must first query the applicable Configuration Management (CM) System to research and confirm the drawing number for electronic retrieval or to order from the applicable repository. Once the drawing number is known, several applications aid the user to locate the drawing electronically. JCALS users will use the GDMS on their desktop to locate, view, and retrieve the desired engineering drawing from a digital data repository, such as JEDMICS. If GDMS fails to locate a specific engineering drawing, JCALS users will be able to launch MEDALS from their desktop to locate and order the drawing. Local PC JEDMICS users with a PC account will be able to directly access their local JEDMICS repository to obtain a copy of the drawing. Non-JCALS and non-PC JEDMICS users can query MEDALS on-line via dial up means to locate and electronically order a digital or non-digital copy of the drawing from a cognizant repository. MEDALS provides the location(s) where the drawing is stored and supports an electronic drawing order request feature to permit users to initiate an order request for a drawing distributed on hardcopy media (i.e., aperture card, paper, and mylar) and electronic media (i.e., CD-ROM). MEDALS will not provide the actual drawing data file. The cognizant repository can also

be requested directly for copies of drawings. For all operational ships, copies of ship class drawings will continue to be maintained and distributed via ATIS CDs. The data source for these drawing images will be the applicable ship class drawing repository. Figure 2-2 displays the process for users to request unclassified drawings via JCALS to multiple digital data repositories. Figure 2-3 depicts the process for users to request unclassified drawings via PC JEDMICS to a single repository. Figure 2-4 illustrates the process for users to request classified and unclassified drawings via MEDALS. Special requirements for handling classified drawings and associated data are contained in reference (ah) in Appendix C. Figure 2-5 depicts the process for ship classes which have a Shore-based Integrated Product Data Environment (IPDE), such as is being used for the LPD-17 Class.

2.2.4 CONTINUITY OF OPERATIONS PLAN. All digital drawing data repositories should have a COOP in place which defines a set of procedures to ensure that the drawing repository's system can meet mission-critical operational requirements in the event of a significant compromise to its normal working environment. A system's COOP should exceed a routine backup of system data and provisions to deal with catastrophic disruptions, such as those caused by natural disasters. To ensure complete protection from media damage or network outages and partial protection from software and equipment damage, repositories should send latest available copies of their data to a relatively distant COOP site.

2.2.5 DRAWING CONVERSION. NAVSEA has converted thousands of legacy engineering drawings from an aperture card format to a non-intelligent digital form (i.e., raster). Most of this work was accomplished during the early 1990's through bulk conversion efforts. NAVSEA has also converted selected raster images to a more intelligent digital format (i.e., vector). The raster images were indexed and stored on optical media in JEDMICS electronic storage systems. New drawings are being developed and maintained in local native CAD (vector) format. As drawings are created or modified, approved versions are being converted to raster and both the image and associated index data are synchronized to reflect any new revision levels. JEDMICS tools do this for the user. As the data structure index is updated, the revision history is tracked. This provides a way to identify and retrieve previous baselines such as the "as built" and "as modified" configurations. Each JEDMICS repository also electronically sends a copy of the engineering drawing index information or Meta data to JCALS GDMS and to MEDALS.

2.2.6 FUTURE PROCESS ENHANCEMENTS. There will be more integration between all systems to make the process of researching, locating, and retrieving a digital engineering drawing seamless and transparent to the user. The desktop PC (using web technology with required information security) will allow users to electronically access the applicable CM system, capture the drawing identification information, and provide direct data retrieval from a remote data repository.

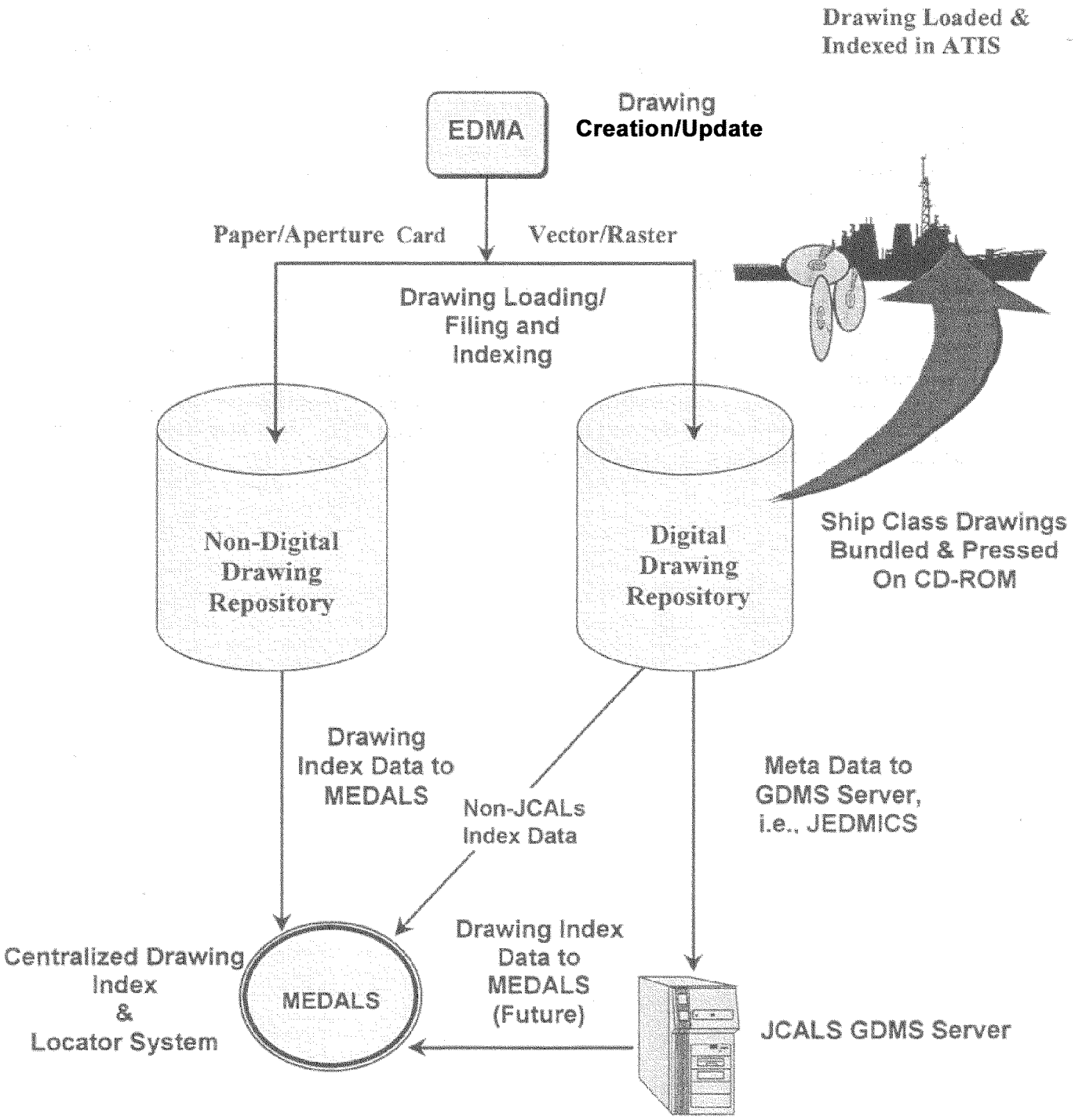

Figure 2-1. Engineering Drawing Loading/Filing and Indexing

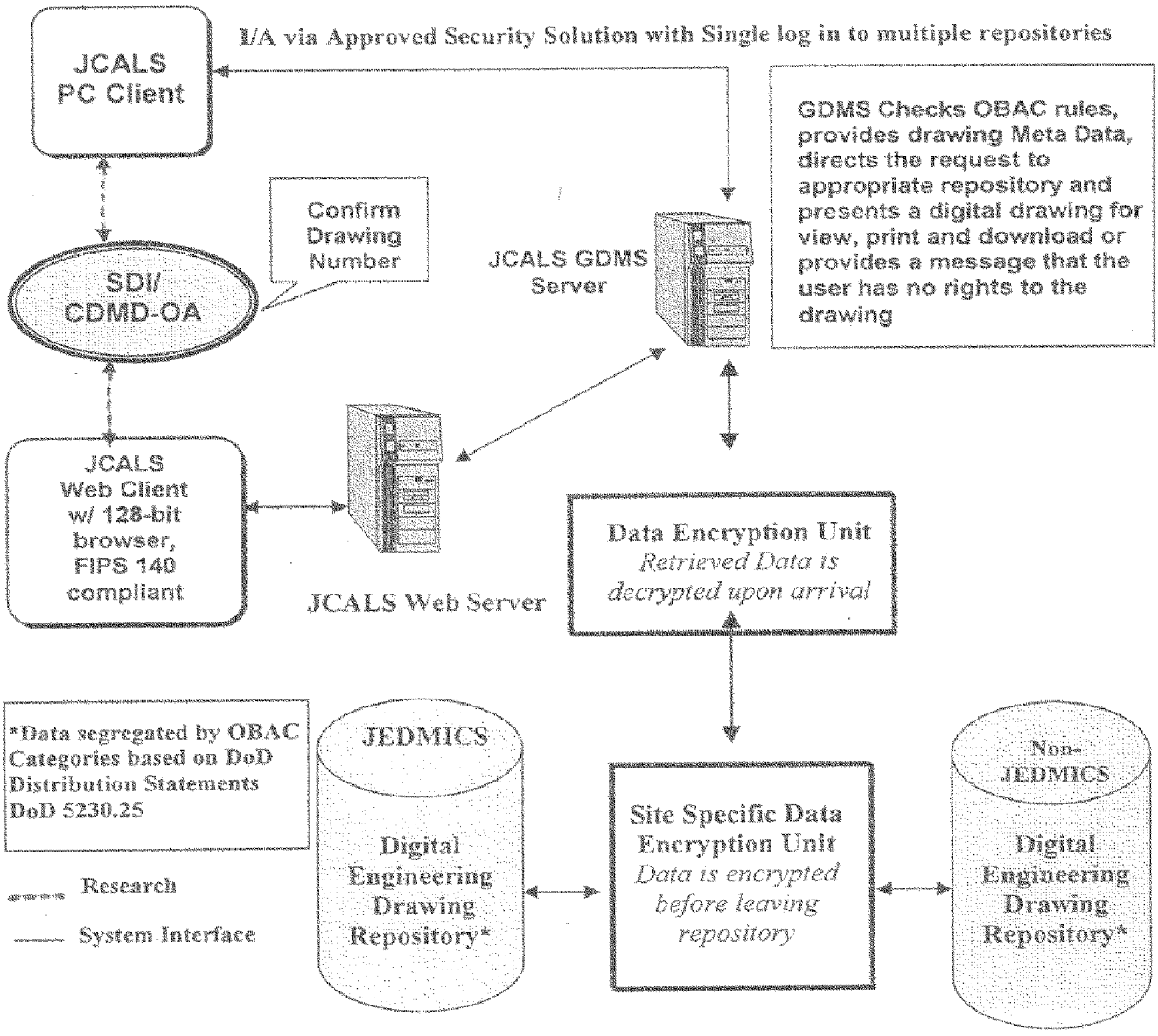

Figure 2-2. Engineering Drawing Requests via JCALS to Multiple Digital Data Repositories

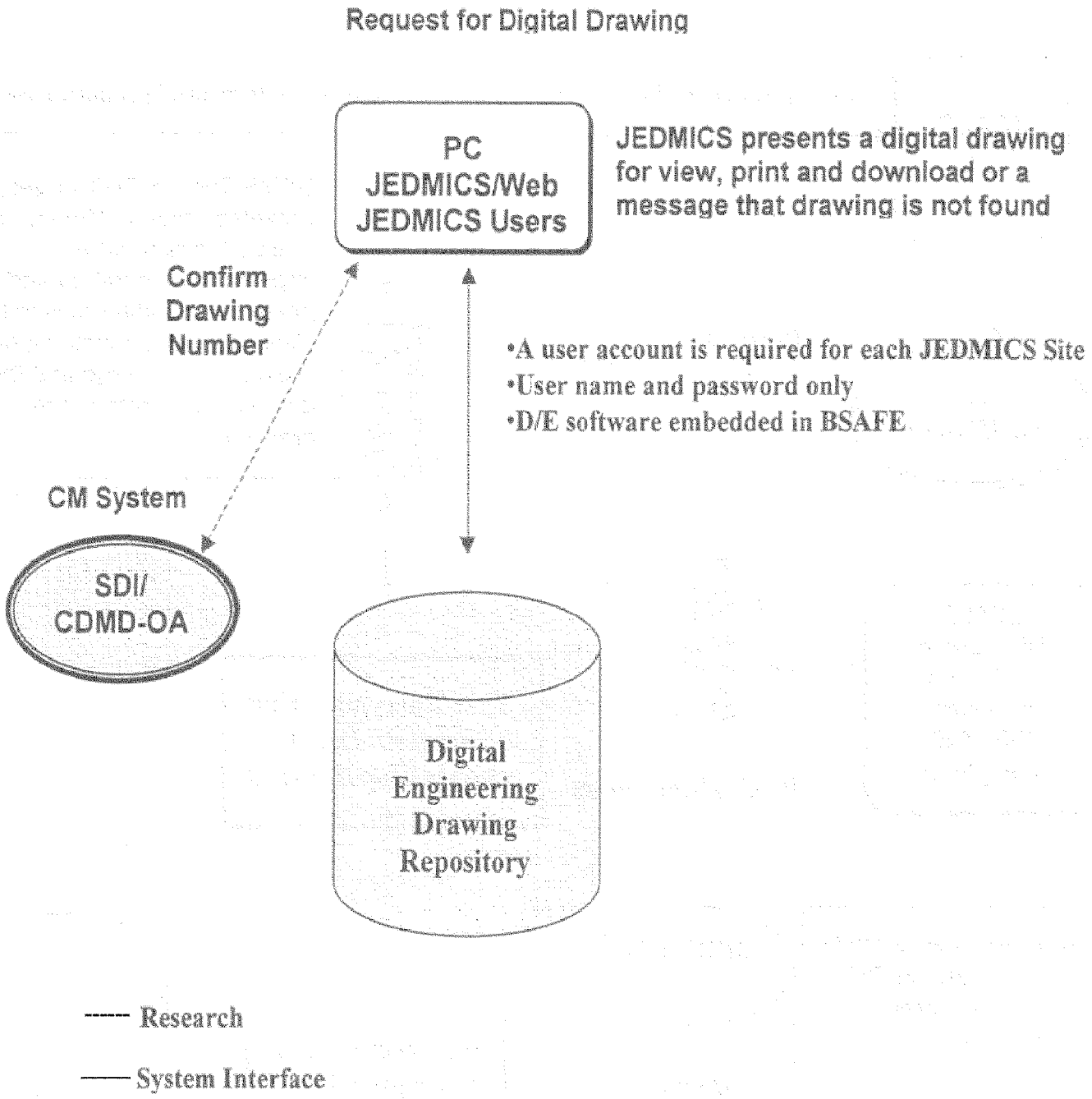

Figure 2-3. Engineering Drawing Requests via PC JEDMICS to a Single Repository

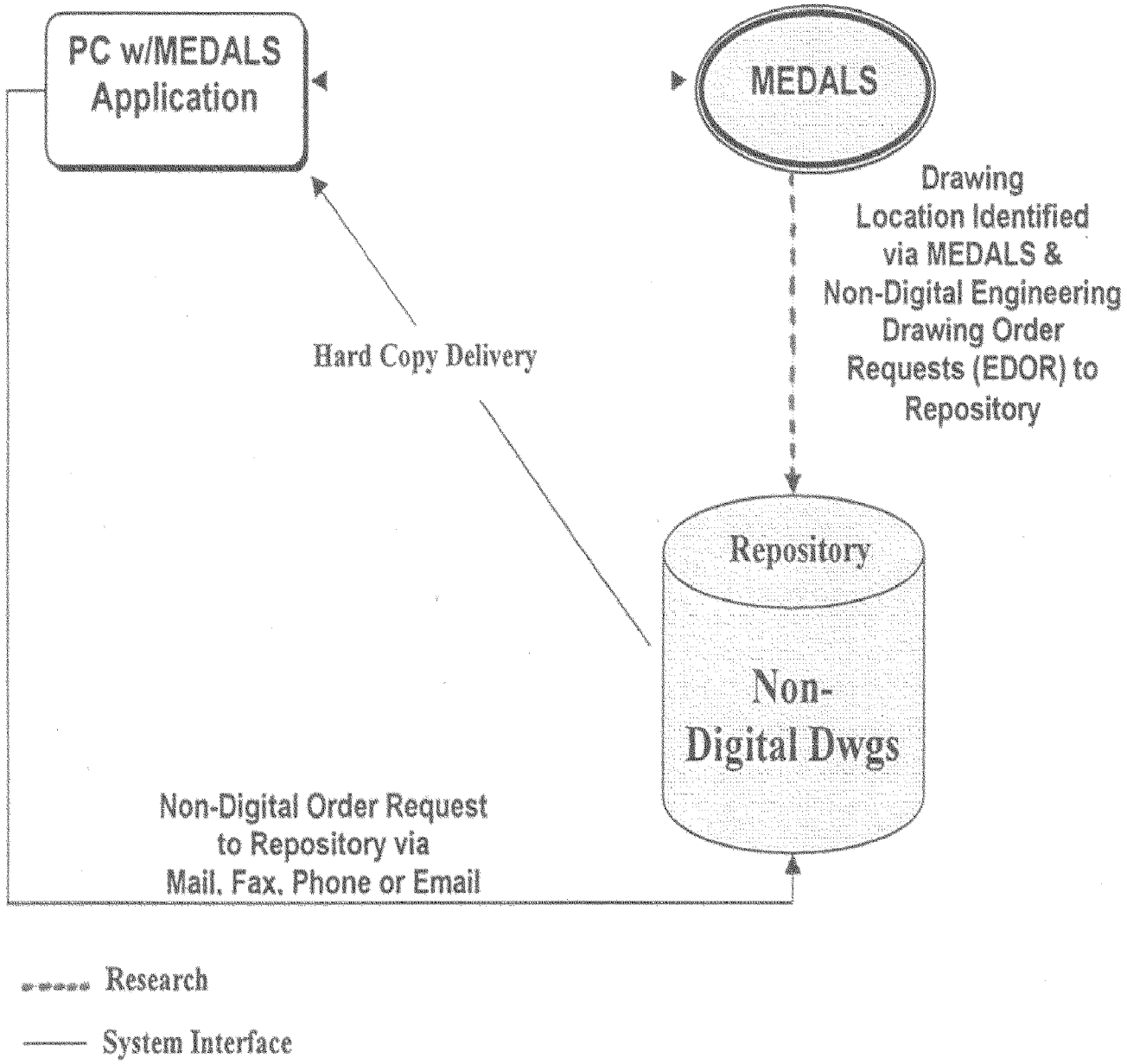

Figure 2-4. Engineering Drawing Requests via MEDALS

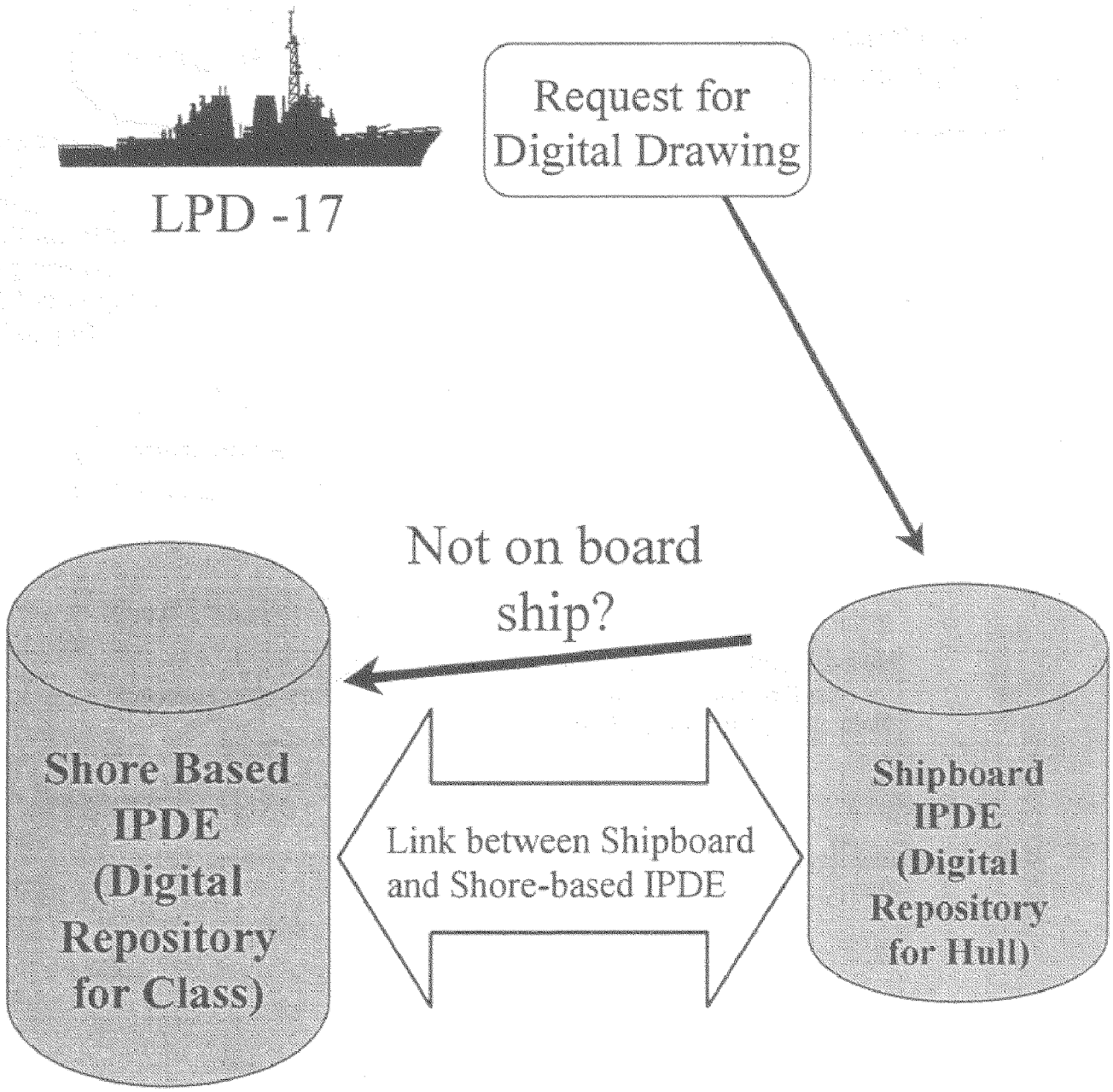

Figure 2-5. Engineering Drawing Requests via Shipboard IPDE

CHAPTER 3

ENGINEERING DRAWING NUMBER ASSIGNMENT

3.0 ENGINEERING DRAWING NUMBER ASSIGNMENT.

A unique number must be assigned to each NAVSEA engineering drawing and associated list to facilitate the effective acquisition and life-cycle management of the document. This chapter describes the actions required to assign and maintain unique NAVSEA engineering drawing numbers. The assignment of all NAVSEA drawing numbers is controlled by this chapter. All NAVSEA drawings are assigned Cage Code 53711. This chapter applies to classified and unclassified drawings and associated data.

3.1 ENGINEERING DRAWING NUMBER ASSIGNMENT RESPONSIBILITIES.

3.1.1 SEA 04L23

a. Establish policy and guidance for the assignment of engineering drawing numbers.

b. Provide assistance to requesting activities upon request.

c. Process requests for drawing number assignment and assign numbers in blocks.

d. Provide engineering drawing numbers (in blocks) to Requesting Activity Point of Contact (POC)

e. Maintain a record of issued and returned blocks of engineering drawing numbers.

f. Process the return of unused engineering numbers; when practical, reassign returned numbers.

3.1.2 PROGRAM MANAGER (PM)/PROGRAM EXECUTIVE OFFICE (PEO)

a. Require Program support activities to obtain, use, or return unused engineering drawing numbers in accordance with this procedure.

b. Obtain drawing numbers from SEA 04L23, except for Installation Control Drawings (ICDs) for shipboard electronic equipment. NAVSEA drawing numbers for ICDs are assigned by the ICD repository listed in Appendix A (Naval Undersea Warfare Center Division (NAVUNSEAWARCENDIV), Newport). Assignment of ICDs has been delegated to this one repository from a block of numbers provided by SEA 04L23.

3.1.3 REQUESTING ACTIVITY

a. Designate a single drawing number assignment POC to perform all Requesting Activity actions.

b. Develop and maintain procedures for the local control of the request, use, or return of engineering drawing numbers.

c. Complete and submit to SEA 04L23 the request portion of the form (Part I) presented in Figure 3-1 to request engineering drawing numbers. Assignment requests can be submitted electronically or by Fax.

d. Use assigned engineering drawing numbers.

e. Complete and submit to SEA 04L23 the return portion of the form (Part III) presented in Figure 3-1 to return unused engineering drawing numbers.

f. Maintain local records of all assignments and status changes affecting engineering drawing numbers.

g. Inform the applicable EDMA as drawing numbers are used or change status.

PART I - NUMBER REQUEST **REQUEST DATE*:** _____

Quantity of Numbers Requested*: _____

NOTES:
1. Base request on estimated three-month requirement.
2. Return unused numbers via Part III.
3. All NAVSEA engineering drawings will bear CAGE Code 53711.

Requester:

Name*: _____ Code*: _____ Phone*: ___/___-____
Address*: _____ UIC*: _____ FAX*: ___/___-____
_____
_____ E-mail: _____

Program Manager (if not requester):

Name*: _____ Code*: _____ Phone*: ___/___-____
Address: _____ UIC: _____ FAX: ___/___-____
_____
_____ E-mail: _____

Contracting Officer (if requester is private industry):

Name*: _____ Code*: _____ Phone: ___/___-____
Address: _____ UIC*#: _____ FAX: ___/___-____
_____
_____ E-mail: _____

* Mandatory entry
# If requester does not have a UIC

PART II - NUMBER ASSIGNMENT (FOR SEA 04L235 USE) **ASSIGNMENT DATE:** _____

Your office has been assigned NAVSEA engineering drawing numbers
_____ Through _____.

PART III - NUMBER RETURN **RETURN DATE:** _____

Drawing numbers _____ through _____
have not been used and will not be used by this office. Please reissue them.

Print Name of Govt. POC	Code	Signature	Phone	Date
_____	_____	_____	_____	_____

ADDRESS QUESTIONS AND NUMBER REQUESTS/RETURNS TO SEA 04L235 AT:

Voice:
(DSN) 326-3299
(Commercial) 202-781-3299

FAX:
202-781-4604

U.S. Mail
COMMANDER
NAVAL SEA SYSTEMS COMMAND
ATTN 04L235 (GEORGE CECCHETTI)
1333 ISAAC HULL AVENUE SE STOP 4063
WASHINGTON NAVY YARD DC 20376-4063

Figure 3-1. NAVSEA Engineering Drawing Number Assignment Processing Form

CHAPTER 4

ENGINEERING DRAWING DIGITIZATION

4.0 ENGINEERING DRAWING DIGITIZATION.

The digitization of NAVSEA legacy drawings involves the identification, selection, and conversion of large quantities of documents from paper or aperture cards to digital format. It also covers the bulk conversion of digitized drawings from a less intelligent to a more intelligent digital format, such as from raster to vector. The conversion of small numbers of drawings is to be handled on a case basis by the EDMAs and does not fall under the purview of this instruction. This chapter applies to classified and unclassified drawings and associated data.

4.1 ENGINEERING DRAWING DIGITIZATION RESPONSIBILITIES.

4.1.1 SEA 04L

a. Maintain policy and establish priorities for bulk conversion of engineering drawings from non-digital or other digital form.

b. Identify bulk conversion funding requirements early enough to support Program Objective Memorandum (POM) requirements annually and establish priorities for bulk conversion of engineering drawings with the cognizant PM/PEO/EDMA.

c. Coordinate and manage all bulk conversion requirements and planned actions.

d. Identify a Command-designated Bulk Conversion Agent (BCA).

4.1.2 PROGRAM MANAGER (PM)/PROGRAM EXECUTIVE OFFICE (PEO)

a. Designate and task data maintenance activities (e.g., EDMAs) to convert legacy and/or maintain current engineering drawings in digital format in accordance with references (x) and (z) in Appendix C.

b. Ensure all procurement contracts include requirements in accordance with references (x) and (z) in Appendix C to procure and deliver engineering drawings in digital format.

4.1.3 ENGINEERING DRAWING MAINTENANCE ACTIVITY (EDMA)

a. As directed and tasked by the applicable PM/PEO, select, assemble and submit prioritized engineering drawing data to the Command-designated BCA.

b. Perform quality checks on delivered converted data files. Ensure data is complete, accurate and functional in end user environment. Inform applicable PM/PEO of any problems and work with the BCA to resolve discrepancies.

c. Store and maintain vector-formatted data on a native CAD system. The vector-formatted files may also be stored in JEDMICS.

d. Provide digital data files of all cognizant engineering drawings and follow-on updates to the engineering drawing repository.

CHAPTER 5

ENGINEERING DRAWING DATA STORAGE

5.0 ENGINEERING DRAWING DATA STORAGE.

In recent years, greater use of digital data has decreased the need for a large number of engineering drawing storage sites (repositories) and has increased the customer demands upon existing decentralized storage facilities. The goal of a Navy repository is to provide timely and accurate drawing data to users in support of their life-cycle operational, maintenance, repair and acquisition requirements and actions, and their preparation and update of other technical documents and publications. As appropriate, each repository maintains specific levels of engineering drawing data, i.e., platform or system/equipment level. Engineering drawings are currently stored in both hard copy and digital format. Hard copy formats include paper, mylar or aperture cards. Digital drawing formats include both raster and vector. Digital drawing data is primarily stored in JEDMICS systems or in other non-JEDMICS digital data storage systems, such as vendor data repositories or in Native CAD Systems. This chapter applies to unclassified drawings and associated data. Special requirements for the storage of classified drawings and associated data are contained in reference (ah) in Appendix C.

5.1 ENGINEERING DRAWING DATA STORAGE RESPONSIBILITIES.

5.1.1 SEA 04L

a. Establish and maintain policy and guidance on engineering drawing storage.

b. Coordinate the development and maintenance of the NAVSEA Continuity of Operations Plan (COOP).

5.1.2 PROGRAM MANAGER (PM)/PROGRAM EXECUTIVE OFFICE (PEO)

a. Designate and provide tasking to the applicable EDMA for life-cycle drawing management and maintenance.

b. Designate and provide tasking to the applicable engineering drawing repository for life-cycle drawing storage and management.

5.1.3 ENGINEERING DRAWING MAINTENANCE ACTIVITY (EDMA)

a. Provide life-cycle management of engineering drawings and associated data for ships, systems, and equipment.

b. Create and/or maintain Ships Drawing Indexes and other indexes of cognizant drawings and associated data, as required.

c. Maintain cognizant drawings current and provide baseline and updated copies of cognizant engineering drawings and associated indexes to the appropriate engineering drawing repository.

5.1.4 ENGINEERING DRAWING REPOSITORY

a. Load baseline and updated engineering drawings and associated index data, as received from the EDMA, into the local automated system.

b. Submit baseline and updated index data of all resident engineering drawings to MEDALS and GDMS. Reference (x) in Appendix C provides specific guidance concerning the responsibility of repositories to supply drawing index data to MEDALS.

c. Provide engineering drawing data back up and user services and COOP in accordance with the established NAVSEA COOP.

d. Data repositories and systems will be certified and accredited to the proper classification and sensitivity level. For example, NNPI data will only be placed in data repositories and systems (including drawing index systems) that are certified and accredited to handle this NOFORN data.

CHAPTER 6

ENGINEERING DRAWING DATA ACCESS, RETRIEVAL, AND DISTRIBUTION

6.0 ENGINEERING DRAWING DATA ACCESS, RETRIEVAL, AND DISTRIBUTION.

All JCALS, non-JCALS, local PC JEDMICS, and non-PC JEDMICS users requesting a copy of an engineering drawing must first query the applicable Configuration Management (CM) System to research and confirm the drawing number for electronic retrieval or to order from the applicable repository. The Configuration Data Manager Database-Open Architecture (CDMD-OA), MEDALS, and/or the Ships Drawing Index can be used to confirm the correct drawing being requested. JCALS users will use the GDMS on their desktop to locate, view, and retrieve the desired engineering drawing from a digital data repository, such as JEDMICS. The JEDMICS drawing Meta index data loaded in GDMS helps JCALS users locate a digital copy of an engineering drawing. The JCALS Infrastructure will provide a controlled electronic access to the applicable digital data repository via a C-2 compliant security environment. Role Based Access Control (RBAC) and discretionary access control using Organizational Based Access Control (OBAC) are applied to restrict user access to specific drawings stored in a repository. If GDMS fails to locate a specific engineering drawing, JCALS users will be able to launch MEDALS from their desktop to locate and order the drawing. Local PC JEDMICS users with a PC account will be able to directly access their local JEDMICS repository to obtain a copy of the drawing. Non-JCALS and non-PC JEDMICS users will need to query MEDALS on-line via an Internet web browser that supports Secure Socket Layer (SSL), i.e., Internet Explorer or Netscape, to locate and electronically order a digital or non-digital copy of the drawing from a cognizant repository. MEDALS will only identify the repository and allow the user to electronically order the drawing. MEDALS will not provide the actual drawing data file. MEDALS users can also submit batch inquiries to MEDALS and receive results within 24 hours. MEDALS cannot guarantee that the cognizant repository will honor the order request. Some programs may not be supported by all the repositories. The repository will inform the requester of the status of the request, including the cost, if any, to fill the order. CDMD-OA is the only centralized location where users can identify a drawing using non-drawing number information. For all users, including operational ships, copies of ship class drawings will continue to be maintained and distributed via ATIS CDs and Compact Disk Engineering Data Exchange (CDEX) -formatted CDs. The data source for these drawing images will be the applicable ship class drawing repository. MEDALS website address: https://www.dlis.dla.mil/medals. CDMD-OA website address: www.cdmdoa.navy.mil. This chapter applies to unclassified drawings and associated data. Special requirements for the access, retrieval, and distribution of classified drawings and associated data are contained in reference (ah) in Appendix C.

6.1 ENGINEERING DRAWING DATA ACCESS, RETRIEVAL, AND DISTRIBUTION RESPONSIBILITIES.

6.1.1 SEA 04L

a. Establish Command policy and guidance regarding the use of JCALS and MEDALS by the full NAVSEA community (i.e., all authorized Government and industrial facilities).

b. Provide JCALS access capability to authorized requesting activities consistent with availability of funding and technology.

6.1.2 ENGINEERING DRAWING REPOSITORY

a. Provide engineering drawings in accordance with the distribution statement as marked. Contact the Program Manager to obtain the proper distribution statement if it is not on the drawing.

b. Provide electronic data access and retrieval services to authorized JCALS users if configured to be accessible through JCALS.

c. Provide routine engineering drawing data digital updates in the appropriate media (e.g., CD-ROM) to activities lacking JCALS access capability in accordance with the applicable distribution statement. Non-Government entities must provide proper authorization to a repository with the request.

d. Fill authorized orders placed through MEDALS for non-digital copies of engineering drawings in accordance with the applicable distribution statement.

e. Local repositories should operate JEDMICS 24-7 and be responsible for updates and routine maintenance.

6.1.3 ENGINEERING DRAWING REPOSITORY/ENGINEERING DRAWING MAINTENANCE ACTIVITY (EDMA). Locate and provide requested assets unavailable through JCALS or MEDALS.

6.1.4 DATA USER

a. Use JCALS or MEDALS access to locate and/or retrieve NAVSEA engineering drawings.

b. Follow JCALS/MEDALS instruction to view or obtain drawings. Refer to the JCALS website at: www.jcals.monmouth.army.mil. Refer to the MEDALS website at: https://www.dlis.dla.mil/medals.

c. Do not attempt to circumvent MEDALS by ordering routinely required materials directly from the repository.

d. Request research assistance from the cognizant repository (preferred) or the cognizant EDMA if information on drawing assets/location is unavailable through JCALS/MEDALS.

e. Consult with SEA 04L or the Program Office to identify the cognizant repository or EDMA and to request an urgent copy of located materials.

CHAPTER 7

ENGINEERING DRAWING DATA MAINTENANCE

7.0 ENGINEERING DRAWING DATA MAINTENANCE.

The Fleet Modernization Program Management and Operations Manual (reference (h) in Appendix C) provides basic guidance for the update and configuration management of ship-level and system/equipment-level engineering drawings. Changes are most often made to previously accepted or approved drawings as a result of repairs and alterations during scheduled availabilities at each level of hardware and related technical data maintenance. In some instances, user feedback citing deficiencies in official drawings results in the updating of the drawings. This chapter draws together guidance on routine maintenance and deficiency reporting from reference (h) in Appendix C for use by those responsible for engineering drawing update. This chapter applies to NAVSEA engineering drawings for which the acquisition process is complete (i.e., accepted and/or approved drawings) and changes to drawings that have not been incorporated into existing revisions (e.g., Notice of Revisions (NORs), Technical Variance Documents (TVDs)) . For changes such as NORs and TVDs, check the SDI and/or with the cognizant EDMA or PM. To the extent contractually feasible, it also applies to commercial drawings supporting NAVSEA-owned hardware in the Post-Production Support life-cycle phase. This chapter applies to unclassified drawings and associated data. Special requirements for the maintenance of classified drawings and associated data are contained in reference (ah) in Appendix C.

7.1 ENGINEERING DRAWING DATA MAINTENANCE RESPONSIBILITIES.

7.1.1 PLANNING YARD (PY) and/or ENGINEERING DRAWING MAINTENANCE ACTIVITY (EDMA)

a. UPDATES RESULTING FROM HARDWARE ALTERATIONS

(1) Coordinate with the Platform Manager and agents tasked to perform installation (can be internal to a PY or EDMA or external agents, such as Alteration Installation Teams (AITs)) to facilitate the planning and development of proposed installation drawings.

(2) Approve installation drawings.

(3) Receive and document any corrections to approved installation drawings, when written feedback, such as red line drawings, Liaison Action Reports (LARs), or TVDs are submitted by the installation activity indicating that the shipboard installation departed from that depicted on the drawing.

b. UPDATES RESULTING FROM REPORTED DEFICIENCIES

(1) Receive reports of deficiency from field and Fleet users of engineering drawings. For Planning Yard approved drawings, an LAR should be submitted to document the departures from the approved drawings. Additionally, red line markup of the final installation should be provided back to the approval authority. For drawings not requiring Planning Yard approval, an LAR is preferred, but alternately, the reporting mechanism can be through any written or voice channel available to the user. The message should include the following information:

- Name, code, and contact information of report originator
- Date of report
- Drawing number affected
- Degree of perceived urgency
- Description of error or data omission
- Recommended correction (if possible)

- Remarks (optional)

(2) Log reports and perform technical review of their viability and the need for correction.

(3) Advise report originator of review status and, if applicable, the accomplishment of any necessary changes.

c. ALL UPDATES.

(1) Incorporate changes into appropriately revised versions of the affected drawings, as tasked by the Platform Manager.

(2) Provide revised drawings to the appropriate repository with instructions to update holdings and indexes, pointing users to the most recent applicable versions of drawings.

(3) Update internally-maintained engineering drawing indexes, such as SDIs. As tasked by the Platform Manager, incorporate changes into indices to reflect the Meta data associated with revised versions of the affected drawings.

CHAPTER 8

ENGINEERING DRAWING ARCHIVAL AND DISPOSAL

8.0 ENGINEERING DRAWING ARCHIVAL AND DISPOSAL.

Engineering drawings may be archived in hard copy, microform, or digital form. Original hard copies of obsolete and inactive drawings are disposed of upon conversion to digital form as directed by the PM. Original hard copies of active drawings may be disposed of only if the drawing is to be maintained in digital form. Original hard copies of drawings having special uses or values to warrant permanent preservation will be offered to the National Archives and Records Administration (NARA) for permanent retention in accordance with reference (t) in Appendix C. Drawings declined by NARA may be offered to the Naval Historical Center and then to other Government agencies or non-Federal institutions, with NARA's written approval. Copies of all drawings may be destroyed locally when obsolete, superseded, or no longer needed for reference, as directed by the PM. NAVSEA engineering drawings are retired, destroyed, or transferred for permanent preservation in accordance with established policy which can be based on various factors such as the type and/or life of the drawing and/or the life of applicable ship(s)/equipment. NARA website address: www.nara.gov. Naval Historical Center website address: www.mil.org/navhist. This chapter applies to unclassified drawings and associated data. This chapter does not apply to drawings and data held by reactor plant planning yards. The archival and disposal of these drawings and data shall be in accordance with reference (am) . Special requirements for the archival and disposal of classified drawings and associated data are contained in reference (ah) in Appendix C.

8.1 ENGINEERING DRAWING ARCHIVAL AND DISPOSAL RESPONSIBILITIES.

8.1.1 SEA 04L

a. Establish and maintain Command policy and procedures for the archival and disposal of engineering drawings.

b. Grant deviations and waivers for established policies and procedures.

c. Act as the final arbitrator in the disposition of engineering drawings.

d. Coordinate funding for the archival and disposal of engineering drawings with Headquarters program offices.

8.1.2 PROGRAM MANAGER (PM)/PROGRAM EXECUTIVE OFFICE (PEO)

a. Ensure inactive or obsolete engineering drawings are archived and disposed of per references (o) and (t) in Appendix C and Table 8-1 through Table 8-5 of this manual.

b. Coordinate with SEA 04L to identify original engineering drawings having significant research, legal, scientific, historical, or other values to warrant their permanent preservation in their original hard copy form.

c. Provide funding through SEA 04L for the handling of inactive and obsolete drawings.

8.1.3 ENGINEERING DRAWING MAINTENANCE ACTIVITY (EDMA)

a. Initiate action to dispose of inactive or obsolete engineering drawings per Table 8-1 through Table 8-5.

b. Provide recommendations to the PM concerning the appropriate disposition of cognizant engineering drawings.

c. Offer drawings with significant research, legal, scientific, historical, or other values to warrant their permanent preservation in their original hard copy form to NARA for permanent retention, as directed by the PM. If declined by NARA, then offer to the Naval Historical Center. If declined by the Naval Historical Center, then offer to other Government agencies or non-Federal institutions, with written approval of NARA.

d. Destroy additional copies of drawings when obsolete, superseded or no longer needed for reference.

8.1.4 ENGINEERING DRAWING REPOSITORY

a. Permanently retain the archived copy of all ordnance, weapon, and combat system or equipment drawings per Table 8-1 through Table 8-5.

b. Offer drawings with significant research, legal, scientific, historical, or other values to warrant their permanent preservation in their original hard copy form to NARA for permanent retention as directed by the PM. If declined by NARA, then offer to the Naval Historical Center. If declined by the Naval Historical Center, then offer to other Government agencies or non-Federal institutions, with written approval of NARA.

c. Destroy additional copies of drawings when obsolete, superseded or no longer needed for reference.

8.1.5 PLANNING YARD (PY)

a. Permanently retain the archived copy of all ship, system or equipment drawings per Table 8-1 through Table 8-5.

b. Offer drawings with significant research, legal, scientific, historical, or other values to warrant their permanent preservation in their original hard copy form to NARA for permanent retention as directed by the PM or, if declined by NARA, then to the Naval Historical Center. If declined by the Naval Historical Center, then offer to other Government agencies or non-Federal institutions, with written approval of NARA.

c. Destroy additional copies of drawings when obsolete, superseded or no longer needed for reference.

Table 8-1 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS, PARAGRAPH 1

DRAWING TYPES	RETENTION PERIOD
(1) SHIP AND ORDNANCE ENGINEERING DRAWINGS. Drawings for surface ships, submarines, and craft including the hull, machinery, electrical, ordnance, interior communications, and NAVSEA controlled electronic equipment and systems, tank capacities, docking drawings, and drawings of the component parts of each for each ship, class of ships, or ordnance system that are corrected throughout the life of the ship or system.	
a. **Master Drawings.** These drawings are a special class of Hull, Mechanical, and Electrical drawings designated as masters. Since 1955 these drawings have been maintained by the planning yard.	
(1) Original tracings and full size reproducibles of the Booklet of General Drawings.	Permanent. Transfer to the National Archives and Records Administration (NARA) when 55 years old. Earlier transfer is authorized for stricken vessels.

Table 8-1 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS,

PARAGRAPH 1 - Continued

DRAWING TYPES	RETENTION PERIOD
(2) All other original master plans maintained by any activity.	Retire to nearest Federal Records Center (FRC) when drawing is inactive. Destroy when 55 years old or when all vessels in the class are stricken, whichever is later.
(3) Silver film microform copies maintained at Portsmouth Naval Shipyard (NAVSHIPYD PTSMH), NH or at Planning Yard.	Permanent. Transfer to NARA when 55 years old. Earlier transfer is authorized for stricken vessels.
(4) Silver film and diazo copies of master plans held by all other activities.	Destroy when 30 years old or when vessel is stricken, whichever is later.
b. **Hull, Mechanical, and Electrical (HM&E Drawings).** Ship design and construction drawings, generally prepared by the contractor and accepted by the Navy. These drawings shall include all drawings required for the construction of the ship including hull, machinery, and electrical equipment, tank capacities, Booklet of General Drawings, as well as other drawings defined in Section 085 of the General Specifications for Ships of the United States Navy.	
(1) Original tracings of the Booklet of General Drawings only for the lead ship of the Class maintained by the vessel Planning Yard.	Permanent. Retire to Washington National Records Center (WNRC) when drawings become inactive. Transfer to NARA when 55 years old. Earlier transfer when all ships in the class are stricken is authorized.
(2) Original tracings of all other HM&E drawings maintained by the vessel Planning Yard.	Retire to nearest FRC when 30 years old or when vessel is stricken, whichever is later. Destroy if silver microfilm aperture card of drawing exists or transfer to NARA when 55 years old.
(3) HM&E drawings maintained by activities other than the planning yard.	If silver microfilm aperture card is retired to an FRC or drawing is obsolete, destroy when 30 years old. If retained on board, destroy when no longer required.
(4) Silver microfilm aperture cards (35mm roll film before 1955) of all HM&E drawings including class file and vendor file maintained by NAVSHIPYD PTSMH or by Planning Yard.	Permanent. Retire to WNRC when file is inactive. Transfer to NARA when 55 years old or when all vessels in the class are stricken, whichever is later.
(5) Duplicate silver and diazo copies of HM&E drawings maintained by all activities other than NAVSHIPYD PTSMH or by Planning Yard.	Destroy when 30 years old or when vessel is stricken, whichever is later.
(6) Optical disk high-density digital image of HM&E drawings maintained at NAVSEA designated JEDMICS site. See paragraph 4 (Table 8-4).	Disposition Not Authorized. Will be substituted for para. 1b(4) of this table as the permanent record if in approved archival form at the time of proposed transfer.
c. **Installation Control Drawings (ICDs).** Drawings which set forth information for an item of installed equipment in terms of area, weight, foundation requirements, space, operation and maintenance access clearance, HP air, cooling water, inert gas, draining clearance, and pipe and cable attachments required for the installation and the co-functioning of the item to be installed with related items. Also known as “RE” drawings or ESWBS 807 drawings.	

Table 8-1 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS,

PARAGRAPH 1 - Continued

DRAWING TYPES	RETENTION PERIOD
(1) Original tracings maintained at NAVSEANewport Undersea Warfare Center Division (NUWCDIVNPT), Newport, RI.	Retire to WNRC when file is inactive. Destroy when 55 years old or when all vessels in the class are stricken, whichever is later.
(2) Silver microfilm aperture cards of ICDs maintained at NUWCDIVNPT Newport and vital records set at Naval Surface Warfare Center Port Hueneme Division (NSWC PHD), Port Hueneme, CA.	Destroy when 55 years old or when all vessels in the class are stricken, whichever is later.
(3) ICDs in any form maintained by any activity other than NUWCDIVNPT Newport.	If silver microfilm aperture card is retired to nearest FRC, destroy when 30 years old. If retained on board, destroy when no longer required.
d. **NAVSEA Controlled Electronic Equipment Drawings.** Drawings of sonar, navigational, communications, radar, antenna systems, and similar shipboard electronics equipment under the cognizance or control of NAVSEA,	
(1) Original tracings maintained by NUWCDIVNPT Newport and other In-Service Engineering Agents (ISEAs).	Retire to nearest FRC when drawing is inactive. Destroy when 55 years old or when equipment is obsolete, whichever is later.
(2) Silver microform copies maintained at NUWCDIVNPT Newport	Retire to nearest FRC when file is inactive. Destroy when 55 years old or when equipment is obsolete, whichever is later.
(3) All other electronic equipment drawings maintained by any activity.	Retain on board. Destroy when no longer required.
e. **Ordnance Equipment and Surface Missile and Weapons Systems Drawings.** Engineering drawings of guns, gun mounts, turrets, rocket launchers, depth charge projectors, small arms and guns, mortars, pyrotechnic equipment, mine, mine countermeasures, ammunition handling equipment, fire control and optical equipment, fuses, torpedoes, underwater missiles and similar equipment. Engineering drawings for Surface Weapons Systems such as TARTAR, Target Acquisition System (TAS), NATO SEASPARROW, HARPOON, TOMAHAWK, UNREP, MK 86 GFCS, MK 92 FCS, Vertical Launcher System, AEGIS Combat System, and future systems.	
(1) Original tracing ordnance drawings, showing complete gun mount, director, missile system, fire control system, and major components thereof including complete units of small arms and landing force equipment. These are maintained at NSWC PHD, Port Hueneme, CA. These drawings are often referred to as system drawings.	Permanent. Retire to WNRC when 30 years old. Transfer to NARA when 55 years old or when equipment or system is declared obsolete, whichever is earlier.
(2) Original tracings of ordnance drawings maintained by ISEAs and other activities other than NAVSEA repositories.	Transfer to NSWC PHD, Port Hueneme when drawing is inactive. NSWC PHD, Port Hueneme will effect final transfer and disposition per this table.
(3) Original tracing ordnance drawings of components and subsystems below system drawings maintained at NSWC PHD, Port Hueneme.	Retire to WNRC when drawing becomes inactive or when 25 years old, whichever is later. Destroy when 55 years old or when equipment is declared obsolete, whichever is later.

Table 8-1 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS,

PARAGRAPH 1 - Continued

DRAWING TYPES	RETENTION PERIOD
(4) Ordnance sketches (LD series and similar) and preliminary drawings not bearing a BUORD, NAVORD, BUWEPS, or NAVSEA drawing number.	Transfer to WNRC when sketch is inactive. Destroy when 30 years old. Earlier destruction is authorized upon notification by the retiring activity.
(5) Special collection of ordnance drawings to be designated by NSWC PHD, Port Hueneme from the collection at NSWC PHD, Port Hueneme. This collection will show the historical development of techniques and processes used in Naval engineering drawings and should include five samples of each technique or medium such as Linens, Van Dykes, sepias, reverse sepias, Brown-Lines, Mylar, Cronoflex, Quadrule, Rapidographs, tape processes, photo processes, various ink pens and pencils, and special templates, labels, and papers.	Permanent. Transfer directly to Cartographic Branch, National Archives using SF 258 from drawing held at the repository to present date. Future transfers in five-year blocks beginning in 1995.
(6) Silver microfilm aperture cards of all ordnance and ordnance systems drawings maintained at NSWC PHD, Port Hueneme.	Permanent. Retire to WNRC when file is inactive. Transfer to NARA when 55 years old or when equipment is obsolete, whichever is later.
(7) Duplicate silver and diazo copies of ordnance and ordnance systems drawings maintained by all activities other than NSWC PHD, Port Hueneme.	Destroy when 30 years old or when equipment is obsolete, whichever is later.
(8) Optical disk high-density digital image of ordnance drawings maintained at NAVSEA designated JEDMICS site. See paragraph 4 (Table 8-4).	Disposition Not Authorized. Will be substituted for para. 1e(6) of this table as the permanent record if in approved archival form at the time of propose transfer.

Table 8-2 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS,
PARAGRAPH 2

DRAWING TYPES	RETENTION PERIOD
2. SHIP DRAWING INDEX (SDI). An index prepared for each Navy ship which includes all Naval ship Engineering Drawings that are applicable to that vessel. Included are ship construction drawings, systems diagrams, manufacturers' equipment drawings designated as certification data sheets, equipment drawing lists and assembly drawings. Entries for each drawing include drawing title, latest revision, and whether or not designated as a selected record drawing.	
a. Original copy which is maintained at Planning Yard.	Permanent. Retire to WNRC when vessel is decommissioned. Transfer to NARA when 55 years old or when vessel is stricken, whichever is earlier.
b. Original copy that has been microfilmed or converted to digital file. Maintained at NAVSHIPYD PTSMH or at the Planning Yard.	Retire to nearest FRC when vessel is decommissioned. Destroy when 30 years old or when vessel is stricken, whichever is later.
c. Master set of SDIs on silver microfiche or digital file. Maintained at NAVSHIPYD PTSMH.	Permanent. Retire to WNRC in five-year blocks containing all vessels decommissioned during that period. Transfer to NARA when 55 years old.

Table 8-3 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS, PARAGRAPH 3

	DRAWING TYPES	RETENTION PERIOD
3.	MILITARY ENGINEERING DRAWING ASSET LOCATOR SYSTEM (MEDALS). MEDALS is a data base of DOD engineering drawings identified by drawing number, Commercial and Government Entity (CAGE) Code, drawing type, and revision. The system will provide the EDMA, the repository and the name of other activities holding the drawing and the physical form, i.e., original tracing, film, digital, etc. The master database will be maintained at the Defense Logistics Information Service (DLIS), Battle Creek, MI.	
a.	Master file and historical data tapes.	Retain on board. Destroy after third system backup or when no longer required, whichever is later.
b.	Input data tapes and paper record.	Retained on board. Destroy when no longer required.
c.	Output data and reports - COM and paper.	Retain on board. Destroy when no longer required for reference.
d.	Systems documentation to include description of data elements, file layout, code books, and operator and user manuals.	Retain on board. Destroy when superseded or no longer needed for reference.

Table 8-4 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS, PARAGRAPH 4

	DRAWING TYPES	RETENTION PERIOD
4.	JOINT ENGINEERING DRAWING MANAGEMENT INFORMATION AND CONTROL SYSTEM (JEDMICS). JEDMICS is an optical disk system that will provide high-density digital image storage of all DoD engineering drawings for all levels of DoD. JEDMICS is a major part of the DoD Continuous Acquisition and Life-Cycle Support (CALS) Program.	
a.	Master file and historical data tapes.	Retain on board. Destroy after third system backup or when no longer required, whichever is later.
b.	Input data tapes and paper record.	Retain on board. Destroy when no longer required.
c.	Output data on optical disk format.	See para. 1b(6) and 1e(8) of Table 8-1 for disposition instructions.
d.	Systems documentation to include description of data elements, file layout, code books, and operator and user manuals	Retain on board. Destroy when superseded or no longer needed for reference.

Table 8-5 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS, PARAGRAPH 5

	DRAWING TYPES	RETENTION PERIOD
5.	Drawings that have been delivered in place and maintained by the Full Service Contractor in their Shore based Integrated Product Data Environment (IPDE) (e.g., LPD-17 IPDE)	
a.	Master file and historical data tapes.	Retain within Shore-based IPDE. Destroy after third system backup or when no longer required, whichever is later.
b.	Input data tapes and paper record.	Retain within Shore-based IPDE. Destroy when no longer required.
c.	Output data on optical disk format.	See para. 1b(6) and 1e(8) of Table 8-1 for disposition instructions.

Table 8-5 ARCHIVAL AND DISPOSAL OF ENGINEERING DRAWINGS,

PARAGRAPH 5 - Continued

DRAWING TYPES	RETENTION PERIOD
d. Systems documentation to include description of data elements, file layout, code books, and operator and user manuals.	Retain within Shore-based IPDE. Destroy when superseded or no longer needed for reference.

APPENDIX A

NAVSEA ENGINEERING DRAWING REPOSITORIES AND CORRESPONDING CATEGORIES OF DRAWING STORED

For a current list of ship classes for each planning yard, refer to the current version of NAVSEA SL720-AA-MAN-010 (reference (h) in Appendix C) or the Fleet Modernization Program Management Information System (FMPMIS).

a. Commanding Officer
Naval Surface Warfare Center Crane (Code 802)
Crane, IN 47522-5001
Telephone: Commercial: (812) 854-4870 DSN: 482-4870
Combat System, Weapon System and Ordnance System drawings

b. Commander
Portsmouth Naval Shipyard (NAVSHIPYD PTSMH) (Code 202.2)
Portsmouth, NH 03804-5000
Telephone: Commercial: (207) 438-1000 Ext. 2445 DSN: 684-2445/1718
NAVSEA Standard and Type drawings (Hull, Mechanical and Electrical), SSN 637 Class submarine drawings, DSV/DSRV drawings, AGSS 555 drawings
Serves as a JEDMICS site

c. Commander
Puget Sound Naval Shipyard (NAVSHIPYD PUGET) (Code 203.3)
Bremerton, WA 98314-5000
Telephone: Commercial: (206) 476-2128 DSN: 439-2128
AE-26, AO-177, AOE-1, ARS-50, CV-63, CVN-65, MCM-1, MCS-12 and MHC-51 Class ship drawings
Serves as a JEDMICS site

d. Director
NAVSHIPYD PUGET Detachment Boston (Code 284.7)
495 Summer Street
Boston, MA 02210-2144
Telephone: Commercial: (617) 753-3135/6 DSN: 955-3135/6
AGF-3/11, APL, IX, LCAC, LCC-19, LPD, LSD, LST Class ship and all Service Craft except YTT drawings

e. Commander
Norfolk Naval Shipyard (NAVSHIPYD NORVA) (Code 202.2)
Planning Department
Portsmouth, VA 23709-5371
Telephone: Commercial: (757) 396-5371 DSN: 961-5371
ARD-32, CGN, CV-59, CV-60, CV-66, CV-67, CVN-68 Class, LHA, and LHD Class ship drawings
Serves as a JEDMICS site

f. Ingalls Shipbuilding, Inc.
P.O. Box 149
Pascagoula, MS 39568-0149
Telephone: Commercial: (228) 935-6512 Alternate: (228) 935-1723
CG-47, DD-963 and DDG-993 Class ship drawings
Serves as a JEDMICS site

g. Bath Iron Works
700 Washington Street
Bath, ME 04530
Telephone: Commercial: (207) 442-1934
DDG-51 and FFG-7 Class ship drawings
Serves as a JEDMICS site

h. Supervisor of Shipbuilding, Conversion and Repair, USN (Code 243)
7500 Sandpoint Way Seattle, WA 98115-5003
Telephone: Commercial: (206) 526-3921 DSN: 941-3921
PHM Class ship drawings

i. Supervisor of Shipbuilding, Conversion and Repair, USN (Code 240)
73 Eastern Point Road
Groton, CT 06340-4990
Telephone: Commercial: (860) 433-7729 DSN: 241-7729
SSN 671, SSBN 616, SSBN 627, SSBN 640, SSBN 726, and SSN 774 Class submarine drawings, NR-1, Submarine Reactor Plant Planning Yard (all nuclear submarines), Moored Training Ship Support Yard (MTSSY) for MTS 626 and MTS 635

j. Supervisor of Shipbuilding, Conversion and Repair, USN (Code 201Q)
12129 Jefferson Avenue
Newport News, VA 23607-2785
Telephone: Commercial: (757) 380-4155 DSN: 564-4155
SSN 688 and SSN 21 Class submarine drawings

k. Commander
Naval Undersea Warfare Center Division, Newport (NUWCDIVNPT) (Code 2223)
1176 Howell St., Building 1258
Newport, RI 02841-1708
Telephone: Commercial: (401) 832-1140 DSN: 920-1140
E-mail: SERTHWM@NPT.NUWC.NAVY.MIL
Installation Control Drawings (ICDs): Drawings used for shipboard installation of electronic equipment Torpedo: MK 48A

l. Commander
Naval Surface Warfare Center, Dahlgren Division, Coastal Systems Station (NSWCDD-CSS) (Code E05L)
6703 W. Highway 98
Panama City, FL 32407-7001
Telephone: Commercial: (850) 234-4018 DSN: 436-4018
Airborne Mine Countermeasures Systems; Surface Mine Countermeasure Systems and Equipment (including Shallow Water (SW-MCM) and Very Shallow Water (VSW-MCM) Systems and Offboard Sensor Systems); Special Warfare Systems and Equipment (including Swimmer Delivery Vehicles); Amphibious Warfare Systems and Equipment (including Landing Craft, Air Cushion); Diving and Life Support Systems and Equipment; Deep Submergence Systems and Equipment; Offensive Mining Systems and Equipment; Damage Control Breathing Apparatus; Salvage Operations Equipment; Assault Breaching Systems and Equipment; and Minehunting Sonar Systems Software and Hardware drawings

m. Commanding Officer
Naval Explosive Ordnance Disposal Technology Division (NAVEODTECHDIV) (Code 451A2)
2008 Stump Neck Road
Indian Head, MD 20640-5070

Telephone: Commercial: (301) 744-6939 DSN: 354-6939
Explosive Ordnance Disposal Systems and Equipment drawings

n. Commanding Officer
Indian Head Division
Naval Surface Warfare Center
Attn: Code 8410P
101 Strauss Avenue
Indian Head, MD 20640-5035
Telephone: Commercial: (301) 744-1968 DSN: 354-1968
Weapon and Ordnance System Drawings for Surface and Undersea communities, including Missile Control Simulators for Ships, Countermeasure Warhead and Fusing Systems, DET, and SABRE

o. Commander
Port Hueneme Division (Code 5E10)
Naval Surface Warfare Center
4363 Missile Way
Port Hueneme, CA 93043-4307
Telephone: Commercial: (805) 228-8100 DSN: 296-8100
Combat Systems, Major Weapons Systems, Sensors and Weapons for the Surface Warfare community.
Combat Systems: A-Class, AEGIS, CV/CVN, DD963, FFG, L-Class
Systems: ACDS, GFCS MK86, FCS MK92, SSDS, UNREP, PCMS, MK99 FCS
Sensors: BPS-15/16 (Dam Neck-Det.) MK23 TAS, RAIDS, SPQ-9B, SPY-1, SPS-40(DN), SPS-48(DN), SPS-49(DN), SPS-55(DN), SPS-64(DN), SPS-67(DN), SPS-73(DN), SYS-2(DN), TISS (migrating to CRANE)
Weapons: CIWS (Louisville-Det.), HARPOON, GMLS MK13, GMLS MK26, MK34 GWS (L), MK38 Gun (L), MK41 Vertical Launch, MK45 Gun (L), MK75 Gun Mount (L), NATO SEASPARROW, STANDARD MISSILE, TOMAHAWK
Communication: Data Transfer (Switchboards)
Serves as a JEDMICS site

p. Commander
Naval Undersea Warfare Center Division (Code 414)
610 Dowell Street
Keyport, WA 98345-7610
Telephone: Commercial: (360) 396-2321/5040 DSN: 744-2221/5040
ATWCS: Design Drawings
CV-TSC: AN/SQQ-34A(V), 34B(V)
Mines: SLMM
Mine Warfare: AN/SQQ-32, OK-520, SSN-2 PINS Pinger
Sonar systems: AN/BQQ 5, AN/BQQ 6, AN/BQQ 9, AN/BQR 15, AN/BQR 19, AN/BQR-21, AN/BSY-1
Submarine Communications: AN/BRA-6B, AN/BST-1
Targets: MK 30 Targets
Torpedoes: MK 46, MK 48, MK 50, MK 54
Towed Array Handling System: OK-276, OK-542, OA-9070
Towed Body: TB-16, TB-23, TB-29

q. Officer in Charge
Dam Neck Detachment
Port Hueneme Division (Code 6L20)
Naval Surface Warfare Center
1922 Regulus Avenue

Virginia Beach, VA 23461-2097
Telephone: Commercial: (757) 492-8251 DSN: 492-8251
Surface Combat Direction Systems, Peripherals, and Submarine Carry-on EW Systems

r. Director
Naval Surface Warfare Center, Carderock Division,
Detachment Norfolk, Combatant Craft Department (Code 2302)
116 Lake View Parkway, Suite 200
Suffolk, VA 23435-2698
Telephone: Commercial: (757) 686-7691 DSN: 564-9100 X7691
U.S. Navy Combatant Craft, Boats, Life Rafts and Associated Hull, Mechanical, Electrical and Electronic Systems and Equipment Drawings; U.S. Army Watercraft and Associated Hull, Mechanical, Electrical and Electronic Systems and Equipment Drawings

s. Litton Avondale Industries
P.O. Box 50280
New Orleans, LA 70150-0280
Telephone: (504) 436-5078
LPD-17 Class ship drawings

APPENDIX B

CONTINUITY OF OPERATIONS PLAN (COOP) FOR NAVSEA ENGINEERING DRAWING REPOSITORIES

References:
(a) OMB Circular No. A-130, "Management of Federal Information Resources," Feb. 8, 1996

(b) DOD Directive 5200.28, "Security Requirements for Automated Information Systems (AIS)," Mar. 21, 1988

(c) OPNAVINST 5239.1B, "Navy Information Assurance (IA) Program, " Nov. 9, 1999

(d) NAVSEAINST 5239.2. "Information System Security," Jul. 29, 1998

1.0 PURPOSE

This document defines a set of Continuity of Operations Plan (COOP) requirements which the NAVSEA primary digital drawing repository sites agree to meet should unforeseen circumstances jeopardize their normal operational support to the user community. Each facility participating in the overall plan agrees to develop implementation details consistent with the agreed-upon COOP requirements and to keep an updated description of these details on file with NAVSEA 04L.

2.0 SCOPE

This plan is applicable to the operations of all digital drawing systems which function as primary NAVSEA Engineering Data Repositories.

3.0 DISCUSSION

3.1 Mission Environment.

As a part of the NAVSEA migration to a digital environment for the storage, maintenance and retrieval of technical data, the previous infrastructure (e.g., Naval Engineering Drawing Support Activity and Technical Data Centers) which provided paper-based repository services is being transitioned to digital repository services. Digital technologies are being used by Navy facilities and their contractors to create and manage existing technical data. Most digital engineering drawing data now resides in designated repositories. The move to a digital environment has fostered a reliance on the digital repositories responsible for the storage of the engineering drawings used to maintain, repair, manufacture, and alter Navy ships and parts. These repositories currently are single site servers with associated jukeboxes, platters, etc. Technical data distribution is being accomplished increasingly through electronic means, either through CD-ROM or Wide Area Networks (WANs).

The digital repositories can experience damage leading to failure of equipment, software, and/or media. System failures are generally related to the type of damaged component. Equipment damage usually results in slight to severe disruptions, software damage (including corrupted index tables) causes moderate to severe problems, and media damage generally results in severe consequences including the loss or corruption of data.

A fourth type of failure, network outage, does not cause a repository failure, but it can impact user access.

The primary sites may choose to make backup platters and store them at a nearby site. This solution has merit in that it completely protects the sites from media damage and partially protects them from software damage. It does not, however, protect them from equipment damage or network outages. The primary sites will also need to

send backup platters to a relatively distant site to ensure complete protection from media damage and network outage and partial protection from software and equipment damage.

Prior to this coordinated effort, NAVSEA engineering drawing repositories have not had adequate COOP procedures in place. While many platters holding drawing data have been duplicated at Navy activities, the difficulty of establishing network connections has kept even these activities from maintaining full, current, duplicate sets of repository platters. There has been no systematic assurance that users would have timely access to data despite operational problems at the repositories.

3.2 COOP Objectives.

A COOP, or "contingency plan", is a standing set of procedures which ensures an ADP system can meet mission-critical operational requirements in spite of a significant compromise to its normal working environment. Thus a COOP not only includes, but exceeds, routine backup of system data and provisions in order to deal with catastrophic disruptions, such as those caused by natural disasters.

4.0 AUTHORITY

References (a) through (d) define DoD and Navy policy for maintaining operational support during a natural disaster, short term crisis or emergency that affects system availability. Reference (b) states: "The objective of contingency planning is to provide reasonable continuity of AIS support if events occur that prevent normal operations. The plans should be tested periodically under realistic operational conditions. " In the judgment of the developers of this NAVSEA contingency plan, this COOP supports the requirement for "reasonable continuity" of primary repository services in order to prevent an impact on mission accomplishment and Fleet support.

5.0 REQUIREMENTS

5.1 Primary Repository Site.

Each primary site shall designate and establish working agreements with the COOP site. These agreements shall ensure satisfactory continuity of services whenever the primary site experiences temporary or extended inability to satisfy its customer obligations. The primary site shall implement a local support process to ensure data availability in case of weather, network or power loss shutdown.

5.2 COOP Site Accessibility.

a. The COOP site shall provide user access privileges equal to those granted by the primary repository.

b. The COOP site shall be capable of providing some service within a period of time after a primary site failure as specified by the PMs for repository sites.

c. The COOP site shall provide all services normally provided by the primary site including, if required, hard copy output and distribution.

d. The COOP site, when required to operate for more than48 hours, shall provide system administration services such as new users, access privilege changes, password changes, and other normal primary site functions.

e. COOP Backup site failures shall be reported to each primary site within two (2) hours.

f. COOP site shall only be utilized in the event of a primary site failure.

5.3 Data Availability.

a. Each primary repository shall develop and implement a plan to provide index and drawing image information to the COOP site such that the COOP site is current to within six (6) months or less of the primary site.

b. Each COOP site shall protect limited rights, NOFORN, unclassified NNPI, SBU, and other restricted data from unauthorized access.

c. Each COOP site shall develop and implement a plan to notify the primary site of any backup site failures which could impact access in the event of primary site failure.

d. Each primary site shall provide emergency service in the event of COOP site failure for more than 12 hours. This plan shall meet the criteria for a COOP site, except that drawings will be provided in the most expeditious manner consistent with the emergency.

5.4 Miscellaneous Requirements.

a. Downtime for the COOP site shall not exceed twenty-four (24) hours. Exceptions shall be posted to the user's indexing/locator system.

b. Primary and COOP sites shall be physically located in geographically separate regions based upon the Navy Regional Maintenance areas (i.e., Northeast, Mid Atlantic, Southeast, Southwest, and Pacific Northwest).

c. COOP sites shall operate in the existing Automated Information System (AIS) infrastructure and workflow process and provide the same access methodology (e.g., security and firewall proxies) as the primary site.

d. Training and personnel requirements at COOP sites shall be consistent with NAVSEA COOP requirements and with those of the primary site.

e. COOP capability shall be tested annually for operational readiness. [1] This test shall include a simulation of primary site failure and provision of service by the COOP site. Deficiencies shall be reported to the Program Manager for correction and to SEA 04L for information. The COOP system shall be retested after deficiency correction to ensure operational readiness.

f. Primary and COOP sites shall maintain configuration compatibility for their Engineering Drawing digital repositories to preclude primary and COOP site configuration mismatches in matters including hardware technical refreshes and software releases.

5.5 Emergency Response Procedures.

Emergency response procedures shall be specific and in accordance with local AIS Emergency Response directives.

a. All repository equipment should be powered down in accordance with the site's and/or the manufacturer's Standard Operating Procedures (SOP).

b. All working papers in desks or cabinets should be secured.

[1]Single COOP site for two primary repositories shall be tested. Each primary to COOP process is tested annually, 6 months apart (the COOP site goes through two (2) exercises per year).

c. All doors should be closed and secured before personnel leave.

d. A site at some distance from the repository installation should be designated for personnel to meet following an ordered evacuation under the direction of a person designated to take charge in emergencies.

e. A member of senior management shall be designated as the incident manager for coordination of service recovery efforts.

6.0 RESPONSIBILITIES

Major players in NAVSEA COOP development shall have the following responsibilities:

6.1 SEA 04L.

a. Maintain and coordinate for command approval the overall NAVSEA COOP and its requirements.

b. Coordinate COOP related technical refreshes, funding requirements, and scheduling and implementation of baseline software and hardware upgrades.

6.2 NAVSEA Engineering Drawing Repositories.

At a minimum, each primary repository shall:

a. Develop a detailed plan of the methods it will implement to carry out NAVSEA COOP requirements.

b. Submit its COOP implementation plan to NAVSEA 04L for information and command approval.

6.3 NAVSEA Program Managers.

Program Managers who “own” the engineering drawing data held in the primary engineering drawing repositories shall:

a. Review, provide input to, and agree to the terms of an overall NAVSEA COOP.

b. Request coordination of any changes to basic COOP requirements through SEA 04L.

c. Fund necessary adjustments to the primary repositories’ operational budgets which will enable the COOP to be implemented. This funding shall include the costs of backup site training, supplies, hardware and software maintenance, normal operations, and licensing of sufficient software to support the backup site’s anticipated additional user base.

7.0 COOP ANALYSIS

Two COOP site alternatives have been identified, and associated funding requirements have been defined. The two alternatives being considered are:

a. Two Primaries with each as Mirror Designated COOP Site.

b. Single Site Designated as COOP Site for Two Primary Sites.

APPENDIX C

APPLICABLE DOCUMENTS AND REFERENCES

(a) NAVSO P-3670	Navy Acquisition Procedures Supplement (NAPS)
(b) MIL-DTL-31000A (with Amendment 2)	Technical Data Packages, General Specification for
(c) NAVSEAINST 4120.7	Policy and Implementation Guidance on Computer-Aided Acquisition and Logistics Support (CALS)
(d) NAVSEA S9AA0-AA-SPN-010/GEN-SPEC	General Specifications for Ships of the United States Navy (for guidance only)
(e) MIL-STD-100G	Engineering Drawing Practices
(f) DoD 5000.2-R	Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information Systems (MAIS) Acquisition Programs
(g) MIL-HDBK-288B	Review and Acceptance of Engineering Drawing Packages
(h) NAVSEA SL720-AA-MAN-010 (Revision 1)	Fleet Modernization Program Management and Operations Manual
(i) NAVSEA Technical Specification 9090-600	Ship Alteration Drawing Preparation

NOTE

On August 19, 1993, the CALS Program name was changed to “Continuous Acquisition and Life-Cycle Support” by action of its Program Manager. Various documents in this manual, however, will legitimately bear titles reflecting the Program’s previous name, i.e., “Computer-Aided Acquisition and Logistic Support.”

(j) NAVSEAINST 5510.1A	Command Headquarters Security Program Regulation
(k) NAVSEAINST 4130.12A	Configuration Management Policy and Guidance
(l) MIL-M-38761/2A (with Notice 1)	Microfilm Aperture, Tabulating Cards and Ships Drawing Indexes for Naval Sea Systems Command Ships, Systems, and Equipment, Preparation of
(m) MIL-PRF-28002C	Raster Graphics Representation in Binary Format, Requirements for
(n) MIL-PRF-28000B	Digital Representation for Communication of Product Data: IGES Application Subsets and IGES Application Protocols
(o) NAVSEAINST 5210.3	Filing and Disposal of Records

- Continued

(p) MIL-M-9868E (with Notice 1)	Microfilming of Engineering Documents, 35MM, Requirements for
(q) MIL-STD-1840C	Automated Interchange of Technical Information
(r) NAVSEAINST 9085.1	NAVSEA Standard and Type Drawings; Preparation, Distribution, and Revision of
(s) MIL-D-23140D	Drawings, Installation Control, for Shipboard Electronic Equipment
(t) SECNAVINST 5212.5D	Navy and Marine Corps Records Disposition Manual
(u) MIL-STD-196E	Joint Electronics Type Designation System
(v) DoDD 5000.39	Acquisition and Management of Integrated Logistics Support for Systems and Equipment
(w) DoDD 5230.25	Withholding of Unclassified Technical Data From Public Disclosure
(x) NAVSEA ltr 9085 Ser 04L3/135 of 26 Oct 98	Military Engineering Drawing Asset Locator System (MEDALS)
(y) Navy Specification (Revised August 1995)	Navy Specification, Advanced Technical Information Support (ATIS) Raster Engineering Drawings, Preparation of
(z) DoD 5010.12-N	Procedures for the Acquisition and Management of Technical Data
(aa) MIL-HDBK-331E	Military Handbook Directory of DoD Engineering Data Repositories
(ab) ASN (RD&A) Memorandum for Distribution of 2 Nov 99	DON Policy on Digital Logistics Technical Data
(ac) DoDI 5200.40	DoD Information Technology Security Certification and Accreditation
(ad) MIL-PRF-28003B	Digital Representation for Communication of Illustration Data: CGM Application Profile
(ae) NAVSEA ltr 9085 Ser 04L3/130 of 30 NOV 1998	Electronic Signature for Engineering Drawing Approval
(af) DoDD 5230.24	Distribution Statements on Technical Documents
(ag) DoDD 5200.28	Security Requirements for Automated Information Systems (AISs)

- Continued

(ah) SECNAVINST 5510.36	Department of the Navy (DON) Information Security Program (ISP) Regulation
(ai) OMB Circular No. A-130	Management of Federal Information Resources
(aj) OPNAVINST 5239.1B	Navy Information Assurance (IA) Program
(ak) NAVSEAINST 5239.2	Information System Security
(al) NAVSEAINST C5511.32	Safeguarding of Naval Nuclear Propulsion Information (NNPI)
(am) NAVSEAINST 9210.23	Naval Nuclear Work at Naval Activities and Private Shipyards - Certification of Work Accomplishment and Data, Retention of Associated Records, and Retention of Design Records - Requirements for

APPENDIX D

ACRONYMS

AIS	Automated Information System
AIT	Alteration Installation Team
APT	Allowance Parts List
ATIS	Advanced Technical Information Support
BCA	Bulk Conversion Agent
CAD	Computer-Aided Design
CAGE	Commercial and Government Entity
CALS	Continuous Acquisition and Life-Cycle Support
CAM	Computer-Aided Manufacturing
CDEX	Compact Disk Engineering Data Exchange
CDMD-OA	Configuration Data Manager Database-Open Architecture
CM	Configuration Management/Manager
CMIS	Configuration Management Information System
COOP	Continuity of Operations Plan
DLIS	Defense Logistics Information Service
DoD	Department of Defense
DoN	Department of the Navy
DRPM	Directly Reporting Program Manager
ECP	Engineering Change Proposal
EDMA	Engineering Drawing Maintenance Activity
EOSS	Engineering Operational and Sequencing System
ESWBS	Expanded Ship Work Breakdown Structure
FMPMIS	Fleet Modernization Program Management Information System
FRC	Federal Records Center
GDMS	Global Data Management System
GFI	Government Furnished Information
GIN	Group Index Number
HM&E	Hull, Mechanical, and Electrical
HSC	Hierarchical Structure Code
IC	Interior Communications
ICD	Installation Control Drawing
IDE	Integrated Digital Environment
IGES	Initial Graphics Exchange Specification
IPDE	Integrated Product Data Environment
ISEA	In-Service Engineering Agent
JCALS	Joint Computer-Aided Acquisition and Logistics Support
JEDMICS	Joint Engineering Drawing Management and Information Control System
LAN	Local Area Network
LAR	Liaison Action Report
LCM	Life-Cycle Manager
LM	Logistics Manager
MEDALS	Military Engineering Data Asset Locator System
NARA	National Archives and Records Administration
NNPI	Naval Nuclear Propulsion Information

NOFORN	Not Releasable to Foreign Nationals
NOR	Notice of Revision
OBAC	Organizational Based Access Control
PDM	Product Data Model
PEO	Program Executive Office
PM	Project/Program Manager
PMS	Planned Maintenance System/Program Manager for Ship Acquisition
POC	Point of Contact
POM	Program Objective Memorandum
PY	Planning Yard
RBAC	Role Based Access Control
SBU	Sensitive But Unclassified
SDI	Ship Drawing Index
SHIPALT	Ship Alteration
SID	SHIPALT Installation Drawing
SLM	Ship Logistics Manager
SOP	Standard Operating Procedures
SPD	Ship Project Directive
SSL	Secure Socket Layer
TDP	Technical Data Package
TECP	Test Engineering Change Proposal
TVD	Technical Variance Document
WAN	Wide Area Network
WNRC	Washington National Records Center

APPENDIX E

DEFINITIONS

a. Active Drawing. Any drawing currently in use and applicable to any asset under the control of or supported by the U.S. Government.

b. Advanced Technical Information Support (ATIS). A Navy-designated user presentation system designed to place current and accurate digital technical data into shipboard and squadron users' hands. Data is retrieved on simple-to-use CD-ROM optical disks. Documentation stored and available on ATIS CDs includes: engineering drawings, technical manuals, and Naval Ships Technical Manuals. ATIS also provides the capability to view Planned Maintenance System (PMS) data and Engineering Operating and Sequencing System (EOSS) data. ATIS is primarily used as a local use repository.

c. Associated List. A tabulation of pertinent engineering information pertaining to an item depicted on an engineering drawing or on a set of engineering drawings.

d. BSAFE. A commercial software tool set that provides developers with the ability to incorporate encryption and authentication technologies in their software products. BSAFE is involved in the authentication mechanism to ensure that the stored procedure request comes from a valid JCALS server and is a valid request.

e. Compact Disk Engineering Data Exchange (CDEX). Provides JEDMICS repositories and remote JEDMICS customers the capability to write and copy groups of associated drawings known as Technical Data Packages (TDP) to compact disks using standard interfaces.

f. Computer-Aided Design (CAD). A process which uses a computer system to assist in the creation, modification and display of a design.

g. Cancelled Drawing. A drawing in any form for which a drawing number was assigned but subsequently retired, never to be used again.

h. Deviation. A written authorization, granted before manufacturing or producing an item, to depart from a particular performance or design requirement of a drawing for a specific number of units or a specific period of time. A deviation differs from an engineering change in that an approved engineering change requires corresponding revision of the documentation defining the affected item.

i. Electronic Equipment. Electronic devices employed in the field of data processing, detection and tracking (underwater, sea, land, air and space), recognition and identification, communications, aids to navigation, weapons control and evaluation, flight control, and electronics countermeasures. In every case, electronic devices are understood to include peculiar non-electronic units required to complete their individual operational function, but to exclude associated non-electronic equipment identified by other type designation systems (see reference (u) in Appendix C).

j. Engineering Drawing. An engineering document or digital data file(s) that discloses (directly or by reference) by means of graphic or textual presentations, or combinations of both, the physical and functional end-product requirements of an item.

k. Engineering Drawing Maintenance Activity (EDMA). A Government or Industry activity, designated by the data owner, with primary responsibility for developing and/or performing maintenance of NAVSEA controlled drawings for designated shipboard systems or equipment. An EDMA is typically a ship class planning yard, In-Service Engineering Agent (ISEA), or Life-Cycle Manager (LCM).

l. Engineering Drawing User Activities. Any Government or contractor activity that uses NAVSEA engineering drawings for any purpose.

m. Global Data Management System (GDMS). The database layer that provides services that support a conceptually centralized, distributed heterogeneous database environment. This layer provides timely, authorized access to accurate, current data anywhere in the system, regardless of where it is stored, how it is formatted, or how it is accessed. Through global connectivity, GDMS establishes the capability to access and update anywhere in the system over Local Area Networks (LANs) and Wide Area Networks (WANs). GDMS checks OBAC rules, provides drawing Meta data, directs a drawing request to the appropriate repository and presents a digital drawing for view, print and download or provides a message that the user has no rights to the drawing.

n. Government Furnished Information (GFI). Any recorded information, regardless of form or characteristic, furnished to prospective bidders, contractors and participating managers in support of a Government requirement. GFI is specifically identified as such in a separate list or schedule of the applicable request for bid or proposal, contract, or Ship Project Directive (SPD). GFI may be text, graphic, or pictorial, in hard copy or in microform, in machine form such as punched paper tape, punched cards or magnetic tape or retained in a machine memory. Examples of GFI include: research and engineering data, engineering drawings and associated lists, specifications, standards, manuals, technical reports, catalog item identification, and administrative, financial and management information.

o. Group Index Number (GIN)/Hierarchical Structure Code (HSC). Identifies the functional or hierarchical relationship of the ship and system configuration records. The numbering method may differ in type, but the structural function is similar in purpose. The hierarchical structure reflects ship-system-subsystem-equipment-component relationships. HSC assists in data organization, retrieval, and display. The first 5 characters of the HSC are reserved for the group index number, such as the Expanded Ships Work Breakdown Structure (ESWBS) and prior group indexing systems.

p. Initial Graphics Exchange Specification (IGES). A neutral file format for the representation and transfer of data elements required to completely define a product among CAD/CAM systems and application program.

q. Integrated Digital Environment (IDE). A concept for the automation and integration of accurate information supporting the design, development, fielding, operation and sustainment of defense capabilities linked in a seamless manner to the authoritative source.

r. Inactive Drawing. A drawing not currently used by any Naval activity but which may be needed in the future.

s. Integrated Product Data Environment (IPDE). A PDM enabled to provide seamless, interoperable, real-time logistics information, the right data to the right person at the right time. The relationship of such an IPDE to the common concept of Integrated Digital Environment (IDE) is that the IPDE forms the specific application of the general IDE concept as applied to logistics support throughout the system life cycle.

t. Installation Control Drawings (ICDs). Drawings that set forth the electrical, physical, mechanical and interface data necessary for design activities to develop drawings and plans for the installation of equipment in ships.

u. Joint Computer-aided Acquisition and Logistics Support (JCALS). A distributed, geographically dispersed system that automates existing weapon system logistics, acquisition, and management processes, and links stand-alone information processing systems. It is a global enterprise-wide data management system and a user-friendly interface for accessing the Global Data Management System (GDMS). JCALS website address: www.jcals.monmouth.army.mil

v. Joint Engineering Data Management Information and Control System (JEDMICS). A DoD-wide effort to

automate the storage, retrieval and distribution of technical data. The system is a fully automated optical disk based digital system that will enhance access, timeliness, and quality of engineering drawings required for reprocurement and maintenance.

w. Meta Data. Also known as index data, provides all of the information necessary to uniquely identify a data file (image) and contains the set of related records that are treated as a unit.

x. Military Engineering Data Asset Locator System (MEDALS). A central index system with the complete location of technical data assets within the DoD. MEDALS website address: https://www.dlis.dla.mil/medals

y. NAVSEA Drawings. Engineering drawings prepared to military standards by the government or by a manufacturer under contract to the government. NAVSEA drawings support the design, development, and operation of Navy ships, systems and equipment specifically developed for NAVSEA. These drawings are assigned a NAVSEA-unique drawing number and identified by CAGE code 53711. (Old NAVSEA drawings may be identified by other CAGE code)

z. Non-Deviation Drawing. A drawing for which no departure from information specified on the drawing may be made without prior Government approval.

aa. Obsolete Drawing. A drawing no longer of any known use or no longer needed. Applies only to a vessel which has been stricken from the Navy Registry or where the system, equipment, or item is no longer used onboard any Naval vessel or at any Naval activity.

bb. Original Drawing. A full size reproducible drawing, replica copy marked ”duplicate original” or the digital data file on which is kept the revision record recognized as official by the engineering drawing maintenance activity.

ab. Plan File. The physical location where the master drawings (hard copy, tapes, disks, or other media used to store digital data) and the reproducible copies (or data) of reference drawings are stored. The plan file contains an inventory of all active drawings held by an activity for the following reasons:

(1) the activity has maintenance responsibility for the drawing;

(2) the drawings are required to meet mission requirements; or

(3) the drawings are necessary to comply with contractual requirements or obligations.

ac. Preparing Activity. The Government or contractor organization tasked to create an engineering drawing.

ad. Product and Commercial Drawing. An engineering drawing prepared by a manufacturer to commercial standards to support commercially developed equipment. Commercial drawings are not prepared under Government contract, unless the Government contract specifically requires them. These drawings are identified by a manufacturer’s Commercial and Government Entity (CAGE) code and drawing number.

ae. Product Data Model (PDM). The integrated set of data/data relationships including geometry and associated product attribute information (i.e., bill of materials, spec, cost, R&M, etc.) necessary to support the design, manufacture, operations and life-cycle support of a product.

af. Program Manager. Project Directors, Project and Program Managers (PMs), Program Managers for Ship Acquisition (PMSs), Platform Managers, Ship Logistics Managers (SLMs), Life-Cycle Managers (LCMs), Logistics Managers (LMs), Program Executive Officers (PEOs), Direct Reporting Program Managers (DRPMs) and designated shore activities having overall responsibility for ship, system or equipment acquisition or life cycle maintenance.

ag. Public Domain. Information which is published and which is generally accessible or available to the public:

(1) Through sales at newsstands and bookstores.

(2) Through subscriptions which are available without restriction to any individual who desires to obtain or purchase the published information.

(3) Through second class mailing privileges granted by the U.S. Government.

(4) At libraries open to the public.

ah. Raster Graphics. The presentation or storage of images that are defined as a set of pixels or tiny dots in a column and row format.

ai. Repository. An activity responsible for storing, reproducing, and distributing engineering drawings in digital and non-digital formats.

aj. Restrictive Markings. Any markings that restrict or limit the use or dissemination of technical data (i.e., distribution statements, security classification markings, contractor proprietary data markings, etc.).

ak. Reviewing Activity. An activity charged with the responsibility, by task or charter, for reviewing NAVSEA drawings (including ICDs and related ECPs, deviations, and waivers) for adherence to form, format, technical adequacy, and technical accuracy requirements. Such activities may include EDMAs, ISEAs, Program Managers, or contractors.

al. Revision. Any approved change to an original drawing after that drawing has been released for use.

am. Rights-in-Data

1. Unlimited Rights. The rights to use, duplicate, or disclose technical data in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so.
2. Limited Rights. The rights to use, duplicate, or disclose technical data in whole or in part, by or for the Government, with the express limitation that such technical data will not be (1) released or disclosed in whole or in part outside the Government, (2) used in whole or in part by the Government for manufacture, or (3) used by a party other than the Government. (Some exceptions apply, see reference (v) in Appendix C.)

an. Ship Alteration (SHIPALT) Installation Drawing (SID). A single, complete package of drawings required to accomplish an alteration on a given ship.

ao. Ship Drawing Index (SDI). A list of all Allowance Parts List (APL) supportable drawings applicable to a ship or any piece of equipment onboard the ship including, but not limited to, ship construction drawings, ship equipment drawings, hull drawings, machinery drawings, electrical drawings, electronic and Interior Communications (IC) drawings, weapon system drawings and associated lists.

ap. Standard Drawing. A NAVSEA Headquarters-controlled drawing identified as a “Standard Drawing” which illustrates arrangements or details of systems, equipment, or components. No departure from a standard drawing is permissible without specific approval.

aq. Superseded Drawing. A drawing that has been replaced by other technical data.

ar. Type Drawing. A NAVSEA Headquarters-controlled drawing identified as “Type Drawing” which illustrates design features of systems or components. No departure from any feature stated to be mandatory is permissible without prior specific approval.

as. Validation. The process by which the preparing activity for a document determines that the document reflects accurate and current requirements, including reference to current documents that are clearly and specifically applicable to the document being validated.

at. Vector Graphics. The presentation or storage of images as defined by sets of straight lines, identified by the locations of the end points.

au. Waiver. A written authorization to accept a configuration item or other designated items which, during

production or after having been submitted for inspection, are found to depart from specified requirements of a drawing, but nevertheless are considered suitable for use “as is” or after rework by an approved method.

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