NAVAL SHIP SYSTEMS COMMAND SYMPOSIUM ON TECHNICAL DATA MANAGEMENT

SEPTEMBER 12-14, 1967

GSA AUDITORIUM AT 18TH AND F STREETS, N. W., WASHINGTON, D. C.

AD 680770

JAN 7 1969

DEVELOPING STANDARD:

- DATA REQUIREMENT DESCRIPTIONS
- DATA DISTRIBUTION LISTS
- DATA REQUIREMENT JUSTICATIONS

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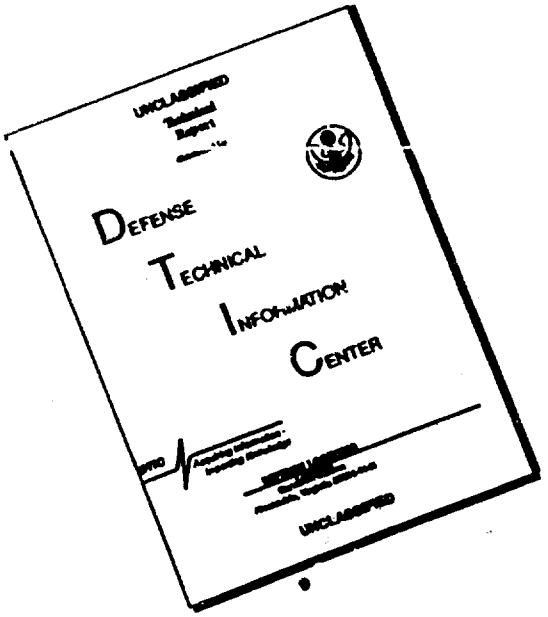

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I INTRODUCTION

This paper discusses one of several developmental efforts underway within the Naval Ship Systems Command to improve management and acquisition of technical data and information; namely, a DATA MANAGEMENT SYSTEM, being developed by the Port Hueneme Division of the Naval Ship Engineering Center under the sponsorship of the Technical Data Management Branch, Code 6032.

This DATA MANAGEMENT SYSTEM conforms with the Chief of Naval Material statements of policy and procedures pertaining to management of technical data and information within the Department of the Navy. Two of those statements, published in NAVMAT Instruction 4000.15, are quoted for the purpose of highlighting the basic tenets of the Data Management System concept:

"SCOPE

This Instruction applies to the acquisition of technical data, whether procured from contractors or prepared within the Navy, and its management in research, engineering, technical, requirements, maintenance, quality assurance (including inspection), procurement, and all other functions of the Department of the Navy directly or indirectly concerned with such data."

"OBJECTIVES

The objectives in thus establishing a management framework and procedural guidance are:

a. Establishing uniform procedures for acquisition of technical data to satisfy intended uses.

b. Improving the administration of contracts calling for data.

c. Improving the overall management of data.

d. Providing techniques to insure the realistic pricing of data.

e. Insuring optimum utilization of data acquired by offices and activities of the Department of the Navy.

f. Increasing competitive procurement; and

g. Increasing small business participation in procurements made by offices and activities of the Department of the Navy."

II DATA MANAGEMENT SYSTEM

It is apparent that an acceptable data management system must do more than just institute a group of forms and publish procedures. In fact, such a System must not only provide standard forms and procedures - but must also provide centralized automated services to Program Managers, Project Engineers, and other users, that will efficiently, accurately and economically assist them in the following data management and data acquisition functions:

- Acquire economically the minimum data needed, ensuring realistic pricing.
- Acquire data on time for the intended purposes.
- Establish data requirements on the basis of needs.
- Fulfill established data needs on the basis of cost-effectiveness analyses.
- Specify data requirements in solicitations of bids or proposals in sufficient detail to provide a full, clear, and firm understanding between the Government and the contractor.
- Assure all contract provisions pertaining to data are fully satisfied.
- Provide for continued maintenance of acquired data to assure validity.
- Prevent the acquisition of data which duplicates or overlaps data already acquired, or being acquired, by the Government.
- Insure adequacy of acquired data to allow competitive procurement of follow-on production of end items, equipments, spare parts, etc.

III SCOPE

The principal features of the Data Management System being developed in support of the foregoing data management and acquisition responsibilities are:

1. An Authorized Data List, which is the data repository of the System, and is designed for easy, versatile, and comprehensive retrieval of selected data.

2. A Data Set for each known data need item, composed of a description, a distribution list, and a need justification. These sets will be complete and will not require reference to any mil specification for establishing the total data preparation requirements.

3. A DATA PROVISIONING MATRIX keyed to "life-cycle" phases, management level usage, and functional use.

4. A Data Provisioning Checklist to enable rapid establishment of program data requirements prior to completion of DD Forms 1423.

5. Centralized automated services to assist Program Managers, Project Engineers, and others in the performance of the functions listed in Section II.

IV DEVELOPMENT PROGRESS

Implementation of the system developmental plan is proceeding rapidly. Although specific details and examples of the Authorized Data List or the automated services products are not available at this time, a brief description of them is given later. However, developmental examples of the following are illustrated and described in this paper:

- Data Provisioning Matrix
- Data Requirements Description
- Data Distribution List
- Data Requirement Justification
- Data Provisioning Checklist
- Contract Data Requirements List, DD Form 1423

V DATA PROVISIONING MATRIX

The Data Provisioning Matrix (Figure 1) provides Users with quick access to the section of the Authorized Data List and an immediate list of data items, applicable to the User's function.

The illustrated Data Provisioning Matrix is only shown to convey an understanding of its utility and the format. The data entered in this sample does not necessarily represent verified or factual information; the actual data entries are now under meticulous research, verification, and establishment of authenticity.

DATA PROVISIONING MATRIX

DATA REQUIREMENT SELECTION CRITERIA CHARACTERISTICS / DATA REQUIREMENT	MGMT LEVEL			PROJ LIFECYCLE PHASE						DEFENSE MAT'L CATEG						FUNCTIONAL DATA CATEGORY														EQUIPMENT LEVEL					PREP INFO		DRD NUMBER	
	PROJ MNGR	PROJ ENGR	ENGINEER	RESEARCH	EXPL DEVL	CONPT FORM	CONTR DEFN	DESGN DEV'P	PRODUCTION	OPERATION	SHIPS	MISSILES	ORDNANCE	VEHICLE/S	VEHICLE/SUB	AIRCRAFT	SPACE	ADMIN/FINCL	MANUALS	CONFIG DATA	DESIGN DATA	ENGR DATA	FACILITIE	HANDBOOKS	LOGISTICS	MGMT/PERT	PRODUCTION	PERS/SUBSYS	REL/MAINT	SYS/ANAL	TEST	PROVISION	MAINT ENG	SYSTEM	EQUIP UNIT	ASSEMBLY	MODULE	COMPONENT	GOV	GOV/CON	CONTR		
RELIABILITY PROGRAM PLAN	X	X						X	X		X																							X							X	S-	010
REPORT, FAILURE	X	X	X					X	X	X	X																		X					X	X	X	X	X			X	S-	040
LIST, PROPOSED TESTS		X	X					X	X	X	X																X		X		X			X	X	X	X	X			X	S-	200
LISTS, PROVISIONING									X		X																		X			X		X	X	X	X	X			X	R-	040
LISTS, REPAIR PARTS, ELECTRONIC	X	X							X		X														X		X		X			X		X	X	X	X	X			X	R-	070
MANUALS, TYPE I, ELECT & MECH		X	X					X	X	X	X													X							X			X	X				X		W-	010
MANUALS, TYPE II, ELECTRONIC		X	X					X		X	X													X							X				X	X	X	X	X		W-	020
MANUALS TYPE IIa, EXPERIMENTAL			X		X		X				X													X										X	X	X	X	X	X		W-	030
MANUALS, TYPE III, SYSTEMS	X	X	X					X	X	X	X													X			X				X			X					X		W-	040
DRAWINGS, TYPE I, FORM 2	X	X	X					X	X		X									X	X	X					X							X	X				X		G-	430
DRAWINGS, TYPE II, FORM 2	X	X	X					X	X		X									X	X	X					X							X	X	X	X	X			X	G-	010
DRAWINGS, TYPE III, FORM 2		X	X					X	X		X									X	X	X					X							X	X						X	G-	020
DRAWINGS, TYPE IV, FORM 2		X	X					X	X		X									X	X	X					X							X	X	X					X	G-	030
DRAWINGS, CONTROL, INTERFACE		X	X				X	X	X		X									X		X	X							X				X	X	X	X		X		G-	050
DRAWINGS, INSTALLATION		X	X					X	X		X									X		X	X		X									X	X						X	G-	080

FIGURE 1

Establishing Matrix data authenticity currently involves the investigation of over eight hundred data items thus far identified as the acquisition requirements for the electronics baseline alone. It is expected that the machinery and propulsion baseline will involve investigation of as many, or more, data items.

The Data Provisioning Matrix usage procedure is simple. The User need only select the "MANAGEMENT LEVEL" column applicable and then follow that column to determine the data items required; noting those pertinent to his management level are identified by an "X"; with the precise data item nomenclature called out: to the left under DATA REQUIREMENT, and to the extreme right under DRD NUMBER. The DRD NUMBER identifies a particular location in the Authorized Data List to obtain the data item:

- Data Requirement Description (DRD)
- Data Distribution List (DDL)
- Data Requirement Justification (DRJ)

The Data Provisioning Matrix also provides addtional information in the other columns under the major headings:

- Project Life-Cycle Phase
- Defense Materiel Category*
- Functional Data Category
- Equipment Level

Use of applicable columns gives the User immediate knowledge of the total program usage requirement for any specific data item, and the earliest technically correct phase in the program life-cycle to schedule and initiate data item procurement. This is designed to assist in achieving greatest cost-effectivity and avoidance of disrupted program schedules or funding deficits in later life-cycle phases due to missing data.

The shaded columns and rows on the illustration (Figure 1) exemplify the foregoing procedures.

*It is contemplated that this sectio be changed to reflect the itemizatio in Block 5 of the DRJ.

VI DATA SET

System Data Sets are individually composed of a Data Requirements Description (DRD), a Data Distribution List (DDL), and a Data Requirement Justification (DRJ). Each Data Set is uniquely identified by the assigned DRD Control No.

VII DATA REQUIREMENTS DESCRIPTION (DRD)

Although the DATA REQUIREMENTS DESCRIPTION (DRD) illustrated in Figure 2, makes reference to MIL-M-15071E(SHIPS); it is intended that DRD's are to contain the complete description of a data item, and the complete explicit details for its data preparation, delivery and acceptance by the Government; thereby eliminating the necessity for the Government and the contractor to tediously interpret a confusing maze of referenced specifications. In other words, a DRD will contain all descriptive information necessary to understanding what the particular data requirement is and how it shall be documented, without the necessity for looking up additional instructions in a referenced specification.

A block-to-block explanation of the proposed DRD follows:

1. TITLE. The exact title of the data item as approved by the Technical Data Office.

2. DATE. The date is assigned by the Technical Data Office at time of DRD approval for ADL listing. The date is entered in numerics in day, month, year sequence, e.g. August 29, 1967 as 29 8 67, to meet requirements for automated processing.

3. DRD CONTROL NO. The DRD Control No. is assigned by the Technical Data Office at time of approval for ADL listing. The numbering sense is oriented for automated processing.

4. LIFE CYCLE. The major phases of the program life-cycle, wherein the particular data being described is needed, are identified.

5. DEFENSE MATERIEL. The prime area of data acquisition applicability is identified.

6. FUNCTIONAL. The functional nature of the data is identified.

7. PREPARING ACTIVITY. The official name of the originator's sponsoring Government office.

8. APPROVING ACTIVITY. The official name of the Data Manager's sponsoring Government office.

DATA REQUIREMENTS DESCRIPTION

1. TITLE	2. DATE (D M Y)	3. DRD CONTROL NO.

DATA ITEM APPLICATION CATEGORIES

4. LIFE CYCLE	5. DEFENSE MATERIEL	6. FUNCTIONAL	
A BASIC and APPLIED RESEARCH	A AIRCRAFT	A ADMINISTRATIVE/FINANCIAL	M MANAGEMENT
B EXPLORATORY DEVELOPMENT	B ELECTRONICS	B MANUALS	P PRODUCTION
C CONCEPT FORMULATION	C MISSILES	C CONFIGURATION	Q PERSONNEL SUBSYSTEMS
D CONTRACT DEFINITION	D ORDNANCE	D DESIGN	R RELIABILITY/MAINTAINABILITY
E ACQUISITION:DESIGN & DEVELOP	E SHIPS	E ENGINEERING DATA	S SYSTEM/SUBSYSTEM ANALYSIS
F ACQUISITION:PRODUCTION	F SPACE	F FACILITIES	T TEST
G OPERATIONS	G SURFACE VEHICLES	H HANDBOOK	V PROVISIONING
		L LOGISTICS	W MAINTENANCE ENGINEERING

7. PREPARING ACTIVITY: NAVSEC, PORHUEDIV, Code 6851	8. APPROVING ACTIVITY: NAVSEC, Wash., Code 6032

APPLICABLE DOCUMENTS

9. RELATED DOCUMENTS:	10. PREREQUISITES FOR THIS DRD:	11. THIS DRD PREREQUISITE TO:	12. MANDATORY USE DOCUMENTS:	13. GUIDANCE INFORMATION:

14. DESCRIPTION

SEE FIGURE 7 FOR AN EXAMPLE OF THE COMPLETED DRD

15. PREPARATION INFORMATION

FIGURE 2

9. RELATED DOCUMENTS. Lists the control numbers of the associated DDL and DRJ of the data set.

10. PREREQUISITES FOR THIS DRD. Lists the DRD Control No. for each of other data items this item is dependent upon, as a condition for data generation or acquisition of this data item.

11. THIS DRD PREREQUISITE TO. Lists the DRD Control No. for each other data item that is dependent upon this data item, as a condition for other data generation or acquisition.

(NOTE: 10 and 11 entries ensures attention to "acquisisition of data on time to meet intended purposes").

12. MANDATORY USE DOCUMENTS. Lists documents other than specifications. For instance, a proper listing would include a specific document or drawings containing technical data or information that must be used, e.g., re-procurement data or information, or an existing engineering drawing.

13. GUIDANCE INFORMATION. Lists references to studies, handbooks, engineering reports, and other such information, that is useful in clarifying the data requirement description.

14. DESCRIPTION. Describes the actual data to be acquired, concisely, with clarity and comprehensibility; and ensuring there are no statements that are subject to interpretation.

15. PREPARATION INFORMATION. Gives complete, explicit, detailed requirements and instructions for the documentation format, quality assurance, inspection, and delivery. This information covers every contractual requirement that would ordinarily be contained in a military specification.

VIII DATA DISTRIBUTION LIST (DDL)

The DATA DISTRIBUTION LIST (DDL), illustrated in Figure 3, gives specific identification of the authorized recipients of the data and the purpose of their receiving access. The DDL also ensures that exact locations of the data are permanently recorded for a variety of Government purposes.

A block-by-block explanation of the proposed DDL follows:

1. TITLE. The exact title of the data item as approved by the Technical Data Office, identical with the title in Block 1 of the related DRD.

2. DATE. The date is assigned by the Technical Data Office at time of DDL approval for ADL listing. The date is entered in numerics in day, month, year sequence, e.g., August 29, 1967 as 29 8 67, to meet requirements for automated processing.

DATA DISTRIBUTION LIST

	2. DATE D M Y	3. DDL CONTROL NO.

RESTRICTIONS a. NOFORN. b. "Need to Know" Cognizance - NAVSEC Code 6032 c. Compliance with contractual DD Form 254 (Security Requirements Checkoff List).	5. RELATED DRD CONTROL NO.

AND DISTRIBUTION – ALL PROCUREMENTS

COMPLETE NAME AND ADDRESS	KIND OF COPY	NO. COPIES	PURPOSE

SEE FIGURE 7 FOR AN EXAMPLE OF COMPLETED DDL

DISTRIBUTION CONFORMING TO PROGRAM CONTRACT

COMPLETE NAME AND ADDRESS	KIND OF COPY	NO. COPIES	PURPOSE

FIGURE 3

3. DDL CONTROL NO. The DDL Control No. is assigned by the Technical Data Office at time of approval for ADL listing. The numbering sense is oriented for automated processing.

4. DATA ACCESS RESTRICTIONS. Identifies the Government office controlling "NEED TO KNOW" clearance, identifies the applicable DD Form 254 (Security Requirements Checkoff List), and lists a restriction such as "NOFORN" that may be significant during the contractor's bid preparation.

5. RELATED DRD CONTROL NO. The Control No. of the related DRD of the data set.

6. STANDARD DISTRIBUTION - ALL PROCUREMENTS. This block identifies the Government; offices, technical centers, data repositories, and document distribution points, that receive a copy of the procured data every time this data set is used. In addition, the DDL specifies the kind of copy, and the number of such copies to be provided. The entry, "purpose", relates unambiguously to the Government and to the supplier the significance of each recipient. An additional benifit is the quick identification of data locations and data accessibility to follow-on users.

7. DISTRIBUTION CONFORMING TO PROGRAM CONTRACT. This block identifies the authorized data recipients peculiar to the individual program, and provides an accurate record of such recipients. This block is completed at time of DDL inclusion in a DD Form 1423 for a contract or procurement request.

IX DATA REQUIREMENT JUSTIFICATION (DRJ)

The DATA REQUIREMENT JUSTIFICATION (DRJ), illustrated in Figure 4, justifies the necessity for Government acquisition of the data described in the DRD for the recipients listed on the DDL. The DRJ also describes other pertinent information concerning the normal method of data procurement.

A block-by-block explanation of the proposed DRJ follows:

1. TITLE. The exact title of the data item as approved by the Technical Data Office, identical with the title in Block 1 of the related DRD.

2. DATE. The date is assigned by the Technical Data Office at time of DRJ approval for ADL listing. The date is entered in numerics in day, month, year sequence, e.g., August 29, 1967 as 29 8 67, to meet requirements for automated processing.

DATA REQUIREMENT JUSTIFICATION (contd)

11 OTHER PERTINENT INFORMATION

12 DATA NECESSITY AND USE

ORGANIZATION	NECESSITY	USED BY

13 APPROVAL COORDINATION

ORIGINATING ACTIVITY (SIGNATURE) DATE

DATA MANAGER'S APPROVAL (SIGNATURE) DATE

CHAIRMAN DATA REQUIREMENTS REVIEW BOARD APPROVAL (SIGNATURE) DATE

TECHNICAL DATA OFFICE APPROVAL FOR ASC LISTING (SIGNATURE) DATE

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DATA REQUIREMENT JUSTIFICATION

1. TITLE	2. DATE D M Y	3. DRJ CONTROL NO. 4. RELATED DRD CONTROL NO.

5. PROCUREMENT:

- ____ ALL
- ____ ELECTRICAL
- ____ ELECTRONICS
- ____ MECHANICAL
- ____ RADAR
- ____ WEAPONS
- ____ ORDNANCE
- ____ COMMUNICATIONS
- ____ SONAR
- ____ NAVIGATION
- ____ EW
- ____ COMMAND & CONTROL
- ____ AVIONICS
- ____ TEST SYSTEMS
- ____ IFF
- ____ SPACE VEHICLES
- ____ SHIPS
- ____ SURFACE VEHICLES
- ____ SUBSURFACE VEHICLES
- ____
- ____

6. DATA RIGHTS:

____ UNLIMITED RIGHTS TO BE PROCURED WITH

- ____ Contractor Maintenance of Data
- ____ Government Maintenance of Data

____ LIMITED RIGHTS TO BE PROCURED WITH

- Contractor Maintenance of Data

7. DATA DISCLOSURE:

____ DEVELOPMENTAL DATA DISCLOSURE TO BE PROCURED

____ FULL DESIGN DATA DISCLOSURE TO BE PROCURED

____ EMERGENCY MANUFACTURE DATA TO BE PROCURED

8. CATEGORY:

____ GROUP I

____ GROUP II

____ GROUP III

____ GROUP IV

9. BOB APPROVAL:

- WILL THE FORM AND/OR DOCUMENT PREPARED REQUIRE BOB APPROVAL ? THE FEDERAL REPORTS ACT OF 1952 (5 U S C 139) AND BUREAU OF THE BUDGET CIRCULAR NO A 40 (OCT 24 1951) PROVIDE THAT NO FEDERAL AGENCY SHALL CONDUCT OR SPONSOR THE COLLECTION OF INFORMATION UPON IDENTICAL TERMS FROM TEN OR MORE PERSONS UNLESS THE DIRECTOR OF THE BUREAU OF BUDGET APPROVES IN ADVANCE THE ADOPTION OR REVISION OF ANY PLANS OR FORMS TO BE USED

YES ____ PUBLIC REPORT APPROVAL NO ____
GOVERNMENT FORM NO ____

NO ____

10. DATA ACCESS RESTRICTION:

SEE FIGURE 4 FOR AN EXAMPLE OF COMPLETED DRJ

FIGURE 4

3. DRJ CONTROL NO. The DRJ Control No. is assigned by the Technical Data Office at time of approval for ADL listing. The numbering sense is oriented for automated processing.

4. RELATED DRD CONTROL NO. The Control No. of the related DRD of the data set.

5. PROCUREMENT. This information is to identify a more specific categorization of data applicability, and will be updated each time a data set is used. In addition, this listing may be utilized as an automated retrieval field for specific purposes.

6. DATA RIGHTS. This is an explicit statement of the type of data rights that is to be normally acquired.

7. DATA DISCLOSURE. This is a statement of the type of data disclosure that is to be normally acquired.

8. CATEGORY. This information is usually selected by the contractor while estimating prices for the data to be furnished. However it is listed on the DRJ with the intention that the proper Group, established upon the basis of several procurement experiences will assist Government Users. The currency of this entry is intended to be a function of maintaining the ADL.

9. BOB APPROVAL. The given statement on the DRJ is self-explanatory.

10. DATA ACCESS RESTRICTION. This block will include the information listed on the DDL of the data set, however this entry will also describe in detail the reasons for the CLASSIFICATIONS and any other restrictions to be entered in the contractual DD Form 254.

11. OTHER PERTINENT INFORMATION. Information in clarification of DRD, DDL, or DRJ entries, e.g., cost-effectiveness reasons for initiating data procurement in a life-cycle phase when the data will not be used until a later life-cycle phase; or reasons for varying from normal conditions stated in the data set, due to unique applications.

12. DATA NECESSITY AND USE. Lists the Government organizations who will receive this data; why they need the data; and who will use the data.

13. APPROVAL COORDINATION.

    ORIGINATING ACTIVITY. The title of the originating activity (office or code) that is establishing this data item, or is recommending a change to this data item, and the signature of the activity representative. This entry is not made if the originating activity is a Program or Project.

DATA MANAGER APPROVAL AND
CHAIRMAN-DATA REQUIREMENTS REVIEW BOARD APPROVAL.
These entries are only required when the data set is being established to identify a data requirement for a Program or Project and the data item is not already on the ADL; or to effect a change to a data set already on the ADL.

TECHNICAL DATA OFFICE APPROVAL FOR ADL LISTING.
This entry is made by the Technical Data Office (TDO) after the data set (or a change to a data set already listed on the ADL) is approved.

X DATA PROVISIONING CHECKLIST

The Data Provisioning Checklist (Figure 5) is identical with the format specified in Appendix B of NAVMAT Instruction 4000.15. The CNM statement concerning the purpose of the Checklist is "to enable the realistic determination of data requirements early in the program, prior to completion of DD Forms 1423".

The preparation of this Checklist is greatly simplified by using the Data Provisioning Matrix.

XI DD FORM 1423

The DD Form 1423 (Contract Data Requirements List), shown in Figure 6, has the format shown in Appendix C of NAVMAT Instruction 4000.15. The Instruction states "DD Form 1423, Contract Data Requirements List (CDRL), or its mechanized equivalent is to be used as the prime contractual document listing all Technical Data and Information to be delivered under the contract". Specific item-by-item explanation is given in NAVMAT Instruction 4000.15.

The use of NSSC's proposed ADL and associated DRD, DDL, and DRJ formats, will make it feasible to complete Item 4, 5, and 14 as follows:

Item 4 (Authority, Data Item Number)
Enter the DRJ Control No.

Item 5 (Contract Reference)
Enter the DRD Control No.

Item 14 (Distribution and Addressees)
Enter the DDL Control No.

DATA PROVISIONING CHECKLIST

(SAMPLE ILLUSTRATES PROVISIONING FOR A FULL DESIGN DISCLOSURE DATA PACKAGE)

TYPES OF DATA

INTENDED USES	DESIGN DEVELOPMENT DATA ENGRG REPORTS	TEST RESULTS	ENGINEERING DRAWINGS	ENGR CHANGES & CONTROL	LISTS	TEST PROCEDURES	SPECIFICATIONS	STANDARDS	TECHNICAL MANUALS	TECHNICAL ORDERS	PROVISIONING LISTS	ITEM IDENTIFICATION	PICTORIAL REPRODUCTIONS	SOUND RECORDINGS	MANUFACTURING SUPPORT DATA	OTHER DATA AS REQ'D	RIGHT TO USE		DEVELOPED AT PRIVATE EXPENSE	
																	L	U	P	S
1. RESEARCH	X	X	X			X	X						X	X				X	N	N
2. DEVELOPMENT	X	X	X			X	X						X	X				X	N	N
3. DESIGN APPROVAL	X	X	X	X	X	X	X	X					X	X				X	N	N
4. INITIAL PROCUREMENT			X	X	X	X	X	X	X	X	X				X			X	N	N
5. PRODUCTION			X		X	X									X			X	N	N
6. QUALITY ASSURANCE (INCL. INSPECTION)			X	X		X	X	X							X			X	N	N
7. INSTALLATION			X						X	X							X			
8. OPERATION			X						X	X							X			
9. MAINTENANCE			X						X	X							X			
10. REPAIR & OVERHAUL			X						X	X					X		X			
11. PERSONNEL & TRAINING									X	X			X	X			X			
12. PROVISIONING			X	X	X		X	X	X	X	X	X					X			
13. CATALOGING			X									X					X			
14. STANDARDIZATION			X				X	X				X					X			
15. REPROCUREMENT			X	X	X	X	X	X	X	X	X	X			X			X	N	N

L-LIMITED RIGHTS IN DATA

U-UNLIMITED RIGHTS IN DATA

P-PRIME CONTRACTOR

S-SUB-CONTRACTOR or VENDOR

N-A REQUIREMENT FOR THE PURCHASE OF RIGHTS IN DATA WILL BE NEGOTIATED

FIGURE 5

CONTRACT DATA REQUIREMENTS LIST

ATCH NR ____ TO EXHIBIT A

SYSTEM/ITEM SSM-550

TO CONTRACT/PR PR 70-012

CATEGORY ____

CONTRACTOR ____

1 SEQUENCE NUMBER	2 TITLE OR DESCRIPTION OF DATA / 3. SUBTITLE	6. TECHNICAL OFFICE	10. FREQUENCY	12. DATE OF 1ST SUBMISSION	14. DISTRIBUTION AND ADDRESSEES (Addressee-Regular Copies-Repro Copies)
4 AUTHORITY (Data Item Number)	5. CONTRACT REFERENCE	7. DD250 REQ / 8 APP CODE (A) / 9 INPUT TO IAC (X)	11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM/EVENT ID	
1. A00IAA	2 INSTALLATION ENGINEERING DRAWINGS / 3.	6. NAVSEC 6600	10. ONE/R	12. 10/4/70	14. DDL G-081
4. DRJ G-082	5. DRD G-080	7. Y / 8. A / 9.	11.	13. NLT 15 DAYS AFTER NECESSITY FOR REVISION ESTABLISHED	
16. REMARKS REQUIRED FOR USE IN CATEGORIES C,D,E, AND P.					15 TOTAL 4/1

17. EVENT/CEI NUMBER	23. CONTRACTOR FILE/ DOCUMENT NUMBER
18. BOB APPROVAL /FORM NUMBER	24. ESTIMATED NUMBER OF PAGES
19. 20. 21. 22. RESERVED FOR AOP	25. PRICE GROUP / 26. ESTIMATED TOTAL PRICE
17 1/22	23.
18.	24.
19. 20. 21.	25. 1
22.	26.
CONTRACT VALUE	

PREPARED BY	DATE	APPROVED BY	DATE
A. SIGNATURE DATA MANAGER, CODE ZZZZ	11 JAN 1969	ANOTHER SIGNATURE CHAIRMAN, NAVSEC DRRB	15 MAR 1969

DD FORM 1423

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FIGURE 6

XII CENTRALIZED AUTOMATED SERVICES

The proposed Data Management System service to Users, incorporates the concept of providing a data provisioning package in response to a standard query.

The preparation of a "query" will require the User to fill out a simple query form by marking a series of X's to define his data requirements in the following major management and acquisition areas:

- Management Level
- Life-Cycle Phase
- Functional Data Category
- Equipment Level

The "data provisioning package" the User will receive in response to his "query" will provide, in computer printout format except for data sets which will be Xerox copy:

- A Program Data Provisioning Matrix, showing only those columns and rows of the (Data Management System) Data Provisioning Matrix that are applicable to the query.
- A copy of each DRD (and associated DDL, DRJ) listed on the Program Data Provisioning Matrix.
- A tabulation for each DRD listed on the Program Data Provisioning Matrix, in the form of a computer printout, showing:
  - Latest three, similar data acquisitions by Contract/PR number, date, system/equipment nomenclature and cognizant Government activity; including identification of a data acquisition that may be in progress.
  - Data Price Category and estimated price of each acquisition.
  - Contractor identity in each acquisition.

- Nomenclature of delivered data documents and drawings, copy procurement point, and access restriction; for each acquisition.

XIII AUTHORIZED DATA LIST

The proposed Authorized Data List (ADL) for the Naval Ship System Command will generally correspond with the format of the improved Navy Authorized Data List (NADL) (MIL-HDBK-222 NAVY). However, the contents of the ADL will be arranged as follows:

Part I	Mechanical & Propulsion Data Set titles and DRD Control Nos., alphabetically arranged by title.
Part II	Electrical Data Set titles and DRD Control Nos., alphabetically arranged by title.
Part III	Electronics Data Set titles and DRD Control Nos., alphabetically arranged by title.
Part IV	Data Provisioning Matrix
Part V	Authorized Data Sets alphanumerically arranged by DRD Control No.

The procedure for placing a Data Set on the ADL may be:

- by an ORIGINATING ACTIVITY preparing a Data Set for a general and re-occurring data requirements and forwarding the data set to the Technical Data Management Branch (Code 6032) for approval and listing; or,
- by originating a Data Set in connection with a specific program, project contract or procurement request. The Data Manager or DERB forwarding the data set to the Technical Data Management Branch (Code 6032) for approval and listing.

It is proposed that the ORIGINATING ACTIVITY, DATA MANAGER, or DERB, as appropriate, be made responsible for immediate notification to the Technical Data Management Branch whenever a new Data Set or a change to a listed Data Set is initiated. This notification is necessary to prevent duplication of effort and to enable coordination of the interested parties.

DATA REQUIREMENTS DESCRIPTION

1. TITLE: TYPE II [illegible] MANUALS

2. [illegible]

DATA REQUIREMENT CATEGORIES

4. LIFE CYCLE		5. DEFENSE MATERIEL		6. FUNCTIONAL	
	A. [illegible]		A. AIRCRAFT		A. [illegible]
	B. [illegible]	X	B. ELECTRONICS	X	B. MANUALS
	C. CONCEPT FORMULATION		C. MISSILES		C. [illegible]
	D. CONTRACT DEFINITION		D. ORDNANCE		D. DESIGN
X	E. ACQUISITION-DESIGN & DEVELOP	X	E. SHIPS		E. ENGINEERING DATA
X	F. ACQUISITION-PRODUCTION		F. SPACE		F. FACILITIES
X	G. OPERATIONS		G. SURFACE VEHICLES		G. HANDBOOK
					H. LOGISTICS

	[illegible]
	[illegible]
	[illegible]

14. DESCRIPTION

1. DESCRIPTION. - The functioning of the equipment or system as a whole and of its interrelated units shall be described. The functional description shall be non-technical in nature and shall describe the intended use (why, where, when, and with what), capabilities, and limitations of the equipment or system. Text covering physical descriptions or structural arrangements shall be brief with special attention given to avoiding the inclusion of unnecessary or repetitious details that are easily illustrated. If the manual covers more than one model equipment or system, a statement or table pointing out the differences shall be provided. A list of equipment supplied together with the approximate volume, weight, and over-all dimensions of each unit, if applicable, shall also be included. A list of equipment or publications required but no supplied and a compilation of quick reference data shall also be included. The quick reference data shall consist of pertinent technical or design characteristics of the equipment. Examples of such data are:

(a) Descriptive (nameplate) data necessary to identify manufacturer, type, model.
(b) Functional characteristics, such as:
  Power of requirement
  Types of operation
  Power output
  Frequency
  Pulse characteristics
  Sensitivity; selectivity
(c) Capabilities, such as:
  Rated ranges
  Coverage
  Resolution
  Accuracy
(d) Rated outputs such as:
  Wattages
  Voltages
  Horsepower
  Gallons per minute
(e) Special characteristics, such as:
  Operating temperatures
  Heat dissipation per unit
  Pressure
  Humidity
  Tolerances
(f) Other pertinent characteristics

(cont'd on page 3)

(CONTINUATION SHEET)

14. DESCRIPTION

2. INSTALLATION. - Installation information, as necessary to summarize installation drawings, such as: site selection, unpacking and handling (where abnormal procedures or precautions are required), preparation of foundations, power requirements, mechanical assembly procedures, mounting instruction, bolting diagrams, safety precautions or guards, grounding and bonding, clearances for access, ventilation, motion under shock, methods of testing to assurance satisfactory installation, and other recommendations for reduction of electrical or radio interference shall be provided. Information shall also be included to describe and illustrate, as necessary, the procedures to prepare the equipment for reshipment, taking into account complicated disassembly or dismantling procedures and known requirements for special handling of the equipment.

3. OPERATION. - Operating instructions shall include routine and emergency procedures (manual, automatic, local, and remote), safety precautions, quantitive and qualitative limits to be observed in the starting, operating, stopping, or shutting down of the equipment or systems. Where operating procedures or adjusements are to be performed in a specific sequence, step-by step procedures shall be given: tables or charts as necessary, are preferred for the presentation of such procedures. Adquate illustrative material shall supplement the text, to identify and locate all operating control and indicating devices. Tables which present the function of each operating control and indicating device, as well as the normal in-use position or indication, shall be included. Operating and stand-by cycling time for maximum over-all equipment life shall also be included. Emergency operating instructions shall describe procedures to be followed when normal operation is not possible because of emergency conditions, such as: power failure, "battle short" operation, control air failure, lube-oile failure, partial failure of equipment and so forth.

4. OPERATOR'S MAINTENANCE. - It is the intent of this specification that the operator's information include any maintenance procedures within the capability of an operator. This capability is limited to procedures governing periodic inspection, cleaning, servicing, preservation, lubrication, adjustment, and minor parts replacement (fuse, dry batteries, indicator lamps, and so forth) which do not require the need for internal alignment or complex adjustment.

5. TROUBLE SHOOTING. - The manual shall provide the maintenance technician with adequate details for quickly and efficiently locating the cause of an equipment malfunction. The discussions shall contain concise information (to the extent needed) on how the equipment operates. The discussions shall be in order of operational or data sequence, as applicable. Block diagrams, simplified schematic diagrams of electrical, mechanical, hydraulic, pneumatic, and electronic circuits or systems, performance curves, and nomographs shall be used to support the discussions wherever necessary. Trouble-shooting information required to localize any trouble to a particular functional division (or unit) shall be included, to serve as a guide in isolating faults.

DATA REQUIREMENTS DESCRIPTION

1. TITLE	2. DATE D M Y	3. DRD CONTROL NO
TYPE II ELECTRONIC AND SPECIALIZED EQUIPMENT MANUALS	14 8 67	W-02000

(CONTINUATION SHEET)

14. DESCRIPTION

5.1 Trouble-shooting guides for localizing faults, giving sources of trouble, the symptoms, and probable cause, and instructions for remedying the faults shall be included for equipment or systems if adequate historical data is readily available.

5.2 Trouble shooting where adequate historical data is not readily available shall be based on the following "logical trouble-shooting procedure" (see 6.2):

(a) Step 1 - Symptom recognition. - The technician must be able to recognize when the equipment is malfunctioning or when performance has deteriorated beyond acceptable limits. This requires that the technician have available data similar to the following:
  (1) Expected performance or design characteristics for the as a whole.
  (2) Performance limits for individual units of an equipment.
  (3) Other factors which can cause a deterioration in equipment performance but are not the direct resutl of an equipment malfunction.

(b) Step 2 - Symptom elaboration. - After a trouble has been verified, the technician must use the available aids designed into the equipment to further define the trouble. As an aid to this step, the technician needs:
  (1) A list of all frotn panel indicating devices (listing normal indications) and the controls which govern their operation.
  (2) A list of all critical adjustments or alignment procedures which affect equipment operation.
  (3) Programmed or automatic testing procedures.

(c) Step 3 - Listing probable faulty function. - After the technician has further defined the equipment trouble, he makes several "logical choices" covering the general location of the trouble, based upon the symptoms, his knowledge of the equipment, and the information available in the manual. In making these "logical choices", the technician will limit the location of the fault to those functional divisions which, if defective, could reasonably cause the trouble. For this he needs:
  (1) A complete functional description of the equipment, and a detailed description of the operation of each functional division of the equipment and an explanation of critical circuits and reasons for adjustments.
  (2) Block diagrams of the equipment broken down into its functional divisions.

(d) Step 4 - Localizing the faulty function. - After "Choosing" the functional division that could be faulty, the technician performs certain test or checks which will either eliminate or pinpoint the functional division under consideration. In order to perform these tests, the technician needs:

 (cont'd on page 5)

14. DESCRIPTION

(1) A list of test equipment and any special tools required.
(2) A complete and comprehensive servicing block diagram for each functional division of the equipment.
(3) Illustrations calling out significant test-point locations.

(e) Step 5 - Localizing trouble to the assembly (or circuit). - After the faulty functional division has been isolated, further "logical choices", together with additional tests and checks, enable the technician to isolate and pinpoint the part(s) causing the trouble. In order to accomplish this degree of isolation, the technician needs:

(1) An over-all equipment schematic diagram, or, if the equipment is large or complex, individual unit schematics.
(2) A listing of pertinent measurements (end play, backlash, clearances, temperatures, resistances, waveforms, and so forth) to be used as they apply in checking individual assembly or circuit conditions.
(3) Illustrations showing the location of all parts.

(f) Step 6 - Failure analysis. - This is simply a review step in which the technician retraces the procedures he used in arriving at the corrective measure he is about to take. It allows the technician to broaden his background by giving him practice in determining the effect of the faulty part on the functional division, and on the equipment.

6. MAINTENANCE

6.1 PREVENTIVE MAINTENANCE. - All preventive maintenance procedures that must be performed by a maintenance technician, tests, inspections, and adjustments which should be performed periodically to maintain proper operation shall be included if they are not described in a separate maintenance publication (such as a Maintenance Standards Book). The instructions shall include, where appropriate:

(a) A maintenance procedures summary and time schedule chart.
(b) A tabulation of periodic performance, mechanical and electrical tests and checks, cleaning and inspections, and lubrication. Each of the checks or procedures shall be properly illustrated, and a regular time interval of performance shall be established (such as daily, weekly, monthly, and so forth). Acceptable limits of performance shall also be included within the tabulations. In general, the information shall indicate when it is to be done, how to do it, and the expected result.
(c) Lubrication instructions shall include manufacturer's recommendations on types of lubricant to use, specific time intervals for lubrication, and, where covering lubricating procedures. Lubricants shall be identified by military or commercial standard numbers, as available.

 (cont'd on page 6)

14. DESCRIPTION

(d) Cleaning instructions shall include information on the types of solvents to use and the cleaning periods. The cleaning solvents shall be identified by military or commercial standard numbers, as available.

6.2 REPAIR. - Instructions shall be provided for the removal, repair, adjustment, and replacement of all items which are within the ability of a technician to perform. Schematic diagrams of electrical, mechanical, hydraulic, pneumatic, and electronic circuits; parts location illustrations or other methods of parts location infor ation; photographs, inter-connection calbing, piping plans, intra-rack wiring data (diagrams or tabular listings), and exploded and sectional views giving details of mechanical assemblies shall be provided, as necessary, to supplement the test. For mechanical items, information on tolerances, clearances, wear limits, maximum bolt-down torques, and in-place balacing or other means of reducing noise level shall be supplied. Information on the use of special tools and test equipment supplied with the equipment, as well as any cautions or warnings which must be observed to protect personnel and equipment, shall also be covered. The presentation should be arranged on a procedures; or illustrations which are common to more than one assembly or sub-assembly need not be repeated, but may be referenced.

7.1 PARTS LIST. - The parts list shall include identification data covering all maintenance parts, to facilitate ready identification of the parts for replacement and ordering purposes. Standard hardware, structural parts, or other parts which have not maintenance significance shall not be listed. A brief introduction and the applicable tables listed below shall be included:

7.1 LIST OF UNITS. - The units shall be listed by unit number in numerical order; the list shall also indicate the quantity per equipment and the offical name and designation.

7.2 MAINTENANCE PARTS LIST. - The maintenance parts list shall list all of the units and their maintenance parts. The listing shall be arranged by units in numerical sequence. Maintenance parts for each unit shall be listed alphabetically-numerically by class of part following the unit designation:

(a) The tabulation shall consist of the following data: reference designation (military or commercial, as applicable) and the name and description of the parts, keyed to an illustration. (If a cross reference list to provide parts location data is included with the repair material, the parts list can omit cross reference to an illustration.) Those parts which are not covered by military designation shall include sufficient characteristics to allow identification of the part within the equipment.

(b) A separate list of any special tools supplied with the equipment shall be provided at the end of the parts list tabulation.

7.3 LIST OF MANUFACTURERS. - A list of manufacturers shall be supplied unless the manufacturers are identified within the part list tabulation by name and not by code.

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15. PREPARATION INFORMATION

1. References. - The Bureau of Ships Technical Manual, NAVSHIPS 250-000, describes the theory, operation and maintenance of many equipments and systems. Common electronic circuits are described in the Handbook of Electronic Circuits, NAVSHIPS 900,000.102. Accordingly, it will not be necessary to repeat this type of data in equipment or systems manuals except by reference. New or unique applications shall be fully described, to acquaint the technician with their principles of operation and maintenance.

2. Front Matter. - Standard front matter, listed in the normal sequence of appearance, shall consist of the following:

2.1 Cover and title page. - The cover shall contain the information shown in figure 1. The title page shall contain the information shown in figure 2.

2.2 List of effective pages. - The list of effective pages shall list all pages of the manual and shall indicate the issue information of each page (see 3.10.2.3). In multi-volume manuals, this page shall be included in volume 1 only.

2.3 Table of contents. - The table of contents shall list all primary divisions (chapters, sections, and paragraphs), with their corresponding page numbers. In multi-volume manuals, volume 1 shall contain a complete table of contents for all volumes; each subsequent volume shall contain its own table of contents.

2.4 List of illustrations. - The list illustrations shall contain a complete listing of figures, titles, and page numbers. In multi-volume manuals, volume 1 shall contain a complete list of illustrations; each subsequent volume shall contain its own list of illustrations.

2.5 List of tables. - The list of tables shall contain a complete listing of all tables, titles, and page numbers. In multi-volume manuals, volume 1 shall contain a complete list of tables; each subsequent volume shall contain its own list of tables.

3. Index. - An alphabetical index by subject shall be included if the manual contains more than 100 pages. In multi-volume manuals, the index shall be included in volume 1 only.

4. User activity comment sheet. - The manual production source shall include in each bound copy of final equipment and systems manuals one user activity comment sheet. This sheet shall be located immediately following the last page of each manual. In multi-volume manuals the sheet shall be located immediately following the last page of each volume. Figure 4 shall be used.

5. Preparation guide. - NAVSHIPS 94500 provides guidance as to a desired level of organizing, illustrating, and expressing technical material required.

(cont'd on page 8)

Any major deviation from this guide shall be approved by the bureau or agency concerned.

6. Operators' handbook. - When the thickness of the manual exceeds approximately 1/2 inch, the operators' information required in 3.3.4 shall be bound as a separate "Operators' Handbook". When bound separately, the standard front matter specified in 2.0 shall be included in the handbook.

7. Format. -

7.1 Volumes. - When the thickness of a manual exceeds approximately 2 inches, the manual shall be divided functionally into volumes and chapters or sections, as necessary, to provide easy handling and to present orderly instructions.

7.2 Text. - The text shall be specific, concise, and clearly worded to be readily understandable by personnel involved in the operation, maintenance, and repair of the equipment.

7.3 Emphasis. - The main interest is in the adequacy and completeness of contents and the clarity and readability of the information rather than the format. The manual shall be oriented toward operation, maintenance and repair of the equipment by the forces afloat, without the services of a manufacturer's representative. The portions devoted to descriptive matter and theory shall be limited to those which are essential to a proper understanding of the equipment for satisfactory operation, maintenance and repair. The text need not duplicate information which is adequately shown on the photographs, drawings and illustrations incorporated in the manual.

7.4 Security classification - The security classification of a manual shall be as designated by the bureau or agency concerned. The Security Requirements Check list DD Form 254, which constitutes a part of the contract for all classified material, identifies and indicates the classified features. All pages of classified manuals shall be marked in accordance with Industrial Security Manual for safe-guarding classified information. Whenever possible, the installation, operation, and parts list information shall be kept unclassified.

7.4.1 Additional security markings. - When a manual contains information of a higher classification than that of the equipment it concerns, the appropriate classification of all classified data contained within that manual shall be identified by a classification letter(s) enclosed in parentheses (see 7.4.2) and positioned as follows:

(a) Paragraphs and subparagraphs. - At the beginning and end of the text.
(b) Tables and illustrations. - At the upper-left and lower-right corners.
(c) Subjects and titles. - At the end of the subject or title.

 (cont'd on page 9)

7.4.2 Classification letters. - The classification letters assigned to the various levels are: (TS) Top Secret, (S) Secret, (C) Confidential, and (CMH) Confidential-Modified Handling Authorized, and (CRD) Confidential Restricted Data. Although it is not intended that each and every item of information bear a classification letter, the letter (U) shall be used to denote unclassified data when so directed by the bureau or agency concerned.

7.5 Notes, Cautions, and warnings. - Notes, cautions, and warnings shall be used to emphasize important and critical instructions, consistent with the need. Notes, cautions, and warnings shall immediately precede the applicable instructions, and shall be selected in accordance with the following:

(a) "NOTE" - Concerns an operating procedure or condition which should be high-lighted.
(b) "CAUTION" - Concerns an operating procedure or practice, which if not strictly observed, will result in damage to or destruction of equipment.
(c) "WARNING" - Concerns an operating procedure or practice which, if not strictly observed, will result in injury to personnel or loss of life.

7.6 Numbering and identification. - Any chapter, section, page, and paragraph numbering system is acceptable if it facilitates adequate indexing and location of information.

7.7 Illustrations. - Illustrations perform the function of graphically presenting required information. They shall be so planned and laid out as to portray complete pertinent information in a clear and accurate manner. Contractors may use available illustrations (photographs, diagrams, and so forth) prepared for other publications if the illustrations conform to this specification.

7.8 Abbreviations. - Abbreviations for use on drawings shall conform to DRD G-series.

7.9 Graphical symbols. - Graphic symbols shall conform with the DRD G-series.

8 Production. -

8.1 Detail materials, reproduction procedures and assembly shall be approved at time of submission of manuscript for approval. Acceptable production details are set forth in this specification. Alternate methods will be approved if equivalent performance and durability are provided.

8.2 Use of color. - Color shall only be used to clarify functional operations. Such methods as cross-hatching or shading shall be used in lieu of color when there will be no loss in comprehension. Color shall not be used for backgrounds or for other decorative purposes. If color is used, a legend shall be included to explain the colors used. Colors shall be held to a minimum.

(cont'd on page 10)

8.3 Typography. - It is not the intent of this specification to state the different methods or composing equipment to be used, but rather to state the results required. All manuals are subject to 35mm microfilming. Letters, lines, and symbols shall be of a uniform contrast throughout the publication. Blurred or smudged printing or drop-out of characters or lines shall be cause for rejection. Characters shall be no smaller than 8-point type. When revisions are made, the typography shall conform as nearly as possible to the original manual. Preferred typography is set forth in table I.

(a) Table I indicates the final point size of the type. When oversize pages are used for composition, the type shall approximate these sizes when reduced.

(b) The type families listed below are most preferred, and can be closely matched by cold composition processes:

Book face (Roman)

Garamond	Bookman
Century	Modern Roman
Modern	Baskerville

(c) Leading and spacing may be relaxed where circumstances require such alterations.

8.4 Layout. - Recommended page layout is set forth below:

(a) Single pages. - The preferred layout follows:

Page size (inches)	Columns	Column Width (picas)	Gutter Width (picas)	Binding Edge (picas)	Image* Depth (picas)
8-1/4 x 10-3/4	1	42	---	7	60
7-3/4 x 10-1/4	1	39	---	6	57
8-1/4 x 10-3/4	2	20	2	7	60
7-3/4 x 10-1/4	2	19	1-1/2	6-1/2	57
3-3/8 x 6-3/4	1	20	---	5	31-1/2

* Exclusive of security classification and page numbers.

Blanks and spaces shall be avoided except on fold-ins. The first major division of the publication (chapter or section) shall begin on a new odd page.

(b) Fold-ins.- Fold-in pages shall be used only for diagrams, drawings, and charts which cannot be reduced for satisfactory presentation on a single page, or when frequent reference is required from other pages of the book. Page-size aprons are required. When fold-in pages are used, they should be held to a two-page fold-in whenever practicable, and shall not exceed an overall length of 34 inches from the binding edge, including the apron. The apron may contain information pertaining to the diagram, drawing or chart.

 (cont'd on page 11)

8.5 Illustrations. - Illustrations shall be prepared by the most economical method which will result in clear, legible illustrations.

(a) Lettering. - Lettering height in final reproduced form shall not be less than 0.060 inch.

(b) Continuous-tone artwork. - Continuous-tone artwork (photographs and renderings) shall provide a clear definition of shapes, tonal values, and surface texture. The subjects shall be well-lighted, detailed, and brilliant.

(c) Line artwork. - Line artwork shall be prepared with line weights of sufficient strength to reproduce sharply and clearly at the final reproduction size, and shall be suitable for reduction to 35mm microfilm.

8.6 Paper stock. - Paper stock for text pages and fold-ins shall be as follows:

(a) Lithography. - Paper stock shall be white offset book, free from unbleached or ground woodpulp, and shall have a substance weight of not less than 100 pounds per 1000 sheets, basis 25 by 38 inches.

(b) Letterpress. - Paper stock shall be equivalent to white supercalendered book, the content of which shall not exceed 5 percent unbleached chemical wood or ground woodpulp, the remainder to be bleached chemical woodpulp, and shall have a substance weight of not less than 90 pounds per 1000 sheets, basis 25 by 38 inches.

8.7 Cover stock. - Cover stock shall be of plastic or pressboard. Information to be imprinted on the covers shall not be stamped in gold or any other metal foil. Cover colors for unclassified manuals shall be of any color except red or yellow. Covers for CONFIDENTIAL manuals shall be red. Covers for SECRET and TOP SECRET manuals shall be yellow.

8.8 Binding. - Manuals shall be prepared in looseleaf form, and shall facilitate the insertion of replacement pages. Commercial metal-type fasteners are to be used. The manual pages shall be punched or drilled as follows (all dimensions in inches):

Hole-type binders 4-3/8 x 6-3/4 7-3/4 x 10-1/4 (8-1/4 x 10-3/4)

Number of holes	Two	Three
Hole Size	1/4	1/4
Distance, center-to-center	4-1/2	4-1/4
Distance to binding edge	5/16	7/16

(cont'd on page 12)

FIGURE 7

Multi-slot binders

Number of slots	Twelve	Eighteen (Nineteen)
Slot size	3/16 x 5/16	3/16 x 5/16
Distance, center-to-center	9/16	9/16
Distance to binding edge after trim	3/16	3/16

Punching or drilling of revision pages shall be the same as for the original manuals. Fillers shall be used to build up binding edge to same thickness as right-hand edge of manuals.

11. Approval. -

11.1 Basic equipment manuals. - Whenever an equipment lends itself to the preparation of a manual covering a family of equipments of the same basic design, and one which can be made applicable to specific equipments of that design by completing sheets and blanks, the contractor may submit four copies of the basic manual, together with examples of the completing sheets and blanks which will represent the detailed information to be provided for a specific equipment. Approval of such a manual will be by the NAVSEC only, and once approved, the basic manual shall not be modified without the approval of the NAVSEC. At the time of manual approval, the Bureau will assign a NAVSHIPS number to the basic manual and forward one copy to the cognizant inspector for future comparison and inspection with manuals furnished for specific equipments. If any subsequent issue of a basic manual is not equivalent to the approved manual, such approval may be withdrawn. Once approval of such a manual is granted for a particular basic design of equipment (and size range, if appropriate), the basic manual with the specific detailed information required for the unit of the family being furnished shall be supplied in the quantities required by the order, without further approval. Copies of the manual prepared for the specific equipments shall be marked by the contractor with the publication number of the basic manual, followed by a "-1", "-2", and so forth. Each dash number shall be assigned numerically by the contractor for each specific equipment of that family.

11.2 Specific equipment manuals. - Manuals for a specific equipment that are not prepared from a basic manual shall be approved by the NAVSEC or its field representative. (The term "field representative" is limited to field representatives of the NAVSEC, that is, Supervisors of Shipbuilding, USN, U. S. Naval Shipyards, and Industrial Managers, USN.) Once such a manual has been approved by the NAVSEC or its field representative, the manual shall not be modified without approval of the NAVSEC.

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FIGURE 7

11.2.1 Manuals for a specific equipment not previously approved shall be submitted for approval to the appropriate activity, as follows:

(a) Manuals procured under NAVSEC contracts. - The contractor shall forward four copies of the manual to the NAVSEC for approval.
(b) Manuals procured under contracts issued by Naval activities. - The contractor shall forward four copies to the Naval activity for approval.
(c) Manuals procured for the NAVSEC by a commercial activity (such as a private shipbuilder). - The contractor shall forward four copies of the manual to the commercial activity for approval of both the commercial activity and the cognizant NAVSEC representative.

11.2.2 The NAVSEC will assign a publication number to each specific equipment manual as follows:

(a) Manuals procured under NAVSEC contracts. - The publication number will be included in the NAVSEC approval letter.
(b) For manuals procured for the NAVSEC by Naval or commercial activities, the contractor shall request a publications number from the ordering activity at the time of submission for approval.

11.3 Preliminary manual approval. - When there is insufficient time to permit approval by the bureau or agency concerned and still provide manuals with the first equipment delivered, a review copy shall be submitted to the cognizant Government inspector for approval.

11.3.1 The review copy shall be submitted (prior to shipment of the first equipment) to the Government inspector simultaneously with four copies of the manual to the bureau or agency concerned. Publications numbers for preliminary manuals shall be requested from the local Navy representative.

11.3.2 A self-addressed (contractor) postal card containing information equivalent to the notice indicated below shall be attached to the title page of all preliminary manuals which accompany equipment.

> IMPORTANT NOTICE: This is a preliminary manual for (insert nomenclature of equipment), publication (insert number), supplied under contract (insert number). A copy of the FINAL manual will be forwarded when published. Return this card IMMEDIATELY, indicating ship or shore activity and mailing address.

When postal cards are received by the contractor after shipment of the bulk quantity of manuals has been completed, they shall be forwarded to the cognizant Government inspector with a request to process the cards into the supply system.

11.4 Revisions. - Four copies of changes or revised manuals shall be submitted to the bureau or agency concerned for approval and assignment of a

(cont'd on page 14)

FIGURE 7

DATA REQUIREMENTS DESCRIPTION

1. TITLE	2. DATE (D M Y)	3. DRD CONTROL NO.
TYPE II ELECTRONIC AND SPECIALIZED EQUIPMENT MANUALS	14 8 67	W-02000

(CONTINUATION SHEET)

publication number. However, temporary changes are approved by the Government Inspector only. Publications Numbers of temporary changes shall be obtained from the bureau or agency concerned prior to publication.

FIGURE 7

15. PREPARATION INFORMATION

12. QUALITY ASSURANCE PROVISIONS

12.1 RESPONSIBILITY FOR INSPECTION. - Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial facility acceptable to the Government. The Government reserves the right to perform any of the inspections, in-process reviews, or verifications set forth in the specification where such actions are deemed necessary to assure supplies and services conform to prescribed requirements.

12.2 QUALITY PROGRAM REQUIREMENTS. - The supplier shall provide and maintain a written quality program acceptable to the Government. The quality program shall be in accordance with the following requirements of MIL-Q-9858:

(a) Quality program management:
  (1) Organization.
  (2) Initial quality planning.
(b) *Facilities and standards:*
  (1) Drawings documentation and changes.
(c) Control of purchases:
  (1) Responsibility.
  (2) Purchasing data.
(d) Manufacturing control:
  (1) Completed item inspection and test.
(e) Coordinated Government/Contractor actions:
  (1) Government inspection at subcontractor or vendor facilities.

12.2.1 In addition to the requirements specified in 12.2 the quality program shall be delineated in sufficient depth to assure that adequate and accurate data and procedures are presented in manuals, and that materials being prepared and furnished in support of manuals are in accordance with the requirements of this specification. The quality program shall, as a minimum, take into account such areas of concern as the following:

(a) Definition of authority, function and duties of those responsible for preparation and inspection of the manuals.
(b) Designation of qualified personnel for the preparation and inspection of the manuals.
(c) Development, issuance, maintenance and distribution of procedures for preparation and inspection of the manuals.
(d) Coordination with design and production activities to assure that the latest technical data, operating and maintenance procedures, and drawings are used in the preparation of the manuals and that changes to the manuals are made to correct with revisions to the equipment design.
(e) [illegible]

(cont'd on page 16)

15. PREPARATION INFORMATION

(f) Formal detailed review to assure the adequacy of the instructions in the manual for installation, operation, and maintenance of the equipment or system, as applicable, and compliance with this specification and the purchase specification for both content and production.

(g) Actual examination of the content of the manual against the physical equipment being furnished to assure that it depicts accurately and adequately the equipment and that test, operation, disassembly, repair, assembly and maintenance procedures can be performed by personnel of the level for which the manual is written using equipment normally available at the installation site, ship, or otherwise.

(h) When either paragraph 9.1 or 9.2 is applicable, the supplier shall establish that identical or modified manuals meet the requirements of Section 12 of this DRD.

FIGURE 7

DATA DISTRIBUTION LIST

1. TITLE	2. DATE (D M Y)	3. DDL CONTROL NO
TYPE II ELECTRONIC AND SPECIALIZED EQUIPMENT MANUALS	15 8 67	W-02100

4. DATA ACCESS RESTRICTIONS	5. RELATED DDL CONTROL NO
a. NOFORN. b. "Need to Know" Cognizance - NAVSEC Code 6032 c. Compliance with contractual DD Form 254 (Security Requirements Checkoff List).	W-02000

6. STANDARD DISTRIBUTION - ALL PROCUREMENTS

COMPLETE NAME AND ADDRESS	KIND OF COPY	NO. COPIES	PURPOSE
Naval Ship Engineering Center Code 6032 Navy Department Washington, D. C. 20360	Typed preliminary	1	Review and approval
	Printed	4	Service use

7. DISTRIBUTION CONFORMING TO PROGRAM CONTRACT

COMPLETE NAME AND ADDRESS	KIND OF COPY	NO. COPIES	PURPOSE

FIGURE 7

DATA REQUIREMENT JUSTIFICATION

1. TITLE	2. DATE (D M Y)	3. DRJ CONTROL NO.
TYPE II ELECTRONIC AND SPECIALIZED EQUIPMENT MANUALS	14 8 67	W-02200
		4. RELATED DRD CONTROL NO. W-02000

5. PROCUREMENT:

- X ALL
- ___ ELECTRICAL
- X ELECTRONICS
- ___ MECHANICAL
- ___ RADAR
- ___ WEAPONS
- ___ ORDNANCE
- ___ COMMUNICATIONS
- ___ SONAR
- ___ NAVIGATION
- ___ EW
- ___ COMMAND & CONTROL
- ___ AVIONICS
- ___ TEST SYSTEMS
- ___ IFF
- ___ SPACE VEHICLE
- X SHIPS
- ___ SURFACE VEHICLES
- ___ SUBSURFACE VEHICLES
- ___
- ___

6. DATA RIGHTS:

X UNLIMITED RIGHTS TO BE PROCURED WITH:

- X Contractor Maintenance of Data
- ___ Government Maintenance of Data

___ LIMITED RIGHTS TO BE PROCURED WITH:

- ___ Contractor Maintenance of Data
- ___ Government Maintenance of Data

7. DATA DISCLOSURE:

___ DEVELOPMENTAL DATA DISCLOSURE TO BE PROCURED

X FULL DESIGN DATA DISCLOSURE TO BE PROCURED

___ EMERGENCY MANUFACTURE DATA TO BE PROCURED

8. CATEGORY:

- ___ GROUP I
- ___ GROUP II
- ___ GROUP III
- ___ GROUP IV

9. BOB APPROVAL:

—WILL THE FORM AND/OR DOCUMENT PREPARED REQUIRE BOB APPROVAL? THE FEDERAL REPORTS ACT OF 1952 (5 U.S.C. 139) AND BUREAU OF THE BUDGET CIRCULAR NO. A-40 (OCT 24 1951) PROVIDE THAT NO FEDERAL AGENCY SHALL CONDUCT OR SPONSOR THE COLLECTION OF INFORMATION, UPON IDENTICAL TERMS FROM TEN OR MORE PERSONS UNLESS THE DIRECTOR OF THE BUREAU OF BUDGET APPROVES IN ADVANCE THE ADOPTION OR REVISION OF ANY PLANS OR FORMS TO BE USED.

YES X PUBLIC REPORT APPROVAL NO ___

GOVERNMENT FORM NO ___

NO ___

10. DATA ACCESS RESTRICTION:

a. NOFORN.
b. "Need to Know" Cognizance - NAVSEC Code 6032
c. Compliance with contractual DD Form 254 (Security Requirements Checkoff List).

FIGURE 7

DATA REQUIREMENT JUSTIFICATION (contd)

11. OTHER PERTINENT INFORMATION

12. DATA NECESSITY AND USE

ORGANIZATION	NECESSITY	USED BY
Naval Ships Engineering Center Code 6032	These manuals are required in order that Government personnel have the necessary data to install, operate, perform maintenance, and repair the applicable system or equipment, without the services of the manufacturer's representatives.	U. S. Navy Technicians

13. APPROVAL COORDINATION

ORIGINATING ACTIVITY (SIGNATURE) — DATE

DATA MANAGER APPROVAL (SIGNATURE) — DATE

CHAIRMAN - DATA REQUIREMENTS REVIEW BOARD APPROVAL (SIGNATURE) — DATE

TECHNICAL DATA OFFICE APPROVAL FOR ADL LISTING (SIGNATURE) — DATE

FIGURE 7