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It is recommended that governmental publications DOD 4120.17M, AR 18-1, TB 18-122, and CSCM 18-1 (Training Package) be used as an initial foundation for approximately two dozen document types. The recommended standards apply both to CAEADS as a system and to each CAEADS subsystem. These standards govern both technical and management documents. Technical documents include both the more commonly cited documents of high utility and the less frequently mentioned (but vital) documents of limited use. Management documents encompass both resource management (time, funds, manpower, materiel) and general administration.

Nine significant documents were reviewed and evaluated for applicability: FIPS PUB 38, DOD 4120.17M, AR 18-1, AR 18-7, AR 18-12, CSCM 18-1, ETL 1110-1-45, USACERL Documentation Standards, and standards published by Prentice-Hall, Inc. It was found that: (1) FIPS PUB 38 was very similar to DOD 4120.17M, (2) AR 18-7 prescribes documentation file structure; (3) AR 18-12 is generally inapplicable (to CAEADS); (4) CSCM 18-1 has both strengths and weaknesses; (5) ETL 1110-1-45 was not originally intended for CAEADS-type computer programs; and (6) the USACERL and Prentice-Hall standards introduce documentation control through standardized forms.



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FOREWORD

This investigation was performed for the Directorate of Military Construction, Office of the Chief of Engineers (OCE), under Project 4A762731AT41, "Design, Construction, and Operation and Maintenance Technology for Military Facilities"; Task T1, "Development of Automated Procedures for Military Construction"; Work Unit 020, "Computer Aided Engineering and Architectural Design System (CAEADS)." The applicable QCR is 3.03.004. The OCE Technical Monitor is Mr. V. J. Gottschalk, DAEN-MCE-D.

This investigation was performed by the CAEADS Team of the Facility Systems Division (FS), U.S. Army Construction Engineering Research Laboratory (CERL). Mr. E. A. Lotz is Chief of FS. COL J. E. Hays is Commander and Director of CERL, and Dr. L. R. Shaffer is Technical Director.

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AUTOMATED DATA PROCESSING SYSTEM (ADPS): DOCUMENTATION STANDARDS

1 INTRODUCTION

Purpose

The purpose of this report is to define acceptable documentation for the U.S. Army Corps of Engineers' Computer Aided Engineering and Architectural Design System (CAEADS) throughout its life cycle. Proposed standards shall apply both to CAEADS as a system and to each CAEADS subsystem.

Scope

Many other factors affect documentation worthiness, including: unity, coherence, style, attractiveness, uniformity, convenience, thoroughness, relevance, and content; however, these were not considered in this report. A broad approach to standards was undertaken to cover both technical and administrative documents, with emphasis placed on kinds of documents and their general content.

Background

Over the last quarter century, Automatic Data Processing System (ADPS) documentation standards have evolved to provide technical and administrative control of an ADPS life cycle, from concept through disposal. A rapidly growing technology and increasingly complex interaction of personnel and machines has required a corresponding growth in documentation. The involvement of increasingly larger sums of money also invites controls.

The need for coordinated standards is so universal that the government has become foremost in establishing them. Different levels of government have different responsibilities; normally, lower levels issue supplementary guidance to implement the guidance set by higher authority. Consequently, one cannot (and should not) always seek a final answer in a single set of issued standards.

Though governmental documentation "standards" exist, the documentation process is still not very standardized. Therefore, other potential sources of guidance--the standards which are developing in the commercial or private sector--should not be overlooked. One drawback of published standards is that they represent thoughts which prevailed approximately a year before publication. As a result, standards may lack currency and consistency.

Approach

Significant government and commercial standards were reviewed for applicability. Government levels reviewed were Federal, Department of Defense, Department of the Army, and Corps of Engineers.

Technical documents considered were both the more commonly cited documents of high utility and the less frequently mentioned (but as vital) documents of limited use. Administrative (or management) documents encompassed both resource management (time, funds, manpower, materiel) and general administration.

The body of this report is divided into three parts: (1) classification or categorization of standards, (2) examination of current standards, and (3) forecasted trends of future standards.

Mode of Technology Transfer

This information will be disseminated in accordance with procedures set forth in AR 18-1, Management Information Systems: Policies, Objectives, Procedures and Responsibilities (Department of the Army, 22 March 1976).

2 STANDARDS CATEGORIES

The general rule of standards is that there should be a specific document for each specific audience. Following is a categorized list of standards, grouped by type of use.

Technical Documents

Frequent Use Systems Description Manual Functional User Manual Program Description (Maintenance) Manual Operators Manual (Run Book)

Infrequent or Single Use General Functional System Requirement Detailed Functional System Requirement System/Subsystem Specification Program Specification Data Base Specification Conversion Manual Training Manual System Integration Test Plan Prototype Evaluation Test Plan

Management Documents

Resource Management

Time

Project Master Plan System Extension Plan

Funds

Management Information System Economic Analysis Lease Versus Purchase Analysis ADP Contract Services Requirements Approval Request ADP Resource Estimating Procedures

Manpower

Organization and Personnel Plan Training Plan/Manual/Package System Extension Plan ADP Resource Estimating Procedures Materiel

Hardware Specification and Justification ADP Resource Estimating Procedures

General Administration

General Functional System Requirement System Integration Test Report Prototype Evaluation Test Report ADPE Readiness Review Report System Extension Report System Completion Report

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3 CURRENT STANDARDS

General

Table 1 lists major types of documentation which apply both to the CAEADS system and to each of its subsystems. Some lesser, or implied, items have been omitted. For example, a lease versus purchase analysis (AR 18-1, Appendix L) ordinarily accompanies an Automatic Data Processing Equipment (ADPE) justification (AR 18-1, Appendix J) and is referenced by the justification documentation requirement. The ADP contract services requirements approval request (AR 18-1, Appendix N) is not cited. Emphasis has been placed on documentation which is submitted to higher authority; some guidance from higher authority is not cited, e.g., DFSR guidance by Office Chief of Staff, Army (OCSA), and PMP and ADPE specifications guidance by OCSA. Only Planning and Definition Phase and Development Phase documentation are of immediate interest.

Table 1 contrasts three standards which, together, are reasonably comprehensive. These and other standards of interest (see References), are discussed individually in this chapter. Table 1 is somewhat simplified in order to relate three sets of standards--Federal, Department of Defense (DOD), and Department of the Army (DA)--on a single page. The DFSR, AR 18-1, Appendix D, is shown as most nearly related to Figure 2-02, DOD 4120.17M, and Section 3.2, FIPS PUB 38. Actually, the relationship is more complex, and the DFSR of AR 18-1 corresponds to portions of Figures 2-02 through 2-05 of DOD 4120.17M and portions of Sections 3.2 through 3.5 of FIPS PUB 38. The Appendix to this report contains a more extensive relationship of these three publications, their similarities, and their dissimilarities. The detail of the Appendix is limited to at most five levels (four levels below the document level). The Appendix presents all Table 1 documents through the development phase, excepting the PET Plan, PET Report, SEP, Training Manual, and ADPE Readiness Review Report. (The ADPE Readiness Review Report does not apply to CAEADS.)

FIPS PUB 38

Federal Information Processing Standard (FIPS) Publication 38, Guidelines for Documentation of Computer Programs and Automated Data Systems, prepared by the National Bureau of Standards, is reasonably comprehensive. Many Federal organizations (including DOD and DA) participate in preparing Federal Standards. The underlying idea is to have a distinct document or manual for each type of audience or user affected by the data system; the documents have a basic functional segregation. Noticeably absent are conversion and training manuals. No distinction is made between systems integration and prototype testing.

Table 1

Automated Data Processing System (ADPS) Documentation Standards*

<u>18-1</u>	4120.17M	PUB 38
App.B App.C App.G App.D App.M	Fig.2-01 Fig.2-01 Fig.2-01 Fig.2-02 Fig.2-01	Sec. 3. 1 Sec. 3. 1 Sec. 3. 1 Sec. 3. 2 Sec. 3. 1
Apps. J, K Tabl. 2-1 Tabl. 2-1 Tabl. 2-1 App. H App. H App. H App. H Ch. 8 Par. 2-19 Par. 2-20 Par. 2-22 Tabl. 2-1	Fig. 2-03 Fig. 2-04 Fig. 2-05 Fig. 2-06 Fig. 2-08 Fig. 2-07 Fig. 2-09 Fig. 2-09 Fig. 2-10	Sec. 3. 3 Sec. 3. 4 Sec. 3. 5 Sec. 3. 6 Sec. 3. 8 Sec. 3. 7 Sec. 3. 9 Sec. 3. 10
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ADPREP	ADP Resource Estimating Procedures	App.Q	
	System Extension Report	Tab1. 2-1	
	System Completion Report	Tab1. 2-1	

Boxed references are considered definitive.

** Submit update with GFSR.

Submit update with updated MISEA.
+ Principal components of SDP, System Development Package.

++ Required only for major hardware acquisitions (Class A).

[#] Submit update with DFSR, SIT Report (Class B Systems only), PET Report (Class A Systems only), and when MISEA estimates vary 25 percent from operational experience or major system changes occur.

DOD 4120.17M

DOD 4120.17M, Automated Data Systems: Documentation Standards Manual, prepared by the Headquarters, U.S. Air Force (HQ USAF), is similar in outline to FIPS PUB 38 but is more specific. For all practical purposes, this document can be used in lieu of FIPS PUB 38. DA participates in preparing DOD standards; HQ USAF has the DOD standards mission.

AR 18-1

AR 18-1, Management Information Systems: Policies, Objectives. Procedures, and Responsibilities, prepared by OCSA, supplements DOD 4120.17M and FIPS PUB 38. Generally, FIPS must be incorporated into all new automated data processing systems designs, or major system change efforts, unless a request for specific waiver submitted through HQDA is approved. Federal standards on data elements and codes and on COBOL are waived in favor of DOD standards (AR 18-1, Par. 1-9). Federal and DOD standards adopted by DA are not reprinted in Army publications. The tone of AR 18-1, which can be used as a supplement, is different from that of higher level standards. For example, resources definition requirements are emphasized much more in AR 18-1 than in Federal and DOD standards. At the lower (Army) level, there is a great concern and a great need to be specific about resources such as time (PMP, SEP), funds (MISEA, lease versus purchase requirements, ADP contract services), manpower (OPP, training, SEP), and materiel (ADPE justification and specifications). There is also concern for being specific about purpose, justification, and impact (GFSR, MISEA, OPP).

The DFSR is nominally a planning and definition document but is seen to have aspects of specifications documents. For straightforward file maintenance information storage and retrieval programs, the DFSR essentially is the software specification. It is probably for that reason that the AR recognizes a need for software specifications downstream from the DFSR, but says little about it.

AR 18-7

AR 18-7, Management Information Systems: Data Processing Installation Management, Procedures, and Standards, by U.S. Army Computer Systems Support and Evaluation Agency (USACSSEA), supplements AR 18-1. It prescribes standards for flowcharts (Figs. 5-1 through 5-3, App. F), multiple card layouts (DA Form 3165, App. G), tape layouts (DA Form 3166, App. H), multipurpose code sheets (DA Form 3167, App. I), record layouts (DA Form 3493-R, App. K), Computer Program Folder (App. J), and Scientific Computer Program Folder (App. M). The program folders prescribe a procedure for filing documentation as it accumulates.

AR 18-12

AR 18-12, Management Information Systems: Catalog of Standard Data Elements and Codes, by OCSA, is supported by 11 volumes which usually pertain only to certain Army-wide file maintenance information storage and retrieval programs. It contains code tables for general administration, financial administration, mobilization and forces, personnel, logistics, procurement, security and intelligence, troop program sequence numbers, inventory of data systems, security measures applicable to RDTE (research, development, test, and evaluation), and automated supply system.

CSCM 18-1

CSCM 18-1, Automated Data Processing System Development, Maintenance, and Documentation Standards and Procedures Manual, Vol. I, General, by U.S. Army Computer Systems Command, is a useful supplement to the preceding documents. The treatment of flowcharting, decision tables, and technical documentation is comprehensive. The documentation requirements are good checklists and the training package standards can be considered definitive. The point of view is file maintenance information storage and retrieval. Weaknesses are in the areas of conversion and testing. Administrative documentation relating to resource management (time, funds, manpower, materiel) and its underlying philosophy are not prescribed, but are included as reference material. Strengths are in system/subsystem/program/data base specifications and system/user/maintenance/operators/training manuals.

ETL 1110-1-45

ETL 1110-1-45, Engineering and Design: Engineering Computer Program Library, Standards and Documentation, by the U.S. Army Corps of Engineers Directorate of Civil Works (DAEN-CW), is concerned with the minimal amount of residual documentation to be archived. The proponent, DAEN-CW, is concerned with a large body of predominantly engineering and scientific FORTRAN programs to be stored at a library maintained by the U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. Consequently, the outlook of ETL 1110-1-45 is vastly different from the administrative, technical, and file management-oriented Federal, DOD, and DA requirements. ETL 1110-1-45 asks for three things: (1) ENG Form 2883, Electronic Computer Program Abstract, (2) program description-both engineering description (engineering/mathematical theory) and computer functional description (user/operator manual), and (3) file documentation (maintenance manual).

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USACERL

The USACERL Documentation Manual, prepared by McDonnell Automation for the U.S. Army Construction Engineering Research Laboratory, Champaign, IL, is oriented toward technical documentation and introduces the idea of controlling documentation through standardized forms. The main sections are: (1) system documentation (system and data definition, setup, and control), (2) program documentation (program definition, setup and processing, listings and displays), (3) input procedures, and (4) data communications. The manual is not comprehensive but does contain an extensive glossary of data communications terms. The manual does give insight to standards used by a major private software firm.

Commercial

The Manual of Computer Documentation Standards with Forms, by Kuehne, Lindberg, and Baron, is a commercial standard which uses standardized forms and checklists as much as possible. Comprehensiveness is sought and achieved to a great extent by the phases of feasibility study, system design, programming, testing, implementation, and operation. Cost, equipment, and project scheduling data are compiled, but cost benefits and organizational impact data are not. This document is worthwhile as an organizational document for someone beginning a new project.

4 TRENDS AND FUTURE STANDARDS

General

Documentation standards are evolving rapidly and continuously and are likely to do so for some time. The reasons lie in the phenomenal data processing growth of the past quarter century. Increasing complexity and financial outlays are accompanied by a need to exert some control over data processing, and by a need to manage effectively. Documentation is a principal means of control. Data processing is not sufficiently developed for a stable document control philosophy to emerge; however, existing standards are sufficiently developed to provide reliable guidance. A good example of change is AR 18-1. An earlier version (4 August 1971) lasted 4-1/2 years (until 22 March 1976). The current version is being revised, as discussed below.

Planned AR 18-1 Revisions

The current AR, 209 pages, is a mixture of high-level policy and minute procedural detail. Policy does change, but not rapidly, and the body of codified policy does not grow appreciably. On the other hand, procedural details have experienced a characteristically rapid mutation and growth. But an AR, having substantial Army-wide impact, is not easily or quickly modified when the need arises. The chosen solution to this problem has been to subdivide the AR. The basic AR (policies, responsibilities, and delegations of authority) will be a short, relatively invariant document. The detailed procedures will consist of a number of technical bulletins (currently 23) which can be changed relatively easily (see Table 2). The new draft of AR 18-1 was scheduled to be completely reviewed by 5 December 1977, and TB 18-122, Software Conversion Planning, which fills a long standing need, was being printed in December 1977. Some other TB's are currently in draft form, while others exist in name only. No TB's were published as of 1 December 1977.

Other Standards Revisions

Current Federal and Department of Defense standards are relatively recent and may not change substantially for awhile. An outline of some changes to DA standards was given in the preceding paragraph; other changes may be expected. Organizational, personnel, and technological changes result in the reevaluation of standards. For example, the U.S. Army Computer Systems Command (CSC) has a responsibility for defining standards for Army-wide (multicommand) computer applications. If CSC is given Army-wide responsibility for documentation standards, considerable changes may be expected. Corps-wide standards have not changed since 1971, and no major changes are known to be planned.

Table 2

Planned AR 18-1 Revisions

New AR 18-1 Content

Chapter 1 General Chapter 2 Automation Policies Chapter 3 Responsibilities Chapter 4 System Classification and Delegation of Authority Appendix A Terms and Abbreviations

Supporting Technical Bulletins

TB 18-100 Life Cycle Model TB 18-101 Master Planning TB 18-102 Requirement Documents TB 18-103 Software Design and Development TB 18-104 Testing of Systems TB 18-105 (Undesignated) TB 18-106 System Extension TB 18-107 System Operation TB 18-108 Maintenance and Modification TB 18-109 Economic Analysis TB 18-110 Configuration Management TB 18-111 Technical Documentation TB 18-112 Training Management TB 18-113 (Undesignated) TB 18-114 Performance Measurement and Analysis TB 18-115 Army Information Processing Standards TB 18-116 Resource Estimating Techniques TB 18-117 Interface, Operability, and Integration TB 18-118 Acquisition of Equipment, Software, and Services TB 18-119 Telecommunication Support TB 18-120 Battlefield Automation Support TB 18-121 Scientific and Engineering Applications TB 18-122 Software Conversion Planning TB 18-123 Quality Assurance TB 18-124 Army Automation Financial Management

5 RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Results

Nine significant government and commercial documentation standards have been reviewed, evaluated, and compared. Approximately two dozen major types of documents were seen to be required; these are classified in Chapter 2 and listed by major source in Table 1. Table 2 lists major anticipated revisions to documentation.

Conclusions

Existing Federal, DOD, and DA documentation standards are sufficiently developed to serve as reliable, comprehensive guidance.

No single source document is an adequate standard; however, as a foundation, one might use DOD 4120.17M, AR 18-1, TB 18-122, and CSCM 18-1 (Training Package).

Recommendations

DOD 4120.17M, AR 18-1, TB 18-122, and CSCM 18-1 (Training Package) should be used as initial guidelines for preparing Table 1 documentation for both the CAEADS system and individual CAEADS subsystems. References boxed in Table 1 are considered most definitive but not necessarily comprehensive; best results can be obtained by using more than one source standard.

REFERENCES

(Arranged in order of appearance in text)

Federal Government Standards

FIPS PUB 38, Guidelines for Documentation of Computer Programs and Automated Data Systems (U.S. Dept. of Commerce/National Bureau of Standards, 15 February 1976).

Department of Defense Standards

DOD 4120.17M, Automated Data Systems: Documentation Standards Manual (Hq U.S. Air Force, October 1975).

Department of the Army Standards

- AR 18-1, Management Information Systems: Policies, Objectives, Procedures, and Responsibilities; Par 2-20c (System Development Package content); Ch. 8, "Training Management for Class A-1 Systems"; and App. H, "Data Processing Installation Systems Document Requirements." Also Apps. B, C, D, G, J, K, M, N (Department of the Army, 22 March 1976).
- AR 18-7, Management Information Systems: Data Processing Installation Management, Procedures, and Standards, Ch. 5 "Documentation"; App. J, "Computer Program Folder"; and App. M, Scientific Computer Program Folder" (Department of the Army, 29 September 1966).
- AR 18-12, Management Information Systems: Catalog of Standard Data Elements and Codes (Department of the Army, 29 March 1974).
- CSCM 18-1, Automated Data Processing System Development, Maintenance, and Documentation Standards and Procedures Manual, Vol I, General, Ch. 6, "Documentation Standards" (Computer Systems Command, Bepartment of the Army, 15 March 1974).

Corps of Engineers Standards

- ETL 1110-1-45, Engineering and Design: Engineering Computer Program Library, Standards and Documentation (Office of the Chief of Engineers, Department of the Army, 9 February 1971).
- USACERL, Documentation Manual (McDonnell Automation [MCAUTO] for the U.S. Army Construction Engineering Research Laboratory, 5 December 1975).

Commercial Standards

Kuehne, R. S., H. W. Lindberg, and W. F. Baron, Manual of Computer Documentation Standards with Forms (Prentice-Hall, Inc., 1972).

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APPENDIX:

DOCUMENTS AND CONTENTS BY SOURCE

CONTENTS

FUNCTIONAL REQUIREMENTS DOCUMENT
 DATA REQUIREMENTS DOCUMENT
 SYSTEM/SUBSYSTEM SPECIFICATION
 PROGRAM SPECIFICATION
 DATA BASE SPECIFICATION

- 6. FUNCTIONAL USER MANUAL
- 7. OPERATIONS MANUAL (RUN BOOK)
- 8. PROGRAM MAINTENANCE MANUAL
- 9. TEST PLAN
- 10. TEST ANALYSIS REPORT
- 11. SYSTEMS DESCRIPTION MANUAL
- 12. CONVERSION MANUAL (MANUAL TO MACHINE)

NOTATION

CARD HEAD COLS INGS SOURCE DOCUMENTS

- 48 FED FIPS PUB 38, GUIDELINES FOR DOCUMENTATION OF COMPUTER PROGRAMS AND AUTOMATED DATA SYSTEMS (U.S. DEPT. OF COMMERCE/NATIONAL BUREAU OF STANDARDS, 1976).
- 50 DOD DOD 4120.17 M, AUTOMATED DATA SYSTEMS: DOCUMENTA-TION STANDARDS MANUAL (HQ U.S. AIR FORCF, 1975).
- 52 DA1 AR 18-1, MANAGEMENT INFORMATION SYSTEMS: POLICIES, OBJECTIVES, PROCEDURES, AND RESPONSIBILITIES; PAR. 2-20C (SYSTEM DEVELOPMENT PACKAGE CONTENT); CH. 8, "TRAINING MANAGEMENT FOR CLASS A-1 SYSTEMS"; AND APP. H, "DATA PROCESSING INSTALLATION SYSTEMS DOCUMENTATION REQUIREMENTS". (ALSO, APPS. 8.C.D, G,J,K,M.Q.)
- 58 CPR CONVERSION INSTRUCTIONS FOR THE AUTOMATED MILITARY CONSTRUCTION PROGRESS REPORTING SYSTEM (AMPRS), TECHNICAL REPORT P-51 (U.S. ARMY CONSTRUCTION ENGINEERING RESEARCH LABORATORY, 1975).
- 60 F&A CORPS OF ENGINEERS MANAGEMENT INFORMATION SYSTEM: COEMIS F&A SUBSYSTEM CONVERSION MANUAL (OFFICE, CHIEF OF ENGINEERS, 1972).

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9. SYSTEM ABSTRACTS			X			
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3. DOCUMENTATION OF RELATED PROJECT	X	X				
4. OTHER REFERENCE DOCUMENTS	X	X	X			
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6. REFERENCE DOCUMENTATION		×				
1. DOCUMENTATION STDS AND SPECS		X				
2. PROGRAMMING CONVENTIONS		X				
3. FEDERAL STANDARDS, DOD STDS		x				
4. HARDWARE MANUALS		X				
12. TERMS AND ABBREVIATIONS APPENDIX		x	X			
2. SYSTEM SUMMARY	x	¥	x			
1. BACKGROUND	¥	¥	x			
2. OBJECTIVES	Ŷ	-	Ŷ			
3. EXISTING METHODE AND DOOLEDUDEE	ç	2	¥			
1. ODGANIZTN/DEDG DEGDONCIDII TTTE	÷	-	Ŷ			
2. FOUTDMENT AVAILADIE AND DECUTOED	-	-	Ŷ			
2. COULTERING AVAILADLE AND REQUIRED	2	~	2			
	~	×	*			
4. DEFICIENCIES AND LIMITATIONS	X	×				
5. PERTINENT COST CONSIDERATIONS	X					
6. DATA FLOW	¥	¥	X			

	F E D	000-	D A 1	C P R	FSA -
4.	PROPOSED METHODS AND PROCEDURES X	X	X		
	1. ORGANIZTN/PERS RESPONSIBILITIES X		X		
	2. EQUIPMENT AVAILABLE AND REQUIRED X		X		
	3. VOL/FREQUENCY OF INPUT/DUTPUT X		×		
	4. DEPICIENCIES AND LIMITATIONS X				
	5. PERTINENT COST CONSIDERATIONS X	~	~		
5	CUMMADY OF INDROVEMENTS	Ŷ	^		
	I NEW CADADII TTIEC	ĉ			
	2. IPGPADED EXISTING CAPABILITIES X	Ŷ			
	3. FLIM OF EXISTING DEFICIENCIES X	^			
	A. IMPROVED TIMELINESS	¥			
	5. ELIMINATION OF REDUCTION OF EX-	^			
	ISTING CAPABILITIES X	x			
6.	SUMMARY OF IMPACTS X	X	x		
	1. EQUIPMENT IMPACTS (ADDNS. MODS) X	X	X		
	2. SOFTWARE IMPACTS (ADDNS, MODS) X	X			
	3. ORGANIZATIONAL IMPACTS X	X	X		
	1. FUNCTIONAL REORGANIZATION X	X			
	2. INCREASE/DECREASE STAFF LEVEL X	X	X		
	(EST MIL/CIV MANPWR SPACE REQS)		X		
	1. CURRENT ORGANIZATION-AVAILABLE				
	MANPOWER		X		
	1. DPI OPERATOR/MAINT PERS		X		
	2. DPI SUPPORT PERSONNEL		X		
	3. OTHER SUPPORT PERSONNEL		X		
	4. TOTAL AVAILABLE MANPOWER				
	SPACES		X		
	P. ESTIMATED MANPOWER REQS		X		
	1. DPI OPERATOR/MAINT PERS		X		
	2. UP1 SUPPORT PERSONNEL		X		
	A TOTAL MANDOWED SPACE DEC		÷		
	3. PLANNED OPGANIZATIONAL CHANGE		Ŷ		
	4. RECAPITURATION		Ŷ		
	1. AVATLARIE MANPOWER		x		
	2. ESTIMATED REQUIREMENTS		x		
	3. ORGANIZATIONAL CHANGES		X		
	4. IMPACT OF CHANGES		X		
	3. UP/DOWNGRADE OF STAFF SKILLS X	x	X		
	(PERS AND MOS DISTRIB BY:				
	CATEGORY, MOS/CIV CODE, GRADE,				
	BRANCH, CURR AUTH, EST REG, NET				
	CHANGE)		X		
	1. DPI OPERATOR/MAINT PERS		X		
	2. DPI SUPPORT PERSONNEL		X		
	3. OTHER SUPPORT PERSONNEL		X		
	4. PLANNED ORGANIZATIONAL CHANGES	;	X		

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			5. RECAPITULATION			x	
		4.	OPERATIONAL IMPACTS	x	x		
			1 STAFE /OPEDATIONAL PROCEDURES	¥	Ŷ		
			2 DELATIONEUTOC PETHEEN THE OD-	^	^		
			C. RELATIONSHIPS DETWEEN THE UP-	~			
			ERATING CENTER AND THE USERS		×		
			3. OPERATING CENTER PROCEDURES	X	X		
			4. DATA (SOURCES, VOLUME, MEDIUM,				
			TIMELINESS)	X	X		
			5. DATA RETENTION/RETRIEVAL PROCS	X	X		
			6. REPORTING METHODS	X	X		
			7. SYSTEM FAILURE CONSEQUENCES				
			AND RECOVERY PROCEDURES	X	X		
			8. DATA INPUT PROCEDURES	X	X		
			9. COMPUTER PROCESSING TIME REQS	X	X		
		5.	DEVELOPMENTAL IMPACTS	X	×		
		5.	1. USED SUDDORT OF SOFTWARE DEVEL	¥	Ŷ		
			2 DATA BASE DEVEL DESCHIDCES	Ŷ	Ŷ		
			2. DATA BASE DEVEL RESOURCES	^	^		
			J. COMPUTER PROCESSING RESOURCES	~	~	~	
	-		TO DEVELOP AND TEST SUPTWARE	^	X	0	
		EXP	PECIED LIMITATIONS		X	×	
		1.	LIMITATIONS ON DESIRED CAPABIL-				
			ITIES		X		
		5.	EXPECTED TYPES OF ERRORS		X		
	8.	OTH	HER CONSIDERATIONS	X		X	
		1.	COST	X			
		2.	INTERFACES	X		X	
		3.	TELECOMMUNICATION	X			
	9.	ALT	FRNATIVE PROPOSALS	X		x	
3.	DET	TATI	ED CHARACTERISTICS	X	¥	x	
	1	CDF	CIETC PERFORMANCE REAS	¥	Ŷ	¥	
	••	1	ACCUPACY AND VALIDITY	Ŷ	÷	^	
		1.	ACCORACT AND VALIDITY	0	0		
			1. MAINEMAILCAL	0	-		
			2. LUGICAL	-	×		
			3. LEGAL		X		
			4. TRANSMISSION	*	X		
		5.	TIMING	X	X		
			1. THROUGHPUT TIME	X	X		
			2. RESPONSE TIME TO QUERIES AND				
			TO UPDATES OF DATA FILES	X	X		
			3. MAJOR FUNCTION RESPONSE TIME	X	X		
			4. FUNCTIONS SEQUENTIAL RELATIONS		X		
			5. INPUT/OPERATIONS PRIORITIES		X		
			6. TIMING REQS FOR THE RANGE OF				
			TRAFFIC LOAD		X		
			7. DATA TRANSFER/TRANSMIT TIME	x	¥		
			8. INTERLEAVING REQUIREMENTS		¥		
		3.	FI FXIRII ITY	×	~	×	
			1. PRIORITIES IMPOSED BY TYPES	~		~	
			I FRIVALLES IMPUSED DI LIFES				

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OF INPUTS AND CHANGES IN				
MODES OF OPERATION	×	x	x	
2. OPERATING ENVIRONMENT	×	¥	×	
3. INTERFACES WITH OTHER SOFTWAR	E Y	ç	Ŷ	
6 ACCUDACY (VALIDATION TIMING	E Ç	0	^	
4. ACCURACT/VALIDATION TIMING				
5. PLANNED CHANGES, IMPROVEMENTS	> X	X		
2. SYSTEM FUNCTIONS	×	X		
1. ADS FUNCTIONS DESCRIPTION	X	X		
2. FUNCTIONS SATISFACTION OF PER-				
FORMANCE REQUIREMENTS	X	X		
3. INPUTS/OUTPUTS	X	X		
1. EXAMPLES AND EXPLANATIONS OF I/C	X	X		
2. SPECS OF THE MEDIUM (DISK. CARDS	5			
MAGNETIC TAPE) . FORMAT . RANGE OF				
VALUES. AND ACCURACY	¥	¥		
2 EXAMPLES OF HARD CORY, GRAPHIC,	^	^		
OD DISDLAY DEDODIE	~	~		
A DATA OUADACTEDICTICS	0	2		
4. DATA CHARACTERISTICS	*	X		
1. DESCRIPTION OF INDIVIDUAL AND				
COMPOSITE DATA ELEMENTS BY NAME	,			
CODES, DICTIONARIES, TABLES, AND)			
REFERENCE FILES	X	X		
2. ESTIMATE OF TOTAL DATA STORAGE				
REQS. EXPECTED GROWTH	X	X		
5. FAILURE CONTINGENCIES	X	X	X	
1. BACK-UP	X	X		
2. FALLBACK	×	¥		
3. RECOVERY AND RESTART	X	Ŷ		
ODEDATING ENVIDONMENT	¥	ç	¥	
I FOULDMENT	0	0	^	
I. EQUIPMENT	÷	Ň		
I. PROCESSURS, INTERNAL STURAGE		X		
2. STOPAGE MEDIA	X	X		
3. OUTPUT DEVICES	X	X		
4. INPUT DEVICES	X	X		
5. DATA TRANSMISSION	X	X		
2. SUPPORT SOFTWARE	X	X		
3. INTERFACES	X	X	X	
1. EXTERNAL INTERFACE			X	
2. PURPOSE/REQUIREMENT			x	
3. EXCHANGE VEHICLE			X	
4. ECHELON INTERFACE AND FEEDBACK			X	
5. CONSTRAINTS			×	
6. INTEDFACE EVENT			Ŷ	
T EDEALENCY OF INTEDEACE			2	
A SECURITY OF ACCESSION TON			0	
0. SECURITY CLASSIFICATION			~	
Y. KEMAKKS			×	
4. SECURITY AND PRIVACY	X	X		
5. CONTROLS	X			

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5.	SYSTEM DEVELOPMENT PLAN	X	×	X
	(PROJECT MASTER PLAN)			x
	1. TITLE			X
	1. REFERENCES	X	x	X
	2. OPGANIZATION			x
	2. PROJECT DESCRIPTION			X
	1. BACKGROUND			X
	2. GENERAL DESCRIPTION			X
	3. OBJECTIVES			X
	4. CONSTRAINTS			X
	5. PARTICIPATIONG ORGANIZATIONS	X	x	X
	6. ASSUMPTIONS			x
	3. OBJECTIVE			x
	4. EXECUTION			x
	1. CONCEPT OF OPERATION	¥	×	¥
	2. SPECIFIC TASKS	~	^	Ŷ
	3. COOPDINATING INSTRUCTIONS			Ŷ
	5 DESCHOPE SUDDODT			Ŷ
	6. POINTS OF CONTACT			Ŷ
	7. ANNEXES			Ŷ
	1. SUMMARY TECH ADDROACH AND DISKS			Ŷ
	2. SUMMARY WORK OPGANIZATION CHART			Ŷ
	3. SIMMARY SCHEDULE CHART	¥	×	Ŷ
	A. SUMMARY MANDOWED LOADING CHAPT	^	^	Ŷ
	CUMMARY FINANCIAL SUDDADT CHART			ç
6	COST FACTODS, FCONOMIC ANALYSIS		¥	Ŷ
••	1 DROBI EN/OPDOPTINITY ID		^	Ŷ
	2 DELEVANT ENVIDONMENT			Ŷ
	3. OBJECTIVES			Ŷ
	A ASSUMPTIONS/CONSTRAINTS			Ŷ
	1. DEDUTDENENTS OF HIGHED COMMAND			Ŷ
	2. SECURITY		*	^
	3. TELECOMMUNICATIONS		Ŷ	
	A. INTERFACE WITH OTHER SYSTEMS		Ŷ	
	5. AI TERNATIVES		Ŷ	
	5. ALTERNATIVES		^	×
	6. COSTS			Ŷ
	1. PEPSONNEL		*	^
	2. HAPDWAPE		÷	
	3. SOFTWARE		2	
	A. FACTI ITTES		\$	
	5. COMMUNICATIONS		Ŷ	
	7. RENEFITS		^	×
	8. COMPADE ALTEDNATIVES			Ŷ
	9. CENSITIVITY TEST			÷
,	A ANALYSIS PRESENTATION			Ŷ
7	COMMUNICATION REAS			Ŷ
	TDATNING DEOS			2
	INALITING ALOS			~

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2. DATA REQUIREMENTS DOCUMENT	X	X	X	
1. GENERAL INFORMATION	X	X	X	
1. PURPOSE OF DATA REQS DOCUMENT	X	X		
2. ENVIRONMENT-ORGANIZATIONAL	X			
3. PROJECT REFERENCES	X	X	X	
1. PROJECT REQUEST (AUTHORIZATION)	X	X		
2. PREVIOUS DOCUMENTS	X	X		
3. DOCUMENTATION OF RELATED PROJECT	X	X		
4. FIPS PUBS, OTHER REF DOCS	X			
5. FUNCTIONAL DESCRIPTION		X	~	
4. TERMS AND ABBREVIATIONS	~	X	*	
5. MODIFICATION OF DATA REQUIREMENTS	÷	X	~	
2. DATA DESCRIPTION	÷	÷	\$	
2 DYNAMIC INDUT DATA	÷	Ĵ	\$	
2. DINAMIC INPUT DATA	÷	÷	\$	
6 INTEDNALLY CENEDATED DATA	Ŷ	÷	Ŷ	
5 CYSTEM DATA CONSTDATINTS	÷	2	\$	
3 HEED SHODODT FOR DATA COLLECTION	Ŷ	Ŷ	^	
1 DEGUIDEMENTS AND SCOPE	Ŷ	Ŷ		
1. SOURCE OF INPULT	Ŷ	Ŷ		
2. INPUT MEDIUM AND DEVICE	x	Ŷ		
3. RECIPIENT (USERS)	x	x		
1. DATA FLEMENTS INPUT TO THE		~		
SYSTEM. PROCESSED BY IT. AND				
OUTPUT FROM IT ESSENTIALLY				
UNCHANGED		X		
2. DATA ELEMENTS GENERATED BY A				
PROGRAM AND OUTPUT TO USER		x		
3. DATA ELEMENTS THAT ARE INPUTS				
TO THE SYSTEM BUT THAT ARE				
NOT OUTPUT BY IT.		X		
4. CRITICAL VALUE	X	X		
5. SCALES OF MEASUREMENT	X	X		
6. CONVERSION FACTORS	X	X		
7. OUTPUT MEDIUM AND DEVICE	X	X		
8. EXPANSION FACTORS		×		
9. FPEQUENCY OF UPDATE/PROCESSING	X	X		
2. RECOMMENDED SOURCE OF INPUT DATA	X	X		
J. UNIT COLLECTION/TRANSFER PROCS	X	×		
1. INPUT FURMAIS	-	×		
4 DATA DASE INDACTS	÷	×		
5 TELECOMMUNICATION DECUIDEMENTS	^	*	*	
1. TYDE SERVICE			Ŷ	
P. TERNINALS LOCATIONS			Ŷ	
3. RESPONSE TIME			x	

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4.	TRAFFIC LOAD			X			
5.	HEAVY TRAFFIC PERIODS			X			
6.	TRAFFIC TYPE, PRECEDENCE			X			
7.	TYPE CIRCUIT DESIRED			X			
8.	METHOD OF OPERATION			X			
9.	LOCAL AVAILABLE CIRCUITS			X			
10.	TRANSMISSION EQUIP REQUIREMENTS			X			
11.	SYSTEM GROWTH REQUIREMENTS			X			
12.	SECURITY REQUIREMENTS			x			
13.	ALTERNATE POSSIBLE ROUTES			x			
14.	LEASE/PURCHASE COSTS			x			

	F	D	D	С	F
	E	0	A	P	6
	D	D	1	R	
	-	-	-	-	-
3. SYSTEM/SUBSYSTEM SPECIFICATION	X	X	X		
1. GENERAL INFORMATION	X	X			
1. PURPOSE		X			
1. DETAILED DEFINITION OF SYSTEM/					
SUDSYSTEM FUNCTIONS		×			
DETAILS OF ON-COING ANALYSIS PE-		^			
2. DETAILS UP UN-GUING ANALTSIS DE-					
IWEEN USER'S OPERATIONAL PERSON-					
NEL AND DEVELOPMENT PERSONNEL		X			
3. DETAILED DEFINITION OF INTER-					
FACES WITH OTHER SYSTEMS/SUBSYS-					
TEMS AND THE FACILITIES TO BE					
UTILIZED FOR ACCOMPLISHING THE					
INTERFACES		X			
2. ENVIRONMENT	X				
1. PROJECT SPONSOR	X				
2. DEVELOPER	X				
3. USER	X				
A. COMPLITER CENTER/NETWORK	X				
3. PROJECT REFERENCES	x	¥			
1. PROJECT DEDUEST (AUTHORIZATIONS)	¥	^			
2 DEVICUE DOCUMENTS	Ŷ	~			
2. PREVIOUS DUCUMENTS	Ŷ	\$			
A ETOC DUDG. OTHED DEE DOCC	\$	0			
4. FIPS FURSY UTHER REF DUCS	^	2			
5. FUNCTIONAL DESCRIPTON		×			
6. RELAILU STSIEM/SUBSTSIEM SPELS		×	~		
4. IERMS AND ABBREVIATIONS		X	<u>.</u>		
2. SUMMARY OF REQUIREMENTS	X	X	×		
1. SYSTEM/SUBSYSTEM DESCRIPTION	X	X			
2. SYSTEM/SUBSYSTEM FUNCTIONS	X	X	X		
3. PERFORMANCE	X				
1. ACCURACY AND VALIDITY	X	X			
1. MATHEMATICAL	X	X			
2. LOGICAL	X	X			
3. LEGAL	X	X			
4. TRANSMISSION	X	X			
2. TIMING	X	X			
1. THROUGHPUT TIME	X	X			
2. RESPONSE TIME TO QUERTES AND					
TO UPDATES OF DATA FILES	x	x			
3. MAJOR FUNCTION RESPONSE TIME	X	×			
4. FUNCTIONS SEQUENTIAL DELATIONS	~	Ŷ			
5. INPUT ADEDATIONS DEIDDITIES		÷			
6. TIMING DEAS FOR THE DANGE OF		~			
TOAFETC LOAD		~			
7 DATA TOANGERD (TDANGATY TIME	~	~			
A INTERIEAVING DECUIDENENTS	*	×			
C. INTERLEAVING REQUIREMENTS	~	×			
3. FLEXIBILITY	*	×			

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	1. PRIORITIES IMPOSED BY TYPES				
	OF INPUTS AND CHANGES IN				
	MODES OF OPERATION	¥	¥		
	2 OPERATING ENVIDONMENT	Ŷ	2		
	2. UPERATING ENVIRONMENT	0	2		
	J. INTERFACES WITH UTHER SUFTWARE	-	*		
	4. ACCURACY/VALIDATION TIMING	X	X		
	5. PLANNED CHANGED, IMPROVEMENTS	X	X		
3.	OPERATING ENVIRONMENT	X	X		
	1. EQUIPMENT	X	X		
	1. PROCESSOR, INTERNAL STORAGE	X	X		
	2. STORAGE, MEDIA, FORM, DEVICES	X	X		
	3. INPUT/OUTPUT DEVICES. CAPACITIES	X	x		
	A. DATA TRANSMISSION DEVICES	¥	Ŷ		
	2 CURRANT SALTHARE	Ŷ	0		
	2. SUFFURI SUFIWARE	2	2	~	
	3. INTEMPACES	*	X		
	1. TYPE OF INTERFACE		X	×	
	2. OPERATIONAL IMPLICATIONS		X	X	
	3. DATA TRANSFER REQUIREMENTS		X	X	
	4. CURRENT FORMATS, TRANSFERRED DATA		X		
	5. INTERFACE PROCEDURES		X	X	
	6. INTERFACE EQUIPMENT		X	X	
	T. FYCHANGE VENTCLE NAME		~	X	
	9. PREDARATION DATE			¥	
	O FOURIAN AND FEEDBACK			Ŷ	
	Y. ECHELON AND FEEDRACK			0	
	10. INTERFACE FREQUENCY			0	
	11. SECURITY CLASSIFICATION			×	
	12. REMARKS			X	
	4. SECURITY AND PRIVACY	X	X		
	5. CONTROLS	X	X		
4.	DESIGN DETAILS	X	X	X	
	1. SYSTEM OPERATING PROCEDURES	X	X		
	2. SYSTEM LOGICAL FLOW	X	X	X	
	3. INPUTS (FACH INPUT. THE RELOW)		×		
	1. TITLE AND TAG		¥		
	2. FORMAT, ACCEPTARIE VALUE PANGE		Ŷ		
	2. FURMATI ALLEFTADLE VALUE RANGE		2		
	S. NUMBER OF TIERS		*		
	4. MEANS OF ENIRY		X		
	5. EXPECTED VOLUME AND FREQUENCY		×		
	6. PRIORITY		X		
	7. SOURCES, SOURCE FORM, DISPOSITION		X		
	8. SECURITY CLASSIFICATION		×		
	9. REQUIREMENTS FOR TIMELINESS		X		
	4. OUTPUTS (EACH OUTPUT. THE BELOW)		×		
	1. TITLE AND TAG		¥		
	2. FORMAT		¥		
	3. NUMBER OF ITEMS		Ŷ		
	A DEEDINTED FORM DECUTOENENTE		-		
	THEFRINIED FURM REQUIREMENTS		×		

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5. MEANS OF DISPLAY		×			
6. EXPECTED VOLUME AND FREQUENCY		X			
7. PRIORITY		X			
8. TIMING REQS, E.G., RESPONSE TIME		x			
9. ACCURACY REQURIEMENTS		X			
10. USER RECIPIENTS, USE OF DISPLAYS		x			
11. SECURITY CLASSIFICATION		X			
5. DATA ENVIRONMENT (EACH FILE, TABLE)		X			
1. TITLE AND TAG		×			
2. DESCRIPTION OF CONTENT		x			
3. NUMBER OF RECORDS OR ENTRIES		x			
4. STORAGE: TYPE . AMOUNT . ADDRESSES		¥			
5. CLASSIFICATION		^			
6. DATA RETENTION		x			
		-			

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			-	-	-	-
4.	PR	OGRAM SPECIFICATION	X	X	X	
	1.	GENERAL INFORMATION	X	X		
		1. PURPOSE		X		
		2. ENVIPONMENT-ORGANIZATIONAL	X			
		3. PROJECT REFERENCES	X	X		
		1. PROJECT REQUEST (AUTHORIZATION)	X			
		2. OTHER PERTINENT DOCUMENTATION	X	X		
		3. FIPS PUBS, OTHER REF DOCUMENTS	X			
		4. FUNCTIONAL DESCRIPTION		X		
		5. ASSOCIATED SYSTEM/SUBSYSTEM SPEC		X		
		6. RELATED PROGRAM SPECS	X	X	X	
		4. TERMS AND ABBREVIATIONS		X		
		5. SUMMARY	X			
	2.	SUMMARY OF REQUIREMENTS	X	X	X	
		1. PROGRAM DESCRIPTION	X	X		
		2. PROGRAM FUNCTIONS	X	X	X	
		3. PERFORMANCE	X			
		1. ACCURACY AND VALIDITY	X	X		
		1. MATHEMATICAL	X	X		
		2. LOGICAL	X	X		
		3. LEGAL	X	×		
		4. TRANSMISSION	X	X		
		2. TIMING	X	X		
		1. THROUGHPUT TIME	X	X		
		2. RESPONSE TIME TO QUERIES AND				
		TO UPDATES OF DATA FILES	X	X		
		3. MAJOR FUNCTION RESPONSE TIME	X	X		
		4. FUNCTIONS SEQUENTIAL RELATIONS		×		
		5. INPUT/OPERATIONS PRIORITIES		¥		
		6. TIMING REAS FOR THE RANGE OF		~		
		TRAFFIC LOAD		¥		
		7. DATA TRANSFER/TRANSMIT TIME	x	¥		
		A. INTERI FAVING REDUITREMENTS	~	Ŷ		
		9. INTERNAL PROCESSING TIME		Ŷ		
		3. FLEXIBILITY	x	Ŷ		
		1. PRIORITIES IMPOSED BY TYPES	~	^		
		OF INPUTS AND CHANGES IN				
		MODES OF OPERATION	x	¥		
		2. OPERATING ENVIRONMENT	¥	Ŷ		
		3. INTEDEACES WITH OTHER SOFTWARE	Ŷ	÷		
		A. ACCUPACY/VALIDATION TIMING	Ŷ	Ŷ		
		5. DI ANNED CHANGES. INDOVENENTS	Ŷ	Ŷ		
	2	ODEDATING ENVIDONMENT	Ŷ	÷		
	5.	1 FOUTPMENT	Ŷ	^		
		1. PROCESSOR, INTERNAL STORAGE	Ŷ			
		2. STODAGE, MEDIA - FORM. DEVICES	-			
		2. INDUT/OUTDUT DEVICES. CADACITIES	3			
		TA INFUL/UUIFUL UFVILENT LAPELILIES				

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4. DATA TRANSMISSION DEVICES	X					
2. SUPPORT SOFTWARE	X	X				
1. SUPPORT SOFTWARE	X	X				
2. TEST SOFTWARE	X	X				
3. INTERFACES		X				
1. TYPE OF INTERFACE		X				
2. OPERATIONAL IMPLICATIONS		X				
3. DATA TRANSFER REQUIREMENTS		X				
4. CURRENT FORMATS, TRANSFERRED DATA		X				
5. INTERFACE PROCEDURES		X				
6. INTERFACE EQUIPMENT		X				
7. DATA CONVERSION REQUIREMENTS		X				
4. STORAGE	X	X				
1. INTERNAL STORAGE		X				
2. DRUM STORAGE		X				
3. DISK STORAGE		X				
4. TAPE STORAGE		X				
5. SECURITY AND PRIVACY	X	X				
6. CONTROLS	X	X				
DESIGN DETAILS	X	X				
1. PROGRAM OPERATING PROCEDURES	X	X				
2. INPUTS (EACH INPUT, THE BELOW)	X	X	X			
1. TITLE AND TAG	X	X	X			
2. FORMAT, ACCEPTABLE VALUE RANGE	X	X				
3. NUMBER OF ITEMS		X				
4. DESCRIPTION OF EACH ITEM		X	X			
5. MEANS OF ENTRY, MEDIA	X	X	X			
6. LENGTH OF INPUT		X				
7. EXPECTED VOLUME AND FREQUENCY	X	x	X			
8. PRIORITY		×	X			
9. SOURCES. SOURCE FORM DISPOSITION	X	X	X			
10. SECURITY CLASSIFICATION	X	X	X			
11. FLEXIBILITY		X				
12. REQS FOR TIMELINESS		X	X			
13. THROUGHPUT TIME		X				
14. SPECIAL HANDLING		X				
15. VALIDATION CRITERIA	X	~				
16. DATE PREPARED			X			
17. FLOW AND DESTINATION			x			
18. USER PREPARATION PROCEDURES			X			
19. BASIS FOR REQUIREMENT			X			
20. PROCESSING SEQUENCE			×			
21. CONTROLS			X			
22. INPUT TO			X			
3. OUTPUTS (EACH OUTPUT. THE BELOW)	x	×	X			
1. TITLE AND TAG	X	X	X			
2. FORMAT	X	X				
3. NUMBER OF ITEMS		X	X			

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4. DESCRIPTION OF EACH ITEM	X	X	X		
5. DATA SELECTION CRITERIA	X	x			
6. DESCRIPTION OF PLOTS, GRAPHICS	X	X			
7. PREPRINTED FORM REQUIREMENTS		X			
8. MEANS OF DISPLAY	X	X	X		
9. LENGTH OF OUTPUT		X	X		
10. EXPECTED VOLUME AND FREQUENCY	X	X	X		
11. PRIORITY		X			
12. TIMING REQS, E.G., RESPONSE TIME		X	X		
13. USER RECIPIENTS, USE OF DISPLAYS	X	X	X		
14. DISPOSITION	X	X	X		
15. SECURITY CLASSIFICATION	X	X	X		
16. EXPLANATION OF SYMBOLS		X			
17. CONDITIONAL, STATUS INDICATORS		X			
18. SEQUENCE OF DISPLAYS		X			
19. DATE PREPARED			X		
20. OUTPUT EVENT			X		
21. RCS NUMBER			X		
22. NO. CHARS. PER DISPLAY UNIT			X		
23. DISPLAY UNIT DESCRIPTION			X		
24. NUMBER OF COPIES			X		
25. SELECTION/SUMMARIZATION OPTIONS			X		
26. OTHER EQUIPMENT			X		
27. OUTPUT CONTROL/CHECKS			X		
4. DATA ENVIRONMENT (EACH FILE, TABLE)	X	X			
1. TITLE AND TAG		X			
2. DESCRIPTION OF CONTENT		X			
3. PARAMETERS - START AND END OF FILE	Ξ.	X			
4. NUMBER OF RECORDS OR ENTRIES		×			
5. RECORD PARAMETERS - START AND END		X			
6. RELATIONSHIP OF EACH RECORD TO					
THE COMMON DATA BASE		×			
7. STORAGE - TYPE, AMOUNT, ADDRESS		X			
8. NORMAL AND OTHER FILE ORDERS		X			
9. CLASSIFICATION		×			
5. STURAGE ALLUCATION		×			
I. STURAGE MEDIA		÷			
2. AVAILABLE STURAGE UN EACH MEDIUM		Š			
A EDACADIE HODELLA CTODACE		÷			
A DATA DETENTION		÷			
1. HISTODIC DETENTION		Ŷ			
2. PEDIADIC REPART DATA		Ŷ			
3. SUMMARY DEDADT DATA		Ŷ			
7. PROGRAM RELATIONSHIDS		Ŷ			
8. PROGRAM LOGIC	×	Ŷ			
1. FLOWCHARTS	X	×			
2. DECISION LOGIC TABLES	X				

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E DATA DAGE EDECIFICATION	-	-	-		•	-
5. UATA BASE SPECIFICATION	-		*			
I. GENERAL INFORMATION	*	×				
I. PURPOSE OF DATA BASE SPEC	~	×				
2. ENVIRONMENT - URGANIZATIONAL						
J. PRUJECT REFERENCES		×				
1. PROJECT REQUEST (AUTHORIZATION)						
2. PREVIOUSLY PUBLISHED DOCUMENTS	*	~				
I. FUNCTIONAL DESCRIPTION		X				
2. DATA REQUIREMENTS DOCUMENT		×				
J. STSTEM/SUBSTSTEM SPEC		×				
4. PROGRAM SPECIFICATIONS		×				
3. DOCUMENTATION OF RELATED PROJECTS	X					
4. FIPS PUBS, OTHER REF DOCUMENTS	X					
4. TERMS AND ABBREVIATIONS		X	x			
5. SUMMARY	X		~			
2. IDENTIFICATION AND DESCRIPTION	X	X	×			
1. IDENTIFICATION	×	X	×			
1. SYSTEM USING THE DATA BASE		×				
2. EFFECTIVES DATES		×				
3. STORAGE REQS		X				
4. PHYS DESCR OF DATA BASE FILES		X	×			
2. LABELING/TAGGING CONVENTIONS	X	X	X			
3. ORGANIZATION OF THE DATA BASE		X	X			
1. GENERAL FILE DESIGN AND FORMAT		X				
2. RATIONALE OF THE DESIGN		×				
3. ILLUSTRATIVE EXAMPLES		×				
4. SPECIAL INSTRUCTIONS	X	X				
1. CRITERIA FOR ENTERING DATA	X	X				
2. ENTRY RULES AND PROCEDURES	X	X				
3. DATA CONTROL UNIT ID		X				
4. FORMATS FOR DATA DESCRIPTION		×				
5. MACHINE RUN INSTRUCTIONS		×				
5. SUPPORT SOFTWARE	X	X				
1. DATA BASE MANAGEMENT SYSTEMS	X	X				
2. STORAGE ALLOCATION SOFTWARE	X	X				
3. DATA BASE LOADING SOFTWARE PROGS	X	×				
4. FILE PROCESSING PROGRAMS	X	X				
5. OTHER GENERATING, MODIFYING, OR						
UPDATING SOFTWARE	X	X				
6. SECURITY AND PRIVACY		X	X			
1. CLASSIFIED COMPONENTS		X	X			
2. PRIVACY RESTRICTIONS		X				
7. DATE PREPARED			X			
8. NORMAL ACCESS KEY			X			
9. NO. CHARACTERS PER RECORD			X			
10. NO. RECORDS PER DATA BASE						
11. PURGE/GROWTH RATES			X			

12. FREQUENCY OF USE X 13. EXISTING MEDIA X 14. RETENTION PERIOD AND BACKUP X 15. HEADER AND TRAILER LABELS X 16. BLOCKING FACTORS X 1. DATA FILES (EACH FILE, THE BELOW) X X 1. DATA FILES (EACH FILE, THE BELOW) X X 1. FILE TAG OR LABEL X X 2. NAME (IN FULL) X X 3. FILE PURPOSE, LOGICAL CRITERIA X X 4. LARGEST PROGRAM ENTITY USING FILE X X 5. PRIMARY, SECONDARY STORAGE MEDIA X X 6. FILE CONTENTS AND FORMAT X X 7. THE FORM OF THE CONDITIONS X X X 9. FILE CHANGE OR UPDATE METHOD X X 10. USE RESTRICTIONS AND LIMITATIONS X X X 11. FILE CONTROL INFORMATION USED X X 12. FILE STRUCTURE GRAPHICS X X 13. USING SOFTWARE X 14. SECURITY AND PRIVACY X 15. INTEGRITY AND PRIVACY X 16. TABLE STRUCT (FIXED/VARIES) X 17. TABLES (EACH TABLE, THE BELOW) X 18. TABLE TAG OR LABEL X 29. FULL NAME OR PUURPOSE OF TABLE X		ED	000	A 1	
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11. FILE CONTROL INFORMATION USED X X12. FILE STRUCTURE GRAPHICS X X13. USING SOFTWARE X14. SECURITY AND PRIVACY X15. INTEGRITY AND VALIDITY X2. TABLES (EACH TABLE, THE BELOW) X1. TABLF TAG OR LABEL X2. FULL NAME OR PURPOSE OF TABLE X3. DATA FILE CONTAINING THE TABLE X4. PROGRAM SUBSYSTEM THAT USES TABLE X5. LOGICAL DIVISIONS WITHIN TABLE X6. BASIC TABLE STRUCT (FIXED/VARIES) X3. ITEMS X X1. TAG OR LABEL X2. PURPOSE OF THE ITEM X3. TABLE IN WHICH IT IS FOUND X5. POSITION IN TABLE X6. ITEM USE X7. ITEM TYPE X8. ITEM CODING X1. SYMBOLIC - CHARACTER CODE X2. INTEGER - BINARY OR BCD X3. FRACTION - SCALING FACTOR X4. MIXED NUMBER X5. STATUS - VALUES, CONDITIONS X9. ACCESSIBILITY FACTOR X10. DESCRIPTION X11. SIGNIFICANCE X2. FIELD LENGTH	10. USE RESTRICTIONS AND LIMITATIONS	X	X		
12. FILE STRUCTURE GRAPHICSX X13. USING SOFTWAREX14. SECURITY AND PRIVACYX15. INTEGRITY AND VALIDITYX2. TABLES (EACH TABLE, THE BELOW)X1. TABLE TAG OR LABELX2. FULL NAME OR PURPOSE OF TABLEX3. DATA FILE CONTAINING THE TABLEX4. PROGRAM SUBSYSTEM THAT USES TABLEX5. LOGICAL DIVISIONS WITHIN TABLEX6. BASIC TABLE STRUCT (FIXED/VARIES)X3. ITEMSX X1. TAG OR LABELX X2. PURPOSE OF THE ITEMX3. TABLE IN WHICH IT IS FOUNDX4. TABLE TYPE IN WHICH IT IS FOUNDX5. POSITION IN TABLEX6. ITEM USEX7. ITEM TYPEX8. ITEM CODINGX1. SYMBOLIC - CHARACTER CODEX2. INTEGER - BINARY OR BCDX3. FRACTION - SCALING FACTORX4. MIXED NUMBERX5. STATUS - VALUES, CONDITIONSX10. DESCRIPTIONX11. SIGNIFICANCEX12. FIELD LENGTHX	11. FILE CONTROL INFORMATION USED	X	X		
13. USING SOFTWAREX14. SECURITY AND PRIVACYX15. INTEGRITY AND VALIDITYX2. TABLES (EACH TABLE, THE BELOW)X1. TABLE TAG OR LABELX2. FULL NAME OR PURPOSE OF TABLEX3. DATA FILE CONTAINING THE TABLEX4. PROGRAM SUBSYSTEM THAT USES TABLEX5. LOGICAL DIVISIONS WITHIN TABLEX6. BASIC TABLE STRUCT (FIXED/VARIES)X3. ITEMSX X1. TAG OR LABELX X2. PURPOSE OF THE ITEMX3. TABLE IN WHICH IT IS FOUNDX4. TABLE TYPE IN WHICH IT IS FOUNDX5. POSITION IN TABLEX6. ITEM USEX7. ITEM TYPEX8. ITEM CODINGX1. SYMBOLIC - CHARACTER CODEX2. INTEGER - BINARY OR BCDX3. FRACTION - SCALING FACTORX4. MIXED NUMBERX5. STATUS - VALUES, CONDITIONSX9. ACCESSIBILITY FACTORX10. DESCRIPTIONX11. SIGNIFICANCEX12. FIELD LENGTHX	12. FILE STRUCTURE GRAPHICS	X	X		
14. SECURITY AND PRIVACYX15. INTEGRITY AND VALIDITYX2. TABLES (EACH TABLE, THE BELOW)X1. TABLE TAG OR LABELX2. FULL NAME OR PURPOSE OF TABLEX3. DATA FILE CONTAINING THE TABLEX4. PROGRAM SUBSYSTEM THAT USES TABLEX5. LOGICAL DIVISIONS WITHIN TABLEX6. BASIC TABLE STRUCT (FIXED/VARIES)X1. TAG OR LABELX X2. PURPOSE OF THE ITEMX3. ITEMSX X1. TAG OR LABELX X2. PURPOSE OF THE ITEMX3. TABLE IN WHICH IT IS FOUNDX4. TABLE TYPE IN WHICH IT IS FOUNDX5. POSITION IN TABLEX6. ITEM USEX7. ITEM TYPEX8. ITEM CODINGX3. FRACTION - SCALING FACTORX4. MIXED NUMBERX5. STATUS - VALUES, CONDITIONSX9. ACCESSIBILITY FACTORX10. DESCRIPTIONX11. SIGNIFICANCEX12. FIELD LENGTHX	13. USING SOFTWARE	X			
15. INTEGRITY AND VALIDITYX2. TABLES (EACH TABLE, THE BELOW)X1. TABLE TAG OR LABELX2. FULL NAME OR PURPOSE OF TABLEX3. DATA FILE CONTAINING THE TABLEX4. PROGRAM SUBSYSTEM THAT USES TABLEX5. LOGICAL DIVISIONS WITHIN TABLEX6. BASIC TABLE STRUCT (FIXED/VARIES)X1. TAG OR LABELX X2. PURPOSE OF THE ITEMX3. ITEMSX X1. TAG OR LABELX X2. PURPOSE OF THE ITEMX3. TABLE IN WHICH IT IS FOUNDX4. TABLE TYPE IN WHICH IT IS FOUNDX5. POSITION IN TABLEX X6. ITEM USEX7. ITEM TYPEX8. ITEM CODINGX X1. SYMBOLIC - CHARACTER CODEX X2. INTEGER - BINARY OR BCDX3. FRACTION - SCALING FACTORX4. MIXED NUMBERX5. STATUS - VALUES, CONDITIONSX9. ACCESSIBILITY FACTORX10. DESCRIPTIONX11. SIGNIFICANCEX12. FIELD LENGTHX	14. SECURITY AND PRIVACY	X			
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2. PURPOSE OF THE ITEMX3. TABLE IN WHICH IT IS FOUNDX4. TABLE TYPE IN WHICH IT IS FOUNDX5. POSITION IN TABLEX X6. ITEM USEX7. ITEM TYPEX8. ITEM CODINGX X1. SYMBOLIC - CHARACTER CODEX X2. INTEGER - BINARY OR BCDX3. FRACTION - SCALING FACTORX4. MIXED NUMBERX5. STATUS - VALUES, CONDITIONSX9. ACCESSIBILITY FACTORX10. DESCRIPTIONX11. SIGNIFICANCEX12. FIELD LENGTHX	1. TAG OR LABEL		X	X	
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6. ITEM USE X 7. ITEM TYPE X 8. ITEM CODING X X 1. SYMBOLIC - CHARACTER CODE X X 2. INTEGER - BINARY OR BCD X 3. FRACTION - SCALING FACTOR X 4. MIXED NUMBER X 5. STATUS - VALUES, CONDITIONS X 9. ACCESSIBILITY FACTOR X 10. DESCRIPTION X 11. SIGNIFICANCE X 12. FIELD LENGTH X	5. POSITION IN TABLE		X	X	
7. ITEM TYPE X 8. ITEM CODING X X 1. SYMBOLIC - CHARACTER CODE X X 2. INTEGER - BINARY OR BCD X 3. FRACTION - SCALING FACTOR X 4. MIXED NUMBER X 5. STATUS - VALUES, CONDITIONS X 9. ACCESSIBILITY FACTOR X 10. DESCRIPTION X 11. SIGNIFICANCE X 12. FIELD LENGTH X	6. ITEM USE		X		
B. ITEM CODING X X 1. SYMBOLIC - CHARACTER CODE X X 2. INTEGER - BINARY OR BCD X 3. FRACTION - SCALING FACTOR X 4. MIXED NUMBER X 5. STATUS - VALUES, CONDITIONS X 9. ACCESSIBILITY FACTOR X 10. DESCRIPTION X 11. SIGNIFICANCE X 12. FIELD LENGTH X	7. ITEM TYPE		X		
1. SYMBOLIC - CHARACTER CODE X X 2. INTEGER - BINARY OR BCD X 3. FRACTION - SCALING FACTOR X 4. MIXED NUMBER X 5. STATUS - VALUES, CONDITIONS X 9. ACCESSIBILITY FACTOR X 10. DESCRIPTION X 11. SIGNIFICANCE X 12. FIELD LENGTH X	8. ITEM CODING		X	X	
2. INTEGER - BINART OR BCD X 3. FRACTION - SCALING FACTOR X 4. MIXED NUMBER X 5. STATUS - VALUES, CONDITIONS X 9. ACCESSIBILITY FACTOR X 10. DESCRIPTION X 11. SIGNIFICANCE X 12. FIELD LENGTH X	1. SYMBOLIC - CHARACTER CODE		X	×	
3. FRACTION - SCALING FACTORX4. MIXED NUMBERX5. STATUS - VALUES, CONDITIONSX9. ACCESSIBILITY FACTORX10. DESCRIPTIONX11. SIGNIFICANCEX12. FIELD LENGTHX	2. INTEGER - DINART UR BLU 2. EDACTION - SCALING FACTOR		č		
5. STATUS - VALUES, CONDITIONS X 9. ACCESSIBILITY FACTOR X 10. DESCRIPTION X 11. SIGNIFICANCE X 12. FIELD LENGTH X	A. MIXED NUMBED		Ŷ		
9. ACCESSIBILITY FACTOR X 10. DESCRIPTION X 11. SIGNIFICANCE X 12. FIELD LENGTH X	5. STATUS - VALUES. CONDITIONS		Ŷ		
10. DESCRIPTION X 11. SIGNIFICANCE X 12. FIELD LENGTH X	9. ACCESSIBILITY FACTOR		¥		
11. SIGNIFICANCE X 12. FIELD LENGTH X	10. DESCRIPTION			X	
12. FIELD LENGTH X	11. SIGNIFICANCE			X	
	12. FIELD LENGTH			X	

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	13. LEGAL RANGE OF VALUES			X		
	14. REQUIRED/OPTIONAL			X		
	15. ERROR PROCEDURE			X		
	16. REMARKS			X		
	4. RECORDS AND ENTRIES		X			
	1. FULL NAME AND PURPOSE		X			
	2. AN EXPLANATION OF EACH ITEM		X			
	3. MAXIMUM SIZE		X			
	4. GRAPHIC REPRESENTATION		X			
4.	INTEGRATED DATA BASE		X			
	1. DISCUSSION OF IMPACTS OF INTEGRATED					
	DATA BASE		×			
	2. RECOMMENDATIONS CONCERNING CHANGES					
	IN EXISTING SUPPORT SOFTWARE		X			
5.	PHYSICAL CHARACTERISTICS	X				
	1. STORAGE	X				
	1. INTERNAL	×				
	2. DEVICE	X				
	3. OFFLINE	X				
	2. ACCESS	X				
	3. DESIGN CONSIDERATIONS	X				

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6.	FUN	CTIONAL USER MANUAL	X	X	X	
	1.	GENERAL INFORMATION	X	×	X	
		1. PURPOSE		X		
		2. ENVIRONMENT	X			
		1. USER ORGANIZATION	X			
		2. COMPUTER CENTER	X			
		3. PROJECT REFERENCES	X	X	X	
		1. PROJECT REQUEST (AUTHORIZATION)	X	X		
		2. PREVIOUSLY PUBLISHED DOCUMENTA-				
		TION ON THE PROJECT	X	X		
		3. DOCUMENTATION CONCERNING RELATED				
		PROJECTS AND SOFTWARE	X	X		
		4. FIPS PUBS, OTHER REF DOCS	X	x		
		4. TERMS AND ABBREVIATIONS		x		
		5. SECURITY AND PRIVACY		X		
		1. CLASSIFIED COMPONENTS		X		
		1. INPUTS		×		
		2. OUTPUTS		X		
		3. DATA BASES		×		
		4. COMPUTER PROGRAMS		×		
		2. PRIVACY RESTRICTIONS		¥		
		5. SUMMARY	x	-		
	2.	SYSTEM SUMMARY APPL TOATTON	x	¥	x	
		1. APPLICATION DESCRIPTION	x	¥	x	
		1. PURPOSE OF THE SOFTWARE	x	Ŷ	~	
		2. CAPABLI TTIES AND OPERATING IM-	~	^		
		PROVEMENTS PROVIDED	×	¥		
		3. ADDITIONAL FEATURES. CHARACTER-	^	^		
		ISTICS AND ADVANTAGES OF THE SYS		¥		
		A FUNCTIONS DEPENDED	¥	Ŷ		
		2 ODERATION	Ŷ	÷		
		1. OPERATING DELATIONSHIPS. T/O	Ŷ	\$		
		2. SECURITY/PRIVACY CONSTREPATIONS	Ŷ	^		
		3. GENERAL CHARTS. I/O DESCRIPTION	Ŷ	¥		
		3. FOULPMENT DESCRIPTION	Ŷ	Ŷ	×	
		A SOFTWARE STRUCTURE DESCRIPTION	Ŷ	Ŷ	~	
		5. DERENDWANCE DESCRIPTION	Ŷ	Ŷ		
		1. INDIT - TYPES, VOLUMES, DATE	Ŷ	Ç.		
		2. OUTPUT - TYPES, VOLUME, ACCUP-	^	^		
		ACV. DATE	*	~		
		2 DECONSE TIME	Ç.	0		
		A ITATTATIONS - T/O- ETLES - LANG	Ŷ	Ŷ		
		5. EDDOD-DATE, OFTECTION, CODECTION	×	Ŷ		
		6. PROFESSING TIME	Ŷ	Ŷ		
		7. FIEVIBILITY _ EVTENCIDILITY	Ŷ	~		
		OFUTADILITY - CATENSIDILITY	Ŷ	Ň		
		6 DATA DACE ETLES DESCRIPTION	Ŷ	~		

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	7.	INPUTS. PROCESSING. AND OUTPUTS	x	¥	x		
	••	1. INDUTS DESCRIPTION	Ŷ	\$	~		
		1. PURPOSE OF INPUT	^	0			
		2 CONTENT OF INPUT		0			
				2			
		A ADICIALED INFUIS					
		• URIGIN/SUURCE/PREPARER		X			
		J. UATA FILLD		×			
		D. DIMER - REMARKS, GENERAL INFO		X			
		2. PROCESSING - 1/0 RELATIONS, FLOW	X	X	×		
		3. OUTPUTS DESCRIPTION	X	X	X		
		1. OUTPUT		X			
		2. PURPOSE OF OUTPUT		X			
		3. CONTENT OF OUTPUT		X			
		4. ASSOCIATED OUTPUTS		X			
		5. DISTRIBUTION OF OUTPUTS		X			
		6. OTHER - GENERAL INFORMATION		X			
	8.	GLOSSARY OF STANDARD DATA AND CODES			X		
3.	PRO	CEDURES AND REQUIREMENTS	X	X	X		
	1.	INIATION PROCEDURES DESCRIPTION	X	X			
	2.	STAFF INPUT REQUIREMENTS	X	X	X		
		1. CONSIDERATIONS	X	X			
		1. CONDITIONS - INPUT CAUSE	X	X			
		2. FREQUENCY	X	¥			
		3. ORIGIN - ORGANIZATION	×	Ŷ			
		A. MEDIUM - INDUIT DEVICE	Ŷ	Ŷ			
		5. DESTRICTIONS-PRIORITY/SECURITY	Ŷ	^			
		6 OUALITY CONTROL	2				
			0				
			^				
		0. ASSOCIATED INPUTS		×			
		9. UTHER - INFU		X	~		
		C. INPUT FURMAIS		X			
		I. LENGTH - CHARACTERS/LINE, ITEM		X			
		2. FORMAT - E.G., LEFT JUSTIFIED	X	X			
		3. LABELS - E.G., TAGS OR ID'S	X	X			
		4. SEQUENCE	×	X			
		5. PUNCTUATION	X	X			
		6. COMBINATION	X	X			
		7. VOCABULARY	X	X			
		8. OMISSIONS AND REPEATS	X				
		9. CONTROLS - HEADER/TRAILER	X				
		3. SAMPLE INPUTS	X	X			
		1. CONTROL OR HEADER	X	X			
		2. TEXT	×	X			
		3. TRAILER - E.G., CONTROL DATA	X	X			
		4. OMISSIONS	X	X			
		5. REPEATS	X	X			
	3.	OUTPUT REQUIREMENTS DESCRIPTION	X	×	X		

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1. CONSIDERATIONS	X	x		
1. USE - BY WHOM AND FOR WHAT	X	x		
2. FREQUENCY	x	x		
3. VARIATIONS	x	X		
4. DESTINATION	X	X		
5. MEDIUM	X	X		
6. QUALITY CONTROL	X			
7. DISPOSITION	X			
8. OTHER - INFO		x		
2. OUTPUT FORMATS	x	X	X	
1. HEADER	X	×		
2. BODY	X	x		
3. TRAILER	X	X		
3. SAMPLE OUTPUTS	X	×	X	
1. DEFINITION	X	X		
2. SOURCE	X	×		
3. CHARACTERISTICS	X	X		
4. OUTPUT VOCABULARY DESCRIPTION		x	X	
5. UTILIZATION OF SYSTEM OUTPUTS		×		
6. ERROR AND RECOVERY	X	X		
4. CONTPOL METHODS, AUDIT TRAILS			X	
5. DETAIL CLERICAL PROCEDURES			X	
6. DESIGN NOTES			X	
. FILE QUERY PROCEDURES	X	x		
1. SYSTEM QUERY CAPABILITIES	×	X		
2. DATA BASE FORMAT	X	X		
3. QUERY PREPARATION	X	X		
4. CONTROL INSTRUCTIONS	X	X		

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7. OPERATIONS MANUAL (RUN BOOK)	x	¥	x		
1. GENERAL INFORMATION	X	¥	x		
1. PURPOSE		Ŷ			
2 ENVIDONMENTS	¥	^			
1 COETHADE COONSOD	Ŷ				
3 DEVELOPED	Ç				
2 USED ODCANTZATION	\$				
A CONDUTED CENTED	2				
A CUMPULE CENIER	0	~			
J. PRUJELI REFERENCES	0	×			
I. PRUJECI REQUEST (AUTHORIZATION)	~				
2. PREVIOUSLY PUBLISHED DUCUMENTS	X				
3. DOCUMENTATION OF RELATED PROJECTS	X	X			
4. FIPS PUBS. OTHER REF DOCUMENTS		X			
4. TERMS AND ABBREVIATIONS		X	X		
5. SUMMARY - SOFTWARE FUNCTIONS	X				
2. SYSTEM OVERVIEW	X	X	X		
1. SYSTEM APPLICATION		X			
2. SOFTWARE ORGANIZATION (DIAGRAM)	X	X			
1. INPUTS	X				
2. OUTPUTS	X				
3. DATA FILES	X		X		
4. OPERATIONS SEQUENCE	X				
5. RUN GROUPS	X				
3. PROGRAM INVENTORY	X	X	X		
1. TITLE	X	X			
2. NUMBER	X				
3. IDENTIFIER	X	X			
4. CLASSIFICATION		X			
5. LISTINGS			X		
4. FILE INVENTORY	X	X			
1. TITLE	X	X			
2. IDENTIFIER	X	X			
3. STOPAGE MEDIUM	X	X			
4. REQUIRED STORAGE	X	x			
5. PROCESSING OVERVIEW	~	Ŷ			
1. INTERFACES WITH OTHER SYSTEMS		Ŷ			
2. SECURITY AND PRIVACY REAS		Ŷ			
3. OTHER PERTINENT SYSTEM RELATED		^			
INFORMATION		¥			
6. SECURITY AND DRIVACY		Ŷ			
1. CLASSIFIED COMPONENTS		2			
1. INDHITS		0			
		0			
3. DATA PACEC		-			
A. CONDUTED DDACDANC		~			
2. DDIVACY DECTDICTIONS		~			
2. DECODIDITON OF DINE	*	×	×		
3. DESCRIPTION OF RUNS	~	×	•		

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	-	-	-	
1. RUN INVENTORY	X	X		
2. RUN PROGRESSION/PHASING/DIAGRAMS	X	X	X	
3. RUN DESCRIPTION (IDENTIFY) (EACH RU	N) X	X	X	
1. CONTROL INPUTS	X	X		
2. OPERATING INFORMATION	X	X	X	
1. RUN IDENTIFICATION	×	X		
2. OPERATING/PERIPHERAL REQS	X	X		
3. SECURITY CLASSIFICATION		×		
4. INITIATION METHOD	X	X		
5. ESTIMATED RUN TIME AND TURN-				
AROUND TIME	X	X	X	
6. OPERATOR COMMANDS/MESSAGES	X		X	
7. OPERATIONAL STDS WAIVERS		X		
8. CONTACTS FOR RUN PROBLEMS	X	X		
3. INPUT/OUTPUT FILES.	X	X	X	
1. FILE NAME OR LABEL	X	X		
2. SECURITY CLASSIFICATION		X		
3. RECORDING MEDIUM	X	X		
4. RETENTION SCHEDULE	X	X		
5. DISPOSITION OF FILE	X	X		
6. INPUT DEVICE DOCUMENT			X	
4. OUTPUT REPORTS	X	X	X	
1. REPORT IDENTIFICATION	X	X		
2. SECURITY CLASSIFICATION		X		
3. MEDIUM (I.E., HARDCOPY, TAPE) X	X		
4. VOLUME OF REPORT	X	X		
5. NUMBER OF COPIES	X	X		
6. DISTRIBUTION OF COPIES	X	X		
7. LAYOUTS AND SAMPLES			X	
5. REPRODUCED OUTPUT REPORTS	X	X		
1. REPORT IDENTIFICATION	X	X		
2. REPRODUCTION TECHNIQUE	X	X		
3. DIMENSIONS OF PAPER OR OTHER				
MEDIUM	X	X		
4. BINDING METHOD	X	X		
5. NUMBER OF COPIES		X		
6. DISTRIBUTION OF COPIES	X	X		
6. RESTART/RECOVERY PROCEDURES	X	X		
NON-ROUTINE PROCEDURES	X			
1. SWITCHOVER TO A BACK-UP SYSTEM	X			
2. PROCS FOR TURNOVER TO MAINTAINERS	X			
REMOTE TERMINAL OPERATIONS	X			

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•	PRO	GEN	M MAINIENANCE MANUAL	×	X	×		
	1.	1		^	÷			
		2	ENVIRONMENT	¥	^			
			1. PROJECT SPONSOR	Ŷ				
			2. DEVELOPER	x				
			3. USER	X				
			4. COMPUTER CENTER/NETWORK	X				
		3.	PROJECT REFERENCES	X	x			
			1. PROJECT REQUEST (AUTHORIZATION)	X				
			2. PREVIOUSLY PUBLISHED DOCUMENTS	X				
			3. DOCUMENTATION OF RELATED PROJECTS	X	X			
			4. FIPS PUBS AND OTHER REF DOCUMENTS	X				
,		4.	TERMS AND ABBREVIATIONS		×	X		
		5.	SUMMARY	X				
	5.	SYS	STEM DESCRIPTION/PROGRAMS DESCRIPTION	X	X	X		
		1.	SYSTEM APPLICATION		X			
			I. STSTEM PURPUSE		×			
			2. STSTEM FUNCTIONS		×	*		
			A FOUTD AND COFTWARE DEAS			Ŷ		
		2	SECURITY AND PRIVACY		¥	^		
			1. CLASSIFIED COMPONENTS		Ŷ			
			1. INPUTS		¥			
			2. OUTPUTS		x			
			3. DATA BASES		X			
			4. COMPUTER PROGRAMS		X			
			2. PPIVACY RESTRICTIONS		X			
		3.	GENEPAL DESCRIPTION (BY FUNCTION)	X	X			
			1. SYSTEM		X			
			2. SUBSYSTEM		X			
			3. JOB		X			
		4.	PROGRAM DESCRIPTION	X	X	X		
			1. IDENTIFICATION - TITLE, VERSION	X	X			
			2. PROGRAM FUNCTIONS, SOLUTION METHOD	×	X	X		
			3. INPUT-DESCRIPTION		X	÷		
			2. INPUT DATA TYPE AND LOCATIONS		×	•		
			3. ENTRY PEOUIDEMENTS		2			
			A. PROCESSING - INCLUDING:	¥	Ŷ	x		
			1. PROCESSING LOGIC	x	Ŷ	x		
			1. MACRO-LOGIC CHART		~	X		
			2. PROGRAM LOGIC DETAILS			X		
			3. DECISION TABLES			X		
			2. LINKAGES	X	x			
			3. VARIABLES AND CONSTANTS	X				
			4. ERROR HANDLING PROVISIONS	X				

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		5. FORMULAS	X			
		6. RESTRICTIONS/LIMITATIONS	X	X		
		7. LOCATIONS, SETTINGS, IN-				
		TERNAL SWITCHES AND FLAGS	X			
		8. STORAGE, SHARED STORAGE	X	X		
		9. MAJOR BRANCHING CONDITIONS		X	X	
		10. EXIT REQUIREMENTS		X		
		11. OUTPUT DATA TYPE, LOCATIONS		X		
		5. OUTPUT - DESCRIPTION. LAYOUT	X	X	X	
		6. INTERFACES	X	X		
		7. TABLES	X	X		
		1. TABLE TAG. LABEL OR SYM-				
		BOLIC NAME, LOCATION		X		
		2. FULL NAME AND PURPOSE		X		
		3. OTHER PROGRAMS USING TABLE		X		
		4. LOGICAL DIVISIONS		X		
		5. BASIC TABLE STRUCTURE		X		
		6. TABLE LAYOUT (GRAPHIC)		X		
		7. ITEMS		X		
		1. ITEM TAG, LABEL, NAME		X		
		2. PURPOSE OF THE ITEM		X		
		3. ITEM CODING		X		
		8. UNIQUE RUN FEATURES		X		
		1. PROGRAM RUN DIAGRAM			X	
		2. TIMING CRITERIA			X	
		3. OPERATING INSTRUCTIONS			X	
3.	OP	ERATING ENVIRONMENT	X	X		
	1.	HARDWARE	X	X		
		1. PROCESSOR, INTERNAL STORAGE SIZE	X			
		2. STORAGE ONLINE OR OFFLINE.				
		MEDIA. FORM. AND DEVICES	X			
		3. INPUT/OUTPUT DEVICES, ONLINE AND				
		OFFLINE	X			
	-	4. DATA TRANSMISSION DEVICES	X			
	2.	SUPPORT SOFTWARE IDENTIFICATION	X	X		
		1. OPERATING SYSTEM DESCRIPTION	X			
		2. COMPILER/ASSEMBLER DESCRIPTION	X			
	_	3. OTHER SOFTWARE DESCRIPTION	X		1	
	3.	DATA BASE DESCRIPTION	X	X	X	
		1. GENERAL CHARACTERISTICS		×		
		1. IDENTIFICATION		×		
		2. PERMANENCY		×		
		J. STURAGE		X		
		4. RESTRICTIONS		X	-	
		2. UNGANIZATION, DETAILED DESCRIPT		×	*	
		1. LATUUT - DATA BASE STRUCTURE		×	~	
		A SECTIONS - RECORD PARTS		T		

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	3. ETELDS IDENTIFICATION	-	-			
	TAGE/LABELS		÷			
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	2 DANGE		~			
	A EXPANSION - NOTE DOUTSIONS		~			
	A EXPANSION - NUTE PROVISIONS	~				
•	MAINTENANCE PRUCEDURES	-	×			
	1. PROGRAMMING CONVENTIONS	X	X			
	I. DESIGN OF MNEMONIC IDENTIFIERS		X			
	2. PROCEDURES AND STANDARDS FOR					
	FLOWCHARTS, LISTINGS, SERIALIZA-					
	TION OF CARDS, ABBREVIATIONS,					
	REMARKS, AND SYMBLOS		X			
	3. STANDARDS CITATIONS		X			
	4. STANDARD DATA ELEMENTS		X			
	2. VERIFICATION PROCEDURES, I/O DATA	X	X	X		
	3. ERROP CONDITIONS	X	X			
	4. SPECIAL MAINTENANCE PROCEDURES TO:	X	X			
	1. MAINTAIN THE SYSTEM 1/0					
	COMPONENTS, SUCH AS THE DATA BASE		X			
	2. PERFORM LIBRARY MAINTENANCE RUN		X			
	5. SPECIAL MAINTENANCE PROGRAMS		X			
	1. INPUT-OUTPUT REQUIREMENTS		X			
	2. PROCEDURES - SETTING UP,					
	RUNNING, AND TERMINATING		×			
	6. LISTINGS AND FLOWCHARTS	X	X	X		
	7. PROGRAM COMPILATION OUTPUT			X		
	8. TEST TIMING RESULTS			X		
	9. MISCELLANEOUS INFORMATION			x		

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Y. IEJI PLAN	0	č			
1. GENERAL INFORMATION	^				
1. PURPUSE		č			
2. ENVIRUNMENT, PRETEST BACKGROUND	0	~			
J. REFERENCES	2	*			
I. PROJECT REQUEST (AUTHORIZATION)					
2. PREVIOUS DUCUMENTS UN PROJECT					
J. DULUMENTATION OF RELATED PROJEC	15 .	*			
4. FIPS PUBS, UTHER REF DULS	^				
4. IERMO ANU ABBREVIATIUND	~	×			
D. SUMMARY	*				
2. DEVELOPMENT TEST ACTIVITY		X			
1. PRE-IEST AUTIVITIES		X			
2. PRE-TEST ACTIVITIES RESULTS	~	X			
3. TEST PLAN		X			
1. SYSTEM/SOFTWARE DESCRIPTION	×	X			
2. MILESTONES - TESTING SCHEDULE	×	X			
3. TESTING (IDENTIFY IST LOCATION)	X	X			
1. SCHEDULE	×	X			
1. OVERALL ONSITE TEST PERIOD		X			
2. PRETEST ONSITE TEST PERIOD		X			
3. DATA COLLECTION PERIOD		X			
4. USER ORIENTATION PERIOD		X			
5. USER/OPERATOR/MAINTAINER TNG		X			
6. TEST REPORT PREP, REVIEW		X			
2. RESOURCE REQUIREMENTS	×	X			
1. EQUIPMENT	X	X			
2. SOF TWARE	X	X			
3. PERSONNEL	X	X			
3. ORIENTATION PLAN		X			
4. TESTING MATERIALS	X	X			
1. DOCUMENTATION	X	X			
2. SOFTWARE AND ITS MEDIUM	×	X			
3. TEST INPUTS, SAMPLE OUTPUTS		X			
4. TEST CONTROL SOFTWARE, WRKSH	TX	×			
5. CARD DECKS/TAPES		X			
6. SITE SUPPLIED MATERIALS		X			
5. TEST TRAINING	×				
6. SECURITY		X			
. TESTING (IDENTIFY 2ND LOCATION) ET(· · X	X			
4. TEST SPECIFICATIONS AND EVALUATION	X	X			
1. SPECIFICATIONS	X	X			
1. REQUIREMENTS	X	×			
2. STSTEM/SOFTWARE FUNCTIONS	×	X			
3. TEST/FUNCTION RELATIONSHIPS	×	X			
4. IEST PROGRESSION	X				
C. METHOUS AND CONSTRAINTS	×	×			
1. METHODOLOGY	×				

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0	0)	1
		-	-
2. CONDITIONS X)	K	
3. EXTENT X)	K	
4. DATA RECORDING X)	K	
5. CONSTRAINTS X)	K	
3. TEST PROGRESSION)	K	
4. EVALUATION X)	K	
1. CRITERIA X)	K	
1. TOLERANCES)	K	
2. SAMPLES)	K	
3. COUNTS)	K	
2. DATA REDUCTION X)	K	
1. MANUAL)	K	
2. SEMI-AUTOMATIC)	ĸ	
3. AUTOMATIC	>	x	
TEST DESCRIPTIONS (EACH TEST, AS BELOW) X	>	K	
1. DESCRIPTION X)	K	
2. CONTROL X)	ĸ	
1. MEANS OF CONTROL)	x	
1. MANUAL X	,	x	
2. SEMI-AUTOMATIC	;	2	
3. AUTOMATIC	5	2	
2. DATA	,		
1. INPUT DATA	;		
2. INPUT COMMANDS		2	
3. OUTPUT DATA	;	Ŷ	
A. DUTPUT NOTIFICATION	;	2	
3 PROCEDURES		2	
1. CETIID		2	
2. INITIALIZATION		2	
1. DEADOUT OF CONTROL FUNCTION	'	•	
LOCATIONS, CRITICAL DATA			
2. AUFUEING OF DATA INDUT			
2. QUEUEING OF CUPPORT PROGRAMS			
A COODTNATION OF DEDSONNEL	'	•	
ACTIONS			
2 STERE			
J. UTSHAL INCRECTION, TEST	,	•	
CONDITIONS		,	
2. INSTRUCTIONS FOR DATA DECORDING			
A MODIFICATIONS FOR DATA PACE	2		
E INTEDIM EVAL OF TEST DESULTE	2		
A TEDUTNATION			
TO DEADOUT OF COTTICAL DATA			
TERMINATION OF THE CONSTRUCT		ſ	
C. IERMINATION OF TIME-SENSITIVE			
IFST SUPPORT PROGRAMS. APPARATUS)	(
J. COLLECTION OF TEST RESULTS			
RECORDS)	¢	

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TEST ANALYSIS REPORT	X	X	X	
1. GENERAL INFORMATION	X	X		
1. PURPOSE		X		
2. ENVIRONMENT - ORGANIZATIONAL	X			
1. SOFTWARE SPONSOR	X			
2. DEVELOPER	x			
3. USER ORGANIZATION	X			
4. COMPUTER CENTER	X			
3. PROJECT REFERENCES	X	x		
1. PROJECT REQUEST (AUTHORIZATION)	X			
2. PREVIOUSLY PUBLISHED DOCUMENTS	X			
3. DOCUMENTATION ON RELATED PROJECTS	X			
4. FIPS PUBS. OTHER REF DOCUMENTS	X			
4. TERMS AND ABBREVIATIONS		X		
5. SUMMARY	X			
2. TEST RESULTS AND FINDINGS	X	X		
1. TEST (IDENTIFY) (FOR EACH TEST)	X	X		
1. DYNAMIC DATA PERFORMANCE	X	X		
2. STATIC DATA PERFORMANCE	X	X		
3. PARAMETER PERFORMANCE		X		
N. TEST (IDENTIFY)	x			
3. SOFTWARE FUNCTION FINDINGS	X			
1. FUNCTION (IDENTIFY) (FOR EACH FUNCT	X	X		
1. PERFORMANCE	X	X		
2. LIMITS	X			
N. FUNCTION (IDENTIFY)	X			
4. ANALYSIS SUMMARY	X	X		
1. CAPABILITIES	X	X		
2. DEFICIENCIES	X	X		
3. RECOMMENDATIONS, REFINEMENTS	X	X		
1. URGENCY FOR EACH CORRECTION	X			
2. PARTIÉS RESPONSIBLE	X			
3. HOW TO MAKE CORRECTIONS	X			

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	-	-	-	-	-
11. SYSTEMS DESCRIPTION MANUAL			X		
1. NARRATIVE SYSTEM DESCRIPTION			X		
2. DESIGN NOTES			X		
3. SYSTEM FLOW CHART			X		
4. EQUIP/SOFTWARE REQS			X		
5. SOURCE DOCUMENTS DESCRIPTION			X		
6. DETAILED CLERICAL PROCEDURES			X		
7. CONTROL METHODS/AUDIT TRAILS			X		
8. INPUT DEVICE INSTRUCTIONS			X		
9. GLOSSARY, STD DATA ELEMS			X		
10. PROGRAM LISTINGS			X		
11. PROGRAM DESCRIPTION			X		
12. PROGRAM RUN DIAGRAM			X		
13. INPUT DEVICE DOCUMENTS			X		
14. OUTPUT REPORT LAYOUTS			X		
15. OUTPUT FORM LAYOUTS			X		
16. FILE AND RECORD LAYOUTS			X		
17. DETAILED PROGRAM NARRATIVE			X		
18. PROCESSING MACRO-LOGIC CHART			X		
19. DECISION TABLES			X		
20. TIMING CRITERIA			X		
21. MISCELLANEOUS INFORMATION			X		
22. TEST DATA AND CRITERIA			X		
23. TEST OUTPUT RESULTS			X		
24. TEST TIMING RESULTS			X		

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12.	CONVERSION MANUAL (MANUAL TO MACHINE)		X	X
	1. GENERAL INFORMATION		X	X
	1. PURPOSE		X	X
	2 SCOPE		x	X
	1 TACKE TO BE INCLUDED		Ŷ	¥
	TASKS TO BE EXCLUDED		Ŷ	Ŷ
	2. TASKS TU BE EALLUVED		0	^
	3. CONVERSION PROCESS DUILINE		2	~
	2. CONVERSION PLAN		*	
	1. PRECONVERSION TASKS			X
	2. CONVERSION SCHEDULE/NETWORK			X
	3. CONVERSION TEAM COMPOSITION			X
	4. COMPUTER PROGRAM INSTALLATION		X	
	5. EQUIPMENT AND OTHER RESOURCE REQS			X
	6. OPERATING PROCEDURES PUBLICATION		X	X
	7. TRAINING MATERIALS, TRAINING		X	X
	8. PHASE-DUT OF OLD SYSTEM (IF			
	APPI TCARLED. CONVERSION. AND			
	PHASE-TN OF NEW SURSYSTEM			x
	9. CONTINGENCY DI AN	1.4	x	¥
	10 DISDLACED DEDSONNEL SKILLS DHASE-		^	^
	AUT - DETRAINING			¥
	11 OPERATING DEDCOMMEN DECONTRACHT			2
	11. UPERATING PERSONNEL RECRUITMENT			2
	IC. SITE PLANNING AND PREPARATION			2
	13. EQUIPMENT INSTALLATION AND CHECKOUT			×
	14. READINESS REVIEW: CONVERSION, NEW			
	SYSTEM, AND PRE-IMPLEMENTATION ACTIVITIES			X
	15. OLD EQUPMENT PHASEOUT			X
	3. DATA BASE CONVERSION PROCEDURES		X	X
	1. DATA RECORD SOURCES, CAPTURING METHOD			X
	2. WORK SHEETS, RECORD FORMS			X
	3. DATA CONVERSION WORKLOAD ESTIMATE.			
	BY SOURCE			X
	4. MANUAL AND ADP CONTROL SYSTEM DESIGN			
	FOR ASSURING THAT RECORDED DATA IS			
	CONVERTED AND INCLUDED IN NEW RECORDS			X
	5. DESCRIPTION OF METHODS FOR EDITING. AND			
	PE-ENTEDING THE DATA			¥
	A SCHEDINES FOR FACH DATA COLLECTION TASK			Ŷ
	7 DEDODITING COMENINE END MATHTATHING THE			^
	STATUS OF ALL CONVERSION TASKS			~
	STATUS OF ALL CUNVERSION TASKS			-
	C. TRAINING MATERIAL PREPARATION			*

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Automated Data Processing System (ADPS) : documentation standards. - Champaign, Ill. : Construction Engineering Research Laboratory ; Springfield, Va. : available from National Technical Information Service , 1978. 48p. ; 27 cm. (Special report. Construction Engineering Research Laboratory ; P-92)

 Electronic data processing documentation
 CAEADS. I. Title. II. Series: U.S. Construction Engineering Research Laboratory. Special report; P-92.

The faith and the