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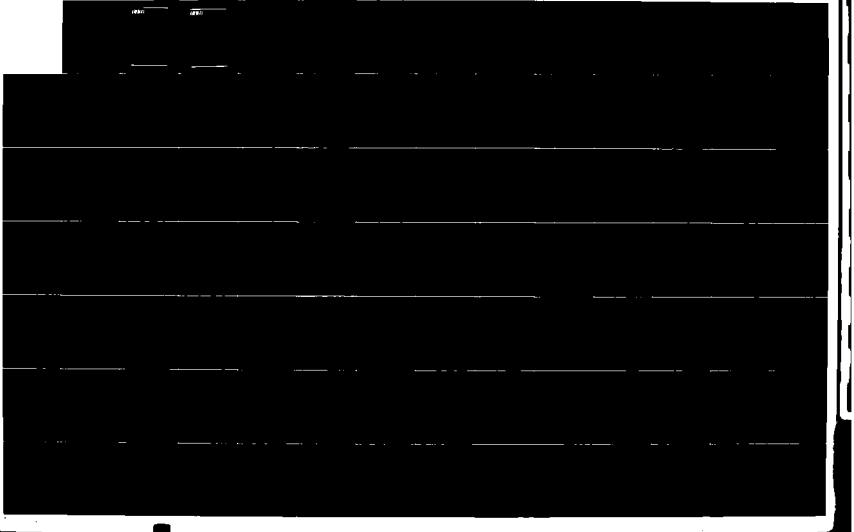

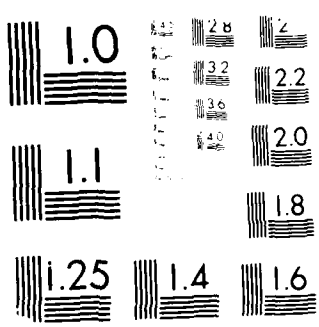

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THE BDM CORPORATION

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Software Supportability Risk Assessment in OT&E: Historical Baselines for Risk Profiles

Volume II

DISTRIBUTION: UNLIMITED

October 7, 1985

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C. Data Survey Format

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19. ABSTRACT (Continue on reverse if necessary and identify by block number)

Assessing the software supportability risk of Air Force acquired systems is necessary to enable various decision makers to properly plan for system deployment. Risk assessment (RA) is required throughout the system acquisition life cycle. Since the perspective of OT&E is focused upon the overall system mission, including supportability, methods are required which point software testers to areas which require testing emphasis and which provide decision makers with an assessment of software and software support risk for production decisions. Due to the complexity of these requirements, it is necessary to develop and implement a risk assessment methodology of software supportability with the proper system mission perspective to ultimately assist the top level decision maker.

In the assessment of risk, the first criteria to establish are the baselines against which to measure the risk. This report contains the results of a study which collected software support activity data from a variety of DoD software support facilities and

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Item 11 (cont'd):

Historical Baselines for Risk Profiles (Volumes I and II)

Item 19 (cont'd):

systems. The data collected was used to develop historical profiles of the activities observed. These profiles are the risk baselines against which negative outcomes can be determined from evaluations of software support risk.

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APPENDIX C

SITE

SURVEY

FORM

04/29/85

DRAFT 7

Site Survey Information

Survey data is needed to determine a historical basis of software maintenance activity across several sites which support Air Force systems.

Briefly, the survey data to be collected includes:

a) Background data on each software system;
b) A high-level, subjective assessment by site personnel of the adequacy (product, environment, life cycle process) of the support for each major software system;
c) Actual software maintenance data (corrections, enhancements, conversions) for each software system in as much detail as is available. Information on each software problem corrected in each block release since "delivery" is needed. This information will be collected during the site visit.

This data will be used to determine:

a) the availability and consistency of such data;
b) the effort required to collect such data;
c) the utility of the data for use in a proposed software supportability risk assessment methodology;
d) the potential for derivation of a general data collection format for software maintenance data based upon the availability, consistency, effort, and utility as above.

Software systems for which data is desired are indicated in an accompanying list. Other suggested systems for which data might be available will be added to the list as time to collect such data permits. Typically, it should require no more than 30 minutes of a senior software person's time to complete the information for each software system. During the on-site visit it would be beneficial to talk with each of the senior personnel completing the survey form, as well as the appropriate personnel maintaining the configuration management status accounting information. In this way, problems with the assessment data can be resolved and maintenance data which is available on each system can be efficiently collected.

DEFINITIONS FOR SITE SURVEY

ATE - Automatic Test Equipment

CSCI - Computer Software Configuration Item

ICC - Initial Operational Capability

MA - Maintenance Action

OFP - Operational Flight Program

PMRT - Program Management Responsibility Transfer

S/W - Software

Software System - A set of software (specifications, programs, and data) which constitutes a well-defined major function or group of functions. Typical systems include avionics OFP, ground based communications, missile guidance, simulation, threat generator, ATE, and electronic warfare.

Software Delivery - That point in the software life cycle when the software support function assumes responsibility for the "next" set of configuration changes to the software (e.g., next block release). This point is logically no later than PMRT, but could be as early as IOC. This applies when a contractor or government agency assumes the software support function.

Software Life Cycle Process Management - The policy, methodology, procedures, and guidelines applied in a software environment to the software development and support life cycle activities.

Software Configuration Management - A discipline applying technical and administrative direction and surveillance to (1) identify and document the functional and physical characteristics of a configuration item, (2) control changes to those characteristics, and (3) record and report change processing and implementation status.

Software Maintenance Project Management - The software life cycle process management applied during the support phase for the software to accomplish specific software maintenance tasks which derive from software problem reports or change requests.

Software Maintainability - The ease with which software can be changed in order to: correct errors, add or modify system capabilities through software changes, delete features from programs, and modify software to be compatible with hardware changes.

Software Supportability - A measure of the adequacy of personnel, resources and procedures to facilitate: modifying and installing software, establishing an operational software baseline, meeting user requirements.

Support Personnel - A general term for personnel (military, DoD civilian, or DoD contractor) whose skills are necessary to directly support mission critical system software maintenance. Includes but is not limited to management, technical, non-technical support, and contractor personnel.

Support System - The automated system used to change, test, or manage the configuration of mission critical system software and associated documentation. Includes but is not limited to Host Processor, Software Bench, Laboratory-Integrated Test Facility, OPeration-Interated Test Facility, and Configuration Management System.

Support Facility - The physical facility resources that must be available for the software support resources to accomplish a specific task(s).

Documentation - All of the written work describing operating and maintenance procedures for a system.

Source Code - The form of the program code in its source language.

Consistency - A measure of the extent the software products correlate and contain uniform notation, terminology, and symbology.

escriptiveness - A measure of the extent that software products contain information regarding its objectives, assumptions, inputs, processing, outputs, components, revision status, etc.

Expandability - A measure of the extent that a physical change to information, computational functions, data storage, or execution time can be easily accomplished once the nature of what is to be changed is understood.

Instrumentation - A measure of the extent that software products contain aids which enhance testing.

Modularity - A measure of the extent that a logical partitioning of software products into parts, components, and/or modules has occurred.

Simplicity - A measure of the extent that software products reflect the use of singularity concepts and fundamental structures in organization, language, and implementation techniques.

Time to Complete MA - The time from formal notification (e.g., receipt of anomaly report or software change request) of a software maintenance request to the final disposition of that request (e.g., change is integrated into the next release, or request is denied).

Baseline Software Supportability Profile - The set of 27 pairs of numbers (or any subset) determined by specifying the (time to complete request, number of requests per unit time) pair for each request category. A request category is the triple (type, priority, complexity) where type is conversion, enhancement, or correction; priority is emergency, urgent, or normal; and complexity is high, medium, low.

Emergency MA - an MA requiring all available personnel's dedicated effort to correct the problem as soon as possible (e.g., 24 hours); MIL-STD-1679 severity code 1 or 2: mission termination or severe degradation

Urgent MA - an MA requiring next "block release" turnaround; MIL-STD-1679 severity code 3: mission impact

Normal MA - an MA not in the Emergency or Urgent categories; MIL-STD-1679 severity code 4 or 5: mission inconvenience

High Complexity MA - an MA where changes are in requirements, design, code, and test; or > 10% of CSCI is affected; or several modules are affected by the change (global changes); or the technical nature of the change requires highly specialized personnel skills; or the level of effort by personnel is large

Medium Complexity MA - an MA where changes are in design, code and test; or > 1% of CSCI is affected; or at least two modules are affected by the change (semi-local); or the level of effort by personnel is average

Low Complexity MA - an MA where changes are isolated to only one unit (e.g., one module/compilation unit) of code; or no more than 1% of CSCI is affected; or the level of effort by personnel is minimal

Conversion (Adaptive) MA - Any change/effort to a software system which is initiated as a result of changes in the environment(e.g.,hardware, system software) in which the software system must operate.

Enhancement (Perfective) MA - Any change, insertion, deletion, modification, extension, and enhancement made to a software system to meet the evolving needs of the user.

Corrective MA - Any change which is necessitated by actual faults (induced or residual) in a software system.

Risk - The potential for realization of unwanted, negative consequences of an event.

Software Supportability Risk - The probability at a given point during the software support phase that the software maintenance activity specified by a baseline software supportability profile can not be accomplished with the available software support resources.

Date:_____ Site:_____ Source of Data:_____ Page :

1. S/W BACKGROUND DATA
(Complete for each S/W System)

1.1 IDENTIFICATION:
- 1.1.1 System: _____
- 1.1.2 S/W System:_____
- 1.1.3 S/W System Type (OFP,C3I,EW,Simulator,Missile,ATE):_____

1.2 DESCRIPTION:
- 1.2.1 Size(#CSCIs,#Modules,#Source Lines):_____
- 1.2.2 List Documentation Delivered by Contractor and/or Developed During Maintenance:_____
- 1.2.3 Language(s) & %Use:_____
- 1.2.4 Development Contractor Data:
  Name(s):_____
  Development period:_____
  Personnel Time :_____
- 1.2.5 Description of any Major Life Cycle Events(contractor change,major modification,etc.):_____
- 1.2.6 Personnel Currently Supporting S/W System:
  Total number:_____
  List the number by skill level (1 to 5) with 1 = Low, and 5 = High:
  #Lev1_=____;#Lev2_=____;_#Lev3_=____;_#Lev4_=____;_#Lev5_=____;
  Indicate approximate % of the time these personnel are dedicated to support of this S/W system:_____
- 1.2.7 Computer Systems Currently Supporting S/W Maintenance:
  List computers/peripherals/.. or a document containing information:
  _____
  Indicate approximate % of the time these systems are dedicated to support of this S/W system:_____
- 1.2.8 Software Supportability Problems:
  List any significant problems which affect this system's software supportability.

2. S/W ASSESSMENT DATA

.1 S/W PRODUCT MAINTAINABILITY ASSESSMENT

On a scale of -50 to 50 rate the S/W System Product attributes:

worst -> ! inadequate ! adequate ! <- best

v----------v----------v

-50 0 50

Do not enter 0.	At Delivery	Current
2.1.1 S/W Documentation	_____	_____
2.1.1.1 Modularity	_____	_____
2.1.1.2 Descriptiveness	_____	_____
2.1.1.3 Consistency	_____	_____
2.1.1.4 Simplicity	_____	_____
2.1.1.5 Expandability	_____	_____
2.1.1.6 Instrumentation	_____	_____
2.1.2 S/W Source Code	_____	_____
2.1.2.1 Modularity	_____	_____
2.1.2.2 Descriptiveness	_____	_____
2.1.2.3 Consistency	_____	_____
2.1.2.4 Simplicity	_____	_____
2.1.2.5 Expandability	_____	_____
2.1.2.6 Instrumentation	_____	_____
2.1.3 General S/W Maintainability	_____	_____

.2 S/W SUPPORT ENVIRONMENT ASSESSMENT

On a scale of -50 to 50 rate the S/W Support Environment Attributes:

worst -> ! inadequate ! adequate ! <- best

v----------v----------v

A -50 0 50

Do not enter 0.	At Delivery	Current
2.2.1 S/W Support Personnel	_____	_____
2.2.1.1 Management	_____	_____
2.2.1.2 Technical	_____	_____
2.2.1.3 Support	_____	_____
2.2.1.4 Contractor	_____	_____
2.2.2 S/W Support Systems	_____	_____
2.2.2.1 Host Computer	_____	_____
2.2.2.2 Software Bench	_____	_____
2.2.2.3 Lab-Integ. Test	_____	_____
2.2.2.4 Operational Sys	_____	_____
2.2.2.5 Other (Specify)	_____	_____
2.2.3 S/W Support Facility	_____	_____
2.2.3.1 Office Space	_____	_____
2.2.3.2 System Environ.	_____	_____
2.2.4 General S/W Support Environment	_____	_____

2.3 S/W LIFE CYCLE SUPPORT MANAGEMENT ASSESSMENT

On a scale of -50 to 50 rate the S/W Life Cycle Support Management:

```
worst -> ! inadequate !  adequate  ! <- best
         v------------v------------v
        -50           0           50
```

Do not enter 0.		At Delivery	Current
2.3.1	S/W Configuration Mgmt :	_____	_____
2.3.1.1	Identification :	_____	_____
2.3.1.2	Status Account.:	_____	_____
2.3.1.3	Config. Control:	_____	_____
2.3.1.4	Audit :	_____	_____
2.3.2	S/W Maintenance Mgmt :	_____	_____
2.3.2.1	Planning :	_____	_____
2.3.2.2	Organization :	_____	_____
2.3.2.3	Design Methods :	_____	_____
2.3.2.4	Coding Methods :	_____	_____
2.3.2.5	Test Methods :	_____	_____
2.3.2.6	Org. Interface :	_____	_____
2.3.3	General SWLC Support Management:	_____	_____

2.4 S/W SUPPORTABILITY ASSESSMENT

On a scale of -50 to 50 rate this system's overall software supportability:

```
worst -> ! inadequate !  adequate  ! <- best
         v------------v------------v
        -50           0           50
```

Do not enter 0.		At Delivery	Current
2.4.1	General S/W Supportability :	_____	_____

2.5 S/W SUPPORTABILITY RISK ASSESSMENT

On a scale of 0(none) to 1(certain), estimate the S/W Supportability Risk for this system: that is, estimate the probability that the baseline profile of maintenance requests for this S/W System can not be completed in a unit of time (e.g., year or block release as is appropriate) given the adequacy of the software product quality, software support environment, and the software life cycle management.

		At Delivery	Current
2.5.1	S/W Supportability Risk :	_____	_____

3. DESIRABLE MAINTENANCE DATA FOR EACH SOFTWARE SYSTEM

.1 FOR EACH BLOCK RELEASE SINCE SOFTWARE DELIVERY
- a. List of specific software changes implemented
- b. Estimated person (configuration management, maintenance project) effort
- c. Actual person effort
- d. Engineering Start and End dates
- e. Time from Engineering End date till release was fielded

3.2 FOR EACH SOFTWARE CHANGE REQUEST SINCE SOFTWARE DELIVERY
- a. Id and description
- b. Type (correction, enhancement, conversion)
- c. Priority (emergency, urgent, normal)
- d. Complexity (high, medium, low)
- e. Estimated person (configuration management, maintenance project) effort
- f. Actual person effort
- g. Configuration management open and close dates
- h. Release in which change is or will be implemented

3.3 FOR EACH YEAR SINCE SOFTWARE DELIVERY
- a. Number of software change requests carried over from previous year
- b. Number of software change requests opened during current year
- c. Number of software change requests closed during current year

3.4 ADDITIONAL DATA OF INTEREST
- a. Computer system resources (e.g., computer hours) used for each release
- b. Specific tradeoff factors which were required for each release such as request priority, personnel availability and experience, computer systems availability and adequacy
- c. Major problems which led to delay or inefficiency in completion of a release

D. System Data

APPENDIX D

SYSTEM DATA

D.1 INTRODUCTION.

a. This appendix contains summaries of the raw maintenance support data gathered from the various sites visited. The sites visited include:

(1) NORAD Space Command, Colorado Springs, CO

(2) Warner Robins ALC, Robins AFB, GA

(3) Sacramento ALC, Sacramento, CA

(4) Castle AFB, CA

(5) Ogden ALC, Ogden, UT

(6) Oklahoma City ALC, Oklahoma City, OK

(7) Langley AFB, VA.

At each site, maintenance support data for several systems were collected. Each system (e.g., F-16 at Ogden ALC) generally had several software systems (e.g., FCC, SMS, RDR, HUD). For each software system the maintenance support data consisted of background data, evaluation data, and maintenance activity data on each block release since the beginning of formal software system support activity at the site.

b. The terminology developed to describe the data in a consistent way across software systems is described in section D.2 of this

appendix and appendix B, Glossary of Terms. The actual data collected, and in some cases interpreted from notes and application of the terminology constraints, are summarized in section D.3 of this appendix. The bulk of the analysis results presented in this report is derived from the data presented in this appendix.

D.2 TERMINOLOGY.

The Glossary of Terms, appendix B, contains reasonably concise definitions for the terms used in this report. However, there are some caveats relative to the manner in which the actual data is "molded" into the appropriately defined terms. This section is a brief attempt to describe those caveats for the specific data items used in section D.3 of this appendix.

D.2.1 Background Data.

a. There were considerable background data collected during the individual interview sessions and from the data survey forms. The more important background data (across software systems) are summarized by software system in section D.3. The Program Management Responsibility Transfer (PMRT) date is officially when organic software system support is supposed to begin. Many systems have not undergone PMRT, but some have already begun the software support function. In this case, the "delivery" date reflects this unofficial beginning of the support function.

b. In some cases the organic support is a combination of several organic organizations and/or perhaps a contractor. As much as possible, the personnel counts reflect actual maintenance support personnel, not the personnel which may be part of an ALC overhead management function or a contractor function required in order to process an "official" release, because the software system has not officially undergone PMRT. These actual software maintenance

personnel are the management, technical, support, and contractor personnel directly involved in the configuration management and/or analysis, design, code, test of changes in a block release.

c. Major problem areas reflect the particular opinions of the personnel interviewed, and may not reflect the opinion of other management on-site personnel.

D.2.2 Evaluation Data.

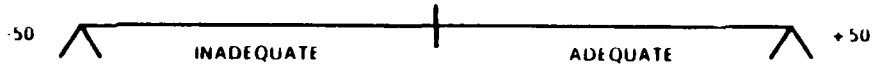
a. The evaluation data for each software system represented the subjective opinion of the personnel completing each data survey form. Each value represented the adequacy of the evaluated supportability category on a scale from -50 (totally inadequate) to +50 (totally adequate). The "0" value is the separator of "inadequate" and "adequate". The transformation of values to AFOTEC's evaluation scale 1 to 6 is illustrated in table D-1.

b. As an example of how to use table D-1, suppose the evaluated score of the category S/W source code modularity is a 20. Then the corresponding AFOTEC score would be 4.5. This score (4.5) would correspond approximately to a value midway between "generally agree" and "strongly agree" values for the statement: "The modularity of the source code is adequate."

c. The primary concern of the evaluation was to determine how the supportability metrics compare (correlate) with the concept of supportability risk. Unfortunately, the explanation of risk seemed to be misinterpreted by many evaluation personnel. This has led to a more precise statement of supportability risk as defined in the glossary of terms. As applied to the site survey baselines, the supportability risk is "the probability that the specified block release cannot be accomplished within the available software support resources." "At delivery" the block release would be the first block

Table D-1. Survey Form Evaluation Score Conversion.

SITE SURVEY FORM SCALE (MS)



AFOTEC EVALUATION SCALE (MA)

WHERE
- 6 COMPLETELY AGREE
- 5 STRONLY AGREE
- 4 GENERALLY AGREE
- 3 GENERALLY DISAGREE
- 2 STRONGLY DISAGREE
- 1 COMPLETELY DISAGREE

THE < CATEGORY > IS ADEQUATE.

CONVERSION EQUATION: $MA = (MS + 50) / 20 + 1$

MS	MA	MS	MA
50	6.00	5	3.25
45	5.75	10	3.00
40	5.50	15	2.75
35	5.25	20	2.50
30	5.00	25	2.25
25	4.75	30	2.00
20	4.50	35	1.75
15	4.25	40	1.50
10	4.00	45	1.25
5	3.75	50	1.00
0	3.50		

release. For "current" the block release would be the current one being processed or, if none were being processed, the next expected block release.

d. The focus of supportability risk is upon the risk to complete the agreed upon changes in a block release as opposed to all submitted change requests. This focus is required because very little data exist concerning submitted change requests, except for the consensus that there will "always" be more change requests than could possibly be processed. The backlog estimates range from 20 to 200 percent at the current release change count.

e. Thus, the supportability risk being estimated is the risk of being unable to complete a block release once the contents of a block release have been essentially agreed upon during preliminary analysis. "Unable to complete" is still a fuzzy term, but it includes such things as changes being added and/or additional resources (such as personnel, calendar time, support tools) being required. If the user or any other personnel changes the scope of the block release content in such a manner that the block release will be late or more resources must be added to keep the schedule, then the original block release was not completed as agreed upon. The possibility of this happening is the supportability risk.

f. It is clearly realized that there is more to supportability risk than is being measured by this data. However, it does appear that the concept of baseline maintenance support activity (changes in a block release), supportability factors (software products, software support environment, software life cycle management), supportability factor metrics, and supportability risk (as defined here) are reasonably consistent and related terms.

D.2.3 Maintenance Activity Data.

a. Maintenance activity data are the set of all productivity information concerning each block release of changes to a software system. The data upon which this report focus include:

(1) Release start and engineering completion dates

(2) Number of personnel available for direct support of the block release

(3) Percentage of time these personnel are dedicated to this software system

(4) Personnel overlap factor with other releases

(5) Number of changes in release

(6) Number of changes by type (correction, enhancement, conversion)

(7) Number of changes by complexity (low, medium, high)

(8) Number of changes by priority (normal, urgent, emergency).

b. The release start date is that date when analysis activity related to the subject block release begins for which support personnel are required. Typically, this might be the date of the first change request or perhaps the date when no more change requests are accepted for consideration. The engineering completion date is that date when the engineering (including operational testing) part of the block release is complete. Time for "kit" proofing, prom burning, and creation of technical orders after completion of engineering is

not included. There is usually additional time between the engineering completion date, and the actual fielded date. In fact, an engineering release may never be fielded.

c. The number of personnel is the count of those persons assigned in some direct capacity to the support of the software system. It could be management, technical, support (technicians, librarian clerks), or contractor personnel. The percentage of time these people are dedicated to this software system as opposed to other software systems is required in order to determine "full time equivalent" personnel available to support the software system. This percentage dedicated does include time spent by these personnel performing various "overhead" functions even if not directly related to the software system. Thus, full time equivalent personnel time does include certain overhead time not directly devoted to software maintenance activity. Such time would include:

(1) Vacations and sick leave

(2) Supporting outside interests such as test agencies and user meetings

(3) Support of internal site functions such as internal meetings, and organization training.

d. In addition to the available "full time equivalent" personnel, it is necessary to account for any overlap by the same personnel in supporting consecutive releases. If consecutive releases involve no overlap, then this factor is 1.0. If 50 percent of the time is spent on each of the releases, then an overlap factor of 0.5 is used for each release. In general, if the release dates (start and end) overlap for consecutive releases, then an overlap factor of 0.5 for the duration of the overlapped time has been used. In other cases, time may have been spent against a planned release which is not completed

and thus never shows up as an overlap. This is totally subjective and can only be accurately specified by the personnel familiar with the given release. Updates to the specified overlap factor (as well as any other data) will be solicited through a normal delphi technique with the software personnel who were the primary source for this data.

e. The total number of changes in each release is very accurate (except in a few rather obvious instances), and does represent the number of official, documented, change requests (MIP, SPRs, DRs, SMRs, and so forth, as appropriately named by the system's configuration control procedures). The change request generally initiated individual analysis, design, code, and test as well as integrated block release analysis and test. The resulting changes to the software system might be to one module or might be to many modules. The changes to documentation and source code might involve everything from changes to requirements, to simple one-line parameter updates. Just because a change involves only one module does not necessarily imply it is simple. The nature of the change (e.g., development of a state-of-the-art EW algorithm) might dictate much analysis and design, but little code change. The complexity of the change is subjectively defined in terms of scale values high, medium, low in accordance with the combination of skill level of resources required, amount of software product affected, and amount of resources (personnel and support system) required by the change request.

f. Generally, the number of conversions was not delineated from number of enhancements in the data. Although it was clear from the interviews that much conversion activity is being done, the conversions are usually included with enhancements and are not easily separable.

g. Except for NORAD, the other sites (primarily ALCs) had only NORMAL (i.e., routine) priority assigned to the change requests.

Concern among ALC personnel for possible problems in adequate response to non-normal priority change requests was indicated. The issue of processing security sensitive changes which fall outside of the "normal" request priority was also raised several times. An estimate of 2 to 2 1/2 times normal change processing time was given for sensitive changes.

D.3 SURVEY DATA BY SITE.

a. The raw survey data are summarized in this section by site. For each site, the data for each software system consist of background data, evaluation data, and maintenance activity data.

b. Table D-2 contains a list of the sites and software systems for which data are included along with the application type of the software system. This table has entries for 81 separate software systems.

c. Table D-3 contains the software systems background raw data and corresponds roughly to the information requested in section 1.2 of the site survey form (appendix C). These data are reported in six parts. Part 1 is a summary of the data on size in terms of Computer Software Configuration Items (CSCIs), modules, and number of source lines in thousands (k). Part 2 is a list of the primary, secondary, tertiary, and other programming languages in which the software system is written. Approximate percent of source is listed for each language. The dominant language is clearly assembler. Part 3 is a list of system development data in the form of development contractor, development period, and person years of effort. Most of the calendar and effort data in part 3 are approximate. Part 4 is a

summary of the number of personnel assigned to the system, an approximate skill rating from 1 (low) to 5 (high), and an approximate percentage of the time the assigned personnel are dedicated to the subject software system as opposed to another software system. The skill level generally reflected a level of experience with the subject software. Part 5 is a partial list of the support systems for the software and the percentage of time the support systems are dedicated to the subject software. Part 6 lists software supportability problems reported by the support personnel interviewed during the survey visit.

d. Table D-4 contains the software supportability evaluation data and corresponds to the information requested in section 2 of the site survey form (appendix C). This table is separated into six parts. The first three parts correspond to the software product, software support facility and software support life cycle management evaluation data for the "AT DELIVERY" system. The latter three parts correspond to the similar evaluations for the "CURRENT" system. Raw data values of -99 indicate data are missing. Raw data values of 99 indicate the category was not applicable for the subject system. All categories in the software product and life cycle management evaluations are applicable. Only a few in the software support facility evaluation (e.g., contractor personnel, "other" support system, and perhaps one of the support system environments) are possibly not applicable. There may be a few typographical errors in the data as to use of the 99 and -99 values, but all other data have been validated against the information entered on the site survey form. Note that there is generally one evaluation per software system. For the F-4 software systems, multiple evaluations were done. This will be helpful for future analysis efforts.

e. Table D-5 contains the software maintenance activity data as reduced for commonality across software systems. Some of these data are most subjective and need to be reviewed carefully by the cognizant support personnel to improve accuracy.

f. In particular, the various counts (total, type, complexity, priority) are reasonably accurate if they exist. A zero for all fields of type, complexity or priority indicates missing data. These data would be very helpful if they could be obtained.

g. The release start date and engineering completion date correspond to the release duration in months. Many of these dates are best guesses. An improvement in accuracy would be a major improvement in computation of the profile charts.

h. The number of personnel and the percentage of time dedicated to the software system are essentially directly from the background data (section 1.2.6 in the site survey form). Occasionally, these data were missing or conflicted with information obtained during an interview. In these cases a best guess was attempted. An improvement in accuracy of these data would be a major improvement in computation of the profile charts.

i. The percent dedicated to the release is doubly subjective because it depends upon the accuracy of the release overlaps, and the assumption that, given an overlap, the sharing of personnel is distributed evenly (for each release across an overlap time period). In addition, some of the "quicky" interim/urgent/emergency releases were difficult to categorize. The intent of this percent factor was to reduce, in a reasonably logical and consistent manner, the person time allocated against a given release when the same personnel were being used across several releases for the software. As an example, the NORAD software system releases were overlapped at least three to a year over approximately 11-month release cycles. Any better estimate for this factor would also be a major improvement in computation of the profile charts.

j. The data in tables D-3, D-4, and D-5 represent a wide variety of interesting information. The current analysis is based upon these

data. The future analysis to be included in the final draft report will be based upon these data along with as much improved data as can be solicited from the original evaluators and support personnel interviewed.

Table D-2. Sites and Software Systems

ID	SITE	SYSTEM	SOFTWARE SYSTEM	SOFTWARE TYPE
1	NORAD	CSS	CSS	C-E
2	NORAD	MDS	MDS	C-E
3	NORAD	MEBU	MEBU	C-E
4	NORAD	NCS	NCS	C-E
5	NORAD	SSC	SSC	C-E
6	WR-ALC	ALR-46	ALR-46	EW
7	WR-ALC	ALR-69	ALR-69	EW
8	WR-ALC	AN/ALQ-131	AGEOP	EW
9	WR-ALC	AN/ALQ-131	BIB	EW
10	WR-ALC	AN/ALQ-131	OFP	OFP
11	WR-ALC	AN/ALQ-131	UUT	ATE
12	WR-ALC	APR-38	APR-38	EW
13	WR-ALC	B-52 EVS ATE	ASD-151	ATE
14	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	ATE
15	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	ATE
16	WR-ALC	F-15	CC	OFP
17	WR-ALC	F-15	RADAR	OFP
18	WR-ALC	F-15 AVIONICS ATE	ADTS,AIB	ATE
19	WR-ALC	JTIDS	ASIT/OCP	C-E
20	WR-ALC	JTIDS	E-3A AWACS/OCP	C-E
21	WR-ALC	JTIDS	SP/USER	SIM
22	WR-ALC	JTIDS	SYS EXERCISER	SIM
23	WR-ALC	PAVE TACK	AISF	SUP
24	WR-ALC	PAVE TACK	OFP	OFP
25	SM-ALC	F-111D	WNC	OFP
26	SM-ALC	F-111F	WNC	OFP
27	SM-ALC	FB-111A	WNC	OFP
28	CASTLE AFB	B-52	CPT	ATD
29	CASTLE AFB	B-52	WST	ATD
30	CASTLE AFB	KC-135	WST	ATD
31	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	ATD
32	OO-ALC	F-16	FCC	OFP
33	OO-ALC	F-16	HUD	OFP
34	OO-ALC	F-16	OFT	ATD
35	OO-ALC	F-16	PCR	OFP
36	OO-ALC	F-16	SMS	OFP
37	OO-ALC	F-4	MDIS	OFP
38	OO-ALC	F-4E	AN/ARN-101	OFP
39	OO-ALC	F-4G	AN/ARN-101	OFP
40	OO-ALC	F-4G	LRU-1/ACM	OFP
41	OO-ALC	MINUTEMAN	WING II/2015	SIM
42	OO-ALC	MINUTEMAN	WING VI/HS-29	SIM
43	OO-ALC	MINUTEMAN	WINGS/HS-28	SIM
44	OO-ALC	MINUTEMAN II	SSAS/CAFS	SIM
45	OO-ALC	MINUTEMAN II	WING V/HEG/RATS	SUP
46	OO-ALC	MINUTEMAN II	WING VI/HEG/RATS	SUP
47	OO-ALC	RF-4C	AN/ARN-101	OFP
48	OC-ALC	ALCM	LPT	ATE
49	OC-ALC	ALCM	LPT	ATE
50	OC-ALC	ALCM	OFT	OFP
51	OC-ALC	B-1B	CADC	OFP

Table D-2. Sites and Software Systems

ID	SITE	SYSTEM	SOFTWARE SYSTEM	SOFTWARE TYPE
52	OC-ALC	B-1B	CITS	OFP
53	OC-ALC	B-1B	EMUX	OFP
54	OC-ALC	B-1B	F/CGMS	OFP
55	OC-ALC	B-1B	INS	OFP
56	OC-ALC	B-1B	ORS	OFP
57	OC-ALC	B-52	BNST	ATD
58	OC-ALC	B-52	FTSS	SUP
59	OC-ALC	B-52	MC-1 EXEC	OFP
60	OC-ALC	B-52	MC-2 EXEC	OFP
61	OC-ALC	E-3A	INS	OFP
62	OC-ALC	E-3A	OMEGA	OFP
63	OC-ALC	E-3A	SMCP	OFP
64	OC-ALC	E-3A	SRCP	OFP
65	OC-ALC	E-3A	SRGSCP	SUP
66	OC-ALC	GLCM	DFS	SUP
67	OC-ALC	GLCM	M-DTD	SUP
68	OC-ALC	GLCM	MPT	SUP
69	OC-ALC	GLCM	OFP	OFP
70	OC-ALC	GLCM	WCS	OFP
71	OC-ALC	SRAM	OFP	OFP
72	TINKER AFB	E-3A	AOCP	C-E
73	TINKER AFB	E-3A	UTILITIES	SUP
74	LANGLEY	JTIDS	ASIT/IPOCP	C-E
75	LANGLEY	STRIS	STRIS	ATD
76	LANGLEY	TACS	CAFMS	C-E
77	LANGLEY	TIPI	DC/SR	C-E
78	LANGLEY	TIPI	II/MARRES/TEREC	C-E
79	LANGLEY	407L	HUGHES UTIL	SUP
80	LANGLEY	407L	IBM UTIL	SUP
81	LANGLEY	407L	IORP/IMPP	C-E

Table D-3. Systems Background Raw Data
Part1: SYSTEM SIZE

ID	SITE	SYSTEM	SOFTWARE SYSTEM	EVALUATION DATE	#CSCIs	#MODULES	#SOURCE LINES(K)
1	NORAD	CSS	CSS	01/09/85	16	0	350
2	NORAD	MEBU	MEBU	01/09/85	3	0	123
3	NORAD	NCS	NCS	01/09/85	4	446	231
4	NORAD	SSC	SSC	01/16/85	20	3600	1000
5	WR-ALC	ALR-46	ALR-46	01/29/85	1	17	17
6	WR-ALC	ALR-69	ALR-69	01/30/85	2	42	32
7	WR-ALC	AN/ALQ-131	BTG	01/29/85	0	0	300
8	WR-ALC	AN/ALQ-131	OFP	01/29/85	0	0	12
9	WR-ALC	AN/ALQ-131	UUT	01/29/85	0	0	400
10	WR-ALC	APR-38	APR-38	01/29/85	2	20	120
11	WR-ALC	B-52 EVS ATE	ASD-151	01/31/85	15	160	250
12	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	01/31/85	70	95	200
13	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	01/31/85	340	3000	1000
14	WR-ALC	F-15	CC	01/31/85	1	67	0
15	WR-ALC	F-15	RADAR	01/31/85	0	0	30
16	WR-ALC	F-15 AVIONICS ATE	ADTS,AIS	01/31/85	0	256	2600
17	WR-ALC	JTIDS	ASIT/OCP	01/31/85	1	231	37
18	WR-ALC	JTIDS	E-3A AWACS/OCP	01/31/85	1	237	37
19	WR-ALC	JTIDS	SP/USER	01/31/85	1	166	26
20	WR-ALC	JTIDS	SYS EXERCISER	01/31/85	3	633	225
21	WR-ALC	PAVE TACI	AISF	01/31/85	3	100	75
22	WR-ALC	PAVE TACI	OFP	02/01/85	5	30	13
23	SM-ALC	F-111D	WNC	02/26/85	2	26	40
24	SM-ALC	F-111F	WNC	03/01/85	2	30	40
25	SM-ALC	FB-111A	WNC	02/28/85	2	30	36
26	CASTLE AFB	B-52	CPT	02/21/85	0	163	100
27	CASTLE AFB	B-52	WST	02/21/85	0	10000	1000
28	CASTLE AFB	KC-135	WST	02/21/85	0	5000	500
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	02/21/85	0	140	20
30	OO-ALC	F-16	FCC	04/24/85	12	150	32
31	OO-ALC	F-16	HUD	04/24/85	0	127	16
32	OO-ALC	F-16	UFT	04/24/85	0	1000	10
33	OO-ALC	F-16	FCR	04/24/85	0	0	64
34	OO-ALC	F-16	SMS	04/24/85	0	143	50
35	OO-ALC	F-4	MDTS	04/24/85	140	0	59
36	OO-ALC	F-4	MDTS	04/24/85	0	0	60
37	OO-ALC	F-4E	AN/ARN-101	04/24/85	0	0	50
38	OO-ALC	F-4E	AN/ARN-101	04/25/85	0	0	50
39	OO-ALC	F-4E	AN/ARN-101	04/24/85	0	0	50
40	OO-ALC	F-4E	AN/ARN-101	04/24/85	0	0	50
41	OO-ALC	F-4E	AN/ARN-101	04/24/85	0	0	50
42	OO-ALC	F-4E	AN/ARN-101	04/24/85	0	0	50
43	OO-ALC	F-4G	AN/ARN-101	04/24/85	10	222	143
44	OO-ALC	F-4G	AN/ARN-101	04/24/85	10	222	143
45	OO-ALC	F-4G	AN/ARN-101	04/24/85	10	222	143
46	OO-ALC	F-4G	AN/ARN-101	04/24/85	10	222	143
47	OO-ALC	F-4G	AN/ARN-101	04/24/85	10	222	143
48	OO-ALC	F-4G	LRU-1/ACM	04/24/85	0	0	15
49	OO-ALC	F-4G	LRU-1/ACM	04/24/85	0	0	15
50	OO-ALC	F-4G	LRU-1/ACM	04/24/85	0	0	15

Table D-3. Systems Background Raw Data
Part1: SYSTEM SIZE

ID	SITE	SYSTEM	SOFTWARE SYSTEM	EVALUATION DATE	#CSCIs	#MODULES	#SOURCE LINES(K)
51	OO-ALC	MINUTEMAN	WING II/2015	04/24/85	1	50	40
52	OO-ALC	MINUTEMAN	WING VI/HS-29	04/24/85	1	75	75
53	OO-ALC	MINUTEMAN	WING6/HS-28	04/24/85	1	80	60
54	OO-ALC	MINUTEMAN II	SSAS/CAPS	04/29/85	0	0	10
55	OO-ALC	MINUTEMAN II	WING V/HEG/RATS	04/29/85	0	0	30
56	OO-ALC	MINUTEMAN II	WING VI/HEG/RATS	04/29/85	0	0	30
57	OO-ALC	RF-4C	AN/ARN-101	04/24/85	0	0	49
58	OO-ALC	RF-4C	AN/ARN-101	04/25/85	0	0	49
59	OO-ALC	RF-4C	AN/ARN-101	04/24/85	0	0	49
60	OO-ALC	RF-4C	AN/ARN-101	04/24/85	0	0	49
61	OO-ALC	RF-4C	AN/ARN-101	04/24/85	0	0	49
62	OO-ALC	RF-4C	AN/ARN-101	04/24/85	0	0	49
63	OC-ALC	ALCM	LIT	05/15/85	5	32	88
64	OC-ALC	ALCM	LPT	05/14/85	4	17	15
65	OC-ALC	ALCM	OFP	05/14/85	1	17	41
66	OC-ALC	ALCM	OFP	05/16/85	1	17	41
67	OC-ALC	B-1B	CADC	05/13/85	1	88	12
68	OC-ALC	B-1B	CITS	05/14/85	1	42	162
69	OC-ALC	B-1B	EMUX	05/13/85	1	52	18
70	OC-ALC	B-1B	F/CGMS	05/13/85	1	87	15
71	OC-ALC	B-1B	INS	05/14/85	1	204	30
72	OC-ALC	B-1B	ORS	05/13/85	1	18	220
73	OC-ALC	B-52	BNST	05/15/85	0	0	1
74	OC-ALC	B-52	FTSS	05/20/85	0	0	45
75	OC-ALC	B-52	MC-1 EXEC	05/14/85	0	0	70
76	OC-ALC	B-52	MC-2 EXEC	05/15/85	0	0	70
77	OC-ALC	E-3A	INS	05/15/85	0	0	14
78	OC-ALC	E-3A	OMEGA	05/15/85	0	0	16
79	OC-ALC	E-3A	SMCP	05/14/85	3	66	68
80	OC-ALC	E-3A	SRCP	05/16/85	0	0	450
81	OC-ALC	E-3A	SRGSCP	05/14/85	4	123	31
82	OC-ALC	GLCM	DPS	05/15/85	0	0	73
83	OC-ALC	GLCM	M-DTD	05/15/85	0	0	90
84	OC-ALC	GLCM	MPT	05/15/85	0	0	91
85	OC-ALC	GLCM	OFP	05/15/85	0	0	52
86	OC-ALC	GLCM	WDS	05/15/85	0	0	126
87	OC-ALC	SRAM	OFP	05/16/85	0	0	18
88	TINKER AFB	E-3A	AOCP	05/14/85	3	833	273
89	TINKER AFB	E-3A	UTILITIES	05/14/85	0	0	0
90	LANGLEY	JTIDS	ASIT/TPOCP	07/23/85	18	169	100
91	LANGLEY	STARS	STARS	07/24/85	3	2169	262
92	LANGLEY	TACS	CAFMS	07/23/85	0	450	0
93	LANGLEY	TIPI	DC/SR	07/23/85	0	0	2800
94	LANGLEY	TIPI	II/MARRES/TEREC	07/23/85	2	1250	609
95	LANGLEY	4Ø/1	HUGHES UTIL	07/24/85	0	0	118
96	LANGLEY	4Ø/1	IBM UTIL	07/24/85	0	0	80
97	LANGLEY	4Ø/1	TORF/IMFF	07/24/85	0	8	240

Table D 5. Systems Background Raw Data
Part 2: PROGRAMMING LANGUAGES

ID	SITE	SYSTEM	SOFTWARE SYSTEM	LANGUAGE1	%	LANGUAGE2	%	LANGUAGE3	%	OTHER LANGUAGES
1	NORAD	CSS	CSS	ASSEMBLY	50	ASSEMBLY	36	JOVIAL	14	
2	NORAD	MEBU	MEBU	JOVIAL	69	ASSEMBLY	24	FORTRAN	2	ECL, DMCL
3	NORAD	NCS	NCS	ASSEMBLY	49	JOVIAL	41	COBOL	7	COMFORD/ASSEM,FORT,JCL
4	NORAD	SSC	SSC	FORTRAN	80	JOVIAL	15	COBOL	3	ASSEMBLY
5	WR-ALC	ALR 46	ALR-46	ASSEMBLY	100		0		0	
6	WR-ALC	ALR-69	ALR-69	ASSEMBLY	100		0		0	
7	WR-ALC	AN/ALQ-131	BIG	ASSEMBLY	100		0		0	
8	WR-ALC	AN/ALQ-131	OFP	ASSEMBLY	100		0		0	
9	WR-ALC	AN/ALQ-131	OUT	ATLAS	75	ASSEMBLY	25		0	
10	WR-ALC	APR-38	APR-38	ASSEMBLY	100		0		0	
11	WR-ALC	B 52 EVS ATE	ASD-151	FORTRAN	30	ASSEMBLY	70		0	
12	WR-ALC	E 3A AVIONICS ATE	AN/GSM-285(B)	ATLAS	85	LASAR TPB	15		0	
13	WR-ALC	E 3A AVIONICS ATE	AN/GSM-285(W)	ATLAS	67	LASAR TPB	33		0	
14	WR-ALC	F 15	CC	ASSEMBLY	100		0		0	
15	WR-ALC	F 15	RADAR	ASSEMBLY	90	FORTRAN	10		0	
16	WR-ALC	F 15 AVIONICS ATE	ADTS,ATS	ATLAS	70	ELAN	20	DAP	10	FAFA (100% IN ATS ONLY)
17	WR-ALC	JTIDS	ASIT/OCP	ASSEMBLY	100		0		0	
18	WR-ALC	JTIDS	E 3A AWACS/OCP	ASSEMBLY	100		0		0	
19	WR-ALC	JTIDS	SF/USER	ASSEMBLY	100		0		0	
20	WR-ALC	JTIDS	SYS EXERCISER	ASSEMBLY	100		0		0	
21	WR-ALC	PAVE TACK	ATSF	FORTRAN	50	PDL	50		0	
22	WR-ALC	PAVE TACK	OFP	ASSEMBLY	100		0		0	
23	SM-ALC	F 111D	WNC	ASSEMBLY	100		0		0	
24	SM-ALC	F 111F	WNC	ASSEMBLY	100		0		0	
25	SM-ALC	FB 111A	WNC	ASSEMBLY	100		0		0	
26	CASTLE AFB	B 52	CFT	ASSEMBLY	90	FORTRAN	5	SPEL	5	
27	CASTLE AFB	B 52	WST	FORTRAN	75	ASSEMBLY	15	JOVIAL	10	
28	CASTLE AFB	FC 135	WST	FORTRAN	70	ASSEMBLY	30		0	
29	CASTLE AFB	T 4 TRAINER	T 4 SIMULATOR	ASSEMBLY	90	FORTRAN	10		0	
30	OO-ALC	F 16	FCC	JOVIAL	80	ASSEMBLY	20		0	
31	OO-ALC	F 16	MOD	ASSEMBLY	100		0		0	
32	OO-ALC	F 16	OFT	FORTRAN	95	ASSEMBLY	5		0	
33	OO-ALC	F 16	PCK	ASSEMBLY	100		0		0	
34	OO-ALC	F 16	SMS	ASSEMBLY	100		0		0	
35	OO-ALC	F 4	MDTS	FORTRAN	95	HP-MACRO	5		0	
36	OO-ALC	F 4	MDTS	FORTRAN	95	HP-MACRO	5		0	
37	OO-ALC	F 4A	AN/ARN-101	ASSEMBLY	100		0		0	
38	OO-ALC	F 4E	AN/ARN-101	ASSEMBLY	100		0		0	
39	OO-ALC	F 4E	AN/ARN-101	ASSEMBLY	100		0		0	
40	OO-ALC	F 4E	AN/ARN-101	ASSEMBLY	100		0		0	
41	OO-ALC	F 4E	AN/ARN-101	ASSEMBLY	100		0		0	
42	OO-ALC	F 4E	AN/ARN-101	ASSEMBLY	100		0		0	
43	OO-ALC	F 4G	AN/ARN-101	ASSEMBLY	100		0		0	
44	OO-ALC	F 4G	AN/ARN-101	ASSEMBLY	100		0		0	
45	OO-ALC	F 4G	AN/ARN-101	ASSEMBLY	100		0		0	
46	OO-ALC	F 4G	AN/ARN-101	ASSEMBLY	100		0		0	
47	OO-ALC	F 4G	AN/ARN-101	ASSEMBLY	100		0		0	
48	OO-ALC	F 4G	CRD T/ACM	ASSEMBLY	100		0		0	
49	OO-ALC	F 4G	CRD T/ACM	ASSEMBLY	100		0		0	
50	OO-ALC	F 4G	CRD T/ACM	ASSEMBLY	100		0		0	

Table D-3. Systems Background Raw Data
Part 2: PROGRAMMING LANGUAGES

ID	SITE	SYSTEM	SOFTWARE SYSTEM	LANGUAGE1	%	LANGUAGE2	%	LANGUAGE3	%	OTHER LANGUAGES
51	OO-ALC	MINUTEMAN	WING II/2015	ASSEMBLY	100		0		0	
52	OO-ALC	MINUTEMAN	WING VI/MS-29	ASSEMBLY	100		0		0	
53	OO-ALC	MINUTEMAN	WING5/MS-28	ASSEMBLY	100		0		0	
54	OO-ALC	MINUTEMAN II	SSAS/CAPS	ASSEMBLY	100		0		0	
55	OO-ALC	MINUTEMAN II	WING V/MEG/RATS	ASSEMBLY	100		0		0	
56	OO-ALC	MINUTEMAN II	WING VI/MEG/RATS	ASSEMBLY	100		0		0	
57	OO-ALC	NE-4C	AN/ARN-101	ASSEMBLY	100		0		0	
58	OO-ALC	NE-4C	AN/ARN-101	ASSEMBLY	100		0		0	
59	OO-ALC	NE-4C	AN/ARN-101	ASSEMBLY	100		0		0	
60	OO-ALC	NE-4C	AN/ARN-101	ASSEMBLY	100		0		0	
61	OO-ALC	NE-4C	AN/ARN-101	ASSEMBLY	100		0		0	
62	OO-ALC	NE-4C	AN/ARN-101	ASSEMBLY	100		0		0	
63	OC-ALC	ACCM	CCT	BASIC	55	ATLAS	25	ASSEMBLY	15	PDL
64	OC-ALC	ACCM	CCT	BASIC	55	ATLAS	25	ASSEMBLY	15	PDL
65	OC-ALC	ACCM	OFF	ASSEMBLY	100		0		0	
66	OC-ALC	ACCM	OFF	ASSEMBLY	100		0		0	
67	OC-ALC	B-1B	CADC	ASSEMBLY	100		0		0	
68	OC-ALC	B-1B	CITS	JOVIAL	71	ASSEMBLY	29		0	
69	OC-ALC	B-1B	EMUX	BOOLEAN	100		0		0	
70	OC-ALC	B-1B	F/CGMS	ASSEMBLY	100		0		0	
71	OC-ALC	B-1B	INS	FORTRAN	85	ASSEMBLY	15		0	
72	OC-ALC	B-1B	OMS	JOVIAL	60	MICROCODE	25	ASSEMBLY	15	
73	OC-ALC	B-52	BNST	FORTRAN	90	ASSEMBLY	10		0	
74	OC-ALC	B-52	FISS	C	50	MSL	30	ASSEMBLY	20	
75	OC-ALC	B-52	MC-1 EXEC	JOVIAL	80	ASSEMBLY	20		0	
76	OC-ALC	B-52	MC-2 EXEC	JOVIAL	65	ASSEMBLY	35		0	
77	OC-ALC	E-3A	INS	ASSEMBLY	100		0		0	
78	OC-ALC	E-3A	OMEGA	ASSEMBLY	100		0		0	
79	OC-ALC	E-3A	SMOP		0		0		0	
80	OC-ALC	E-3A	SROF	ASSEMBLY	100		0		0	
81	OC-ALC	E-3A	SRGSCI	ASSEMBLY	73	FORTRAN	21	JOVIAL	6	
82	OC-ALC	GLCM	DPS	FORTRAN	95	ASSEMBLY	5		0	
83	OC-ALC	GLCM	M DTD	ASSEMBLY	100		0		0	
84	OC-ALC	GLCM	MRT	FORTRAN	90	ASSEMBLY	10		0	
85	OC-ALC	GLCM	OFF	ASSEMBLY	100		0		0	
86	OC-ALC	GLCM	WDS	FORTRAN	75	ASSEMBLY	25		0	
87	OC-ALC	SRAM	OFF	ASSEMBLY	100		0		0	
88	TINKER AFB	E-3A	AOCF	JOVIAL	70	ASSEMBLY	30		0	
89	TINKER AFB	E-3A	UTILITIES	JOVIAL	0	FORTRAN	0	ASSEMBLY	0	PL1
90	LANGLEY	TIDS	ASTT/TEDOP	FORTRAN	75	ASSEMBLY	25		0	
91	LANGLEY	STRTS	STRTS	FORTRAN	97	ASSEMBLY	3		0	
92	LANGLEY	TADS	CAFMS	COBOL	85	FORTRAN	10	H66 05	5	
93	LANGLEY	TIFI	DC/SA	JOVIAL	60	ULTRA 32	30	NOVA	10	
94	LANGLEY	TIFI	II/MARKES/TEREC	ASSEMBLY	95	TIP 990	5		0	
95	LANGLEY	4072	HUGHES UTIL	ASSEMBLY	100		0		0	
96	LANGLEY	4072	IBM UTIL	ASSEMBLY	50	FORTRAN	34	PL/1	16	
97	LANGLEY	4072	TORF/IMEF	ASSEMBLY	100		0		0	

Table D 3. Systems Background Raw Data
Part 3: SYSTEM DEVELOPMENT

ID	SITE	SYSTEM	SOFTWARE SYSTEM	DEVELOPMENT CONTRACTORS	DEVELOPMENT PERIOD	EFFORT (PY)
1	NORAD	CSS	CSS	FORD AEROSPACE	1973 - 1979	0
2	NORAD	MEBU	MEBU	NONE, DEVELOPED BY AIR FORCE	1973 - 1979	0
3	NORAD	NCS	NCS	NONE, DEVELOPED BY AIR FORCE	1973 1979	0
4	NORAD	SSC	SSC			0
5	WR-ALC	ALR-46	ALR 46	DALMO VICTOR	1979-1981	5
6	WR-ALC	ALR-69	ALR-69	DALMO VICTOR	1979-1981	5
7	WR-ALC	AN/ALQ 131	BTB	WESTINGHOUSE	2YRS.,FMRT10/79	0
8	WR-ALC	AN/ALQ 131	DEP	WESTINGHOUSE ELECTRIC CORP.	6YRS.,FMRT10/79	0
9	WR-ALC	AN/ALQ 131	DOT	WESTINGHOUSE	8YRS.,FMRT10/79	0
10	WR-ALC	AFR-38	AFR-38	MAC AIR, IBM, LORRAL, TI		0
11	WR-ALC	B 52 EVS ATE	ASD-151	BOEING	1971-1974	0
12	WR-ALC	E 3A AVIONICS ATE	AN/GSM-285(B)	BOEING	1978-1983	0
13	WR-ALC	E 3A AVIONICS ATE	AN/GSM-285(W)	USAF	NOV 78 OCT 86	0
14	WR-ALC	F 15	CC	MCDONNELL-DOUGLAS AIRCRAFT	1972-1975	200
15	WR-ALC	F 15	RADAR	HUGHES AIRCRAFT	10 YRS. (WHEN?)	1000
16	WR-ALC	F 15 AVIONICS ATE	ADTS,AIS	MCDONNELL-DOUGLAS	1972-1978	0
17	WR-ALC	JTIDS	ASIT/OCP	HUGHES AIRCRAFT	1976-1982	0
18	WR-ALC	JTIDS	E-3A AWACS/OCP	HUGHES AIRCRAFT	1976-1982	0
19	WR-ALC	JTIDS	SP/USER	HUGHES AIRCRAFT	1976-1982	0
20	WR-ALC	JTIDS	SYS EXERCISER	ACSI	1976-1979	0
21	WR-ALC	PAVE TACI	AISF	TRW SYSTEMS		0
22	WR-ALC	PAVE TACI	DEP	FORD AEROSPACE		0
23	SM-ALC	F 111D	WNC	ROCKWELL INTL.-AUTONETICS	1969 -	0
24	SM-ALC	F 111F	WNC	GENERAL DYNAMICS	1969	0
25	SM-ALC	FB-111A	WNC	GENERAL DYNAMICS	1969	0
26	CASTLE AFB	B-52	CFT	SPERRY BECOR (?)	1976-1977	0
27	CASTLE AFB	B 52	WST	SINGER, AAI	1979-1983(FMRT)	0
28	CASTLE AFB	KC-135	WST	SINGER	1979-1983(FMRT)	0
29	CASTLE AFB	T 4 TRAINER	T 4 SIMULATOR	HUGHES AIRCRAFT		0
30	OO-ALC	F-16	FCC	GENERAL DYNAMICS		0
31	OO-ALC	F-16	HUD	MARCONI		0
32	OO-ALC	F-16	OFT	SINGER-LINK		0
33	OO-ALC	F-16	FLR	WESTINGHOUSE		0
34	OO-ALC	F 16	SMS	GENERAL DYNAMICS		0
35	OO-ALC	F-4	MDTS	LEAR SIEGLER	1977-1984	0
36	OO-ALC	F-4	MDTS	LEAR SIEGLER	1977-1984	0
37	OO-ALC	F 4E	AN/ARN-101	LEAR SIEGLER	1972-1983	0
38	OO-ALC	F-4E	AN/ARN-101	LEAR SIEGLER	5 YRS. (WHEN?)	0
39	OO-ALC	F-4E	AN/ARN-101	LEAR SIEGLER	1972-1983	0
40	OO-ALC	F 4E	AN/ARN-101	LEAR SIEGLER	1972-1983	0
41	OO-ALC	F 4E	AN/ARN-101	LEAR SIEGLER	1972-1983	0
42	OO-ALC	F 4E	AN/ARN-101	LEAR SIEGLER	1972-1983	0
43	OO-ALC	F 4G	AN/ARN-101	LEAR SIEGLER	1983-1985	0
44	OO-ALC	F 4G	AN/ARN-101	LEAR SIEGLER	1983-1985	0
45	OO-ALC	F 4G	AN/ARN-101	LEAR SIEGLER	1983-1985	0
46	OO-ALC	F 4G	AN/ARN-101	LEAR SIEGLER	1983 1985	0
47	OO-ALC	F 4G	AN/ARN-101	LEAR SIEGLER	1983 1985	0
48	OO-ALC	F 4G	LRU T/ACM	WESTINGHOUSE	4 YRS.	0
49	OO-ALC	F 4G	LRU T/ACM	WESTINGHOUSE	4 YRS.	0

Table D 3. Systems Background Raw Data
Part3: SYSTEM DEVELOPMENT

ID	SITE	SYSTEM	SOFTWARE SYSTEM	DEVELOPMENT CONTRACTORS	DEVELOPMENT PERIOD	EFFORT (FY)
50	OO ALC	F 4G	LRU-1/ACM	WESTINGHOUSE	4 YRS.	0
51	OO-ALC	MINUTEMAN	WING II/2015		5 MOS.	1
52	OO ALC	MINUTEMAN	WING VI/MS 29		10 MOS.	1
53	OO-ALC	MINUTEMAN	WINGS/MS-28		4 MOS.	1
54	OO ALC	MINUTEMAN II	SSAS/CAPS	ROCKWELL	1970-1,72	0
55	OO ALC	MINUTEMAN II	WING V/MEG/RATS	ROCKWELL	1975-1980	0
56	OO ALC	MINUTEMAN II	WING VI/MEG/RATS	ROCKWELL	1975 1978	0
57	OO ALC	RF-4C	AN/ARN-101	LEAR SIEGLER		0
58	OO ALC	RF-4C	AN/ARN 101	LEAR SIEGLER	5 YRS. (WHEN?)	0
59	OO ALC	RF 4C	AN/ARN 101	LEAR SIEGLER	1972-1983	0
60	OO-ALC	RF-4C	AN/ARN-101	LEAR SIEGLER		0
61	OO ALC	RF 4C	AN/ARN-101	LEAR SIEGLER		0
62	OO-ALC	RF 4C	AN/ARN-101	LEAR SIEGLER		0
63	OC ALC	ALCM	LTI	BOEING	1979 1981	0
64	OC-ALC	ALCM	LPI	BOEING	1979-1981	0
65	OC-ALC	ALCM	OFP	BOEING	?-1981	0
66	OC-ALC	ALCM	OFP	BOEING	?-1981	0
67	OC-ALC	B 1B	CADC	AIR RESEARCH	1978-1989	0
68	OC-ALC	B 1B	CITS	ROCKWELL	1978-1989	0
69	OC-ALC	B-1B	EMUX	ROCKWELL	1978 1989	0
70	OC-ALC	B-1B	F/CGMS	SIMMONDS	1978-1989	0
71	OC-ALC	B-1B	INS	SINGER	1978-1989	0
72	OC-ALC	B-1B	ORS	WESTINGHOUSE	1978-1989	0
73	OC-ALC	B-52	BNST	BOEING	2 YRS.	0
74	OC ALC	B-52	FTSS		1983-1985	0
75	OC-ALC	B-52	MC-1 EXEC	BOEING	1980-1982	0
76	OC-ALC	B-52	MC-2 EXEC		1982-1986	0
77	OC ALC	E-3A	INS	DELCO ELECTRONICS		0
78	OC-ALC	E-3A	OMEGA	NORTHROP		0
79	OC-ALC	E-3A	SMCP			0
80	OC ALC	E-3A	SKCP	BOEING/SEATTLE		0
81	OC-ALC	E-3A	SKGSCP	BOEING/SEATTLE		0
82	OC-ALC	GLCM	DFS	LOCKHEED	1983-1985	28
83	OC ALC	GLCM	MODTD	ROLM, VITRO, SDC, McD-DOUGLAS	1982-1985	0
84	OC ALC	GLCM	MPT	GENERAL DYNAMICS	1979-1985	120
85	OC ALC	GLCM	OFP	McDONNELL-DOUGLAS	1979-1985	125
86	OC ALC	GLCM	WCS	VITRO	1979-1985	214
87	OC ALC	SRAM	OFP	BOEING	1965-1975	0
88	TINKER AFB	E-3A	AUCP	BOEING	1971-1976	0
89	TINKER AFB	E-3A	UTILITIES	BOEING	1971-1976	0
90	LANGLEY	JTIDS	ASIT/IPUCF	IBM FSD(OWEGO)	1978-1984	0
91	LANGLEY	SIRIS	SIRIS	GTE	1977-1984	0
92	LANGLEY	TACS	CAFMS	USAF	1981	0
93	LANGLEY	TIPI	DC/SR	SYSTEM DESIGN	1973-1977	0
94	LANGLEY	TIPI	II/MARKES/TEREC	TEXAS INSTRUMENTS	1972	0
95	LANGLEY	407L	HUGHES UTIL	HUGHES AIRCRAFT		0
96	LANGLEY	407L	IBM UTIL	USAF		0
97	LANGLEY	407L	TURF/IMFF	HUGHES AIRCRAFT		0

Table D-3. Systems Background Raw Data
Part4: PERSONNEL

ID	SITE	SYSTEM	SOFTWARE SYSTEM	TOTAL	LEAST #LEV1	===== #LEV2	SKILL #LEV3	==== #LEV4	MOST #LEV5	% TIME
1	NORAD	CSS	CSS	61	0	0	61	0	0	100
2	NORAD	MEBU	MEBU	16	0	0	16	0	0	100
3	NORAD	NCS	NCS	66	0	0	0	66	0	100
4	NORAD	SSC	SSC	84	0	33	51	0	0	100
5	WR-ALC	ALR-46	ALR-46	5	0	2	1	1	1	50
6	WR-ALC	ALR-69	ALR-69	6	1	1	1	2	1	70
7	WR-ALC	AN/ALQ-131	BTG	2	0	1	0	0	1	40
8	WR-ALC	AN/ALQ-131	OFP	2	0	0	1	1	0	60
9	WR-ALC	AN/ALQ-131	UUT	5	0	1	3	1	0	50
10	WR-ALC	APR-38	APR-38	20	2	2	5	0	11	100
11	WR-ALC	B-52 EWS ATE	ASQ-151	2	0	2	0	0	0	75
12	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	8	0	0	4	4	0	25
13	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	12	0	0	6	6	0	10
14	WR-ALC	F-15	CC	22	0	5	7	6	4	100
15	WR-ALC	F-15	RADAR	14	0	3	6	3	2	100
16	WR-ALC	F-15 AVIONICS ATE	ADTS,ATS	15	0	2	0	2	11	100
17	WR-ALC	JTIDS	ASIT/OCP	10	0	0	6	4	0	50
18	WR-ALC	JTIDS	E-3A AWACS/OCP	10	0	0	6	4	0	50
19	WR-ALC	JTIDS	SP/USER	3	0	0	3	0	0	50
20	WR-ALC	JTIDS	SYS EXERCISER	4	0	0	1	3	0	50
21	WR-ALC	PAVE TACT	AISF	4	0	0	0	4	0	70
22	WR-ALC	PAVE TACT	OFP	4	0	0	0	4	0	70
23	SM-ALC	F-111D	WNC	8	1	0	2	3	2	95
24	SM-ALC	F-111F	WNC	7	0	0	2	2	3	90
25	SM-ALC	FB-111A	WNC	7	0	0	2	3	2	95
26	CASTLE AFB	B-52	CPT	3	0	0	1	2	0	43
27	CASTLE AFB	B-52	WST	40	0	0	40	0	0	100
28	CASTLE AFB	KC-135	WST	10	0	0	10	0	0	100
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	3	0	0	1	2	0	43
30	OO-ALC	F-16	FCL	12	1	2	5	4	2	80
31	OO-ALC	F-16	HUD	3	0	0	0	1	2	100
32	OO-ALC	F-15	OFT	6	0	0	1	4	1	100
33	OO-ALC	F-16	FLR	8	0	0	2	4	1	90
34	OO-ALC	F-16	SMS	9	5	1	3	0	0	85
35	OO-ALC	F-4	MDTS	2	0	0	0	1	1	100
36	OO-ALC	F-4	MDTS	2	0	0	0	1	1	100
37	OO-ALC	F-4E	AN/ARN-101	6	0	0	1	2	1	90
38	OO-ALC	F-4E	AN/ARN-101	6	0	0	0	3	1	70
39	OO-ALC	F-4E	AN/ARN-101	6	0	0	0	1	5	50
40	OO-ALC	F-4E	AN/ARN-101	6	0	0	0	0	6	70
41	OO-ALC	F-4E	AN/ARN-101	6	0	0	0	0	6	80
42	OO-ALC	F-4E	AN/ARN-101	6	0	0	0	1	4	80
43	OO-ALC	F-4G	AN/ARN-101	5	0	0	0	0	5	100
44	OO-ALC	F-4G	AN/ARN-101	5	0	0	0	0	5	100
45	OO-ALC	F-4G	AN/ARN-101	5	0	0	0	1	4	100
46	OO-ALC	F-4G	AN/ARN-101	5	0	0	0	0	5	100
47	OO-ALC	F-4G	AN/ARN-101	5	0	0	0	0	5	100
48	OO-ALC	F-4G	CNU-1/ACM	6	0	0	0	0	6	100
49	OO-ALC	F-4G	CNU-1/ACM	6	0	0	0	1	5	100

Table D-5. Systems Background Raw Data
Part 4: PERSONNEL

ID	SITE	SYSTEM	SOFTWARE SYSTEM	TOTAL	LEAST SKILL LEV1	LEV2	LEV3	LEV4	MOST LEV5	% TIME
50	OO-ALC	F-4G	CRU-1/ALM	6	0	0	1	2	3	100
51	OO-ALC	MINUTEMAN	WING II/2015	8	0	0	0	0	8	30
52	OO-ALC	MINUTEMAN	WING VI/MS 29	4	0	0	0	0	4	5
53	OO-ALC	MINUTEMAN	WINGS/MS-28	8	0	0	0	0	8	30
54	OO-ALC	MINUTEMAN II	SSAS/CAPS	1	0	0	0	0	1	50
55	OO-ALC	MINUTEMAN II	WING V/MEB/RATS	1	0	0	0	0	1	25
56	OO-ALC	MINUTEMAN II	WING VI/MEB/RATS	1	0	0	0	0	1	25
57	OO-ALC	RF-4C	AN/ARN-101	6	0	1	2	2	1	10
58	OO-ALC	RF-4C	AN/ARN-101	6	0	0	3	3	0	30
59	OO-ALC	RF-4C	AN/ARN-101	6	0	0	0	1	5	50
60	OO-ALC	RF-4C	AN/ARN-101	6	0	0	0	6	0	30
61	OO-ALC	RF-4C	AN/ARN-101	6	0	0	0	4	2	20
62	OO-ALC	RF-4C	AN/ARN-101	6	0	0	1	4	1	25
63	OC-ALC	ALCM	LIT	8	0	0	2	5	1	40
64	OC-ALC	ALCM	LPT	8	0	0	1	3	4	1	25
65	OC-ALC	ALCM	OFP	10	2	3	3	2	0	72
66	OC-ALC	ALCM	OFP	10	2	3	3	2	0	72
67	OC-ALC	B-1B	CADC	1	0	0	0	1	0	10
68	OC-ALC	B-1B	CITS	3	0	0	0	3	0	70
69	OC-ALC	B-1B	EMUX	1	0	0	0	1	0	10
70	OC-ALC	B-1B	F/CGMS	1	0	0	1	0	0	10
71	OC-ALC	B-1B	INS	1	0	1	0	0	0	5
72	OC-ALC	B-1B	ORS	2	0	0	0	1	1	70
73	OC-ALC	B-52	BNST	3	0	0	1	1	1	20
74	OC-ALC	B-52	FTBS	4	1	0	2	1	0	95
75	OC-ALC	B-52	MC-1 EXEC	6	0	2	0	2	2	15
76	OC-ALC	B-52	MC-2 EXEC	6	0	0	0	6	0	47
77	OC-ALC	E-3A	INS	6	0	0	0	0	6	10
78	OC-ALC	E-3A	OMEGA	6	0	0	0	0	6	60
79	OC-ALC	E-3A	SMCP	3	0	2	0	1	0	20
80	OC-ALC	E-3A	SRCP	11	0	2	4	4	1	75
81	OC-ALC	E-3A	SRGSCP	3	1	0	0	0	2	50
82	OC-ALC	GLCM	DPS	2	0	1	0	1	0	80
83	OC-ALC	GLCM	M-DTD	7	1	1	0	4	1	100
84	OC-ALC	GLCM	MPT	6	0	2	1	2	1	50
85	OC-ALC	GLCM	OFP	3	0	0	3	0	0	100
86	OC-ALC	GLCM	WCS	6	0	2	1	2	1	50
87	OC-ALC	SRAM	OFP	18	0	0	8	5	5	75
88	TINKER AFB	E-3A	AOCP	67	7	12	12	16	20	90
89	TINKER AFB	E-3A	UTILITIES	46	0	0	46	0	0	0
90	LANGLEY	JTIDS	ASIT/TPOCP	5	0	0	1	1	3	80
91	LANGLEY	STARS	STARS	8	2	0	1	2	3	100
92	LANGLEY	TACS	CAFMS	29	1	2	5	11	10	100
93	LANGLEY	TIFI	DC/SK	29	4	6	5	10	4	100
94	LANGLEY	TIFI	II/MARKES/TEREC	16	2	2	8	4	0	85
95	LANGLEY	407L	HUGHES UTIL	2	1	0	1	0	0	10
96	LANGLEY	407L	TDM UTIL	5	0	0	2	2	1	80
97	LANGLEY	407L	TOFP/TMFP	40	8	5	5	8	14	80

Table D-3. Systems Background Raw Data
Part5: SUPPORT SYSTEMS(PARTIAL)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	SUPPORT COMPUTER SYSTEMS	% TIME DEDICATED
1	NORAD	CSS	CSS	OSIF	50
2	NORAD	MEBU	MEBU	OPERATIONAL SYSTEM IS MAJOR PART OF SUPPORT SYSTEM ALONG WITH THE MESSAGE GENERATOR	0
3	NORAD	NCS	NCS	OSIF	0
4	NORAD	S6C	S6C	(SEE CRISP, OS/CMP, & OSIF OVERVIEW DOCUMENT)	50
5	WR-ALC	ALR-46	ALR 46	DATA GENERAL ECLIPSE S-230, 3 INTEGRATED SUPPORT STATIONS	0
6	WR-ALC	ALR-69	ALR 69	FREQUENCY SELECTIVE RECEIVER SYSTEM (FSRS), CM-479, HP-1000, DATA GENERAL ECLIPSE & 130, 1 S/W SUPPORT STATION (COMPTEC ISS)	0
7	WR-ALC	AN/ALQ-131	BTG	DG S230 ASSEMBLER, VAX 11/780 (EMULATOR ONLY), DG-S250, HOT BENCH MOCK-UP	0
8	WR-ALC	AN/ALQ-131	OFP	DG S-230 ASSEMBLER, VAX 11/780 MILLI-COMPUTER EMULATOR, SYSTEM HARDWARE INTERFACE SIMULATOR, DGS-250 CPU CONTROL AND I/O MONITOR OF FLIGHT HARDWARE, HOT MOCK-UP OF FIELDED HARDWARE	0
9	WR-ALC	AN/ALQ-131	UUT	DG S-230 ATLAS COMPILER, DG S-250	0
10	WR-ALC	AFR-38	AFR 38		0
11	WR-ALC	B-52 EWS ATE	ASQ-151	ASM 487, ASM 479AX, HP 2100 S/W SUPPORT FACILITY, & HP 1000 S/W SUPPORT FAC.	0
12	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	AN/GSM-285, DATA GENERAL S-250, SMC 3103 (LASAR), CDC SYSCAP	0
13	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	AN/GSM-285, DATA GENERAL S-250, SMC 3103 (LASAR), CDC SYSCAP	0
14	WR-ALC	F-15	CC	3 HARRIS 800 PROCESSORS HOSTING EDITORS, ASSEMBLERS, LINKERS, LOADERS, S/W DIAGNOSTIC TOOLS, & SIMULATORS. HP 3000 WITH LASER PRINTERS FOR DOCUMENTATION SUPPORT.	0
15	WR-ALC	F-15	RADAR	2 HP-1000 MINI-COMPUTERS	0
16	WR-ALC	F-15 AVIONICS ATE	ADTS,ATS	BENDIX SDS, HONEYWELL MINI-DEM6 (?)	0
17	WR-ALC	JTIDS	ASIT/OCF	INTERDATA 8132, SOFTWARE DEVELOPMENT FACILITY, S/W MAINTENANCE FACILITY, JSE.	0
18	WR-ALC	JTIDS	E-3A AWACS/OCF	INTERDATA 8132, SOFTWARE DEVELOPMENT FACILITY, JSE, SME	0
19	WR-ALC	JTIDS	SF/USER	INTERDATA 8132, S/W DEV. FACILITY	0
20	WR-ALC	JTIDS	SYS EXERCISER	JSE, S/W DEV. FACILITY	0
21	WR-ALC	PAVE TACO	ATSF	SEL 32/75, SEL 32/77, TCS COMPUTERS	100
22	WR-ALC	PAVE TACO	OFP	SYSTEM6 ENGRG. LABS. 3275/3277.	100
23	SM-ALC	F-111D	WNC	(1)PERKIN-ELMER (OFP DOC.), (2)IBM 4341 (OFP DEV.), (3)PDP 11/40 (DATA REDUCTION), (4) PDP 11/70 (INTERFACE FOR TEST EQPT.), (5)HARRIS (DYNAMIC SIMULATION)	46
24	SM-ALC	F-111D	WNC	(1)PERKIN-ELMER (DOC., DATA REDUCTION), (2)IBM 4341 (OFP DEV., DOC.), (3)PDP 11/40 (DATA REDUCTION), (4) PDP 11/70 (INTERFACE FOR TEST EQPT.), (5)HARRIS (DYNAMIC SIMULATION)	0
25	SM-ALC	FB-111A	WNC	(1)PERKIN-ELMER (OFP DOC.), (2)IBM 4341 (OFP DEV.), (3)PDP 11/40 (DATA REDUCTION), (4) PDP 11/70 (INTERFACE FOR TEST EQPT.)	33

Table D-3. Systems Background Raw Data
Part5: SUPPORT SYSTEMS(PARTIAL)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	SUPPORT COMPUTER SYSTEMS	% TIME DEDICATED
26	CASTLE AFB	B-52	CPT	HARRIS / 5, C/R, L/P, PAPER TAPE READER/PUNCH, DISC	10
27	CASTLE AFB	B-52	WST	P/E 8/32, L/P, MT 300MB DISC, FLOPPY, PAPER TAPE READER/PUNCH	0
28	CASTLE AFB	KC-135	WST	P/E 8/32, L/P, 80 MB DISC	0
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	GA 16/440, DISC, L/P, FLOPPY DISC, C/R, TERMINAL, PAPER TAPE READER/PUNCH	100
30	OO-ALC	F-16	FCC	IBM 4341, DEC 10, PDP 11s, ZENITH 100, IBM PC (SEE ALSO FESP, CRISP, AND OS/CMP	80
31	OO-ALC	F-16	HUD	VAX 11/750	85
32	OO-ALC	F-16	OFT	NORSK DATA COMPUTER, PERKIN ELMER, 2 TERMINALS, VERSATEC PRINTER	100
33	OO-ALC	F-16	PCR	VAX 11/750, DEC 10, RAINBOW 100	30
34	OO-ALC	F-16	SMS	DEC 10, PDP 11s, RAINBOW 100, (SEE ALSO FESP, CRISP, AND OS/CMP	60
35	OO-ALC	F-4	MDTS	MDTS S/W DEV. SYSTEM, MDTS FIELD SYSTEM, STATIC SIMULATOR TEST STAND, DYNAMIC TEST STAND	80
36	OO-ALC	F-4	MDTS	MDTS S/W DEV. SYSTEM, MDTS FIELD SYSTEM, STATIC SIMULATOR TEST STAND, DYNAMIC TEST STAND	80
37	OO-ALC	F-4E	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL 32/75, HP 1000	60
38	OO-ALC	F-4E	AN/ARN-101	IBM 3083 (4 TERMINALS), VAX 11/785 (UNLIMITED TERMINALS)	50
39	OO-ALC	F-4E	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL 32/75, HP 1000	45
40	OO-ALC	F-4E	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL 32/75, HP 1000	45
41	OO-ALC	F-4E	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL 32/75, HP 1000	45
42	OO-ALC	F-4E	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL 32/75, HP 1000	45
43	OO-ALC	F-4G	AN/ARN-101	VAX 782, VAX 785, IBM 3083, PDP 11/34, PDP 11/60, SEL	10
44	OO-ALC	F-4G	AN/ARN-101	VAX 782, VAX 785, IBM 3083, PDP 11/34, PDP 11/60, SEL	10
45	OO-ALC	F-4G	AN/ARN-101	VAX 782, VAX 785, IBM 3083, PDP 11/34, PDP 11/60, SEL	10
46	OO-ALC	F-4G	AN/ARN-101	VAX 782, VAX 785, IBM 3083, PDP 11/34, PDP 11/60, SEL	10
47	OO-ALC	F-4G	AN/ARN-101	VAX 782, VAX 785, IBM 3083, PDP 11/34, PDP 11/60, SEL	0
48	OO-ALC	F-4G	ERO-1/ACM	PDP 1160, SEL 32/75, VAX	90
49	OO-ALC	F-4G	ERO-1/ACM	PDP 1160, SEL 32/75, VAX	90
50	OO-ALC	F-4G	ERO-1/ACM	PDP 1160, SEL 32/75, VAX	90
51	OO-ALC	MINUTEMAN	WING II/2015	PERKIN ELMER 7/32, 6 TERMINALS	40
52	OO-ALC	MINUTEMAN	WING VI/MS-29	PERKIN-ELMER 7/32, 6 TERMINALS	10
53	OO-ALC	MINUTEMAN	WINGS/MS-28	PERKIN ELMER 7/32, 6 TERMINALS	40

Table D-3. Systems Background Raw Data
Part5: SUPPORT SYSTEMS(PARTIAL)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	SUPPORT COMPUTER SYSTEMS	% TIME DEDICATED
54	OO ALC	MINUTEMAN II	SSAS/CAPS	IBM 4341	0
55	OO-ALC	MINUTEMAN II	WING V/HEG/RATS		0
56	OO ALC	MINUTEMAN II	WING VI/HEG/RATS	IBM 4341	0
57	OO-ALC	RF-4C	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL, PDP 11/60, VAX 782	60
58	OO-ALC	RF-4C	AN/ARN-101	IBM 3083 (4 TERMINALS), VAX 11/785 (UNLIMITED TERMINALS)	20
59	OO ALC	RF-4C	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL 32/75, HP 1000	45
60	OO ALC	RF-4C	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL, PDP 11/60, VAX 782	90
61	OO ALC	RF-4C	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL, PDP 11/60, VAX 782	90
62	OO ALC	RF-4C	AN/ARN-101	DEC VAX 785, PDP 11/34, IBM 3083, SEL, PDP 11/60, VAX 782	90
63	OC-ALC	ALCM	CIT	IBM 4341, ELECTRONIC SYSTEMS TEST SET (ESTS)	90
64	OC-ALC	ALCM	CIT	IBM 4341, ELECTRONIC SYSTEMS TEST SET (ESTS), TRANSLATE EDIT SOFTWARE STATION (TESS)	90
65	OC-ALC	ALCM	OFP	IBM 4341, INSTRUCTION LEVEL SIMULATOR, SUBSYSTEM SIMULATOR	90
66	OC-ALC	ALCM	OFP	IBM 4341, INSTRUCTION LEVEL SIMULATOR, SUBSYSTEM SIMULATOR	90
67	OC-ALC	B-1B	CADC	VAX 11/780, IBM 4341	1
68	OC-ALC	B-1B	CITS	VAX 11/780, IBM 4341	1
69	OC-ALC	B-1B	EMUX	VAX 11/780, IBM 4341	1
70	OC-ALC	B-1B	F/CGMS	VAX 11/780, IBM 4341	1
71	OC-ALC	B-1B	INS	VAX 11/780, IBM 4341	1
72	OC ALC	B-1B	ORS	VAX 11/780, IBM 4341	1
73	OC-ALC	B-52	BNST	DEC 11/23, 2 RL02 DISKS,	100
74	OC-ALC	B-52	FTSS	PERKIN-ELMER 3240, 2 300-MBYTE DISKS, 2 9-TRACK TAPE DRIVES, 2 ROLM MSE/14 COMPUTERS	95
75	OC ALC	B-52	MC 1 EXEC	IBM 4341, HARRIS 500, CARD READER, TERMINALS, ETC.	5
76	OC-ALC	B-52	MC 2 EXEC	IBM 4341, AMDAHL 470, VAX 11/780	25
77	OC ALC	E-3A	INS		0
78	OC ALC	E-3A	OMEGA	HP 2113F, HP 2117F	100
79	OC ALC	E-3A	SMCF	IBM 4341, E-3 AISF	1
80	OC ALC	E-3A	SMCF	E-3 RADAR SYSTEMS (CORE AND MARITIME), IBM 4341	90
81	OC-ALC	E-3A	SMOSCF	IBM 4341	1
82	OC ALC	OCCM	DFS	ROLM 1666B, ENHANCED DISC PRODUCTION SYSTEM, 2 DUAL RASS DRIVES, DATA GENERAL MV10000	60
83	OC ALC	OCCM	M-DID	ROLM 1666D, RASS DRIVE	25
84	OC ALC	OCCM	MFT	ROLM 1666B, DUAL RASS DRIVE, ZEBRA DISC DRIVE, SOFTWARE DEVELOPMENT SYSTEM	80
85	OC ALC	OCCM	OFP	VAX 11/785	80
86	OC ALC	OCCM	WCS	ROLM 1666B	0
87	OC ALC	SMAM	OFP	VAX 11/780, AMDAHL, IBM 4341, HARRIS 8 000 16, APPLIED DYNAMICS AD 10	90

Table D-3. Systems Background Raw Data
Part5: SUPPORT SYSTEMS(PARTIAL)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	SUPPORT COMPUTER SYSTEMS	% TIME DEDICATED
88	TINKER AFB	E-3A	AOCP	IBM 370/168, 3 SPECIAL PURPOSE IBM-4PI SIMULATORS	95
89	TINKER AFB	E-3A	UTILITIES	IBM 370/168, 3 SPECIAL-PURPOSE IBM-4PI SIMULATORS	5
90	LANGLEY	JTIDS	ASIT/TPOCP	IBM 4341 WITH 4 MEG. MAIN MEMORY IN 1M BLOCKS ON LINE STORAGE, PRINTER, 3270 TERMINALS, INTERFACE SIMULATOR ANALYZER (ISA) NOVA 4/X(INCLUDES 25M DISK, PRINTER, TERMINAL)	10
91	LANGLEY	STRTS	STRTS	IBM 360/70, ALL PERIPHERALS, DG-6250, ALL PERIPHERALS, PDP 11/70 TAPE DRIVE	10
92	LANGLEY	TACS	CAFMS	PE 3230-1251, TRIDENT DISK DRIVE, REMEX TAPE DRIVE, DELTA DATA 7586, CROMEMCO-Z29	100
93	LANGLEY	TIPI	DC/SR	(1)ANUYK-7 MAINFRAME, (4)1601 ROHM MINI-COMPUTERS, (5)CDC DISK DRIVES	100
94	LANGLEY	TIPI	II/MARRES/TEREC	SEE CRISP & O/SCMP, IBM 4341 V6/05	100
95	LANGLEY	407L	HUGHES UTIL	HUGHES 4118	10
96	LANGLEY	407L	IBM UTIL	IBM 4341	50
97	LANGLEY	407L	IORP/IMFP	H-4118(2), IBM 4341, 4Cs SIMIRACC, 4Cs KUI	55

Table D-3. Systems Background Raw Data
Part6: SUPPORTABILITY PROBLEMS

ID	SITE	SYSTEM	SOFTWARE SYSTEM	PROBLEM(S) DESCRIPTION
1	NORAD	CSS	CSS	
2	NORAD	MEBU	MEBU	(1) Lack of tools to locate and debug failures.
3	NORAD	NCS	NCS	(1) Lack of tools to locate and debug failures.
4	NORAD	SSC	SSC	
5	WR-ALC	ALR-46	ALR-46	(1) Inadequate number of trained softw.re personnel. (2) Time to get completed software fielded is much too long.
6	WR-ALC	ALR-69	ALR-69	(1) Inadequate number of trained software personnel.
7	WR-ALC	AN/ALQ-131	BIG	(1) Inability to adequately staff positions prior to PMRT to ensure software quality. (2) Inability to maintain the required level of expertise.
8	WR-ALC	AN/ALQ-131	OFP	(1) Inability to adequately staff positions prior to PMRT to ensure software quality. (2) Inability to maintain the required level of expertise.
9	WR-ALC	AN/ALQ-131	OUT	(1) Insufficient trained personnel before and after PMRT. (2) Inability to maintain required level of expertise.
10	WR-ALC	APR-38	APR-38	
11	WR-ALC	B-52 EWS ATE	ASQ-151	(1) Limited time available on test set where software problems and solutions have to be verified.
12	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	
13	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	
14	WR-ALC	F-15	CC	
15	WR-ALC	F-15	RADAR	(1) Inadequate logistical support in obtaining engineering services, computers, other hardware, consumables, parts, & LRUs. (2) Lack of technical personnel in the areas of radar, OFPs, computer science, & hardware. (3) Lack of understanding of the process and its requirements throughout the AF.
16	WR-ALC	F-15 AVIONICS ATE	ADTS,AIS	(1) Configuration control after PMRT. (2) CPIN conversion. (3) Interface between ALC and control.
17	WR-ALC	JTIDS	ASIT/OCP	
18	WR-ALC	JTIDS	E-3A AWACS/OCP	(1) Difficulty obtaining memory boards (2) Difficulty obtaining PROM.
19	WR-ALC	JTIDS	SP/USER	
20	WR-ALC	JTIDS	SYS EXERCISER	
21	WR-ALC	PAVE TACO	AISF	
22	WR-ALC	PAVE TACO	OFP	(1) AISF hardware unavailability. (2) Interface between AF organizations. (3) Retention of qualified personnel
23	SM-ALC	F-111D	WNC	(1) Organic software support and configuration management suffer considerably from a shortage and continual turnover of qualified engineers.
24	SM-ALC	F-111F	WNC	(1) Organic software support and configuration management suffer considerably from a shortage and continual turnover of qualified engineers.

Table D-3. Systems Background Raw Data
Part6: SUPPORTABILITY PROBLEMS

ID	SITE	SYSTEM	SOFTWARE SYSTEM	PROBLEM(S) DESCRIPTION
25	SM-ALC	FB-111A	WNC	(1) Organic software support and configuration management suffer considerably from a shortage and continual turnover of qualified engineers.
26	CASTLE AFB	B-52	CPT	
27	CASTLE AFB	B-52	WST	
28	CASTLE AFB	KC-135	WST	
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	
30	OO-ALC	F-16	FCC	(1) Number of configurations, customers, change drivers, etc.
31	OO-ALC	F-16	HUD	
32	OO-ALC	F-16	OFT	(1) Organizational/management interface. (2) Descriptiveness of documentation. (3) Software distribution support.
33	OO-ALC	F-16	FCR	(1) Poor documentation. (2) Lack of test bench. (3) Lack of manpower. (4) High turnover of personnel. (5) Code modification requires knowledge of software, hardware, radar, and EW.
34	OO-ALC	F-16	SMS	
35	OO-ALC	F-4	MDTS	(1) Unable to hire sufficient number of technical support people to staff all software projects requested to be addressed during past or present updates.
36	OO-ALC	F-4	MDTS	(1) Too much time is required to fully understand and be able to utilize the numerous capabilities of the operating system.
37	OO-ALC	F-4E	AN/ARN-101	
38	OO-ALC	F-4E	AN/ARN-101	
39	OO-ALC	F-4E	AN/ARN-101	(1) Insufficient manpower.
40	OO-ALC	F-4E	AN/ARN-101	
41	OO-ALC	F-4E	AN/ARN-101	
42	OO-ALC	F-4E	AN/ARN-101	
43	OO-ALC	F-4G	AN/ARN-101	(1) Support system is currently incomplete.
44	OO-ALC	F-4G	AN/ARN-101	
45	OO-ALC	F-4G	AN/ARN-101	(1) Support system is currently incomplete.
46	OO-ALC	F-4G	AN/ARN-101	(1) Support system is currently incomplete.
47	OO-ALC	F-4G	AN/ARN-101	(1) Support system is currently incomplete.
48	OO-ALC	F-4G	LRU-1/ALM	(1) Most of the work consists of software enhancements that require an engineering background rather than a software background.
49	OO-ALC	F-4G	LRU-1/ALM	
50	OO-ALC	F-4G	LRU-1/ALM	(1) Lack of engineers qualified to solve complex algorithmic problems.
51	OO-ALC	MINUTEMAN	WING II/2015	(1) Contention of current projects.
52	OO-ALC	MINUTEMAN	WING VI/MS-29	(1) Contention of current projects.
53	OO-ALC	MINUTEMAN	WING5/MS-28	(1) Contention of current projects.
54	OO-ALC	MINUTEMAN II	SSAS/CAPS	(1) Outdated software system (currently being upgraded).
55	OO-ALC	MINUTEMAN II	WING V/MEG/RAIS	(1) Separate need cycles. (2) Separate support functions.

Table D-5. Systems Background Raw Data
Part6: SUPPORTABILITY PROBLEMS

ID	SITE	SYSTEM	SOFTWARE SYSTEM	PROBLEM(S) DESCRIPTION
56	OO-ALC	MINUTEMAN II	WING VI/REG/RATS	
57	OO-ALC	KF-4C	AN/ARN-101	
58	OO-ALC	KF-4C	AN/ARN-101	
59	OO-ALC	KF-4C	AN/ARN-101	(1) Insufficient manpower.
60	OO-ALC	KF-4C	AN/ARN-101	
61	OO-ALC	KF-4C	AN/ARN-101	
62	OO-ALC	KF-4C	AN/ARN-101	
63	OC-ALC	ALCM	LIT	
64	OC-ALC	ALCM	LPT	
65	OC-ALC	ALCM	OFP	(1) A major problem has been the turnover of our experienced people and their replacement with inexperienced personnel. (2) We have problems establishing a training program using our experienced people, since they are committed to other projects. (3) Maintainability of the subsystem simulator is poor.
66	OC-ALC	ALCM	OFP	
67	OC-ALC	B-1B	CADC	(1) Inadequate documentation. (2) Extremely poor contractor design. (3) High turnover rate. (4) Insufficient manpower.
68	OC-ALC	B-1B	CITS	(1) Inadequate documentation. (2) Insufficient manpower. (3) AF/contractor interface. (4) High trunover rate.
69	OC-ALC	B-1B	EMUX	(1) Extremely poor documentation. (2) System is obsolete and will need to be redesigned in a matter of years after FMRT. (3) Unique language. (4) Insufficient manpower.
70	OC-ALC	B-1B	F/CGMS	(1) Insufficient manpower.
71	OC-ALC	B-1B	INS	(1) Insufficient trained personnel due to high turnover rate.
72	OC-ALC	B-1B	ORS	(1) Inadequate documentation on system design and software modules. (2) Inadequate identification and information on support equipment and software. (3) AF/contractor interface. (4) Inability to get necessary information from contractor. (5) Insufficient trained personnel.
73	OC-ALC	B-52	BNSI	(1) The uniqueness of trainer hardware requires that final development and testing be done on an actual trainer. This complicates development and training schedules.
74	OC-ALC	B-52	FISS	
75	OC-ALC	B-52	MC-1 EXEC	
76	OC-ALC	B-52	MC-2 EXEC	(1) In the Executive MOU document, over 50% of the document does not match the code or naming conventions.
77	OC-ALC	B-52	INS	(1) There is no way to organically support the INS program until an inertial computer (INC) is installed in the life cycle support facility (LCSF).

Table D-3. Systems Background Raw Data
Part6: SUPPORTABILITY PROBLEMS

ID	SITE	SYSTEM	SOFTWARE SYSTEM	PROBLEM(S) DESCRIPTION
78	OC-ALC	E-3A	OMEGA	(1) NDC 1070 has limited memory.
79	OC-ALC	E-3A	SMCP	(1) Software configuration management controls. (2) Equipment maintenance problems caused by supply system. (3) Lack of AISF engineering and configuration management for hardware.
80	OC-ALC	E-3A	SRCP	(1) Substantial overhead work demands. (2) Unavailability of radar and IBM 4341.
81	OC-ALC	E-3A	SRGSCP	(1) Flowcharts generated by AUTOFLOW--a system useless for supportability. (2) Software was moved to a less suitable substitute computer.
82	OC-ALC	GLCM	DFS	(1) Authorized manpower is inadequate. (2) Support equipment is also required for product production.
83	OC-ALC	GLCM	M DTD	(1) Several programs exist which are now being integrated into one consistent package. Without integration, supportability would be more difficult, because the several programs would require separate maintenance.
84	OC-ALC	GLCM	MFT	(1) Documentation is in poor shape.
85	OC-ALC	GLCM	OFP	
86	OC-ALC	GLCM	WCS	(1) Software is implemented on antiquated equipment.
87	OC-ALC	SRAM	OFP	(1) Complete dependence on the contractor to support software.
88	TINKER AFB	E-3A	AOCP	(1) Poor documentation. (2) Unenforced standards. (3) Poor acquisition standards. (4) No coding standards. (5) No delivery standards.
89	TINKER AFB	E-3A	UTILITIES	(1) Poor documentation. (2) Unenforced standards. (3) Inadequate testing by contractor. (4) Insufficient representation during software design.
90	LANGLEY	ATIDS	ASIT/TEOLE	(1) Lack of HUGHES class I terminal(s). (2) Suspension of IBM ECP 65 version. (3) Lack of militarized operator interface units(OIUs). (4) No maintenance contract for ISA. (5) Generally disjointed program management (ESD, IBM, WARNER ROBINS ALC, etc.). (6) Lack of complete, computer readable documentation.
91	LANGLEY	SIRIS	SIRIS	(1) Graphic software is maintained in MACRO 11 assembler on non supported operating system. Limited number of knowledgeable operators. (2) DG 5250 Editor is a line editor and only 1 terminal can be used at a time.
92	LANGLEY	IADS	CAEMS	
93	LANGLEY	IIFI	DC/SR	(1) Training time is 12 18 months.
94	LANGLEY	IIFI	II/MARRES/TENEC	
95	LANGLEY	4072	HUGHES OIU	

Table D-5. Systems Background Raw Data
Part6: SUPPORTABILITY PROBLEMS

ID	SITE	SYSTEM	SOFTWARE SYSTEM	PROBLEM(S) DESCRIPTION
96	LANGLEY	407L	IBM UTIL	
97	LANGLEY	407L	IORF/IMEF	(1) No ATC training support in HAP IBM assembler language. (2) Significant down time on 411B because of age and lack of spare parts. (3) Significant amount of time dedicated to interface testing.

Table D 4. Systems Evaluation Raw Data
Part1: SOFTWARE PRODUCT MAINTAINABILITY (AT DELIVERY)

Scale: -50(Low) to +50(High) : -99(Missing) : +99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AP DOC	AP DOC MOD	AP DOC DES	AP DOC CON	AP DOC SIM	AP DOC EXP	AP DOC INS	AP SRC	AP SRC MOD	AP SRC DES	AP SRC CON	AP SRC SIM	AP SRC EXP	AP SRC INS	A PRO-DUCT
1	NORAD	CSS	CSS	-10	-5	-20	20	5	-20	-10	20	30	5	-10	30	5	-20	-10
2	NORAD	MEBU	MEBU	20	99	99	99	99	-99	99	10	99	99	-99	-99	-99	-99	10
3	NORAD	NCS	NCS	10	99	-99	99	-99	-99	-99	10	-99	-99	-99	-99	-99	-99	-10
4	NORAD	SSC	SSC	10	15	15	10	10	5	-10	5	5	5	10	-10	5	-5	-10
5	WR ALC	ALR-46	ALR-46	25	25	20	20	23	-5	29	10	10	15	13	5	21	25	20
6	WR-ALC	ALR-69	ALR-69	30	30	20	20	20	-10	-99	10	10	15	15	5	30	-99	10
7	WR-ALC	AN/ALQ-131	BIG	-45	-40	-40	-50	10	-50	-50	-40	40	-30	-40	-40	-40	-50	-40
8	WR-ALC	AN/ALQ-131	OFP	-40	-30	-40	-50	30	-20	-50	-30	30	-40	-20	-20	-40	-50	-40
9	WR-ALC	AN/ALQ-131	UUT	-50	-40	-50	-40	-40	-50	-50	-40	-30	-20	-40	-40	-40	-50	-45
10	WR ALC	APR-38	APR-38	25	25	15	50	0	50	50	20	10	10	50	0	0	50	25
11	WR ALC	B-52 EVS ATE	ASQ-151	40	45	20	40	35	35	10	20	5	20	1	20	40	20	30
12	WR ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	5	-20	10	-10	-20	10	10	5	20	5	-10	20	10	10	5
13	WR ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	30	30	10	20	25	40	10	30	40	40	20	25	40	10	30
14	WR ALC	F-15	CC	25	20	20	40	10	20	30	30	30	35	40	20	40	10	30
15	WR ALC	F-15	RADAR	40	40	35	40	35	50	40	40	40	40	50	40	25	50	40
16	WR ALC	F-15 AVIONICS ATE	ADTS,AIS	10	20	20	40	30	10	-10	5	20	5	5	15	15	20	-20
17	WR-ALC	JTIDS	ASIT/OCP	35	30	30	30	30	30	35	30	35	30	30	30	30	30	30
18	WR-ALC	JTIDS	E-3A AWACS/OCP	35	30	30	30	30	30	35	30	35	30	30	30	30	30	30
19	WR-ALC	JTIDS	SP/USER	15	30	0	30	-10	30	-10	10	30	0	30	-10	0	-10	10
20	WR-ALC	JTIDS	SYS EXERCISER	-15	-20	-20	-10	-10	0	-99	15	-20	20	10	-10	0	-99	-15
21	WR-ALC	PAVE TACK	AISF	45	35	35	35	40	40	35	45	45	40	45	30	40	35	45
22	WR-ALC	PAVE TACK	OFP	35	45	40	35	35	40	35	38	42	40	38	30	45	40	40
23	SM-ALC	F-111D	WNC	20	25	20	25	15	40	-99	25	40	10	20	-10	20	-99	20
24	SM-ALC	F-111F	WNC	20	25	20	25	15	40	-99	25	40	10	20	-10	20	-99	20
25	SM-ALC	FB 111A	WNC	20	25	20	25	15	40	-99	25	40	10	20	10	20	-99	20
26	CASTLE AFB	B-52	CPT	-15	20	-10	-10	10	20	-50	-10	20	-10	-10	-10	20	-50	10
27	CASTLE AFB	B-52	WST	5	20	5	-20	-20	-10	0	10	10	-20	-20	5	10	-99	5
28	CASTLE AFB	KC-135	WST	5	20	5	-20	-20	-10	0	10	10	20	-20	5	10	-99	5
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	5	5	10	15	10	-5	-50	5	10	-10	10	-5	-10	-50	-5
30	OO ALC	F-16	FCC	20	25	20	20	10	30	20	30	30	25	20	20	20	20	25
31	OO-ALC	F-16	HUD	15	30	10	5	10	10	5	5	30	20	10	-20	10	10	10
32	OO ALC	F-16	OFT	5	40	-25	15	5	45	20	10	40	15	5	20	5	20	10
33	OO-ALC	F-16	PCR	-30	-10	-40	-40	-30	10	-20	-35	10	40	-30	-20	-30	-40	33
34	OO-ALC	F-16	SMS	-99	10	20	20	10	20	20	18	10	20	20	10	20	20	18
35	OO ALC	F-4	MDTS	25	35	20	30	10	25	-25	25	35	20	30	-10	25	10	15
36	OO-ALC	F-4	MDTS	10	30	10	30	-10	30	20	30	40	10	30	10	10	20	-10
37	OO ALC	F-4E	AN/ARN-101	20	45	10	20	20	25	-10	15	40	10	20	10	20	10	17
38	OO ALC	F-4E	AN/ARN-101	40	50	30	25	25	30	-50	10	25	20	20	10	10	30	10
39	OO ALC	F-4E	AN/ARN-101	-5	20	-15	30	40	20	-10	15	20	10	20	-40	-45	20	-15
40	OO ALC	F-4E	AN/ARN-101	5	40	5	35	5	20	15	20	45	40	30	10	5	5	20
41	OO ALC	F-4E	AN/ARN-101	-10	30	-10	30	10	20	-20	-30	30	10	30	-20	-10	-20	10
42	OO ALC	F-4E	AN/ARN-101	-10	10	-20	10	10	10	10	10	30	-10	10	10	10	10	5
43	OO ALC	F-4G	AN/ARN-101	30	35	30	40	35	-10	-10	35	40	40	40	25	15	5	20
44	OO-ALC	F-4G	AN/ARN-101	30	35	30	40	30	10	15	30	35	35	35	30	10	10	20
45	OO ALC	F-4G	AN/ARN-101	30	35	30	40	40	45	30	35	35	40	45	40	25	20	25
46	OO ALC	F-4G	AN/ARN-101	25	30	25	40	15	5	-5	20	20	35	40	25	5	5	10

Table D-4. Systems Evaluation Raw Data
Part II: SOFTWARE PRODUCT MAINTAINABILITY (AT DELIVERY)

Scale: - 50(Low) to + 50(High) ; - 99(Missing) ; + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AP DOC	AP DOC MOD	AP DOC DES	AP DOC CON	AP DOC SIM	AP DOC EXP	AP DOC INS	AP SRC	AP SRC MOD	AP SRC DES	AP SRC CON	AP SRC SIM	AP SRC EXP	AP SRC INS	A PRO-DUCT
47	OO-ALC	F-4G	AN/ARN-101	25	30	25	40	35	-5	-5	30	30	35	40	25	5	-5	10
48	OO-ALC	F-4G	LRU-1/ACM	20	20	20	30	10	10	10	20	30	20	30	10	10	10	20
49	OO-ALC	F-4G	LRU-1/ACM	-10	45	30	40	40	30	40	30	45	35	40	40	25	40	35
50	OO-ALC	F-4G	LRU-1/ACM	25	25	15	25	25	40	10	20	25	10	25	10	30	10	25
51	OO-ALC	MINUTEMAN	WING II/2015	15	25	5	5	5	5	25	15	25	5	10	5	-5	25	3
52	OO-ALC	MINUTEMAN	WING VI/HS-29	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
53	OO-ALC	MINUTEMAN	WINGS/HS-28	25	25	10	35	20	30	10	25	20	10	25	20	35	10	25
54	OO-ALC	MINUTEMAN II	SSAS/CAPS	40	40	20	40	-20	20	-99	40	40	40	30	40	40	-99	40
55	OO-ALC	MINUTEMAN II	WING V/HEG/RATS	40	30	30	40	-20	-50	-99	40	40	50	50	-20	-50	-99	40
56	OO-ALC	MINUTEMAN II	WING VI/HEG/RATS	40	40	40	50	20	-30	-99	40	40	40	50	-30	-50	-99	40
57	OO-ALC	RF-4C	AN/ARN-101	20	45	10	20	20	25	-10	15	40	10	20	10	20	-10	17
58	OO-ALC	RF-4C	AN/ARN-101	40	50	30	25	25	30	-50	10	25	20	20	-10	10	30	10
59	OO-ALC	RF-4C	AN/ARN-101	-5	20	-15	30	-40	20	-10	-15	20	-10	20	-40	-45	-20	-15
60	OO-ALC	RF-4C	AN/ARN-101	5	40	5	35	5	20	15	20	45	40	30	10	5	5	20
61	OO-ALC	RF-4C	AN/ARN-101	-10	30	-10	30	-10	20	-20	-30	30	10	30	-20	-10	-20	10
62	OO-ALC	RF-4C	AN/ARN-101	-10	10	-20	10	10	10	10	10	30	-10	10	10	10	10	5
63	OC-ALC	ALCM	LIT	40	50	50	40	40	40	30	40	50	50	45	45	50	50	40
64	OC-ALC	ALCM	LIT	35	40	40	30	40	35	40	30	40	25	30	30	25	25	30
65	OC-ALC	ALCM	OFP	-20	25	-40	15	10	-40	-10	25	30	35	35	20	0	-10	5
66	OC-ALC	ALCM	OFP	-25	-25	-20	-15	-10	-40	-40	-40	-25	-50	-50	-40	-50	-25	-30
67	OC-ALC	B-1B	CADC	-30	-99	-99	-99	-99	-99	-99	-28	-99	-99	-99	-99	-99	-99	-29
68	OC-ALC	B-1B	CITS	20	-99	-99	-99	-99	-99	-99	10	99	-99	-99	-99	-99	-99	-13
69	OC-ALC	B-1B	EMUX	-35	-99	-99	-99	-99	-99	-99	-40	99	-99	-99	-99	-99	-99	-35
70	OC-ALC	B-1B	F/CGMS	-13	-99	-99	-99	-99	-99	-99	2	-99	-99	-99	-99	-99	-99	-10
71	OC-ALC	B-1B	INS	10	-99	-99	-99	-99	-99	-99	10	-99	-99	-99	-99	-99	-99	-25
72	OC-ALC	B-1B	ORS	-50	-99	-99	-99	-99	-99	-99	50	-99	-99	-99	-99	-99	-99	-50
73	OC-ALC	B-52	BNST	25	25	20	25	20	30	-5	35	40	10	35	20	40	-5	35
74	OC-ALC	B-52	FTSS	15	30	10	35	5	-5	10	20	30	20	40	10	10	1	20
75	OC-ALC	B-52	MC-1 EXEC	40	45	40	45	10	20	-20	35	45	35	40	-20	10	-30	38
76	OC-ALC	B-52	MC-2 EXEC	-40	25	5	-5	-10	20	5	-20	-20	-25	-20	-45	40	10	-25
77	OC-ALC	E-3A	INS	10	15	10	5	5	10	10	20	20	10	10	10	20	10	15
78	OC-ALC	E-3A	OMEGA	-40	99	99	99	99	99	99	-10	25	-25	-10	-10	20	10	10
79	OC-ALC	E-3A	SMCP	-25	-5	-40	5	-40	5	99	20	15	20	20	5	25	99	-10
80	OC-ALC	E-3A	SRCP	-5	1	-5	-5	-5	-5	1	-10	1	-5	-5	-30	-10	5	-10
81	OC-ALC	E-3A	SRGSCP	15	25	-25	10	25	25	-45	25	25	-30	10	-30	-25	-45	-10
82	OC-ALC	GLCM	DFS	40	45	40	45	35	40	35	30	30	25	35	25	30	30	35
83	OC-ALC	GLCM	M-DTD	20	20	30	20	20	30	20	20	20	15	10	15	30	20	20
84	OC-ALC	GLCM	MFT	-10	-20	-10	-15	10	-20	-10	10	25	-5	-15	1	-10	-15	10
85	OC-ALC	GLCM	OFP	25	30	25	20	15	10	5	15	20	15	15	2	10	15	20
86	OC-ALC	GLCM	WCS	-15	-20	-30	-15	-5	-15	-15	15	30	-5	-15	-10	-15	-15	15
87	OC-ALC	SRAM	OFP	25	-10	-20	15	-20	20	-20	-10	10	20	10	-15	-50	10	10
88	TINKER AFB	E-3A	ADLP	-30	-20	-30	-40	-30	-40	-50	30	40	-40	-50	-30	10	-30	30
89	TINKER AFB	E-3A	UTILITIES	-30	-20	-10	-30	-30	-40	-40	20	20	-50	50	-30	10	20	20
90	LANGLEY	JTIDS	ASIT/IFDCF	25	30	30	25	20	35	25	30	30	30	25	20	35	20	20
91	LANGLEY	SIRTS	SIRTS	25	25	25	-25	10	25	-10	15	25	-25	-25	10	25	10	-25
92	LANGLEY	TACS	CAFMS	50	40	-20	10	10	50	35	20	30	10	10	20	50	-50	25

Table D-4. Systems Evaluation Raw Data
Part1: SOFTWARE PRODUCT MAINTAINABILITY (AT DELIVERY)

Scale: - 50(Low) to + 50(High) : - 99(Missing) : + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AP DOC	AP DOC MOD	AP DOC DES	AP DOC CON	AP DOC SIM	AP DOC EXP	AP DOC INS	AP SRC	AP SRC MOD	AP SRC DES	AP SRC CON	AP SRC SIM	AP SRC EXP	AP SRC INS	A PRO-DUCT
93	LANGLEY	TIPI	DC/SR	-30	-10	-50	-50	-50	10	-10	-40	-20	-50	-50	-30	-20	-50	-40
94	LANGLEY	TIPI	II/MARRES/TEREC	-30	30	-10	30	10	-40	25	30	20	20	-40	-40	-40	25	0
95	LANGLEY	407L	HUGHES UTIL	5	10	10	10	5	5	0	-30	-10	-5	-20	-30	-40	-10	-20
96	LANGLEY	407L	IBM UTIL	30	40	30	40	40	40	30	30	40	40	30	40	40	20	50
97	LANGLEY	407L	IORP/IMPP	10	40	10	10	5	40	35	-10	10	-20	10	-10	25	35	10

Table D-4. Systems Evaluation Raw Data
Part2: SOFTWARE SUPPORT FACILITY (AT DELIVERY)

Scale: - 50(Low) to + 50(High) ; - 99(Missing) ; + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AE PER	AE PER MAN	AE PER TEC	AE PER SUP	AE PER CON	AE SYS	AE SYS HOS	AE SYS BEN	AE SYS LAB	AE SYS OPE	AE SYS OTH	AE FAC	AE FAC OFF	AE FAC ENV	A ENV-IRON
1	NORAD	CSS	CSS	-30	-30	-30	-30	20	-30	-30	-30	-30	-30	99	15	10	20	-25
2	NORAD	MEBU	MEBU	-10	10	10	-10	99	-10	-20	99	99	99	99	-10	-10	-10	-50
3	NORAD	NCS	NCS	-99	10	10	-10	99	-99	-20	99	99	99	-50	-99	-10	10	-50
4	NORAD	SSC	SSC	25	25	30	20	30	-10	10	99	99	-20	99	-25	25	10	-99
5	WR-ALC	ALR-46	ALR-46	30	10	20	15	5	-20	-30	-10	-10	10	99	-5	10	10	-10
6	WR-ALC	ALR-69	ALR-69	-20	10	10	15	5	20	-20	20	20	10	99	20	30	20	10
7	WR-ALC	AN/ALQ-131	BTG	-40	10	40	-40	10	-40	-30	10	-40	-99	-50	-30	-30	-30	-40
8	WR-ALC	AN/ALQ-131	OFP	-30	10	-40	-45	10	-40	-30	-35	-40	-99	-50	-30	-30	-30	-50
9	WR-ALC	AN/ALQ-131	UUT	-50	10	-40	-50	-10	-35	-30	-30	-40	-99	-50	-30	-30	-30	-40
10	WR-ALC	APR-38	APR-38	-25	25	0	20	25	20	0	25	25	25	99	10	20	20	0
11	WR-ALC	B-52 EVS ATE	ASQ-151	35	40	40	20	30	30	30	10	99	20	99	30	30	30	10
12	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	40	25	40	40	99	25	20	5	45	20	99	35	10	35	40
13	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	40	25	40	40	99	25	20	5	45	20	25	35	10	35	40
14	WR-ALC	F-15	CC	20	10	20	20	10	40	40	30	40	40	99	50	40	50	20
15	WR-ALC	F-15	RADAR	10	5	5	35	45	25	25	25	35	50	-40	45	40	50	10
16	WR-ALC	F-15 AVIONICS ATE	ADTS,AIS	-20	10	10	-20	20	10	-10	20	-5	10	99	20	20	20	20
17	WR-ALC	JTIDS	ASIT/OCP	20	25	20	15	10	15	10	-5	0	20	-20	30	30	30	25
18	WR-ALC	JTIDS	E-3A AWACS/OCP	25	20	20	15	10	15	10	-5	5	20	-10	30	30	30	25
19	WR-ALC	JTIDS	SP/USER	35	-99	15	-99	99	-5	-5	99	99	99	99	5	5	5	-99
20	WR-ALC	JTIDS	SYS EXERCISER	25	99	25	99	99	-20	-20	99	99	99	99	0	0	0	0
21	WR-ALC	PAVE TACK	AISF	40	40	40	45	40	40	45	45	35	35	35	40	-10	0	40
22	WR-ALC	PAVE TACK	OFP	30	35	38	38	40	38	35	40	40	40	40	40	50	38	35
23	SM-ALC	F-111D	WNC	40	30	40	30	30	30	20	20	30	20	99	15	20	20	15
24	SM-ALC	F-111F	WNC	40	30	40	30	30	30	20	20	30	20	99	20	20	20	15
25	SM-ALC	FB-111A	WNC	40	30	40	30	30	30	20	20	30	20	99	15	20	20	15
26	CASTLE AFB	B-52	CPT	-30	-30	-30	-30	30	5	5	-99	-99	50	-99	5	10	5	-20
27	CASTLE AFB	B-52	WST	10	20	10	10	10	10	20	10	5	50	5	10	5	10	10
28	CASTLE AFB	KC-135	WST	10	20	10	10	10	10	20	10	-99	50	5	10	5	10	10
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	5	5	10	5	-20	10	10	-99	-99	50	-99	10	20	-10	5
30	OO-ALC	F-16	FCC	0	0	-10	0	20	30	30	30	30	30	-99	-10	-10	0	10
31	OO-ALC	F-16	HUD	-15	-20	-30	20	-20	25	30	30	-10	30	-99	-25	-30	-20	-10
32	OO-ALC	F-16	OFT	10	-30	30	10	99	45	40	99	99	50	20	45	45	45	30
33	OO-ALC	F-16	FCR	-40	0	-30	-40	-50	-30	20	-50	-30	30	-99	-30	-30	-30	-33
34	OO-ALC	F-16	SMS	18	10	20	10	30	8	-10	0	20	20	-99	-30	-30	0	-2
35	OO-ALC	F-4	MDTS	30	40	40	25	25	20	20	20	15	25	-99	10	10	10	20
36	OO-ALC	F-4	MDTS	20	30	20	20	50	30	10	20	30	30	-99	40	20	40	45
37	OO-ALC	F-4E	AN/ARN-101	28	40	15	10	45	28	25	99	15	15	-99	40	40	40	30
38	OO-ALC	F-4E	AN/ARN-101	40	40	40	40	40	40	20	40	40	40	99	10	10	10	40
39	OO-ALC	F-4E	AN/ARN-101	30	40	40	5	40	-20	-25	-20	-20	-15	-99	-5	-15	5	-5
40	OO-ALC	F-4E	AN/ARN-101	40	40	45	40	40	20	-5	99	5	5	99	5	-5	5	25
41	OO-ALC	F-4E	AN/ARN-101	10	-20	10	10	10	10	-20	99	10	10	-99	20	10	10	10
42	OO-ALC	F-4E	AN/ARN-101	30	20	30	30	40	-10	-20	99	-10	10	-99	-30	-30	-30	-10
43	OO-ALC	F-4G	AN/ARN-101	25	20	-5	20	25	-10	-10	10	99	99	-99	35	30	40	35
44	OO-ALC	F-4G	AN/ARN-101	20	25	5	30	30	-5	-5	-5	99	99	-99	30	30	30	35
45	OO-ALC	F-4G	AN/ARN-101	20	20	5	30	25	-10	-25	99	10	99	99	40	40	40	20
46	OO-ALC	F-4G	AN/ARN-101	20	20	-5	20	20	-10	-10	-10	99	99	-99	35	35	35	30

Table D-4. Systems Evaluation Raw Data
Part2: SOFTWARE SUPPORT FACILITY (AT DELIVERY)

Scale: - 50(Low) to + 50(High) : - 99(Missing) : + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AE PER	AE PER MAN	AE PER TEC	AE PER SUP	AE PER CON	AE SYS	AE SYS HOS	AE SYS BEN	AE SYS LAB	AE SYS OPE	AE SYS OTH	AE FAC	AE FAC OFF	AE FAC ENV	A ENV-IRON
47	OO-ALC	F-4G	AN/ARN-101	20	20	-5	20	20	-10	-10	-10	-99	99	-99	35	35	35	30
48	OO-ALC	F 4G	LRU-1/ACM	20	20	10	20	10	10	10	10	10	-20	-99	10	10	10	10
49	OO-ALC	F-4G	LRU-1/ACM	25	25	25	25	99	30	35	25	25	25	-10	30	30	25	25
50	OO-ALC	F 4G	LRU 1/ACM	25	25	25	20	99	10	15	15	15	15	-99	20	20	20	20
51	OO-ALC	MINUTEMAN	WING II/2015	40	25	45	45	45	5	5	5	5	5	-99	-5	-40	35	-5
52	OO-ALC	MINUTEMAN	WING VI/HS-29	45	25	45	45	45	-5	-5	-5	5	-5	-99	5	5	5	5
53	OO-ALC	MINUTEMAN	WINGS/HS-28	40	25	45	45	45	40	40	40	40	45	-99	-5	-40	35	-5
54	OO-ALC	MINUTEMAN II	SSAS/CAFS	40	40	50	40	40	40	50	-99	40	40	-99	40	40	40	40
55	OO-ALC	MINUTEMAN II	WING V/HEG/KATS	20	20	20	30	30	45	45	20	40	-99	-99	40	40	40	30
56	OO ALC	MINUTEMAN II	WING VI/HEG/KATS	40	30	20	-99	30	30	40	-30	99	40	99	40	40	40	40
57	OO-ALC	KF-4C	AN/ARN-101	28	40	15	10	45	28	25	99	15	15	-99	40	40	40	30
58	OO ALC	KF-4C	AN/ARN-101	40	40	40	40	40	40	20	40	40	40	99	10	10	10	40
59	OO-ALC	KF-4C	AN/ARN-101	30	40	40	5	40	-20	-25	-20	-20	-15	-99	-5	-15	5	-5
60	OO-ALC	KF-4C	AN/ARN-101	40	40	45	40	40	20	-5	99	5	5	99	5	-5	5	25
61	OO-ALC	KF-4C	AN/ARN-101	10	-20	10	10	10	10	-20	99	10	10	-99	20	10	10	10
62	OO-ALC	KF-4C	AN/ARN-101	30	20	30	30	40	-10	-20	99	-10	10	-99	-30	-30	-30	-10
63	OC-ALC	ALCM	LIT	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-99	-50	-50	-50	-50
64	OC-ALC	ALCM	LPT	15	10	10	5	40	-50	-50	-50	-50	-50	-99	-50	-50	-50	-30
65	OC-ALC	ALCM	OFP	15	5	15	0	30	-50	-50	-50	-50	-50	-99	-40	-25	-50	-25
66	OC-ALC	ALCM	OFP	-50	-50	-30	-50	25	-50	-50	-50	-50	-50	-99	-50	-50	-50	-50
67	OC-ALC	B-1B	CADC	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	17
68	OC-ALC	B-1B	CITS	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
69	OC-ALC	B-1B	EMUX	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	20
70	OC-ALC	B-1B	F/CGMS	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	15
71	OC-ALC	B 1B	INS	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
72	OC-ALC	B-1B	ORS	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-50
73	OC-ALC	B-52	BNST	35	40	35	30	10	30	45	5	15	-30	99	40	40	40	35
74	OC-ALC	B-52	FTSS	35	40	30	35	40	47	50	50	50	30	99	50	50	50	45
75	OC-ALC	B-52	MC-1 EXEC	20	10	15	20	10	30	20	10	10	20	99	20	10	20	35
76	OC ALC	B-52	MC-2 EXEC	35	99	35	10	99	20	35	99	20	99	10	45	45	45	30
77	OC-ALC	E-3A	INS	10	10	-10	-10	30	-30	10	-10	-50	-50	99	-30	-40	-10	-30
78	OC-ALC	E-3A	OMEGA	-10	-10	-10	-10	-20	-25	-30	99	-40	-10	99	-50	-50	-50	-20
79	OC-ALC	E-3A	SMCP	-20	-30	5	-20	10	10	10	10	10	-10	99	-10	-20	-5	-5
80	OC-ALC	E-3A	SRCP	5	-10	30	-5	5	10	10	10	-10	-5	99	-5	-5	5	-10
81	OC-ALC	E-3A	SRGSCP	15	20	25	-10	15	45	45	99	99	45	99	15	15	5	35
82	OC-ALC	GLCM	DFS	-35	-40	-40	-30	40	10	40	10	-10	20	99	25	30	20	10
83	OC-ALC	GLCM	M-DTD	30	20	30	30	30	40	30	30	40	30	99	40	40	30	40
84	OC ALC	GLCM	MPT	10	-20	10	-10	15	30	35	25	30	40	99	25	30	20	20
85	OC-ALC	GLCM	OFP	5	5	5	10	5	20	20	20	25	20	99	5	2	10	10
86	OC ALC	GLCM	WCS	-20	-20	-5	-20	-5	10	5	-10	-10	40	99	25	30	20	-5
87	OC ALC	SRAM	OFP	20	15	25	25	25	25	25	25	25	25	-99	10	20	20	10
88	TINKER AFB	E-3A	AOCP	20	-20	30	20	30	10	-10	-99	10	10	99	10	30	10	20
89	TINKER AFB	E-3A	UTILITIES	20	20	20	20	-10	10	10	-99	10	10	99	30	40	20	20
90	LANGLEY	JTIDS	ASIT/TFOCF	20	15	25	20	25	15	30	25	20	-20	99	25	20	25	10
91	LANGLEY	SIRTS	SIRTS	-25	10	-25	-25	25	-10	-25	25	25	25	99	25	25	10	25
92	LANGLEY	TACS	CAFMS	45	40	45	45	99	30	30	99	30	35	99	45	40	45	45

Table D-4. Systems Evaluation Raw Data
Part2: SOFTWARE SUPPORT FACILITY (AT DELIVERY)

Scale: - 50(Low) to + 50(High) ; - 99(Missing) ; + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AE PER	AE PER MAN	AE PER TEC	AE PER SUP	AE PER CON	AE SYS	AE SYS HOS	AE SYS BEN	AE SYS LAB	AE SYS OPE	AE SYS OTH	AE FAC	AE FAC OFF	AE FAC ENV	A ENV- IRON
93	LANGLEY	TIFI	DC/SR	40	40	50	30	40	20	30	99	10	30	99	50	50	50	40
94	LANGLEY	TIFI	II/MARRES/TEREC	10	10	-10	-10	25	-30	10	10	30	-30	-30	-30	-50	-25	-15
95	LANGLEY	407L	HUGHES UTIL	5	5	10	10	10	-10	-10	-5	99	99	99	10	10	10	5
96	LANGLEY	407L	IBM UTIL	10	10	10	1	99	20	20	99	99	99	99	-20	-20	-20	-5
97	LANGLEY	407L	IORP/IMPP	10	10	20	5	10	-20	-20	10	-10	20	99	10	10	5	10

Table D-4. Systems Evaluation Raw Data
Part3: LIFE CYCLE SOFTWARE SUPPORT MANAGEMENT (AT DELIVERY)

Scale: -50(Low) to +50(High) : -99(Missing) : +99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AM CON	AM CON IDE	AM CON STA	AM CON CON	AM CON AUD	AM MAI	AM MAI PLA	AM MAI ORG	AM MAI DES	AM MAI COD	AM MAI TES	AM MAI INT	A MAN-AGE	A SUP-PORT	A RISK
1	NORAD	CSS	CSS	-40	20	-30	-40	40	-20	-20	-30	-40	-5	-40	-40	-40	-99	1.00
2	NORAD	MEBU	MEBU	20	20	20	20	20	-10	-10	-10	-10	10	-10	10	10	-99	1.00
3	NORAD	NCS	NCS	10	10	10	10	10	-10	-10	-10	-10	-10	10	10	-50	-99	1.00
4	NORAD	SSC	SSC	10	10	10	10	5	10	10	20	10	10	-10	5	-99	-99	0.20
5	WR-ALC	ALR-46	ALR-46	20	20	20	20	20	15	20	20	20	20	15	20	15	-5	0.30
6	WR-ALC	ALR-69	ALR-69	-10	5	5	10	20	-5	5	10	15	20	10	15	10	20	0.70
7	WR-ALC	AN/ALQ-131	BTG	-10	-10	-20	-30	-40	-30	-30	-30	-40	10	40	20	-40	-50	1.00
8	WR-ALC	AN/ALQ-131	OFP	-10	-10	-20	-30	-40	-30	-30	-30	-40	10	-40	20	-40	-50	1.00
9	WR-ALC	AN/ALQ-131	UUT	-40	-10	-40	-40	-50	-30	-30	-30	-40	10	-40	-20	-35	-40	1.00
10	WR-ALC	AFR-38	AFR-38	10	20	-99	5	-1	-1	-1	-1	5	5	-10	-99	-5	15	1.00
11	WR-ALC	B-52 EVS ATE	ASD-151	10	30	-99	5	5	25	20	20	-99	20	20	40	40	40	0.10
12	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	-20	-10	10	-25	30	30	20	20	40	40	20	50	5	5	0.15
13	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	25	30	25	20	30	30	20	20	40	40	20	50	30	30	0.05
14	WR-ALC	F-15	CC	25	30	20	30	20	30	30	20	20	20	30	40	25	25	0.05
15	WR-ALC	F-15	RADAR	0	0	0	0	0	0	0	0	30	45	30	0	50	-99	1.00
16	WR-ALC	F-15 AVIONICS ATE	ADTS,AIS	-25	10	10	-20	10	10	20	20	-5	5	20	10	10	10	0.45
17	WR-ALC	JTIDS	ASIT/DCP	20	15	-99	20	10	40	40	30	25	25	20	10	25	-99	0.05
18	WR-ALC	JTIDS	E-3A AWACS/DCP	25	20	15	20	10	40	40	30	25	25	20	10	25	20	0.05
19	WR-ALC	JTIDS	SP/USER	5	5	-99	-99	-99	40	40	40	40	40	30	40	20	5	0.05
20	WR-ALC	JTIDS	SYS EXERCISER	-40	-40	-40	-40	-40	15	-99	0	10	20	0	-99	-40	-99	0.10
21	WR-ALC	PAVE TACI	AISF	-10	-10	-10	-10	-10	35	30	30	40	40	40	10	0	25	0.60
22	WR-ALC	PAVE TACI	OFP	42	40	39	42	40	39	38	35	40	40	39	39	40	40	0.80
23	SM-ALC	F-111D	WNC	30	20	15	40	20	30	30	20	30	30	30	20	30	35	0.30
24	SM-ALC	F-111F	WNC	30	20	15	40	20	30	30	20	30	30	30	20	30	-99	0.20
25	SM-ALC	FB-111A	WNC	30	20	15	40	20	30	30	20	30	30	30	20	30	35	0.20
26	CASTLE AFB	B-52	CPT	-10	5	-10	-10	-10	5	5	5	5	5	5	10	5	5	0.50
27	CASTLE AFB	B-52	WST	5	5	-5	10	-5	5	5	10	-10	-10	5	5	5	5	0.50
28	CASTLE AFB	KC-135	WST	5	5	-5	10	-5	5	5	10	-10	-10	5	5	5	5	0.50
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	-20	-20	-20	-20	-20	5	5	5	5	5	-5	10	5	5	0.50
30	OO-ALC	F-16	FCC	20	20	20	20	20	10	10	10	10	10	10	10	15	20	0.50
31	OO-ALC	F-16	HUD	-10	-10	-20	-10	-10	20	10	20	20	10	30	0	10	-10	0.50
32	OO-ALC	F-16	OFT	30	30	25	30	25	30	35	40	25	35	40	10	25	5	0.70
33	OO-ALC	F-16	FCR	-20	30	30	-50	-40	-20	-20	20	-20	30	30	20	-20	-35	0.20
34	OO-ALC	F-16	SMS	2	20	0	-10	0	-6	10	-20	-20	10	-20	0	0	10	0.50
35	OO-ALC	F-4	MDTS	10	50	10	20	20	10	20	20	25	40	25	20	25	25	0.50
36	OO-ALC	F-4	MDTS	40	40	30	20	20	10	10	10	10	10	10	10	10	20	0.50
37	OO-ALC	F-4E	AN/ARN-101	4	10	1	5	1	20	40	40	20	15	10	5	12	40	0.10
38	OO-ALC	F-4E	AN/ARN-101	40	40	40	40	45	40	20	20	30	35	40	40	40	40	0.10
39	OO-ALC	F-4E	AN/ARN-101	-25	-20	20	-30	-25	5	10	10	5	5	10	5	5	5	0.80
40	OO-ALC	F-4E	AN/ARN-101	35	25	40	40	40	35	40	35	50	50	50	40	35	30	0.90
41	OO-ALC	F-4E	AN/ARN-101	20	10	20	-20	10	-20	-20	-20	-10	10	50	10	-20	-10	0.90
42	OO-ALC	F-4E	AN/ARN-101	10	10	10	-10	10	-10	10	10	10	10	-50	10	10	20	0.90
43	OO-ALC	F-4G	AN/ARN-101	35	30	30	30	30	30	25	15	30	30	5	35	30	25	0.30
44	OO-ALC	F-4G	AN/ARN-101	20	20	20	20	20	25	25	10	20	20	5	30	30	35	0.25
45	OO-ALC	F-4G	AN/ARN-101	20	25	99	30	25	20	15	10	20	10	5	25	25	25	0.00
46	OO-ALC	F-4G	AN/ARN-101	35	35	35	35	35	25	20	10	25	25	5	40	50	30	0.50

Table D-4. Systems Evaluation Raw Data
Part 3: LIFE CYCLE SOFTWARE SUPPORT MANAGEMENT (AT DELIVERY)

Scale: - 50(Low) to + 50(High) ; - 99(Missing) ; + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AM CON	AM CON IDE	AM CON STA	AM CON CON	AM CON AUD	AM MAI	AM MAI PLA	AM MAI ORG	AM MAI DES	AM MAI COD	AM MAI TES	AM MAI INT	A MAN-AGE	A SUP-PORT	A RISK
47	OO-ALC	F-4G	AN/ARN-101	35	35	35	35	35	25	20	10	25	25	-5	40	30	30	0.30
48	OO-ALC	F-4G	LRU-1/ACM	30	30	30	20	30	10	20	20	-10	10	-20	20	20	25	0.40
49	OO-ALC	F-4G	LRU-1/ACM	30	30	20	30	30	15	20	20	-5	10	-5	20	25	20	0.50
50	OO-ALC	F-4G	LRU-1/ACM	20	15	25	20	20	15	20	15	10	10	10	10	15	15	0.70
51	OO-ALC	MINUTEMAN	WING II/2015	5	5	5	5	5	10	10	10	10	10	10	10	25	5	0.75
52	OO-ALC	MINUTEMAN	WING VI/HS-29	99	99	99	99	99	40	40	40	45	35	40	35	25	99	0.10
53	OO-ALC	MINUTEMAN	WINGS/HS-28	10	10	10	10	10	25	25	25	25	25	25	25	25	45	0.00
54	OO-ALC	MINUTEMAN II	SSAS/CAPS	50	50	50	50	50	50	40	40	50	30	40	-99	50	40	0.20
55	OO-ALC	MINUTEMAN II	WING V/HEG/RATS	40	40	40	40	40	30	30	30	30	30	30	30	40	40	0.30
56	OO-ALC	MINUTEMAN II	WING VI/HEG/RATS	40	40	40	40	40	30	30	20	-30	40	-30	-99	35	40	0.30
57	OO-ALC	RF-4C	AN/ARN-101	4	10	1	5	1	20	40	40	20	15	10	5	12	40	0.10
58	OO-ALC	RF-4C	AN/ARN-101	40	40	40	40	45	40	20	20	30	35	40	40	40	40	0.10
59	OO-ALC	RF-4C	AN/ARN-101	-25	-20	-20	-30	-25	5	10	10	5	-5	-10	-5	5	5	0.80
60	OO-ALC	RF-4C	AN/ARN-101	35	25	40	40	40	35	40	35	30	30	30	40	35	30	0.90
61	OO-ALC	RF-4C	AN/ARN-101	-20	10	-20	-20	-10	-20	-20	-20	-10	-10	-30	-10	-20	-10	0.90
62	OO-ALC	RF-4C	AN/ARN-101	10	10	-10	-10	10	-10	10	10	-10	-10	-30	10	-10	-20	0.90
63	OC-ALC	ALCM	LIT	30	20	30	40	20	20	20	20	20	20	20	20	25	-50	0.90
64	OC-ALC	ALCM	LPI	40	40	35	40	40	35	40	35	40	40	35	35	35	-10	0.90
65	OC-ALC	ALCM	OFP	5	-15	5	15	5	30	30	40	25	30	25	40	20	10	0.15
66	OC-ALC	ALCM	OFP	-50	-50	-50	-50	-50	-5	-50	-50	15	30	25	-40	-50	-25	0.99
67	OC-ALC	B-1B	CADC	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	1.00
68	OC-ALC	B-1B	CITS	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	99	-99	-99	1.00
69	OC-ALC	B-1B	EMUX	-99	-99	-99	-99	-99	-99	-99	-99	-99	99	-99	-99	-99	-99	1.00
70	OC-ALC	B-1B	F/CGMS	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	99	0.60
71	OC-ALC	B-1B	INS	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0.00
72	OC-ALC	B-1B	ORS	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	99	1.00
73	OC-ALC	B-52	BNST	25	40	5	35	35	40	40	30	40	45	30	45	40	45	0.05
74	OC-ALC	B-52	FISS	10	10	10	15	5	20	20	10	20	15	30	40	15	10	0.10
75	OC-ALC	B-52	MC-1 EXEC	20	20	15	20	-99	25	15	20	15	20	15	10	25	30	0.85
76	OC-ALC	B-52	MC-2 EXEC	-25	10	-25	-25	-10	-10	30	10	-25	-10	20	-30	-20	-25	0.70
77	OC-ALC	E-3A	INS	99	99	99	99	99	99	99	99	99	99	99	99	99	-10	0.95
78	OC-ALC	E-3A	OMEGA	10	10	10	10	10	5	5	5	5	5	5	5	10	10	0.80
79	OC-ALC	E-3A	SMCP	-40	-40	-10	-40	-40	5	5	5	5	5	5	5	-30	-10	0.25
80	OC-ALC	E-3A	SRCP	10	10	10	10	10	-5	-5	-5	5	5	5	-5	5	-5	0.70
81	OC-ALC	E-3A	SROSCP	-10	25	-25	-25	-10	15	20	10	25	25	5	-10	5	10	0.50
82	OC-ALC	GLCM	DPS	-20	10	-40	-30	-30	-10	-30	20	-30	-10	-20	-30	-15	-15	0.75
83	OC-ALC	GLCM	M DTD	20	30	20	20	20	20	30	20	20	30	20	20	20	20	0.50
84	OC-ALC	GLCM	MPI	-20	10	-40	-30	-30	-10	-30	30	30	15	-25	-30	15	15	0.90
85	OC-ALC	GLCM	OFP	-2	5	2	-10	-10	-10	-25	-15	-10	2	-10	2	-10	2	0.50
86	OC-ALC	GLCM	WCS	20	10	-40	-30	-30	-10	-30	30	30	15	-25	30	-15	20	0.95
87	OC-ALC	SRAM	OFP	25	25	25	25	25	20	20	20	25	25	25	25	20	20	0.10
88	TINDER AFB	E-3A	ADCP	-20	10	-50	-10	-30	10	10	20	10	20	20	10	5	20	0.50
89	TINDER AFB	E-3A	UTILITIES	-20	10	-20	10	-20	-10	10	10	10	10	10	10	-20	10	0.80
90	LANGLEY	JTIDS	ASIT/TFOCF	30	25	25	25	50	-10	-10	-10	10	10	10	10	10	10	0.60
91	LANGLEY	STRTS	STRTS	25	25	25	25	25	10	25	25	10	25	10	10	10	50	0.90
92	LANGLEY	TACS	CAFMS	10	20	30	20	10	20	30	20	20	10	20	20	20	30	0.80

Table D-4. Systems Evaluation Raw Data
Part3: LIFE CYCLE SOFTWARE SUPPORT MANAGEMENT (AT DELIVERY)

Scale: - 50(Low) to + 50(High) : - 99(Missing) : + 99(N/A)

ID SITE	SYSTEM	SOFTWARE SYSTEM	AM CON	AM CON IDE	AM CON STA	AM CON CON	AM CON AUD	AM MAI	AM MAI PLA	AM MAI ORG	AM MA' DES	AM MAI COD	AM MAI TES	AM MAI INT	A MAN-AGE	A SUP-PORT	A RISK
93 LANGLEY	TIPI	DC/SR	-30	-50	10	-40	10	10	-40	30	-10	30	-10	30	-10	-10	0.25
94 LANGLEY	TIPI	II/MARRES/TEREC	-10	10	15	10	-10	-10	15	15	10	10	-10	-10	-10	0	0.80
95 LANGLEY	407L	HUGHES UTIL	10	10	10	10	10	5	5	5	5	1	10	10	5	-40	0.90
96 LANGLEY	407L	IBM UTIL	10	10	10	10	1	10	10	10	5	20	5	10	10	50	0.10
97 LANGLEY	407L	IORP/IMPP	15	25	20	20	10	20	20	20	25	15	10	20	20	20	0.80

Table D-4. Systems Evaluation Raw Data
Part4: SOFTWARE PRODUCT MAINTAINABILITY (CURRENT)

Scale: -50(Low) to +50(High) : -99(Missing) : +99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AP DOC	AP DOC MOD	AP DOC DES	AP DOC CON	AP DOC SIM	AP DOC EXP	AP DOC INS	AP SRC	AP SRC MOD	AP SRC DES	AP SRC CON	AP SRC SIM	AP SRC EXP	AP SRC INS	A PRO-DUCT
1	NORAD	CSS	CSS	20	10	-5	-10	10	-15	-5	-8	-20	15	10	-5	10	-10	30
2	NORAD	MEBU	MEBU	20	-99	-99	-99	-99	-99	-99	20	-99	-99	-99	-99	-99	-99	20
3	NORAD	NCS	NCS	10	-99	-99	-99	-99	-99	-99	20	-99	-99	-99	-99	-99	-99	10
4	NORAD	SSC	SSC	20	25	25	25	25	20	5	10	15	10	15	5	10	5	20
5	WR-ALC	ALR-46	ALR-46	20	25	30	20	24	15	29	10	-10	18	18	5	26	25	20
6	WR-ALC	ALR-69	ALR-69	20	5	30	20	20	30	40	35	25	20	20	20	-25	30	30
7	WR-ALC	AN/ALQ-131	BTG	-40	-40	-20	-30	30	-50	30	-10	-40	-10	-10	-20	-30	30	-20
8	WR-ALC	AN/ALQ-131	OFP	15	-30	30	-10	30	20	40	10	-30	10	20	20	20	40	10
9	WR-ALC	AN/ALQ-131	UUT	10	-20	20	-20	-20	-40	-50	-10	-10	10	-20	-20	-40	-20	-10
10	WR-ALC	APR-38	APR-38	30	30	25	50	0	50	50	25	15	20	50	0	0	50	30
11	WR-ALC	B-52 EVS ATE	ASQ-151	40	45	25	40	35	35	20	20	5	20	1	20	40	25	32
12	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	10	-20	10	10	-10	10	10	10	-10	10	10	-10	10	10	10
13	WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	30	30	10	20	25	40	10	30	40	40	20	25	40	10	30
14	WR-ALC	F-15	CC	25	20	20	40	10	20	30	30	30	35	40	20	40	10	30
15	WR-ALC	F-15	RADAR	40	40	35	45	35	50	40	45	50	45	50	40	50	50	40
16	WR-ALC	F-15 AVIONICS ATE	ADTS,AIS	10	20	20	40	30	10	-10	5	20	5	-5	15	15	20	30
17	WR-ALC	JTIDS	ASIT/OCP	35	30	30	30	30	30	35	30	35	30	30	30	30	30	30
18	WR-ALC	JTIDS	E-3A AWACS/OCF	35	30	30	30	30	30	35	30	35	30	30	30	30	30	30
19	WR-ALC	JTIDS	SP/USER	15	30	0	30	-10	30	-10	10	30	0	30	-10	0	-10	10
20	WR-ALC	JTIDS	SYS EXERCISER	-15	-20	-20	-10	-10	0	-99	-15	-20	-20	-10	-10	0	-99	-15
21	WR-ALC	PAVE TACK	AISF	45	35	35	35	40	40	35	45	45	40	45	30	40	40	45
22	WR-ALC	PAVE TACI	OFP	35	45	40	35	35	40	40	38	42	40	38	30	45	35	40
23	SM-ALC	F-111D	WNC	40	25	25	30	30	40	-99	25	30	10	10	-20	20	-99	25
24	SM-ALC	F-111F	WNC	40	25	25	30	30	40	-99	25	30	10	10	-20	20	-99	25
25	SM-ALC	FB-111A	WNC	40	25	25	30	30	40	-99	25	30	10	10	-20	20	-99	25
26	CASTLE AFB	B-52	CPT	15	20	5	5	10	20	-50	10	20	-5	5	-5	20	-50	15
27	CASTLE AFB	B-52	WST	10	20	5	-20	-20	-10	0	10	10	-20	-20	5	10	-99	10
28	CASTLE AFB	KC-135	WST	10	20	5	-20	-20	-10	0	10	10	-20	-20	5	10	-99	10
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	10	5	10	25	10	-5	-50	5	-10	-10	10	5	10	-50	5
30	OO-ALC	F-16	FCC	20	25	20	20	10	30	20	30	30	25	20	20	20	20	25
31	OO-ALC	F-16	HUD	15	30	10	5	10	10	5	5	30	20	10	-20	-10	-10	10
32	OO-ALC	F-16	OFT	10	40	-20	15	5	45	20	15	40	-15	5	20	5	20	15
33	OO-ALC	F-16	FCR	-30	-10	-40	-40	-30	10	-20	-35	-10	-40	-30	-20	-30	-40	-33
34	OO-ALC	F-16	SMS	-99	10	20	20	20	20	20	20	10	20	20	20	20	20	20
35	OO-ALC	F-4	MDTS	25	35	25	30	10	25	10	30	35	20	30	-10	25	20	20
36	OO-ALC	F-4	MDTS	10	30	10	30	-10	30	20	30	40	10	30	-10	-10	20	-10
37	OO-ALC	F-4E	AN/ARN-101	20	45	10	20	20	25	-10	15	40	10	20	10	20	-10	17
38	OO-ALC	F-4E	AN/ARN-101	30	50	30	25	25	30	-40	10	25	25	20	-10	10	35	10
39	OO-ALC	F-4E	AN/ARN-101	5	20	-10	35	-40	25	10	10	20	-10	20	-45	25	20	5
40	OO-ALC	F-4E	AN/ARN-101	5	40	5	35	5	20	15	20	45	40	30	10	5	5	20
41	OO-ALC	F-4E	AN/ARN-101	-10	30	-10	30	-10	20	-20	20	30	10	30	-20	30	-20	10
42	OO-ALC	F-4E	AN/ARN-101	-10	10	-20	10	10	10	10	10	30	-10	10	10	10	10	5
43	OO-ALC	F-4G	AN/ARN-101	30	35	30	40	35	-10	-10	35	40	40	40	25	15	-5	20
44	OO-ALC	F-4G	AN/ARN-101	30	35	30	40	30	10	15	30	35	35	35	20	10	10	20
45	OO-ALC	F-4G	AN/ARN-101	28	35	38	40	40	45	30	35	35	40	45	40	25	30	25
46	OO-ALC	F-4G	AN/ARN-101	25	30	25	40	35	-5	-5	30	30	35	40	25	5	-5	10

Table D-4. Systems Evaluation Raw Data
Part4: SOFTWARE PRODUCT MAINTAINABILITY (CURRENT)

Scale: - 50(Low) to + 50(High) : - 99(Missing) : + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AP DOC	AP DOC MOD	AP DOC DES	AP DOC CON	AP DOC SIM	AP DOC EXP	AP DOC INS	AP SRC	AP SRC MOD	AP SRC DES	AP SRC CON	AP SRC SIM	AP SRC EXP	AP SRC INS	A PRO-DUCT
47	OO-ALC	F-4G	AN/ARN-101	25	30	25	40	35	-5	-5	30	30	35	40	25	5	-5	10
48	OO-ALC	F-4G	LRU-1/ACM	30	30	30	30	30	30	30	25	25	30	25	30	30	30	30
49	OO-ALC	F-4G	LRU-1/ACM	45	50	45	45	45	30	40	45	45	45	40	40	45	40	45
50	OO-ALC	F-4G	LRU-1/ACM	45	35	25	35	25	40	20	30	27	25	25	10	30	20	35
51	OO-ALC	MINUTEMAN	WING II/2015	20	25	15	15	15	15	25	20	25	10	20	25	40	25	45
52	OO-ALC	MINUTEMAN	WING VI/HS-29	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
53	OO-ALC	MINUTEMAN	WINGS/HS-28	25	25	15	35	20	30	10	25	25	15	25	20	35	10	25
54	OO-ALC	MINUTEMAN II	SSAS/CAPS	10	-99	-99	-99	-99	-99	-99	30	-99	-99	-99	-99	-99	-99	20
55	OO-ALC	MINUTEMAN II	WING V/MEG/RATS	30	30	30	40	-20	-50	-99	40	40	50	50	-20	-50	-99	35
56	OO-ALC	MINUTEMAN II	WING VI/MEG/RATS	40	40	40	40	20	-30	-99	40	40	40	50	-30	-50	-99	40
57	OO-ALC	RF-4C	AN/ARN-101	20	45	10	20	20	25	-10	15	40	10	20	10	20	-10	17
58	OO-ALC	RF-4C	AN/ARN-101	30	50	30	25	25	30	40	10	25	25	20	-10	10	35	10
59	OO-ALC	RF-4C	AN/ARN-101	5	20	-10	35	40	25	10	10	20	-10	20	-45	25	20	5
60	OO-ALC	RF-4C	AN/ARN-101	5	40	5	35	5	20	15	20	45	40	30	10	5	5	20
61	OO-ALC	RF-4C	AN/ARN-101	-10	30	-10	30	-10	20	-20	20	30	10	30	-20	30	-20	10
62	OO-ALC	RF-4C	AN/ARN-101	-10	10	-20	10	10	10	10	10	30	-10	10	10	10	10	5
63	OC-ALC	ALCM	LIT	50	50	50	40	40	40	30	50	50	50	45	45	50	50	50
64	OC-ALC	ALCM	LPT	35	40	40	30	40	35	40	30	40	25	30	30	25	25	30
65	OC-ALC	ALCM	OFP	25	25	25	30	10	-40	-10	25	30	35	35	.20	0	-10	25
66	OC-ALC	ALCM	OFP	15	10	20	25	25	-10	25	30	15	40	30	35	25	25	25
67	OC-ALC	B-1B	CADC	-30	-16	-33	-16	-16	-33	-38	-28	-15	-38	-12	-10	-33	-35	-29
68	OC-ALC	B-1B	CITS	-14	2	-26	-10	-14	-16	-8	10	16	-10	2	26	20	-8	-13
69	OC-ALC	B-1B	EMUX	-35	15	-19	-17	-2	-23	-40	-40	18	-42	-23	6	25	-21	35
70	OC-ALC	B-1B	F/CGMS	-13	12	-12	18	-2	-16	-20	2	22	-12	2	20	28	-2	-10
71	OC-ALC	B-1B	INS	-10	-5	-10	-10	-10	-10	-10	-10	-5	-10	-10	-10	-10	-10	-25
72	OC-ALC	B-1B	ORS	-29	-20	-40	-12	24	-28	-32	18	36	16	-4	30	26	-1	-10
73	OC-ALC	B-52	BNST	25	25	20	25	20	30	-5	35	40	10	35	20	40	-5	35
74	OC-ALC	B-52	FTSS	15	30	10	35	5	-5	10	20	30	20	40	10	10	1	20
75	OC-ALC	B-52	MC-1 EXEC	40	45	40	45	10	20	-20	35	45	35	40	-20	10	-30	38
76	OC-ALC	B-52	MC-2 EXEC	-40	25	5	-5	-10	20	5	-20	-20	-25	-20	-45	-40	10	-25
77	OC-ALC	E-3A	INS	10	15	10	5	5	10	20	20	10	10	10	10	20	10	15
78	OC-ALC	E-3A	OMEGA	10	25	-25	5	10	25	-10	10	25	-25	-10	-10	20	10	10
79	OC-ALC	E-3A	SMCF	-25	-5	-40	5	-40	5	99	20	15	20	20	5	25	99	-10
80	OC-ALC	E-3A	SKCP	-5	1	-5	-5	-5	-5	1	-10	1	-5	-5	-30	-10	5	-10
81	OC-ALC	E-3A	SKGSCF	15	25	-25	10	25	25	-45	-25	25	-30	10	-30	-25	-45	-10
82	OC-ALC	GLCM	DPS	30	25	35	30	20	20	15	10	10	10	15	10	20	10	25
83	OC-ALC	GLCM	M-DTD	11	10	10	5	10	30	5	9	10	5	-5	5	30	5	10
84	OC-ALC	GLCM	MPT	-10	-20	-10	-15	10	-20	-10	-10	-25	-5	-15	1	-10	-15	-10
85	OC-ALC	GLCM	OFP	25	30	25	20	15	10	5	15	20	15	15	2	10	15	20
86	OC-ALC	GLCM	WCS	-15	-20	-30	-15	-5	-15	-15	-15	30	-5	-15	-10	-15	-15	-15
87	OC-ALC	SRAM	OFP	10	-10	-20	15	-20	20	-20	-20	10	-20	10	-15	-50	10	-25
88	TINKER AFB	E-3A	AOCP	-10	-20	10	20	-30	-40	-50	10	-40	10	-30	-20	20	20	10
89	TINKER AFB	E-3A	UTILITIES	-20	-20	20	10	-20	-40	-40	20	-10	10	-10	-10	20	20	20
90	LANGLEY	JTIDS	ASIT/TFOCF	35	30	30	25	25	35	25	32	30	30	30	25	35	20	30
91	LANGLEY	SIRTS	SIRTS	25	25	25	-25	10	25	-10	25	25	28	25	10	25	10	25
92	LANGLEY	TACS	CAEMS	40	40	35	40	35	50	35	40	40	35	40	20	50	30	35

Table D-4. Systems Evaluation Raw Data
Part4: SOFTWARE PRODUCT MAINTAINABILITY (CURRENT)

Scale: - 50(Low) to + 50(High) : - 99(Missing) : + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AP DOC	AP DOC MOD	AP DOC DES	AP DOC CON	AP DOC SIM	AP DOC EXP	AP DOC INS	AP SRC	AP SRC MOD	AP SRC DES	AP SRC CON	AP SRC SIM	AP SRC EXP	AP SRC INS	A PRO-DUCT
93	LANGLEY	TIPI	DC/SR	20	20	30	30	10	10	10	25	25	30	40	10	20	30	30
94	LANGLEY	TIPI	II/MARRES/TEREC	10	30	-5	30	15	-20	40	40	15	25	-40	40	-50	35	10
95	LANGLEY	407L	HUGHES UTIL	5	10	10	10	5	5	0	-30	-10	-5	-20	30	-40	-10	-20
96	LANGLEY	407L	IBM UTIL	30	40	30	40	40	40	30	30	40	40	30	40	40	20	50
97	LANGLEY	407L	IORP/IMFP	40	45	30	40	25	40	45	30	30	25	35	25	40	45	40

Table D-4. Systems Evaluation Raw Data
Part5: SOFTWARE SUPPORT FACILITY (CURRENT)

Scale: - 50(Low) to + 50(High) ; - 99(Missing) ; + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AE PER	AE PER MAN	AE PER TEC	AE PER SUP	AE PER CON	AE SYS	AE SYS HOS	AE SYS BEN	AE SYS LAB	AE SYS OPE	AE SYS OTH	AE FAC	AE FAC OFF	AE FAC ENV	A ENV-IRON
1	NORAD	CSS	CSS	20	20	20	10	20	-10	-30	-30	-30	50	99	15	10	20	20
2	NORAD	MEBU	MEBU	-10	10	10	-20	99	-20	-20	99	99	99	99	10	-10	-10	-50
3	NORAD	NCS	NCS	-99	10	20	-20	99	-99	-30	99	99	99	30	99	-10	10	-40
4	NORAD	SSC	SSC	15	25	15	15	15	25	25	99	99	25	99	25	25	10	-99
5	WR ALC	ALR-46	ALR-46	20	10	20	15	99	30	35	40	40	30	99	20	10	25	30
6	WR ALC	ALR 69	ALR 69	20	40	35	25	99	45	40	45	40	30	99	45	50	40	40
7	WR ALC	AN/ALQ-131	BTB	-10	10	10	-20	10	20	30	40	30	-99	40	40	-10	50	20
8	WR ALC	AN/ALQ-131	OFP	20	10	10	-20	10	30	20	20	40	99	35	40	-10	50	30
9	WR ALC	AN/ALQ 131	UUT	-20	10	-50	-40	-10	-15	-10	-10	40	-99	-30	40	-10	20	10
10	WR ALC	AFR 38	AFR 38	20	25	20	25	99	20	0	25	25	25	99	15	0	20	5
11	WR ALC	B-52 EVS ATE	ASQ 151	35	40	40	10	20	30	30	40	99	30	99	30	30	30	5
12	WR ALC	E-3A AVIONICS ATE	AN/GSM-285(6)	40	25	40	40	99	25	20	5	45	20	99	35	10	35	40
13	WR ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	40	25	40	40	99	25	20	5	45	20	25	35	10	35	40
14	WR ALC	F-15	CC	20	10	20	20	10	40	40	30	40	40	99	50	40	50	20
15	WR ALC	F-15	RADAR	10	0	10	35	45	25	35	35	40	50	-45	45	40	50	0
16	WR ALC	F-15 AVIONICS ATE	ADTS,AIS	25	20	10	20	99	25	10	20	5	10	99	20	-20	20	20
17	WR ALC	JTIDS	ASIT/OCP	20	25	20	15	10	15	10	5	25	20	0	30	28	30	25
18	WR ALC	JTIDS	E-3A AWACS/OCP	25	20	20	15	10	15	10	-5	5	20	-10	30	30	30	25
19	WR ALC	JTIDS	SP/USER	35	-99	15	-99	99	-5	-5	99	99	99	99	5	5	5	-99
20	WR ALC	JTIDS	SYS EXERCISER	25	99	25	99	99	-20	-20	99	99	99	99	0	0	0	0
21	WR ALC	PAVE TACI	AISF	20	40	20	25	40	40	45	45	25	30	40	35	40	45	35
22	WR ALC	PAVE TACI	OFP	25	31	30	25	40	40	38	30	32	38	35	36	50	42	40
23	SM ALC	F-111D	WNC	40	20	40	30	30	20	20	20	30	20	99	10	10	10	10
24	SM ALC	F-111F	WNC	40	20	40	30	30	20	20	20	30	20	99	20	10	10	10
25	SM ALC	FB-111A	WNC	40	20	40	30	30	20	20	20	30	20	99	10	10	10	10
26	CASTLE AFB	B-52	OFT	20	30	30	30	-30	5	5	-99	-99	50	-99	10	10	5	5
27	CASTLE AFB	B-52	WST	10	20	10	10	10	10	20	10	5	50	5	10	5	10	10
28	CASTLE AFB	KC-135	WST	15	20	20	10	10	10	20	10	-99	50	5	10	5	10	15
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	25	30	30	30	25	20	30	-99	-99	50	-99	20	20	20	20
30	OO-ALC	F-16	FCC	0	0	-10	0	20	30	30	30	30	30	-99	20	-30	0	10
31	OO-ALC	F-16	HUD	-15	-20	-30	-20	-20	25	30	30	-10	30	-99	25	-30	-20	-10
32	OO ALC	F-16	OFT	30	-20	40	20	99	45	30	99	99	50	20	45	45	45	35
33	OO ALC	F-16	PCR	-40	0	-30	-40	-50	-30	20	50	-30	30	-99	30	-30	-30	-33
34	OO-ALC	F-16	SMS	-5	10	-10	10	-30	8	-10	0	20	20	-99	30	-30	0	-20
35	OO ALC	F-4	MDTS	35	40	45	25	25	30	30	30	20	25	-99	30	20	40	40
36	OO ALC	F-4	MDTS	45	45	40	40	40	30	10	20	30	50	-99	40	20	40	45
37	OO ALC	F-4E	AN/ARN 101	28	40	15	10	45	25	25	99	15	15	-99	40	40	40	30
38	OO ALC	F-4E	AN/ARN 101	40	40	40	40	40	45	20	45	45	40	99	10	10	10	40
39	OO ALC	F-4E	AN/ARN 101	35	40	40	25	40	10	5	-5	10	25	99	20	35	20	20
40	OO ALC	F-4E	AN/ARN 101	40	40	45	40	40	20	-5	99	5	5	99	5	-5	5	25
41	OO ALC	F-4E	AN/ARN 101	25	35	35	20	30	30	-20	99	20	20	-99	20	10	10	10
42	OO ALC	F-4E	AN/ARN 101	30	20	30	30	40	10	-20	99	10	10	99	30	30	-30	10
43	OO ALC	F-4G	AN/ARN 101	25	-99	-5	20	25	-10	-10	-10	-99	99	-99	35	30	40	35
44	OO ALC	F-4G	AN/ARN 101	20	25	5	30	30	-5	-5	-5	-99	99	-99	30	30	30	35
45	OO ALC	F-4G	AN/ARN 101	20	20	5	30	25	-10	25	99	10	99	99	40	40	40	20
46	OO ALC	F-4G	AN/ARN 101	20	99	5	20	20	-10	10	-10	99	99	-99	35	35	35	20

Table D-4. Systems Evaluation Raw Data
Part5: SOFTWARE SUPPORT FACILITY (CURRENT)

Scale: - 50(Low) to + 50(High) ; - 99(Missing) ; + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AE PER	AE PER MAN	AE PER TEC	AE PER SUP	AE PER CON	AE SYS	AE SYS HOS	AE SYS BEN	AE SYS LAB	AE SYS OPE	AE SYS OTH	AE FAC	AE FAC OFF	AE FAC ENV	A ENV-IRON
47	OO-ALC	F-4G	AN/ARN-101	20	20	-5	20	20	-10	-10	-10	-99	99	-99	35	35	35	30
48	OO-ALC	F-4G	LRU-1/ACM	30	20	40	20	99	30	30	30	20	30	-99	30	30	30	30
49	OO-ALC	F-4G	LRU-1/ACM	45	40	45	45	-99	45	45	45	45	40	10	45	45	45	45
50	OO-ALC	F-4G	LRU-1/ACM	25	25	25	20	99	25	20	30	15	30	-99	25	20	25	25
51	OO-ALC	MINUTEMAN	WING II/2015	38	25	40	45	45	40	40	40	40	45	-99	-5	-40	35	-5
52	OO-ALC	MINUTEMAN	WING VI/HS-29	45	25	45	45	45	40	35	45	40	45	-99	-5	-40	35	5
53	OO-ALC	MINUTEMAN	WINGS/HS-28	38	25	40	45	45	40	40	40	40	45	-99	-5	-40	35	-5
54	OO-ALC	MINUTEMAN II	SSAS/CAPS	50	30	20	50	20	-10	10	99	30	-10	-99	40	40	40	20
55	OO-ALC	MINUTEMAN II	WING V/HEG/RATS	20	20	20	30	30	10	20	20	10	-99	-99	40	40	40	20
56	OO-ALC	MINUTEMAN II	WING VI/HEG/RATS	30	30	20	-99	30	30	40	-30	99	40	99	40	40	40	40
57	OO-ALC	RF-4C	AN/ARN-101	28	40	15	10	45	25	25	99	15	15	-99	40	40	40	30
58	OO-ALC	RF-4C	AN/ARN-101	40	40	40	40	40	45	20	45	45	40	99	10	10	10	40
59	OO-ALC	RF-4C	AN/ARN-101	35	40	40	25	40	10	5	-5	10	25	-99	20	35	20	20
60	OO-ALC	RF-4C	AN/ARN-101	40	40	45	40	40	20	-5	99	5	5	99	5	-5	5	25
61	OO-ALC	RF-4C	AN/ARN-101	25	35	35	20	30	30	-20	99	20	20	-99	20	10	10	10
62	OO-ALC	RF-4C	AN/ARN-101	30	20	30	30	40	-10	-20	99	-10	10	-99	-30	-30	-30	-10
63	OC-ALC	ALCM	LIT	40	40	45	35	45	50	50	40	40	40	-99	50	40	40	50
64	OC-ALC	ALCM	LPT	35	35	35	25	35	40	40	40	40	40	-99	35	30	40	35
65	OC-ALC	ALCM	OFP	25	20	30	0	15	20	20	30	20	20	-99	20	-1	25	20
66	OC-ALC	ALCM	OFP	-15	-50	25	50	25	10	10	5	10	10	-99	5	-5	15	8
67	OC-ALC	B-1B	CADC	22	30	10	15	-50	-99	-99	-99	-99	-99	-99	-10	-40	20	17
68	OC-ALC	B-1B	CITS	22	30	20	15	-20	-99	-99	-99	-99	-99	-99	-10	-40	20	-99
69	OC-ALC	B-1B	EMUX	22	30	10	15	-20	-99	-99	-99	-99	-99	-99	-10	-40	20	20
70	OC-ALC	B-1B	F/CGMS	22	30	20	15	-20	-99	-99	-99	-99	-99	-99	-10	-40	20	15
71	OC-ALC	B-1B	INS	22	30	-20	10	-20	-99	-99	-99	-99	-99	-99	-10	-40	20	-99
72	OC-ALC	B-1B	ORS	25	30	-10	10	-50	-99	-99	-99	-99	-99	-99	-10	-40	20	-25
73	OC-ALC	B-52	BNST	35	40	35	30	10	30	45	5	15	-30	99	40	40	40	35
74	OC-ALC	B-52	FTSS	35	40	30	35	40	47	50	50	50	30	99	50	50	50	45
75	OC-ALC	B-52	MC-1 EXEC	20	25	30	25	25	40	30	40	45	40	99	40	35	35	40
76	OC-ALC	B-52	MC-2 EXEC	35	-99	35	10	99	20	35	99	-20	99	10	45	45	45	30
77	OC-ALC	E-3A	INS	20	10	20	20	30	-10	30	20	-50	-10	99	-30	-40	-10	-30
78	OC-ALC	E-3A	OMEGA	30	20	40	40	30	25	30	99	20	10	99	-30	-40	-10	-20
79	OC-ALC	E-3A	SMCP	-20	-30	5	-20	10	10	10	10	15	-10	99	-10	-20	-5	-5
80	OC-ALC	E-3A	SRCP	5	-10	30	-5	5	-0	10	10	-10	-5	99	-5	-5	-5	10
81	OC-ALC	E-3A	SRGSCP	30	30	25	-5	5	25	25	99	99	25	99	35	15	45	25
82	OC-ALC	GLCM	DFS	-35	-40	-40	-30	20	10	20	5	-10	10	99	15	20	10	5
83	OC-ALC	GLCM	M-DID	20	0	30	30	30	30	0	20	40	30	99	25	40	10	25
84	OC-ALC	GLCM	MPT	10	-20	10	-10	15	30	35	25	30	40	99	25	30	20	20
85	OC-ALC	GLCM	OFP	30	25	30	30	99	30	25	32	30	25	99	10	10	15	25
86	OC-ALC	GLCM	WCS	-20	-20	-5	-20	-5	10	5	-10	-10	20	99	20	15	10	15
87	OC-ALC	SRAM	OFP	-30	15	-10	-25	25	10	10	5	5	5	99	-10	10	10	-10
88	TINKER AFB	E-3A	AOCP	30	20	30	20	99	30	20	99	20	40	99	20	20	30	30
89	TINKER AFB	E-3A	UTILITIES	40	30	40	40	99	30	30	99	30	30	99	10	-10	20	30
90	LANGLEY	JTIDS	ASIT/TFOCF	30	15	35	30	5	20	25	25	5	20	99	20	20	20	20
91	LANGLEY	SIRTS	SIRTS	-25	-10	-25	-25	10	25	25	25	25	25	99	25	25	25	25
92	LANGLEY	TACS	CAFMS	40	40	40	30	99	30	30	99	50	35	99	40	20	45	35

Table D-4. Systems Evaluation Raw Data
Part5: SOFTWARE SUPPORT FACILITY (CURRENT)

Scale: - 50(Low) to + 50(High) : - 99(Missing) : + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AE PER	AE PER MAN	AE PER TEC	AE PER SUP	AE PER CON	AE SYS	AE SYS HOS	AE SYS BEN	AE SYS LAB	AE SYS OPE	AE SYS OTH	AE FAC	AE FAC OFF	AE FAC ENV	A ENV-IRON
93	LANGLEY	TIPI	DC/SR	10	20	-10	10	10	20	10	99	30	20	99	20	10	30	20
94	LANGLEY	TIPI	II/MARRES/TEREC	25	25	10	10	35	20	20	10	0	0	10	20	20	20	20
95	LANGLEY	407L	HUGHES UTIL	5	5	10	10	10	-10	-10	-5	99	99	99	10	10	10	5
96	LANGLEY	407L	IBM UTIL	10	10	10	1	99	20	20	99	99	99	99	-20	-20	-20	-5
97	LANGLEY	407L	IORP/IMPP	30	35	30	30	35	40	40	10	35	40	99	40	35	45	40

Table D-4. Systems Evaluation Raw Data
Part6: LIFE CYCLE SOFTWARE SUPPORT MANAGEMENT (CURRENT)

Scale: -50(Low) to +50(High) : -99(Missing) : +99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AM CON	AM CON IDE	AM CON STA	AM CON CON	AM CON AUD	AM MAI	AM MAI PLA	AM MAI ORG	AM MAI DES	AM MAI COD	AM MAI TES	AM MAI INT	A MAN-AGE	A SUP-PORT	A RISK
1	NORAD	CSS	CSS	15	30	-30	15	-40	20	20	20	25	10	20	20	-10	-99	0.20
2	NORAD	MEBU	MEBU	30	30	30	30	30	-10	-10	-10	-10	-10	-10	-10	10	-99	1.00
3	NORAD	NCS	NCS	20	20	20	20	20	-10	-10	-10	-10	-10	-10	10	-10	-99	1.00
4	NORAD	SSC	SSC	25	25	25	25	10	20	30	20	20	20	20	10	-99	-99	0.10
5	WR-ALC	ALR-46	ALR-46	20	20	20	20	20	28	30	30	35	35	38	30	30	35	0.05
6	WR-ALC	ALR-69	ALR-69	40	40	30	45	30	35	40	35	30	40	40	40	45	10	0.30
7	WR ALC	AN/ALQ-131	BTG	-30	-20	30	10	50	10	20	-30	10	10	30	10	10	20	0.30
8	WR ALC	AN/ALQ-131	OFP	-30	-20	30	10	50	10	20	-30	10	10	30	10	10	20	0.30
9	WR-ALC	AN/ALQ-131	UUT	-30	-20	30	10	50	10	20	-30	10	10	30	10	10	10	0.30
10	WR-ALC	AFR-38	AFR-38	15	20	-99	20	8	15	10	1	10	20	15	99	5	20	0.50
11	WR ALC	B 52 EVS ATE	ASQ-151	49	40	-99	45	45	30	25	25	-99	25	25	40	40	40	0.50
12	WR ALC	E-3A AVIONICS ATE	AN/GSM-285(B)	-20	-10	10	-25	-30	30	20	20	40	40	20	50	5	5	0.15
13	WR ALC	E-3A AVIONICS ATE	AN/GSM-285(W)	25	30	25	20	30	30	20	20	40	40	20	50	30	30	0.05
14	WR ALC	F 15	CC	25	30	20	30	20	30	30	20	20	20	30	40	25	25	0.05
15	WR ALC	F-15	RADAR	0	0	0	0	0	0	0	0	30	45	30	0	0	-99	1.00
16	WR ALC	F-15 AVIONICS ATE	ADTS,AIS	20	15	20	5	30	30	40	30	20	25	30	30	30	30	0.15
17	WR-ALC	JTIDS	ASIT/OCP	20	15	-99	20	10	40	40	30	25	25	20	10	25	-99	0.10
18	WR-ALC	JTIDS	E-3A AWACS/OCP	25	20	15	20	10	40	40	30	25	25	20	10	25	25	0.10
19	WR-ALC	JTIDS	SF/USER	5	5	-99	-99	-99	40	40	40	40	40	30	40	20	5	0.05
20	WR ALC	JTIDS	SYS EXERCISER	-40	-40	-40	-40	-40	15	-99	0	10	20	0	99	-40	-99	0.10
21	WR-ALC	PAVE TACI	AISF	45	45	45	45	45	35	30	30	40	40	35	10	45	35	0.00
22	WR-ALC	PAVE TACI	OFP	40	42	40	43	40	40	38	39	40	40	41	30	39	40	0.70
23	SM-ALC	F-111D	WNC	20	20	10	30	20	20	20	10	30	30	30	10	20	30	0.60
24	SM ALC	F-111F	WNC	20	10	30	20	20	20	20	10	30	30	30	10	20	-99	0.40
25	SM-ALC	FB-111A	WNC	20	20	10	30	20	20	20	10	30	30	30	10	15	30	0.40
26	CASTLE AFB	B-52	CPT	10	10	10	10	10	15	15	15	15	15	10	15	15	15	0.50
27	CASTLE AFB	B-52	WST	15	10	5	10	5	15	10	15	5	5	10	10	15	20	0.50
28	CASTLE AFB	KC-135	WST	15	10	5	10	5	15	10	15	5	5	10	10	15	20	0.50
29	CASTLE AFB	T-4 TRAINER	T-4 SIMULATOR	20	20	20	20	20	15	15	15	15	15	10	15	20	30	0.50
30	OO-ALC	F-16	FCC	20	20	20	20	20	20	20	20	20	20	20	20	20	25	0.35
31	OO-ALC	F-16	HUD	-10	-10	-20	-10	-10	20	10	20	20	10	30	0	10	-10	0.50
32	OO-ALC	F-16	OFT	30	30	25	30	25	30	40	40	25	35	40	10	35	20	0.40
33	OO-ALC	F-16	FCR	-20	30	30	-50	-40	-20	-20	20	-20	30	-30	20	-20	-35	0.80
34	OO-ALC	F-16	SMS	18	30	10	30	0	15	15	20	15	15	20	20	16	30	0.20
35	OO-ALC	F-4	MDTS	30	50	25	40	35	45	40	40	40	45	30	25	35	10	0.90
36	OO ALC	F-4	MDTS	40	40	30	40	40	40	40	45	40	40	30	30	40	20	0.10
37	OO ALC	F-4E	AN/ARN-101	4	10	1	5	1	20	40	40	20	15	10	5	12	40	0.10
38	OO ALC	F-4E	AN/ARN-101	40	40	40	40	45	40	30	30	35	35	40	40	40	40	0.10
39	OO ALC	F-4E	AN/ARN-101	20	20	15	25	20	15	25	25	5	5	15	15	15	10	0.99
40	OO ALC	F 4E	AN/ARN-101	35	25	40	40	40	35	40	35	30	30	30	40	35	30	0.75
41	OO ALC	F 4E	AN/ARN-101	30	20	20	20	25	20	20	20	20	20	20	10	10	20	0.80
42	OO ALC	F-4E	AN/ARN-101	30	20	30	30	30	15	10	20	10	20	10	10	-10	10	0.25
43	OO ALC	F 4G	AN/ARN-101	35	35	35	35	35	30	25	15	30	30	5	35	30	25	0.30
44	OO ALC	F 4G	AN/ARN-101	25	25	25	25	25	30	25	10	20	20	-5	30	30	35	0.25
45	OO ALC	F 4G	AN/ARN-101	20	25	99	30	25	20	15	10	20	20	-5	25	25	25	0.00
46	OO ALC	F-4G	AN/ARN-101	40	40	40	40	40	25	20	10	25	25	5	40	30	30	0.30

Table D-4. Systems Evaluation Raw Data
Part6: LIFE CYCLE SOFTWARE SUPPORT MANAGEMENT (CURRENT)

Scale: - 50(Low) to + 50(High) : - 99(Missing) : + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AM CON	AM CON IDE	AM CON STA	AM CON CON	AM CON AUD	AM MAI	AM MAI PLA	AM MAI ORG	AM MAI DES	AM MAI COD	AM MAI TES	AM MAI INT	A MAN-AGE	A SUP-PORT	A RISK
47	OO-ALC	F-4G	AN/ARN-101	40	40	40	40	40	25	20	10	25	25	-5	40	30	30	0.30
48	OO-ALC	F-4G	LRU-1/ACM	30	30	30	30	20	25	20	20	30	30	30	20	20	30	0.30
49	OO-ALC	F-4G	LRU-1/ACM	35	40	35	35	35	35	30	30	35	40	35	35	35	40	0.30
50	OO-ALC	F-4G	LRU-1/ACM	20	15	25	20	20	25	20	15	10	30	30	10	20	20	0.60
51	OO-ALC	MINUTEMAN	WING II/2015	5	5	5	5	5	15	15	15	15	15	15	15	25	45	0.00
52	OO-ALC	MINUTEMAN	WING VI/HS-29	40	40	40	40	40	45	40	40	45	45	40	45	25	45	0.10
53	OO-ALC	MINUTEMAN	WINGS/HS-28	10	10	10	10	10	25	25	25	25	25	25	25	25	45	0.00
54	OO-ALC	MINUTEMAN II	SSAS/CAFS	20	10	10	30	30	10	30	10	40	20	20	-99	15	-30	0.99
55	OO-ALC	MINUTEMAN II	WING V/HEG/RATS	40	40	40	40	40	30	30	30	30	30	30	30	40	30	0.30
56	OO-ALC	MINUTEMAN II	WING VI/HEG/RATS	40	40	40	40	40	30	30	20	-30	40	-30	-99	35	40	0.30
57	OO-ALC	RF-4C	AN/ARN-101	4	10	1	5	1	20	40	40	20	15	10	5	12	40	0.10
58	OO-ALC	RF-4C	AN/ARN-101	40	40	40	40	45	40	30	30	35	35	40	40	40	40	0.10
59	OO-ALC	RF-4C	AN/ARN-101	20	20	15	25	20	15	25	25	5	-5	15	15	15	10	0.99
60	OO-ALC	RF-4C	AN/ARN-101	35	25	40	40	40	35	40	35	30	30	30	40	35	30	0.75
61	OO-ALC	RF-4C	AN/ARN-101	30	20	20	20	25	20	20	20	20	20	20	10	10	20	0.80
62	OO-ALC	RF-4C	AN/ARN-101	30	20	30	30	30	15	10	20	10	20	10	10	-10	10	0.25
63	OC-ALC	ALCM	LIT	30	30	30	40	20	40	30	30	45	45	45	40	35	50	0.30
64	OC-ALC	ALCM	LRT	30	40	35	20	20	30	40	35	40	40	20	20	30	35	0.15
65	OC-ALC	ALCM	OFP	30	25	15	35	10	30	30	40	25	30	25	40	30	25	0.15
66	OC-ALC	ALCM	OFP	10	5	10	15	10	-5	-40	-50	15	40	35	5	-30	-15	0.90
67	OC-ALC	B-1B	CADC	24	30	5	-10	17	-15	-10	-15	-10	-10	-30	-5	10	-20	1.00
68	OC-ALC	B-1B	CITS	29	30	5	30	17	-30	10	5	10	-20	-50	-10	20	-40	1.00
69	OC-ALC	B-1B	EMUX	26	30	5	10	17	-18	10	18	-30	-30	25	15	20	-35	0.10
70	OC-ALC	B-1B	F/CGMS	24	30	5	-10	17	-10	10	5	-10	-10	-15	-10	21	15	0.60
71	OC-ALC	B-1B	INS	28	30	5	20	17	12	10	10	15	20	20	-10	20	-99	0.00
72	OC-ALC	B-1B	ORS	-20	1	-10	-30	17	-10	10	7	8	28	-37	-25	22	-40	0.85
73	OC-ALC	B-52	BNST	25	40	5	35	35	40	40	30	40	45	30	45	40	45	0.05
74	OC-ALC	B-52	FTSS	10	10	10	15	5	20	20	10	20	15	30	40	15	10	0.10
75	OC-ALC	B-52	MC-1 EXEC	40	50	20	35	-99	40	30	35	40	45	35	35	40	40	0.25
76	OC-ALC	B-52	MC-2 EXEC	-25	10	-25	-25	-10	-10	30	10	-25	-10	20	-30	-20	-25	0.70
77	OC-ALC	E-3A	INS	99	99	99	99	99	99	99	99	99	99	99	99	99	10	0.80
78	OC-ALC	E-3A	OMEGA	20	20	15	20	10	10	5	5	10	10	5	5	20	20	0.40
79	OC-ALC	E-3A	SMCP	-10	-10	10	-40	-40	5	5	5	5	10	20	5	-30	-5	0.25
80	OC-ALC	E-3A	SRCP	10	10	10	10	10	-5	-5	-5	5	5	5	5	5	-5	0.70
81	OC-ALC	E-3A	SRGSCP	25	25	5	15	5	30	20	30	25	25	10	15	25	20	0.20
82	OC-ALC	GLCM	DPS	-20	10	-40	-30	-30	-10	-30	20	-30	-10	-20	30	-20	-20	0.80
83	OC-ALC	GLCM	M DTD	-25	10	-30	-40	-40	-12	-5	-40	-10	30	-40	-10	-18	-10	0.85
84	OC-ALC	GLCM	MPT	-20	10	-40	-30	-30	-10	-30	30	-30	-15	-25	-30	-15	-15	0.90
85	OC-ALC	GLCM	OFP	2	2	5	-5	-10	15	10	20	15	20	20	10	10	20	0.30
86	OC-ALC	GLCM	WCS	-20	10	-40	-30	-30	-10	-30	30	-30	-15	-25	-30	-15	-20	0.95
87	OC-ALC	SRAM	OFP	25	25	25	25	25	-10	-10	-10	-10	-10	10	10	15	-20	0.80
88	TINKER AFB	E-3A	AOCP	20	20	10	10	10	30	20	30	-10	30	40	20	20	30	0.10
89	TINKER AFB	E-3A	UTILITIES	20	30	20	20	10	20	20	20	20	30	30	20	30	30	0.10
90	LANGLEY	JTIDS	ASIT/TFOCP	5	10	5	-10	-25	15	15	15	20	20	15	5	10	20	0.30
91	LANGLEY	SIRTS	SIRTS	40	25	25	25	25	25	10	20	25	25	10	-99	30	10	0.50
92	LANGLEY	TACS	CAFMS	40	40	40	40	20	35	30	40	35	35	20	40	35	45	0.05

Table D-4. Systems Evaluation Raw Data
Part6: LIFE CYCLE SOFTWARE SUPPORT MANAGEMENT (CURRENT)

Scale: - 50(Low) to + 50(High) : - 99(Missing) : + 99(N/A)

ID	SITE	SYSTEM	SOFTWARE SYSTEM	AM CON	AM CON IDE	AM CON STA	AM CON CON	AM CON AUD	AM MAI	AM MAI PLA	AM MAI ORG	AM MAI DES	AM MAI COD	AM MAI TES	AM MAI INT	A MAN-AGE	A SUP-PORT	A RISK
93	LANGLEY	TIPI	DC/SR	50	40	50	50	50	20	30	30	-10	-10	30	10	30	30	0.75
94	LANGLEY	TIPI	II/MARRES/TEREC	45	40	45	40	40	45	45	45	40	40	45	35	45	20	0.50
95	LANGLEY	407L	HUGHES UTIL	10	10	10	10	10	5	5	5	5	1	10	10	5	-40	0.90
96	LANGLEY	407L	IBM UTIL	10	10	10	10	1	10	10	10	5	20	5	10	10	50	0.10
97	LANGLEY	407L	IORP/IMPP	25	25	20	30	20	35	40	25	30	40	40	35	40	40	0.40

Table D-5. Systems Maintenance Block Release Raw Data

#	SOFTWARE SYSTEM		RLS ID	RLS START DATE	ENGR COMP DATE	RLS LEN MOS	NO. OF PERS	% DED S/W	% DED RLS	PERS MOS. EST	PERS MOS. ACT	TOT NO. CHNG	NO. TYPE CORR	NO. TYPE ENH	NO. TYPE CONV	NO. CPLX HIGH	NO. CPLX MED	NO. CPLX LOW	NO. PRIO EMER	NO. PRIO URG	NO. PRIO NORM
1	NORAD CSS	CSS	A	03/07/79	02/07/80	11.00	71	100	55	0	0	75	72	3	0	0	0	0	17	25	33
2	NORAD CSS	CSS	A1	08/03/80	10/03/80	2.00	71	100	5	0	0	2	1	1	0	0	0	0	2	0	0
3	NORAD CSS	CSS	B	03/13/80	02/13/81	11.00	74	100	53	0	0	72	65	7	0	0	0	0	16	41	15
4	NORAD CSS	CSS	C1	05/27/80	04/27/81	11.00	74	100	34	0	0	36	28	8	0	0	0	0	8	12	16
5	NORAD CSS	CSS	D	09/03/80	08/03/81	11.00	74	100	45	0	0	59	39	20	0	0	0	0	9	29	21
6	NORAD CSS	CSS	E	12/24/80	11/25/81	11.00	74	100	33	0	0	62	54	8	0	0	0	0	9	28	25
7	NORAD CSS	CSS	F	04/15/81	03/15/82	11.00	75	100	57	0	0	68	56	12	0	0	0	0	10	30	28
8	NORAD CSS	CSS	G	08/30/81	07/30/82	11.00	75	100	41	0	0	50	39	11	0	0	0	0	9	30	11
9	NORAD CSS	CSS	G1H	01/15/82	12/15/82	11.00	75	100	45	0	0	43	30	13	0	0	0	0	6	25	12
10	NORAD CSS	CSS	I	06/26/82	05/26/83	11.00	73	100	44	0	0	66	54	12	0	0	0	0	4	33	29
11	NORAD CSS	CSS	I1	05/26/83	07/01/83	1.10	73	100	5	0	0	1	0	1	0	0	0	0	0	1	0
12	NORAD CSS	CSS	J	11/14/82	10/14/83	11.00	73	100	42	0	0	65	55	10	0	0	0	0	3	19	43
13	NORAD CSS	CSS	K	03/29/83	02/29/84	11.00	73	100	42	0	0	79	61	18	0	0	0	0	7	24	48
14	NORAD CSS	CSS	L	09/01/83	08/01/84	11.00	73	100	45	0	0	58	50	8	0	0	0	0	0	16	42
15	NORAD CSS	CSS	L1	08/01/84	09/01/84	1.00	73	100	5	0	0	1	1	0	0	0	0	0	1	0	0
16	NORAD CSS	CSS	M	02/01/84	01/01/85	11.00	73	100	45	0	0	65	51	14	0	0	0	0	0	23	42
17	NORAD CSS	CSS	N	06/01/84	05/01/85	11.00	61	100	45	0	0	35	27	8	0	0	0	0	0	10	25
18	NORAD MDS	MDS	DCA	04/23/78	03/23/79	11.00	8	100	45	0	0	4	4	0	0	0	0	0	1	1	2
19	NORAD MDS	MDS	DCB	02/13/80	01/13/81	11.00	10	100	32	0	0	12	9	3	0	0	0	0	0	2	10
20	NORAD MDS	MDS	DCC	11/22/80	10/22/81	11.00	10	100	28	0	0	3	0	3	0	0	0	0	0	0	3
21	NORAD MDS	MDS	DCD	05/23/81	04/23/82	11.00	9	100	5	0	0	2	1	1	0	0	0	0	0	0	2
22	NORAD MDS	MDS	DCE	11/04/82	10/04/83	11.00	8	100	5	0	0	1	0	1	0	0	0	0	0	0	1
23	NORAD MDS	MDS	DGA	01/01/79	12/01/79	11.00	8	100	82	0	0	6	1	5	0	0	0	0	0	0	6
24	NORAD MDS	MDS	DGB	11/22/80	10/22/81	11.00	10	100	34	0	0	6	0	6	0	0	0	0	0	1	5
25	NORAD MDS	MDS	DGB1	10/22/82	12/14/82	1.80	9	100	5	0	0	2	2	0	0	0	0	0	1	1	0
26	NORAD MDS	MDS	IFA	04/29/78	03/29/79	11.00	8	100	45	0	0	20	20	0	0	0	0	0	2	3	15
27	NORAD MDS	MDS	IFA1	03/29/79	06/01/79	2.00	8	100	5	0	0	1	1	0	0	0	0	0	1	0	0
28	NORAD MDS	MDS	IFB	11/21/79	10/21/80	11.00	8	100	34	0	0	16	9	7	0	0	0	0	0	6	10
29	NORAD MDS	MDS	IFC	08/01/80	07/01/81	11.00	10	100	31	0	0	12	3	9	0	0	0	0	0	2	10
30	NORAD MDS	MDS	IFC1	08/21/80	07/21/81	11.00	10	100	5	0	0	1	1	0	0	0	0	0	0	1	0
31	NORAD MDS	MDS	IFD	11/22/80	10/22/81	11.00	10	100	5	0	0	2	0	2	0	0	0	0	0	1	1
32	NORAD MDS	MDS	IFD1	10/22/81	01/06/82	2.50	9	100	5	0	0	1	1	0	0	0	0	0	0	0	1
33	NORAD MDS	MDS	IFE	05/23/81	04/23/82	11.00	9	100	32	0	0	7	6	1	0	0	0	0	0	3	4
34	NORAD MDS	MDS	IFF	12/15/81	11/15/82	11.00	9	100	70	0	0	7	3	4	0	0	0	0	0	2	5
35	NORAD MDS	MDS	IFG	11/04/82	10/04/83	11.00	8	100	5	0	0	2	0	2	0	0	0	0	0	0	2
36	NORAD MEBU	MEBU	B	12/30/78	11/30/79	11.00	20	100	45	0	0	96	74	22	0	0	0	0	11	58	27
37	NORAD MEBU	MEBU	C	05/10/79	04/10/80	11.00	20	100	64	0	0	26	14	12	0	0	0	0	1	17	8
38	NORAD MEBU	MEBU	C1	05/29/80	07/29/80	2.00	20	100	100	0	0	4	2	2	0	0	0	0	0	4	0
39	NORAD MEBU	MEBU	C1A	02/06/81	03/06/81	1.00	18	100	33	0	0	2	0	2	0	0	0	0	0	2	0
40	NORAD MEBU	MEBU	C2	09/01/80	08/01/81	11.00	18	100	64	0	0	104	81	23	0	0	0	0	4	83	17
41	NORAD MEBU	MEBU	E	12/24/80	11/24/81	11.00	18	100	41	0	0	40	34	6	0	0	0	0	0	25	15
42	NORAD MEBU	MEBU	F	05/30/81	04/30/82	11.00	17	100	36	0	0	42	36	6	0	0	0	0	2	24	16
43	NORAD MEBU	MEBU	G	08/29/81	07/29/82	11.00	17	100	39	0	0	13	10	3	0	0	0	0	1	11	1
44	NORAD MEBU	MEBU	H1	01/15/82	12/15/82	11.00	17	100	42	0	0	40	28	12	0	0	0	0	1	30	9
45	NORAD MEBU	MEBU	I	08/05/82	07/05/83	11.00	17	100	44	0	0	36	24	12	0	0	0	0	0	28	8
46	NORAD MEBU	MEBU	J	11/13/82	10/13/83	11.00	17	100	44	0	0	41	29	12	0	0	0	0	0	30	11
47	NORAD MEBU	MEBU	J1	10/13/83	11/07/83	0.80	17	100	50	0	0	1	1	0	0	0	0	0	0	1	0
48	NORAD MEBU	MEBU	J2	11/07/83	12/08/83	1.00	17	100	33	0	0	2	1	1	0	0	0	0	1	1	0
49	NORAD MEBU	MEBU	J3	01/28/84	02/28/84	1.00	16	100	33	0	0	1	1	0	0	0	0	0	1	0	0

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Table D-5. Systems Maintenance Block Release Raw Data

#	SOFTWARE SYSTEM		RLS ID	RLS START DATE	ENGR COMP DATE	RLS LEN MOS	NO. OF PERS	% DED S/W	% DED RLS	PERS MOS. EST	PERS MOS. ACT	TOT NO. CHNG	NO. TYPE CORR	NO. TYPE ENH	NO. TYPE CONV	NO. CPLX HIGH	NO. CPLX MED	NO. CPLX LOW	NO. PRIO EMER	NO. PRIO URG	NO. PRIO NORM
50	NORAD MEBU	MEBU	K	04/15/83	03/15/84	11.00	16	100	42	0	0	51	36	15	0	0	0	0	0	37	14
51	NORAD MEBU	MEBU	K2	05/14/84	08/06/84	2.70	16	100	33	0	0	4	2	2	0	0	0	0	2	2	0
52	NORAD MEBU	MEBU	KA	04/15/84	05/14/84	1.00	16	100	50	0	0	1	1	0	0	0	0	0	1	0	0
53	NORAD MEBU	MEBU	L	11/15/83	10/15/84	11.00	16	100	47	0	0	34	18	16	0	0	0	0	0	25	9
54	NORAD MEBU	MEBU	L1	10/15/84	12/15/84	2.00	16	100	42	0	0	5	3	2	0	0	0	0	1	4	0
55	NORAD MEBU	MEBU	L2	12/15/84	01/15/85	1.00	16	100	33	0	0	1	0	1	0	0	0	0	0	0	1
56	NORAD MEBU	MEBU	M	05/15/84	04/15/85	11.00	16	100	45	0	0	8	0	8	0	0	0	0	0	5	3
57	NORAD NCS	NCS	B	04/05/79	03/05/80	11.00	48	100	100	0	0	245	210	35	0	0	0	0	10	112	123
58	NORAD NCS	NCS	B1	03/05/80	03/07/80	0.10	48	100	5	0	0	4	4	0	0	0	0	0	0	4	0
59	NORAD NCS	NCS	B2	03/07/80	04/08/80	1.00	48	100	5	0	0	1	1	0	0	0	0	0	1	0	0
60	NORAD NCS	NCS	B3	04/08/80	05/16/80	1.20	48	100	50	0	0	10	5	5	0	0	0	0	5	5	0
61	NORAD NCS	NCS	B4	05/16/80	05/23/80	0.30	48	100	5	0	0	2	1	1	0	0	0	0	1	1	0
62	NORAD NCS	NCS	B5	05/23/80	09/10/80	3.50	48	100	5	0	0	2	1	1	0	0	0	0	1	1	0
63	NORAD NCS	NCS	B6	09/10/80	02/06/81	5.00	65	100	5	0	0	2	2	0	0	0	0	0	0	2	0
64	NORAD NCS	NCS	C,D	10/04/80	09/04/81	11.00	65	100	44	0	0	452	371	81	0	0	0	0	2	372	78
65	NORAD NCS	NCS	D1	09/04/81	11/06/81	2.00	65	100	5	0	0	1	1	0	0	0	0	0	1	0	0
66	NORAD NCS	NCS	E	12/24/80	11/24/81	11.00	65	100	41	0	0	137	117	20	0	0	0	0	0	107	30
67	NORAD NCS	NCS	F	05/30/81	04/30/82	11.00	67	100	47	0	0	61	44	17	0	0	0	0	0	36	25
68	NORAD NCS	NCS	G	04/30/82	07/29/82	3.00	67	100	5	0	0	2	2	0	0	0	0	0	0	1	1
69	NORAD NCS	NCS	H2	12/15/82	02/13/83	2.00	66	100	5	0	0	1	0	1	0	0	0	0	1	0	0
70	NORAD NCS	NCS	HH1	01/15/82	12/15/82	11.00	67	100	48	0	0	77	56	21	0	0	0	0	2	55	20
71	NORAD NCS	NCS	I	08/05/82	07/05/83	11.00	66	100	41	0	0	80	48	32	0	0	0	0	0	50	30
72	NORAD NCS	NCS	J	11/13/82	10/13/83	11.00	66	100	41	0	0	74	41	33	0	0	0	0	0	49	25
73	NORAD NCS	NCS	J1	10/13/83	11/08/83	0.80	66	100	5	0	0	6	6	0	0	0	0	0	0	6	0
74	NORAD NCS	NCS	J2	11/08/83	11/28/83	0.60	66	100	5	0	0	2	1	1	0	0	0	0	1	1	0
75	NORAD NCS	NCS	J3	11/28/83	01/20/84	1.80	66	100	5	0	0	7	7	0	0	0	0	0	2	5	0
76	NORAD NCS	NCS	K	04/13/83	03/13/84	11.00	66	100	36	0	0	117	86	31	0	0	0	0	1	84	32
77	NORAD NCS	NCS	K1	03/13/84	04/30/84	1.50	66	100	5	0	0	17	13	4	0	0	0	0	3	11	3
78	NORAD NCS	NCS	K2	04/30/84	06/24/84	1.90	66	100	5	0	0	3	0	3	0	0	0	0	3	0	0
79	NORAD NCS	NCS	L	12/01/83	11/01/84	11.00	66	100	44	0	0	95	59	36	0	0	0	0	0	59	36
80	NORAD NCS	NCS	L1	11/01/84	11/08/84	0.20	66	100	5	0	0	2	2	0	0	0	0	0	0	2	0
81	NORAD NCS	NCS	L2	11/08/84	12/21/84	1.40	66	100	5	0	0	3	0	3	0	0	0	0	1	2	0
82	NORAD NCS	NCS	M	05/01/84	04/01/85	11.00	66	100	47	0	0	24	11	13	0	0	0	0	0	15	9
83	NORAD SSC	SSC	A	04/02/78	03/21/79	12.00	130	100	48	0	0	654	654	0	0	0	0	0	0	122	532
84	NORAD SSC	SSC	A2	03/30/79	04/30/79	1.00	130	100	5	0	0	4	4	0	0	0	0	0	4	0	0
85	NORAD SSC	SSC	A3	04/30/79	06/19/79	1.70	130	100	50	0	0	41	41	0	0	0	0	0	4	31	6
86	NORAD SSC	SSC	A4	06/19/79	06/29/79	0.33	130	100	33	0	0	38	30	8	0	0	0	0	0	22	16
87	NORAD SSC	SSC	A5	06/29/79	07/26/79	1.00	130	100	33	0	0	45	43	2	0	0	0	0	0	16	29
88	NORAD SSC	SSC	A7	08/10/79	09/27/79	1.50	130	100	33	0	0	8	8	0	0	0	0	0	3	1	4
89	NORAD SSC	SSC	A8	01/06/79	12/06/79	11.00	130	100	48	0	0	268	266	2	0	0	0	0	0	72	196
90	NORAD SSC	SSC	B	12/06/79	01/02/80	0.90	130	100	50	0	0	18	15	3	0	0	0	0	0	4	14
91	NORAD SSC	SSC	B1	01/02/80	01/14/80	0.40	130	100	5	0	0	1	0	1	0	0	0	0	0	0	1
92	NORAD SSC	SSC	B2	01/14/80	02/15/80	1.00	130	100	5	0	0	3	2	1	0	0	0	0	0	1	2
93	NORAD SSC	SSC	C	05/20/79	04/20/80	11.00	130	100	53	0	0	71	69	2	0	0	0	0	2	28	41
94	NORAD SSC	SSC	C1	08/22/80	09/22/80	1.00	130	100	33	0	0	5	5	0	0	0	0	0	0	4	1
95	NORAD SSC	SSC	D	01/12/81	02/12/81	1.00	120	100	5	0	0	2	2	0	0	0	0	0	0	1	1
96	NORAD SSC	SSC	D1	03/01/81	04/01/81	1.00	120	100	5	0	0	2	0	2	0	0	0	0	0	0	2
97	NORAD SSC	SSC	E	06/27/80	05/27/81	11.00	120	100	55	0	0	153	110	43	0	0	0	0	0	109	44
98	NORAD SSC	SSC	F	09/17/80	08/17/81	11.00	120	100	36	0	0	113	103	10	0	0	0	0	0	72	41

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Table D 5. Systems Maintenance Block Release Raw Data

#	SOFTWARE SYSTEM	RLS ID	RLS START DATE	ENGR COMP DATE	RLS LEN MOS	NO. OF PERS	% DED S/W	% DED RLS	PERS MOS. EST	PERS MOS. ACT	TOT NO. CHNG	NO. TYPE CORR	NO. TYPE ENH	NO. TYPE CONV	NO. CPLX HIGH	NO. CPLX MED	NO. CPLX LOW	NO. PRIO EMER	NO. PRIO URG	NO. PRIO NORM
99	NORAD SSC SSC	F1	08/17/81	09/16/81	1.00	120	100	5	0	0	4	1	3	0	0	0	0	0	4	0
100	NORAD SSC SSC	G	12/24/80	11/24/81	11.00	120	100	36	0	0	70	62	8	0	0	0	0	0	38	32
101	NORAD SSC SSC	H	04/29/81	03/29/82	11.00	110	100	48	0	0	68	54	14	0	0	0	0	0	32	36
102	NORAD SSC SSC	H1	06/30/82	07/30/82	1.00	110	100	5	0	0	1	1	0	0	0	0	0	0	1	0
103	NORAD SSC SSC	H1A	07/30/82	09/28/82	2.00	110	100	29	0	0	9	8	1	0	0	0	0	0	5	4
104	NORAD SSC SSC	I	12/26/81	11/26/82	11.00	110	100	46	0	0	113	82	31	0	5	13	95	0	30	83
105	NORAD SSC SSC	J	05/11/82	04/11/83	11.00	100	100	37	0	0	70	53	17	0	4	10	56	0	39	31
106	NORAD SSC SSC	K	08/21/82	07/21/83	11.00	100	100	37	0	0	86	68	18	0	3	9	74	0	20	66
107	NORAD SSC SSC	L	12/14/82	11/14/83	11.00	100	100	39	0	0	63	40	23	0	4	10	49	0	9	54
108	NORAD SSC SSC	M	05/27/83	04/27/84	11.00	92	100	38	0	0	69	54	15	0	4	7	58	0	9	60
109	NORAD SSC SSC	N	10/14/83	09/14/84	11.00	92	100	35	0	0	77	67	10	0	3	8	66	2	8	67
110	NORAD SSC SSC	O	12/27/83	11/27/84	11.00	84	100	33	0	0	60	60	0	0	0	0	0	0	4	56
111	WR ALC ALR 46 ALR 46	V319	01/01/80	01/01/81	12.00	5	50	100	4	0	36	27	9	0	0	0	0	0	0	36
112	WR ALC ALR 46 ALR 46	V321	01/01/81	02/15/82	13.50	5	50	94	10	0	6	1	5	0	0	0	0	0	0	6
113	WR ALC ALR 46 ALR 46	V333	01/01/82	08/30/83	20.00	5	50	96	13	0	36	27	9	0	0	0	0	0	0	36
114	WR ALC ALR 46 ALR 46	V345	09/12/83	03/01/85	17.50	5	50	100	8	0	12	3	9	0	0	0	0	0	0	12
115	WR ALC ALR 46 ALR 46	V414	07/01/78	03/01/79	8.00	5	50	100	0	0	6	2	4	0	0	0	0	0	0	6
116	WR ALC ALR 46 ALR 46	V426	07/01/79	05/01/80	10.00	5	50	100	0	0	28	14	14	0	0	0	0	0	0	28
117	WR ALC ALR 46 ALR 46	V438	07/01/81	01/01/82	6.00	5	50	100	19	0	10	0	10	0	0	0	0	0	0	10
118	WR ALC ALR 46 ALR 46	V440	07/01/82	11/01/82	4.00	5	50	50	3	0	1	0	1	0	0	0	0	0	1	0
119	WR ALC ALR 46 ALR 46	V452	07/01/82	06/30/83	12.00	5	50	83	8	0	15	13	2	0	0	0	0	0	0	15
120	WR ALC ALR 46 ALR 46	V464	10/10/83	09/05/84	11.00	5	50	100	8	0	12	7	5	0	0	0	0	0	0	12
121	WR ALC ALR 46 ALR 46	V476	/ /	/ /	0.00	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0
122	WR ALC ALR 46 ALR 46	V515	01/01/80	01/01/81	12.00	5	50	100	7	0	33	24	9	0	0	0	0	0	0	33
123	WR ALC ALR 46 ALR 46	V527	01/01/81	10/01/81	9.00	5	50	100	14	0	10	7	3	0	0	0	0	0	0	10
124	WR ALC ALR 46 ALR 46	V539	01/01/82	08/01/83	19.00	5	50	100	13	0	32	25	7	0	0	0	0	0	0	32
125	WR ALC ALR 46 ALR 46	V541	09/12/83	01/15/85	16.00	5	50	100	8	0	12	3	9	0	0	0	0	0	0	12
126	WR ALC ALR 69 ALR 69	B1V3	01/01/80	07/01/81	18.00	8	80	100	59	0	32	11	20	1	10	15	7	0	0	32
127	WR ALC ALR 69 ALR 69	B2V4	01/20/82	08/01/83	18.50	8	80	100	30	0	7	0	7	0	2	3	2	0	0	7
128	WR ALC ALR 69 ALR 69	B3V5	09/15/83	09/15/84	12.00	8	80	100	25	0	12	0	12	0	3	7	2	0	0	12
129	WR ALC ALR 69 ALR 69	B5V6	01/01/85	01/01/86	12.00	8	80	100	17	0	16	2	14	0	3	5	8	0	0	16
130	WR ALC AN/ALQ AGEOF	B4	06/15/83	03/15/85	21.00	1	50	100	11	0	13	4	9	0	2	3	8	0	0	13
131	WR ALC AN/ALQ BTG	B4	06/15/83	03/15/85	21.00	2	40	100	12	0	18	8	10	0	0	10	8	0	0	18
132	WR ALC AN/ALQ OFF	B4	06/15/83	03/15/85	21.00	2	60	100	14	0	22	11	11	0	0	11	11	0	0	22
133	WR ALC AN/ALQ OUT	B4	06/15/83	03/15/85	21.00	5	50	100	54	0	95	83	12	0	1	25	69	0	0	95
134	WR ALC APR 38 APR 38	B2	08/15/81	03/01/83	18.50	20	100	88	0	0	23	2	21	0	7	7	9	0	2	21
135	WR ALC APR 38 APR 38	B3	10/15/82	01/15/84	15.00	20	100	80	0	0	21	2	19	0	6	7	8	0	1	20
136	WR ALC APR 38 APR 38	B4	11/01/83	01/01/85	14.00	20	100	80	0	0	24	1	22	1	7	7	10	0	0	24
137	WR ALC B 52 E ASD-151		/ /	/ /	0.00	2	75	100	0	0	0	0	0	0	0	0	0	0	0	0
138	WR ALC E 6A A AN/GSM 285(B)	B1	03/01/84	12/31/84	10.00	8	25	100	0	0	11	11	0	0	0	0	0	0	0	11
139	WR ALC E 6A A AN/GSM 285(W)	B1	05/12/83	08/29/83	3.50	12	10	100	0	0	8	8	0	0	0	0	0	0	0	8
140	WR ALC E 6A A AN/GSM 285(W)	B2	03/15/84	12/15/84	9.00	12	10	100	0	0	18	18	0	0	0	0	0	0	0	18
141	WR ALC F 15 CC		01/01/85	01/01/86	12.00	10	100	75	106	0	12	0	0	0	5	3	4	0	0	12
142	WR ALC F 15 CC	B1	11/01/84	07/01/85	8.00	10	100	63	55	0	7	0	0	0	3	2	2	0	2	5
143	WR ALC F 15 RADAR	B1	07/01/84	01/01/86	18.00	14	100	100	0	0	24	14	2	8	12	10	2	0	0	24
144	WR ALC F 15 A ADTS,AIS	B1	01/01/81	12/31/81	12.00	13	100	100	0	0	53	46	2	5	10	11	32	1	23	29
145	WR ALC F 15 A ADTS,AIS	B2	01/01/82	12/31/82	12.00	13	100	100	0	0	29	27	1	1	5	7	17	0	5	24
146	WR ALC F 15 A ADTS,AIS	B3	01/01/83	12/31/83	12.00	13	100	100	0	0	7	7	0	0	1	2	4	0	0	7
147	WR ALC F 15 A ADTS,AIS	B4	01/01/84	12/31/84	12.00	13	100	100	0	0	11	10	1	0	2	2	7	0	0	11

Table D-5. Systems Maintenance Block Release Raw Data

#	SOFTWARE SYSTEM	RLS ID	RLS START DATE	ENGR COMP DATE	RLS LEN MOS	NO. OF PERS	% DED S/W	% DED RLS	PERS MOS. EST	PERS MOS. ACT	TOT NO. CHNG	NO. TYPE CORR	NO. TYPE ENH	NO. TYPE CONV	NO. CPLX HIGH	NO. CPLX MED	NO. CPLX LOW	NO. PRIO EMER	NO. PRIO URG	NO. PRIO NORM
148	WR-ALC JTIDS ASIT/OCP	B1	10/22/84	07/01/85	8.50	10	50	100	0	0	9	9	0	0	0	0	9	0	0	9
149	WR-ALC JTIDS E-3A AWACS/OCP	B1	10/22/84	07/01/85	8.50	10	50	100	0	0	9	9	0	0	0	0	9	0	0	9
150	WR-ALC JTIDS SP/USER		/ /	/ /	0.00	3	50	100	0	0	0	0	0	0	0	0	0	0	0	0
151	WR-ALC JTIDS SYS EXERCISER		/ /	/ /	0.00	4	50	100	0	0	0	0	0	0	0	0	0	0	0	0
152	WR-ALC PAVE T AISF	B1	10/10/82	02/01/85	27.50	4	70	100	0	0	49	22	23	4	16	18	15	0	0	49
153	WR-ALC PAVE T OFP	B1	01/01/83	09/01/85	32.00	4	70	69	0	0	12	4	8	0	4	5	3	0	0	12
154	WR-ALC PAVE T OFP	B2	01/01/84	06/01/86	29.00	4	70	66	0	0	9	1	8	0	2	4	3	0	0	9
155	SM-ALC F-111D WNC	D16	09/01/74	03/01/75	6.00	8	95	100	0	0	21	10	11	0	0	0	0	0	0	21
156	SM-ALC F-111D WNC	D17	09/01/75	05/01/76	8.00	8	95	100	0	0	32	22	10	0	0	0	0	0	0	32
157	SM-ALC F-111D WNC	D18	07/01/76	01/01/77	6.00	8	95	58	67	0	20	8	12	0	0	0	0	0	0	20
158	SM-ALC F-111D WNC	D19	08/01/76	05/01/77	9.00	8	95	78	104	0	24	12	12	0	4	10	10	0	0	24
159	SM-ALC F-111D WNC	D20	04/01/80	04/01/81	12.00	8	95	100	0	0	30	10	20	0	7	10	13	0	0	30
160	SM-ALC F-111F WNC	F10	05/01/75	04/01/76	11.00	7	90	100	0	0	34	9	25	0	0	0	0	0	0	34
161	SM-ALC F-111F WNC	F11	05/01/76	04/01/77	11.00	7	90	82	0	0	26	6	20	0	0	0	0	0	0	26
162	SM-ALC F-111F WNC	F12	12/01/76	12/01/77	12.00	7	90	83	119	0	46	23	23	0	0	0	0	0	0	46
163	SM-ALC F-111F WNC	F12A	06/01/78	03/01/79	9.00	7	90	100	0	0	9	4	5	0	0	0	0	0	0	9
164	SM-ALC F-111F WNC	F13	09/01/79	03/01/80	6.00	7	90	100	0	0	6	0	6	0	0	0	0	0	0	6
165	SM-ALC F-111F WNC	F14	04/01/82	10/01/83	18.00	7	33	100	0	0	10	1	9	0	2	2	6	0	0	10
166	SM-ALC FB-111 WNC	FB12	09/01/73	03/01/74	6.00	7	95	100	0	0	15	6	9	0	0	0	0	0	0	15
167	SM-ALC FB-111 WNC	FB13	09/01/74	07/01/75	10.00	7	95	100	0	0	30	13	17	0	0	0	0	0	0	30
168	SM-ALC FB-111 WNC	FB14	09/01/75	06/01/76	9.00	7	95	100	0	0	14	4	10	0	0	0	0	0	0	14
169	SM-ALC FB-111 WNC	FB15	01/01/77	07/01/77	6.00	7	95	100	84	0	19	7	12	0	0	0	0	0	0	19
170	SM-ALC FB-111 WNC	FB16	01/01/78	01/01/79	12.00	7	95	100	103	0	25	8	17	0	0	0	0	0	0	25
171	SM-ALC FB-111 WNC	FB17	09/01/79	05/01/80	8.00	7	95	100	0	0	19	5	14	0	0	0	0	0	0	19
172	CASTLE AFB B-52 CPT	B1	10/07/77	10/02/80	36.00	3	45	100	0	0	14	11	3	0	2	4	8	0	0	14
173	CASTLE AFB B-52 CPT	B2	10/02/80	09/01/81	11.00	3	45	100	0	2	10	7	3	0	3	2	5	0	0	10
174	CASTLE AFB B-52 CPT	B3	09/01/81	09/15/82	12.50	3	45	100	0	0	23	5	18	0	5	8	10	0	0	23
175	CASTLE AFB B-52 WST		/ /	/ /	0.00	40	50	100	0	0	0	0	0	0	0	0	0	0	0	0
176	CASTLE AFB KC-135 WST		/ /	/ /	0.00	10	50	100	0	0	0	0	0	0	0	0	0	0	0	0
177	CASTLE AFB T-4 TR T 4 SIMULATOR		/ /	/ /	0.00	3	45	100	0	0	0	0	0	0	0	0	0	0	0	0
178	OO-ALC F-16 FCC	B15S	01/01/83	12/31/84	24.00	12	80	100	0	0	155	67	83	5	7	64	84	0	0	155
179	OO-ALC F-16 FCC	FT31	01/01/83	05/31/83	5.00	12	80	90	0	0	37	10	26	1	2	19	16	0	0	37
180	OO-ALC F-16 FCC	FT32	04/30/83	09/30/83	5.00	12	80	90	0	0	37	13	21	3	2	9	26	0	0	37
181	OO-ALC F-16 FCC	FT33	10/01/83	12/31/83	3.00	12	80	100	0	0	41	24	16	1	2	21	18	0	0	41
182	OO-ALC F-16 FCC	FT34	01/01/84	03/31/84	3.00	12	80	100	0	0	12	9	3	0	0	5	7	0	0	12
183	OO-ALC F-16 FCC	FT35	04/01/84	05/31/84	2.00	12	80	100	0	0	12	5	7	0	0	4	8	0	0	12
184	OO-ALC F-16 FCC	FT36	06/01/84	07/31/84	2.00	12	80	100	0	0	8	6	2	0	1	2	5	0	0	8
185	OO-ALC F-16 FCC	FT37	08/01/84	09/01/84	1.00	12	80	100	0	0	5	0	5	0	0	4	1	0	0	5
186	OO-ALC F-16 FCC	F04	09/01/84	09/01/84	0.05	12	80	50	0	0	2	0	2	0	0	0	2	0	0	2
187	OO-ALC F-16 FCC	F05	09/01/84	09/01/84	0.05	12	80	50	0	0	1	0	1	0	0	0	1	0	0	1
188	OO-ALC F-16 HUD		/ /	/ /	0.00	3	100	100	0	0	0	0	0	0	0	0	0	0	0	0
189	OO-ALC F-16 OFT	DMD1	03/01/84	09/01/84	6.00	6	100	83	0	30	12	4	8	0	1	6	5	0	0	12
190	OO-ALC F-16 OFT	DMD2	07/01/84	11/01/84	4.00	6	100	50	0	4	9	7	2	0	3	1	5	0	0	9
191	OO-ALC F-16 OFT	DMD3	09/01/84	12/31/84	4.00	6	100	5	0	1	1	0	1	0	1	0	0	0	0	1
192	OO-ALC F-16 PLR		/ /	/ /	0.00	8	90	100	0	0	0	0	0	0	0	0	0	0	0	0
193	OO-ALC F-16 SMS	B15S	01/01/83	12/31/84	24.00	9	85	100	0	0	123	69	54	0	15	58	50	0	0	123
194	OO-ALC F-16 SMS	SF1	01/01/83	06/01/83	5.00	9	85	80	0	0	22	3	19	0	3	7	12	0	0	22
195	OO-ALC F-16 SMS	SF2	04/01/83	07/01/83	3.00	9	85	50	0	0	32	17	15	0	5	20	7	0	0	32

Table D-5. Systems Maintenance Block Release Raw Data

#	SOFTWARE SYSTEM		RLS ID	RLS START DATE	ENGR COMP DATE	RLS LEN MOS	NO. OF PERS	% DED S/W	% DED RLS	PERS MOS. EST	PERS MOS. ACT	TOT NO. CHNG	NO. TYPE CORR	NO. TYPE ENH	NO. TYPE CONV	NO. CPLX HIGH	NO. CPLX MED	NO. CPLX LOW	NO. PRIO EMER	NO. PRIO URG	NO. PRIO NORM
196	OO-ALC	F-16 SMS	SF2A	06/01/83	09/30/83	4.00	9	85	88	0	0	17	13	4	0	2	8	7	0	0	17
197	OO-ALC	F-16 SMS	SF2B	10/27/83	10/28/83	0.05	9	85	50	0	0	3	2	1	0	0	2	1	0	0	3
198	OO-ALC	F-16 SMS	SF3	10/01/83	12/31/83	3.00	9	85	100	0	0	22	14	8	0	3	11	8	0	0	22
199	OO-ALC	F-16 SMS	SF3A	01/05/84	01/06/84	0.05	9	85	50	0	0	2	1	1	0	0	1	1	0	0	2
200	OO-ALC	F-16 SMS	SF4	01/01/84	02/29/84	2.00	9	85	100	0	0	9	8	1	0	2	5	2	0	0	9
201	OO-ALC	F-16 SMS	SF5	03/01/84	04/30/84	2.00	9	85	100	0	0	7	6	1	0	0	2	5	0	0	7
202	OO-ALC	F-16 SMS	SF6	05/01/84	05/31/84	1.00	9	85	100	0	0	6	4	2	0	0	1	5	0	0	6
203	OO-ALC	F-16 SMS	SF7	06/01/84	08/01/84	2.00	9	85	100	0	0	2	1	1	0	0	1	1	0	0	2
204	OO-ALC	F-16 SMS	SP05	08/01/84	08/01/84	0.05	9	85	50	0	0	1	0	0	0	0	0	1	0	0	1
205	OO-ALC	F-4 MDTS	D503	08/01/83	05/01/84	9.00	2	100	100	0	0	11	9	2	0	2	6	3	0	0	11
206	OO-ALC	F-4 MDTS	NEXT	11/15/84	01/01/86	13.50	2	100	100	0	0	16	13	3	0	3	9	4	0	0	16
207	OO-ALC	F-4E AN/ARN-101	1203	01/01/83	05/01/84	16.00	6	60	100	0	0	21	17	4	0	1	12	8	0	0	21
208	OO-ALC	F-4E AN/ARN-101	NEXT	11/15/84	01/01/86	13.50	6	60	100	0	0	35	28	7	0	7	19	9	0	0	35
209	OO-ALC	F-4G AN/ARN-101	7.01	10/01/84	05/01/85	7.00	5	100	50	0	0	4	3	1	0	0	1	3	0	0	4
210	OO-ALC	F-4G AN/ARN-101	8.01	10/01/84	04/01/86	18.00	5	100	80	0	0	33	28	5	0	5	12	16	0	0	33
211	OO-ALC	F-4G LRU-1/ACM	F004	09/01/82	01/10/84	16.50	6	100	97	0	0	16	13	3	0	2	9	5	0	0	16
212	OO-ALC	F-4G LRU-1/ACM	F005	12/03/84	10/01/85	10.00	6	100	95	0	0	15	15	0	0	3	5	7	0	0	15
213	OO-ALC	MINUTE WING II/2015	1	01/01/85	08/31/85	8.00	8	30	88	25	0	200	30	20	150	50	100	50	0	0	200
214	OO-ALC	MINUTE WING VI/HS-29	1	07/01/85	11/30/85	5.00	4	5	80	12	0	500	250	50	200	400	100	0	100	0	400
215	OO-ALC	MINUTE WINGS/HS-28	1	02/01/84	12/31/85	23.00	8	30	100	50	0	250	75	125	50	75	125	50	5	13	232
216	OO-ALC	RF-4C AN/ARN-101	1203	01/01/83	05/01/84	16.00	6	40	100	0	0	26	21	5	0	2	14	10	0	0	26
217	OO-ALC	RF-4C AN/ARN-101	NEXT	11/15/84	01/01/86	13.50	6	40	100	0	0	25	20	5	0	4	15	6	0	0	25
218	OC-ALC	ALCM LIT	E430	09/01/81	02/01/82	5.00	12	100	100	125	60	1	0	0	1	0	1	0	0	1	0
219	OC-ALC	ALCM LIT	E499	11/01/82	01/01/83	2.00	18	100	100	60	36	37	20	7	10	0	11	26	0	7	30
220	OC-ALC	ALCM LIT	E513	04/01/83	12/01/83	8.00	10	100	94	200	80	28	20	5	3	0	7	21	0	8	20
221	OC-ALC	ALCM LIT	E525	11/01/83	01/01/85	14.00	9	100	96	294	126	38	25	11	2	1	11	26	0	15	23
222	OC-ALC	ALCM LPT	E499	01/01/82	07/01/82	6.00	11	100	100	0	0	7	4	1	2	0	3	4	0	2	5
223	OC-ALC	ALCM LPT	E503	05/01/83	01/01/84	8.00	9	100	100	0	0	6	3	1	2	0	5	1	0	5	1
224	OC-ALC	ALCM LPT	E536	08/01/84	10/01/84	2.00	7	100	100	0	0	2	1	1	0	1	1	0	1	0	1
225	OC-ALC	ALCM OFP	R15	08/01/81	10/01/82	14.00	10	72	100	0	0	26	24	2	0	1	5	20	0	0	26
226	OC-ALC	ALCM OFP	R16	03/01/82	06/01/82	3.00	10	72	100	0	0	1	1	0	0	0	0	1	0	1	0
227	OC-ALC	ALCM OFP	R17	01/01/83	09/01/83	8.00	10	72	100	0	0	7	5	0	2	0	4	3	0	0	7
228	OC-ALC	ALCM OFP	R18	09/01/84	10/01/85	13.00	10	72	100	0	0	9	4	5	0	3	5	1	0	0	9
229	OC-ALC	B-1B CADC		/ /	/ /	0.00	1	10	100	0	0	0	0	0	0	0	0	0	0	0	0
230	OC-ALC	B-1B CITS		/ /	/ /	0.00	3	70	100	0	0	0	0	0	0	0	0	0	0	0	0
231	OC-ALC	B-1B EMUX		/ /	/ /	0.00	1	10	100	0	0	0	0	0	0	0	0	0	0	0	0
232	OC-ALC	B-1B F/CGMS		/ /	/ /	0.00	1	10	100	0	0	0	0	0	0	0	0	0	0	0	0
233	OC-ALC	B-1B INS		/ /	/ /	0.00	1	5	100	0	0	0	0	0	0	0	0	0	0	0	0
234	OC-ALC	B-1B ORS		/ /	/ /	0.00	2	70	100	0	0	0	0	0	0	0	0	0	0	0	0
235	OC-ALC	B-52 BNST	B1	12/05/83	09/30/84	10.00	3	20	100	34	0	5	4	1	0	0	0	0	0	0	5
236	OC-ALC	B-52 FISS		/ /	/ /	0.00	4	95	100	0	0	0	0	0	0	0	0	0	0	0	0
237	OC-ALC	B-52 MC-1 EXEC		/ /	/ /	0.00	6	15	100	0	0	0	0	0	0	0	0	0	0	0	0
238	OC-ALC	B-52 MC-2 EXEC		/ /	/ /	0.00	6	50	100	0	0	0	0	0	0	0	0	0	0	0	0
239	OC-ALC	E-3A INS	V13	08/01/84	03/01/85	7.00	0	100	50	0	0	1	1	0	0	0	1	0	0	0	1
240	OC-ALC	E-3A INS	V14	08/01/84	03/01/85	7.00	0	100	50	0	0	1	0	1	0	0	1	0	0	0	1
241	OC-ALC	E-3A OMEGA	B1	03/01/83	10/01/83	7.00	0	100	100	0	0	4	1	3	0	1	1	1	0	0	4
242	OC-ALC	E-3A OMEGA	B2	12/01/84	12/01/85	12.00	0	100	100	0	0	4	1	3	0	2	2	0	0	0	4
243	OC-ALC	E-3A SMCF	B1	07/07/83	03/13/84	12.00	4	20	100	0	7	7	7	0	0	0	7	0	0	0	7
244	OC-ALC	E-3A SMCF	B2	10/29/84	02/21/85	4.00	1	100	100	0	1	2	0	2	0	1	0	1	0	0	2

Table D 5. Systems Maintenance Block Release Raw Data

#	SOFTWARE SYSTEM		RLS ID	RLS START DATE	ENGR COMP DATE	RLS LEN MOS	NO. OF PERS	% DED S/W	% DED RLS	PERS MOS. EST	PERS MOS. ACT	TOT NO. CHNG	NO. TYPE CORR	NO. TYPE ENH	NO. TYPE CONV	NO. CPLX HIGH	NO. CPLX MED	NO. CPLX LOW	NO. PRIO EMER	NO. PRIO URG	NO. PRIO NORM
245	OC-ALC E-3A	SRCP	CB1	01/31/84	01/31/85	12.00	11	40	50	0	0	24	19	5	0	0	9	15	0	0	24
246	OC-ALC E-3A	SRCP	MB1	01/31/84	01/31/85	12.00	11	60	50	0	0	28	23	5	0	0	8	20	0	0	28
247	OC-ALC E-3A	SRGSCP	B1	06/01/84	07/01/85	13.00	3	50	100	7	11	4	2	2	0	1	1	2	0	0	4
248	OC-ALC GLCM	DFS		/ /	/ /	0.00	2	80	100	0	0	0	0	0	0	0	0	0	0	0	0
249	OC-ALC GLCM	M-DTD		/ /	/ /	0.00	7	100	100	0	0	0	0	0	0	0	0	0	0	0	0
250	OC-ALC GLCM	MPT		/ /	/ /	0.00	6	50	100	0	0	0	0	0	0	0	0	0	0	0	0
251	OC-ALC GLCM	OFP		/ /	/ /	0.00	3	100	100	0	0	0	0	0	0	0	0	0	0	0	0
252	OC-ALC GLCM	WCS		/ /	/ /	0.00	6	50	100	0	0	0	0	0	0	0	0	0	0	0	0
253	OC-ALC SRAM	OFP	B1	06/01/78	01/01/79	7.00	15	75	5	0	0	1	1	0	0	0	1	0	0	1	0
254	OC-ALC SRAM	OFP	B2	02/01/78	06/01/79	16.00	15	100	100	0	0	19	0	19	0	19	0	0	0	0	19
255	TINKER AFB E-3A	AOCP	10A	10/01/77	02/15/78	4.50	67	50	100	0	0	27	24	3	0	0	1	26	0	0	27
256	TINKER AFB E-3A	AOCP	10B	02/15/78	08/01/78	5.50	67	50	100	0	0	88	74	14	0	2	2	84	0	0	88
257	TINKER AFB E-3A	AOCP	10C	08/01/78	01/02/79	5.00	67	50	100	0	0	77	63	14	0	1	4	72	0	0	77
258	TINKER AFB E-3A	AOCP	20A	06/01/79	12/01/79	6.00	67	50	100	0	0	76	66	10	0	2	6	68	0	0	76
259	TINKER AFB E-3A	AOCP	20AA	12/01/79	02/04/80	2.00	67	50	100	0	0	50	49	1	0	0	8	42	0	0	50
260	TINKER AFB E-3A	AOCP	20B	02/04/80	06/01/80	4.00	67	50	100	0	0	41	37	4	0	1	2	38	0	0	41
261	TINKER AFB E-3A	AOCP	21A	06/01/80	02/01/81	8.00	67	50	100	0	0	51	34	17	0	3	10	38	0	0	51
262	TINKER AFB E-3A	AOCP	21A1	02/01/81	05/19/81	3.50	67	50	10	0	0	5	5	0	0	0	4	1	0	0	5
263	TINKER AFB E-3A	AOCP	22A	05/19/81	12/22/81	7.00	67	50	100	0	0	99	78	21	0	4	15	80	0	0	99
264	TINKER AFB E-3A	AOCP	22A1	12/22/81	04/30/82	4.00	67	50	10	0	0	7	7	0	0	0	2	5	0	0	7
265	TINKER AFB E-3A	AOCP	22B	04/30/82	08/23/82	3.50	67	50	100	0	0	71	68	3	0	2	17	52	0	0	71
266	TINKER AFB E-3A	AOCP	22B1	08/23/82	01/03/83	4.50	67	50	10	0	0	14	14	0	0	0	7	7	0	0	14
267	TINKER AFB E-3A	AOCP	22B2	07/01/83	12/09/83	5.00	67	50	100	0	0	34	33	1	0	0	1	33	0	0	34
268	TINKER AFB E-3A	AOCP	23A	12/09/83	07/25/84	7.50	67	50	100	0	0	134	117	17	0	4	21	109	0	0	134
269	TINKER AFB E-3A	AOCP	24A	01/22/85	09/22/85	8.00	67	50	69	0	0	57	42	15	0	2	11	44	0	0	57
270	TINKER AFB E-3A	AOCP	25A	04/22/85	12/22/85	8.00	67	50	69	0	0	47	35	12	0	1	1	45	0	0	47
271	TINKER AFB E-3A	AOCP	30A	07/01/83	08/15/83	1.50	67	50	95	0	0	14	12	2	0	0	0	14	0	0	14
272	TINKER AFB E-3A	AOCP	30A1	08/15/83	12/09/83	4.00	67	50	95	0	0	34	32	2	0	0	2	32	0	0	34
273	TINKER AFB E-3A	AOCP	51A	07/25/84	10/03/84	2.00	67	50	5	0	0	1	0	1	0	1	0	0	0	0	1
274	TINKER AFB E-3A	UTILITIES	10A	10/01/77	02/15/78	4.50	46	50	100	0	0	10	3	7	0	0	1	9	0	0	10
275	TINKER AFB E-3A	UTILITIES	10B	02/15/78	08/01/78	5.50	46	50	100	0	0	14	7	7	0	0	1	13	0	0	14
276	TINKER AFB E-3A	UTILITIES	10C	08/01/78	01/02/79	5.00	46	50	100	0	0	21	11	10	0	1	1	19	0	0	21
277	TINKER AFB E-3A	UTILITIES	20A	06/01/79	12/01/79	6.00	46	50	100	0	0	51	33	18	0	2	5	44	0	0	51
278	TINKER AFB E-3A	UTILITIES	20B	02/04/80	06/01/80	4.00	46	50	100	0	0	25	19	6	0	1	2	22	0	0	25
279	TINKER AFB E-3A	UTILITIES	21A	06/01/80	02/01/81	8.00	46	50	100	0	0	43	22	21	0	2	9	32	0	0	43
280	TINKER AFB E-3A	UTILITIES	22A	05/19/81	12/22/81	7.00	46	50	100	0	0	39	27	12	0	2	6	31	0	0	39
281	TINKER AFB E-3A	UTILITIES	22A1	12/22/81	04/30/82	4.00	46	50	5	0	0	1	0	1	0	0	1	0	0	0	1
282	TINKER AFB E-3A	UTILITIES	22B	04/30/82	08/23/82	3.50	46	50	100	0	0	24	21	3	0	1	7	16	0	0	24
283	TINKER AFB E-3A	UTILITIES	22B2	07/01/83	12/09/83	5.00	46	50	5	0	0	1	1	0	0	0	1	0	0	0	1
284	TINKER AFB E-3A	UTILITIES	23A	12/09/83	07/25/84	7.50	46	50	100	0	0	25	18	7	0	1	6	18	0	0	25
285	TINKER AFB E-3A	UTILITIES	24A	01/22/85	09/22/85	8.00	46	50	50	0	0	27	17	10	0	1	5	21	0	0	27
286	TINKER AFB E-3A	UTILITIES	25A	04/22/85	12/22/85	8.00	46	50	5	0	0	1	1	0	0	0	1	0	0	0	1
287	TINKER AFB E-3A	UTILITIES	30A	07/01/83	08/15/83	1.50	46	50	95	0	0	25	16	9	0	1	1	23	0	0	25
288	LANGLEY JTIDS	ASIT/TPOCP	V1	06/22/84	04/25/85	10.00	5	80	100	5	0	5	1	4	0	0	3	2	0	3	2
289	LANGLEY STRTS	STRTS	V1	/ /	/ /	0.00	8	100	100	0	0	0	0	0	0	0	0	0	0	0	0
290	LANGLEY TACS	CAFMS	1.0	01/01/81	05/31/81	5.00	50	100	100	0	0	132	132	0	0	3	46	83	0	0	132
291	LANGLEY TACS	CAFMS	1.1	09/01/81	09/30/81	1.00	50	100	100	0	0	2	2	0	0	0	0	2	0	2	0
292	LANGLEY TACS	CAFMS	1.2	09/30/81	12/14/81	2.50	50	100	100	0	0	85	78	7	0	14	21	50	0	0	85
293	LANGLEY TACS	CAFMS	1.3	12/14/81	03/01/82	2.50	50	100	100	0	0	22	19	3	0	5	5	12	0	0	22

Table D-5. Systems Maintenance Block Release Raw Data

#	SOFTWARE SYSTEM		RLS ID	RLS START DATE	ENGR COMP DATE	RLS LEN MOS	NO. OF PERS	% DED S/W	% DED RLS	PERS MOS. EST	PERS MOS. ACT	TOT NO. CHNG	NO. TYPE CORR	NO. TYPE ENH	NO. TYPE CONV	NO. CPLX HIGH	NO. CPLX MED	NO. CPLX LOW	NO. PRIO EMER	NO. PRIO URG	NO. PRIO NORM
294	LANGLEY TACS	CAFMS	2.0	03/01/82	09/15/82	6.50	50	100	100	0	0	66	42	24	0	29	12	25	0	0	66
295	LANGLEY TACS	CAFMS	3.0	09/15/82	10/20/83	13.00	43	100	100	0	0	35	12	23	0	9	16	10	0	0	35
296	LANGLEY TACS	CAFMS	3.1	10/20/83	08/03/84	9.50	36	100	100	0	0	35	25	10	0	6	16	13	0	0	35
297	LANGLEY TACS	CAFMS	4.0	08/03/84	07/15/85	11.50	29	100	100	0	0	27	11	16	0	10	14	3	0	0	27
298	LANGLEY TIPI	DC/SR	1	10/01/74	09/01/75	11.00	55	100	100	0	0	55	55	0	0	6	49	0	0	0	55
299	LANGLEY TIPI	DC/SR	1C	09/01/75	05/01/76	8.00	55	100	100	0	0	103	91	12	0	17	62	24	0	0	103
300	LANGLEY TIPI	DC/SR	2B	05/01/76	04/01/77	11.00	54	100	100	0	0	235	215	20	0	33	136	66	0	0	235
301	LANGLEY TIPI	DC/SR	2C	04/01/77	10/01/77	6.00	54	100	100	0	0	222	207	15	0	27	124	71	0	0	222
302	LANGLEY TIPI	DC/SR	2D	10/01/77	05/01/78	7.00	55	100	100	0	0	173	160	13	0	26	87	61	0	0	173
303	LANGLEY TIPI	DC/SR	2E	05/01/78	10/01/78	5.00	56	100	100	0	0	251	251	0	0	15	143	93	0	0	251
304	LANGLEY TIPI	DC/SR	3A	10/01/78	04/01/79	6.00	48	100	100	0	0	230	224	6	0	21	106	103	0	0	230
305	LANGLEY TIPI	DC/SR	3B	04/01/79	08/01/79	4.00	49	100	100	0	0	120	108	12	0	17	71	32	0	0	120
306	LANGLEY TIPI	DC/SR	3C	08/01/79	03/01/80	7.00	45	100	100	0	0	166	151	15	0	18	96	52	0	0	166
307	LANGLEY TIPI	DC/SR	3D	03/01/80	08/01/80	5.00	45	100	100	0	0	97	94	3	0	8	68	21	0	0	97
308	LANGLEY TIPI	DC/SR	4A	08/01/80	03/01/81	7.00	45	100	100	0	0	105	99	6	0	15	55	36	0	0	105
309	LANGLEY TIPI	DC/SR	4B	03/01/81	09/01/81	6.00	46	100	100	0	0	150	140	10	0	18	81	51	0	0	150
310	LANGLEY TIPI	DC/SR	4C	09/01/81	01/01/82	4.00	43	100	100	0	0	87	78	9	0	13	45	29	0	0	87
311	LANGLEY TIPI	DC/SR	83	01/01/82	01/01/83	12.00	43	100	100	0	0	195	176	19	0	29	105	61	0	0	195
312	LANGLEY TIPI	DC/SR	84	01/01/83	01/01/84	12.00	43	100	100	0	0	214	188	26	0	54	128	32	0	0	214
313	LANGLEY TIPI	DC/SR	85	01/01/84	01/01/85	12.00	45	100	100	0	0	121	98	23	0	34	76	11	0	0	121
314	LANGLEY TIPI II/MARRES/TEREC		11A	03/01/83	01/01/84	10.00	16	85	100	0	12	83	63	20	0	4	25	54	1	0	82
315	LANGLEY TIPI II/MARRES/TEREC		12	03/01/84	01/01/85	10.00	16	85	100	0	20	105	76	29	0	4	32	69	1	0	104
316	LANGLEY TIPI II/MARRES/TEREC		12-1	03/01/85	06/01/85	3.00	16	85	100	0	7	13	11	2	0	2	4	7	0	0	13
317	LANGLEY TIPI II/MARRES/TEREC		9A	10/01/81	01/01/83	15.00	16	85	100	0	18	208	148	60	0	13	81	134	1	0	207
318	LANGLEY 407L	HUGHES UTIL	V4-3	02/01/80	06/09/80	4.50	2	10	100	0	0	14	6	8	0	0	0	14	0	0	14
319	LANGLEY 407L	HUGHES UTIL	V4-4	07/01/80	06/08/81	11.00	2	10	100	0	0	8	6	2	0	0	0	8	0	0	8
320	LANGLEY 407L	HUGHES UTIL	V4-5	06/01/81	08/02/82	14.00	2	10	100	0	0	29	20	9	0	2	0	29	0	0	29
321	LANGLEY 407L	HUGHES UTIL	V4-6	07/01/82	11/30/82	5.00	2	10	100	0	0	13	10	3	0	0	0	13	0	0	13
322	LANGLEY 407L	HUGHES UTIL	V4-8	11/01/83	06/01/84	7.00	2	10	100	0	0	40	21	19	0	0	0	40	0	0	40
323	LANGLEY 407L	HUGHES UTIL	V4-9	07/01/84	12/01/84	5.00	2	10	100	0	0	1	1	0	0	0	0	1	0	0	1
324	LANGLEY 407L	HUGHES UTIL	V5-0	12/15/84	07/15/85	7.00	2	10	100	0	0	16	15	1	0	0	0	16	0	0	16
325	LANGLEY 407L	IBM UTIL		/ /	/ /	0.00	5	80	0	0	0	0	0	0	0	0	0	0	0	0	0
326	LANGLEY 407L	IORF IMPF	V4-1	02/01/79	08/01/79	6.00	40	60	100	0	0	40	26	14	0	10	16	14	0	10	30
327	LANGLEY 407L	IORF/IMPF	V4-2	09/01/79	01/21/80	4.50	40	60	100	0	0	43	27	16	0	5	24	14	0	5	38
328	LANGLEY 407L	IORF/IMPF	V4-3	02/01/80	06/09/80	4.50	40	60	100	0	0	88	61	27	0	25	27	36	0	14	74
329	LANGLEY 407L	IORF/IMPF	V4-4	07/01/80	06/08/81	11.00	40	60	100	0	0	153	125	28	0	10	38	105	0	16	137
330	LANGLEY 407L	IORF/IMPF	V4-5	06/01/81	08/02/82	14.00	40	60	100	0	0	90	61	29	0	15	33	42	0	19	71
331	LANGLEY 407L	IORF/IMPF	V4-6	07/01/82	11/30/82	5.00	40	60	100	0	0	45	30	15	0	7	16	22	0	6	39
332	LANGLEY 407L	IORF/IMPF	V4-7	12/01/82	10/31/83	11.00	40	60	100	0	0	81	54	27	0	11	18	32	0	13	68
333	LANGLEY 407L	IORF/IMPF	V4-8	11/01/83	06/01/84	7.00	40	60	100	0	0	39	24	15	0	6	14	19	0	12	27
334	LANGLEY 407L	IORF/IMPF	V4-9	07/01/84	12/01/84	5.00	40	60	100	0	0	65	55	10	0	9	41	15	0	14	51
335	LANGLEY 407L	IORF/IMPF	V5-0	12/15/84	07/15/85	7.00	40	60	100	0	0	63	51	12	0	4	19	40	0	11	52
336	LANGLEY 407L	IORF IMPF	V5-1	07/15/85	12/15/85	5.00	40	60	100	0	0	79	68	11	0	13	31	35	0	10	69

E. Systems Descriptions

APPENDIX E

SYSTEMS DESCRIPTIONS

Because it is highly probable that all the software systems reviewed in this study will not be familiar to the reader, this appendix contains systems descriptions for most systems listed in table E-1. For some systems, appropriate descriptions were not available to the authors.

Table E-1

Software Systems Examined

SITE	SYSTEM	SOFTWARE SYSTEM
NORAD	CSS	CSS
NORAD	MDS	MDS
NORAD	MEBU	MEBU
NORAD	NCS	NCS
NORAD	SSC	SSC
WR-ALC	ALR-46	ALR-46
WR-ALC	ALR-69	ALR-69
WR-ALC	AN/ALQ-131	AGEOP
WR-ALC	AN/ALQ-131	BTG
WR-ALC	AN/ALQ-131	OFP
WR-ALC	ALQ-131	UUT
WR-ALC	APR-38	APR-38
WR-ALC	B-52 EVS ATE	ASQ-151
WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(B)
WR-ALC	E-3A AVIONICS ATE	AN/GSM-285(W)
WR-ALC	F-15	CC
WR-ALC	F-15	RADAR
WR-ALC	F-15 AVIONICS ATE	ADTS,AIS
WR-ALC	JTIDS	ASIT/OCP
WR-ALC	JTIDS	E-3A AWACS/OCP
WR-ALC	JTIDS	SP/USER
WR-ALC	JTIDS	SYS EXERCISER
WR-ALC	PAVE TACK	AISF
WR-ALC	PAVE TACK	OFP
SM-ALC	F-111D	WEAP-NAV COMPUTER
SM-ALC	F-111F	WEAP-NAV COMPUTER
SM-ALC	FB-111A	WEAP-NAV COMPUTER
CASTLE AFB	A T-4	A T-4 SIMULATOR
CASTLE AFB	B-52	CPT
CASTLE AFB	B-52	WST
CASTLE AFB	KC-135	WST
OO-ALC	F-16	FCC
OO-ALC	F-16	HUD
OO-ALC	F-16	OFT
OO-ALC	F-16	FCR
OO-ALC	F-16	SMS
OO-ALC	F-4	MDTS
OO-ALC	F-4E	AN/ARN-101
OO-ALC	F-4G	AN/ARN-101
OO-ALC	F-4G	LRU-1/ACM
OO-ALC	MINUTEMAN	WING II/2015
OO-ALC	MINUTEMAN	WING VI/HS-29
OO-ALC	MINUTEMAN	WINGS/HS-28

Table E-1

Software Systems Examined (Continued)

OO-ALC	MINUTEMAN II	SSAS/CAPS
OO-ALC	MINUTEMAN II	WING V/HEG/RATS
OO-ALC	MINUTEMAN II	WING VI/HEG/RATS
OO-ALC	RF-4	CAN/ARN-101
OC-ALC	ALCM	LEVEL 1 TEST
OC-ALC	ALCM	LOADED PYLON TEST
OC-ALC	ALCM	OFP
OC-ALC	B-1B	CADC
OC-ALC	B-1B	CITS
OC-ALC	B-1B	EMUX
OC-ALC	B-1B	F/CGMS
OC-ALC	B-1B	INS
OC-ALC	B-1B	ORS
OC-ALC	B-52	BNST
OC-ALC	B-52	FTSS
OC-ALC	B-52	MC-1 EXEC
OO-ALC	B-52	MC-2 EXEC
OC-ALC	E-3	AINS
OC-ALC	E-3A	OMEGA
OC-ALC	E-3A	SMCP
OC-ALC	E-3A	SRCP
OC-ALC	E-3A	SRGSCP
OC-ALC	GLCM	DPS
OC-ALC	GLCM	M-DTD
OC-ALC	GLCM	MPT
OC-ALC	GLCM	OFP
OC-ALC	GLCM	WCS
OC-ALC	SRAM	OFP
TINKER	E-3A	AOCP
TINKER	E-3A	UTIL SUPP S/W
LANGLEY	JTIDS	ASIT/TPOCP
LANGLEY	STRTS	STRTS
LANGLEY	TACS	CAFMS
LANGLEY	TIPI	DC/SR
LANGLEY	TIPI	II/MARRES/TEREC
LANGLEY	407L	HUGHES UTIL
LANGLEY	407L	TBM UTIL
LANGLEY	407L	IORP/IMPP

ID : 1
SITE : NORAD
SYSTEM : CSS
SOFTWARE SUBSYSTEM : CSS
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The NORAD Cheyenne Mountain Complex (NCMC) software is a complex of communications-electronics systems for space surveillance, missile warning, and related communications and support functions. The five major software subsystems include NCS, SSC, CSS, MEEU, and MDS.

The Communications System Segment (CSS) provides the required communications interfaces between program elements, between NCMC systems and external systems. It consists of Honeywell Information System (HIS) and NOVA digital computers and application software firmware.

ID : 2
SITE : NORAD
SYSTEM : MDS
SOFTWARE SUBSYSTEM : MDS
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The NORAD Cheyenne Mountain Complex (NCMC) software is a complex of communications-electronics systems for space surveillance, missile warning, and related communications and support functions. The five major software subsystems include NCS, SSC, CSS, MEBU, and MDS.

The Modular Display Sub-system (MDS) consists of Raytheon consoles, Data General NOVA Digital Computers, Ford Aerospace and Communications Corporation (FACC) developed hardware and joint FACC and System Development Corporation developed software/firmware. It provides the NORAD Computer System (NCS) and the Space Surveillance Center (SSC) with the required man-machine interface with the Embedded Computer Resources in the NCMC. Additionally, a CINCNORAD Remote Display Information Terminal has been established which provides CINCNORAD on-line access to NCS data.

ID : I
SITE : NORAD
SYSTEM : MEBU
SOFTWARE SUBSYSTEM : MEBU
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The NORAD Cheyenne Mountain Complex (NCMC) software is a complex of communications-electronics systems for space surveillance, missile warning, and related communications and support functions. The five major software subsystems include NCS, SSC, CSS, MEBU, and MDS.

The Mission Essential Backup/Command Center Processing and Display System (MEBU/CCPDS), consists of UNIVAC 1100 series digital computers and associated display hardware, UNIVAC standard software, MEBU unique software, and CCPDS software. The MEBU provides backup to the NORAD Computer System (NCS) for the Missile Warning Mission of NORAD.

ID : 4
SITE : NORAD
SYSTEM : NCS
SOFTWARE SUBSYSTEM : NCS
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The NORAD Cheyenne Mountain Complex (NCMC) software is a complex of communications-electronics systems for space surveillance, missile warning, and related communications and support functions. The five major software subsystems include NCS, SSC, CSS, MESU, and NDS.

The NORAD Computer System (NCS) consists of the world wide Military Command and Control System (WWMCCS), Honeywell Information Systems (HIS) 6080 digital computers and associated display hardware, related WWMCCS standard software and applications software. The NCS provides CINCNORAD with the required computer resources for command and control of the NORAD forces and for missile warning operations.

The NCS Operations programs comprise a major portion of the NCS software. These programs perform the calculations and data manipulations directly associated with aerospace defense and warning, generate and process simulated data in real-time, and record operational data. They accept real-time inputs from operators and from data sources external to NORAD and generate real-time outputs for internal display and transmission to other users.

The NCS Support software performs the calculations and data manipulations directly associated with exercise generation and data reduction. Its inputs are primarily cards, tape files and disk files, and it generates tape and disk files for use by the operations and utility CPCI and printed reports for use by operations and programming personnel.

The NCS Utility software comprises a minor portion of the C.I. This software performs the utility functions of production testing and support of the NCS Operations and NCS Support programs. It accepts real-time and non-real-time inputs from operators and generates outputs for internal display reconstructions, parameter assembly testing, and library services.

ID : 5
SITE : NORAD
SYSTEM : SSC
SOFTWARE SUBSYSTEM : SSC
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The NORAD Cheyenne Mountain Complex (NCMC) software is a complex of communications-electronics systems for space surveillance, missile warning, and related communications and support functions. The five major software subsystems include NCS, SSC, CSS, MESC, and MSS.

The following SSC functional areas are defined in terms of the capabilities required to support that area of the mission.

(1) Astrodynamic Support provides for accurate, precise, rapid astrodynamic computations.

(2) Operations Center Control supports command direction and control of SSC processing.

(3) Automatic Catalog Maintenance satisfies requirements for automatically initiated (data triggered) processing of sensor observations, and correction and transmission of satellite orbital elements.

(4) Launch Processing provides for detection of new satellite launches, generation and maintenance of orbital elements of new satellites, and control and efficient use of the sensor network during the new-launch time frame.

(5) Breakup Processing provides for efficient generation, correction, maintenance, and cataloging of orbital elements of satellites associated with breakups.

(6) Maneuver Processing provides for detection and analysis of satellite maneuvers, and for generation of element sets for new/changed satellite orbits.

(7) Sensor Control provides for monitoring sensor environment and performance status, managing routine sensor data collection, and optimizing use of the sensor network.

(8) Manual Analysis provides for manually initiated selection of observations and evaluation of orbital accuracy.

(9) External Data Products provides for generation of satellite element catalog and products for use by external system sensors and catalog data users.

(10) Special Mission Products provides data for use by and need individualized support.

(11) Orbital Analyst Products provides for manual processing of space events, and for generation of data used in evaluating and describing satellite orbital element data.

(12) Management Products supports requirements for statistical reports on the operational use of system resources.

(13) System Support provides [illegible] system support for all [illegible] functions.

ID : 5
SITE : WR-ALC
SYSTEM : ALR-46
SOFTWARE SUBSYSTEM : ALR-46
SOFTWARE SUBSYSTEM TYPE : EW
DESCRIPTION:

ALR-46 is a threat warning system. The threat warning system is a software programmable radar warning set which alerts the pilot to the presence of signals emanating from threat radars. Identity and relative bearing of each threat are presented to the pilot to enable the options of avoidance and/or use of countermeasures.

ID : 7
SITE : WR-ALC
SYSTEM : ALR-69
SOFTWARE SUBSYSTEM : ALR-69
SOFTWARE SUBSYSTEM TYPE : EW
DESCRIPTION:

ALR-69 is a threat warning system. The threat warning system is a software programmable radar warning set which alerts the pilot to the presence of signals emanating from threat radars. Identity and relative bearing of each threat are presented to the pilot to enable the options of avoidance and/or use of countermeasures.

ID : 8
SITE : WR-ALC
SYSTEM : AN/ALQ-131
SOFTWARE SUBSYSTEM : AGEOP
SOFTWARE SUBSYSTEM TYPE : EW
DESCRIPTION:

The Aerospace Ground Equipment Operating System (AGEOP) is resident on the AN/ALM-180 and provides initialization of the AN/ALM-180, task scheduler, disk file manager, software driver for I/O devices, and command interpretation. It also provides the operator interface to UUT software through a test executive program.

ID : 1
TITLE : MR-ALQ
SYSTEM : AN/ALQ-131
SOFTWARE SUBSYSTEM : BTG
SOFTWARE SUBSYSTEM TYPE : EW
DESCRIPTION:

The Blue Tape Generator (BTG) is an interactive program to generate the data required by the BDM system Operational Flight Program (OFP). This data consists of both mission data (i.e. threat definitions and jamming techniques) and aircraft data (i.e. amount of prime power available). The input to the BTG is alpha-numeric text and the output is binary data tables.

ID : [illegible]
SITE : WR-ALC
SYSTEM : AN/ALQ-131
SOFTWARE SUBSYSTEM : OFP
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The Operational Flight Program (OFP) provides control, fault detection, and hardware resource allocation during flight operations. These functions are based on data which is the output of the Blue Tape Generator and control commands from the cockpit.

ID : [illegible]
SITE : MR-HILL
SYSTEM : AN/ALQ-131
SOFTWARE SUBSYSTEM : OUT
SOFTWARE SUBSYSTEM TYPE : ATE
DESCRIPTION:

The Unit Under Test (UUT) software is resident on the AN/ALM-136 and provides the interface among the support equipment computer, UUT (AN/ALQ-131) and the maintenance technician in the field shop. This software provides some limited automatic test capability and manual test instructions to the technician for system checkout and fault isolation.

ID : 12
SITE : WR-ALC
SYSTEM : APR-38
SOFTWARE SUBSYSTEM : APR-38
SOFTWARE SUBSYSTEM TYPE : EW
DESCRIPTION:

The APR-38 Homing and Warning system is comprised of four subsystems having a total of 20 Line Replaceable Units. The primary subsystems include: Receiver Set, Control Indicator Set, Homing and Warning Computer, and Computing and Optical Sight System.

E : 17
SITE : WR-ALC
SYSTEM : B-52 EWS ATE
SOFTWARE SUBSYSTEM : ASQ-151
SOFTWARE SUBSYSTEM TYPE : ATE
DESCRIPTION:

Not Available.

ID : 14
SITE : WR-ALC
SYSTEM : E-3A AVIONICS ATE
SOFTWARE SUBSYSTEM : AN/GSM-285(B)
SOFTWARE SUBSYSTEM TYPE : A E
DESCRIPTION:

The E-3 Airborne Warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (C3) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs (including programs for Automatic Test Equipment (ATE)).

ATE provides two major capabilities: to determine rapidly whether or not the Unit Under Test (UUT) needs repair and to isolate the fault in a failed UUT to a lower level. ATE software is used for system control, translation, checkout, and execution of test programs to provide ATE Diagnosis/Fault Isolation and Support Software Maintenance.

The AN/GSM-285 is a general purpose, computer-controlled Automatic Test System composed of Boeing (B) developed software and Warner Robins (U) developed software. It is used at the depot level in conjunction with adapters, test programs, and procedures for functional testing and fault isolation of digital and analog/hybrid E-3 Avionics circuit cards. In addition, it can be used for on-line generation, editing, and validation of test programs. Basically, the AN/GSM-285 provides power and signal stimuli, measurement, and signal switching to and from the UUT. Through the test program, the computer is used to control and sequence test, to generate UUT stimulus waveforms, and to analyze UUT response signals.

ID : 18
SITE : WR-ALC
SYSTEM : E-3A AVIONICS ATE
SOFTWARE SUBSYSTEM : AN/GSM-285(W)
SOFTWARE SUBSYSTEM TYPE : ATE
DESCRIPTION:

The E-3 Airborne warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (C3) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs (including programs for Automatic Test Equipment (ATE)).

ATE provides two major capabilities: to determine rapidly whether or not the Unit Under Test (UUT) needs repair and to isolate the fault in a failed UUT to a lower level. ATE software is used for system control, translation, checkout, and execution of test programs to provide ATE Diagnosis/Fault Isolation and Support Software Maintenance.

The AN/GSM-285 is a general purpose, computer-controlled Automatic Test System composed of Boeing (B) developed software and Warner Robins (W) developed software. It is used at the depot level in conjunction with adapters, test programs, and procedures for functional testing and fault isolation of digital and analog/hybrid E-3 Avionics circuit cards. In addition, it can be used for on-line generation, editing, and verification of test programs. Basically, the AN/GSM-285 provides power and signal stimuli, measurement, and signal switching to and from the UUT. Through the test program, the computer is used to control and sequence test, to generate UUT stimulus waveforms, and to analyze UUT response signals.

ID : 15
SITE : WR-ALC
SYSTEM : F-15
SOFTWARE SUBSYSTEM : CC
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The F-15, designed and manufactured by McDonnell Aircraft Company (McAir), is a single seat, twin turbofan, air superiority fighter weighing about 40,000 pounds with engines which develop approximately 25,000 pounds of thrust each. It is in the Mach 2.5 class. Armament includes 4 AIM-7 Sparrows, 4 AIM-9 Sidewinders, and a 20mm M-61 gun. The primary mission of the F-15 is air-to-air combat with ground attack as a secondary capability.

The F-15 Central Computer (CC) is an IBM developed general purpose, stored program, simplex, high speed, digital machine designated the AP-1. The CC memory is random access, non-volatile core with a capacity of 16,384 24-bit words (2 parity) which is expandable to 24,576 words.

The F-15 CC Operational Flight Program (OFP) is divided into eight program modules which primarily perform mission oriented calculations and output the results to the appropriate F-15 subsystems. The eight program modules are: Executive, Air-to-Air, Air-to_ground, Navigation, Flight Director, Control and Display, Computer Self Test, and Math Subroutine.

ID : 17
SITE : WR-ALC
SYSTEM : F-15
SOFTWARE SUBSYSTEM : RADAR
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The F-15, designed and manufactured by McDonnell Aircraft Company (McAir), is a single seat, twin turbofan, air superiority fighter weighing about 40,000 pounds with engines which develop approximately 25,000 pounds of thrust each. It is in the Mach 2.5 class. Armament includes 4-AIM-7 Sparrows, 4 AIM-9 Sidewinders, and a 20mm M-61 gun. The primary mission of the F-15 is air-to-air combat with ground attack as a secondary capability.

The radar system consists of Radar Set AN/APG-63 and Indicator Group OD-60/A. It is a coherent, X-band, multiple PRF, multi-mode, attack radar. The system searches for, acquires, and tracks airborne targets while providing a clutter-free display of all radar information. The system also provides air-to-ground mapping and ranging, as well as a radar beacon mode in both air-to-air and air-to-ground operation.

The Radar Data Processor (RDP) is a Hughes developed general purpose computer which provides the focal point for radar set operation as well as for interface with other avionics equipment. The RDP consists of a processor, a special input/output unit and integrated power supply. Three RDP configurations are planned: a 16K device using core memory, a 24K device using solid state memory, and a larger for solid state device to include the Programmable Signal Processor (PSP Line Replaceable Unit as well as expansion space for the RDP.

The RDP and PSP software are loaded together. The RDP programs provide for radar acquisition, track and built-in-test functions. The PSP programs provide digital processing of the radar returns.

ID : 18
SITE : WR-ALC
SYSTEM : F-15 AVIONICS ATE
SOFTWARE SUBSYSTEM : ADTS,AIS
SOFTWARE SUBSYSTEM TYPE : ATE
DESCRIPTION:

Automatic Test Equipment (ATE) software applies collectively to three categories: Test Software, Support Software and Control Software. Test Software includes programs which control the testing operations and procedures (including certification and fault isolation) of the ATE, and programs used to control the stimulus and measurement parameters used in testing the Avionics and ATE Unit Under Test (UUT). Support Software includes programs which aid in preparing, analyzing, and maintaining test software. This software includes ATE compilers, translation/analysis programs, and punch/print programs. Control Software includes programs used during excution of a test program which controls the nontesting operations of the ATE. This software is used to execute a test procedure but does not contain any of the stimuli of measurement parameters used in testing the UUT.

ATE system software primarily includes the Avionics Intermediate Shop (AIS) and Avionic Depot Test Station (ADTS) subsystems. The F-15 AIS ATE support software uses F-15 Adapted ATLAS as the source language, and extensively modified version of the FLACE Compiler, which is called the F-15 Adapted FLACE ATLAS (FAFA) compiler. The control language is Bendix Assembly and the control computer is the Bendix 6200. The executive/OF system controls UUT test operation, self test, CA/FI tests and mass storage edit functions. The F-15 ADTS Computer Control System (OF system) is divided into five basic functions as follows: (1) Executive - controls all programs/subprograms, (2) Translation - assembly language to machine language, (3) Execution control - actual test functions, (4) Utility - those routines for editing, debugging, etc, and (5) Maintenance - Self Test and CA/FI programs.

ID : 19
SITE : WR-ALC
SYSTEM : JTIDS
SOFTWARE SUBSYSTEM : ASIT/OCP
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The Joint Tactical Information Distribution System (JTIDS) is an advanced system which provides Communications, Navigation, and Identification capabilities in an integrated form for application to military tactical and air defense operations. These capabilities are provided through the ability of the system to distribute information quickly and encrypted to provide security and reliability in hostile environments. Security and jamming resistance are obtained through the use of pseudorandom signal processing techniques. The system provides a capability to interconnect scattered sources of surveillance, support, and intelligence information, weapons controllers, weapons systems, and decision-making commanders. JTIDS provides mobile surface and airborne force elements with a relative navigation capability within a common position reference grid and an intrinsic identification capability through the dissemination of crypto-secure position, velocity, and identity information concerning both friendly and hostile force elements.

The Adaptable Surface Interface Terminal (ASIT) equipment provides a transparent interface between existing ground command and control systems and the JTIDS network. The ASIT includes unique hardware and software along with a GFE Hughes Improved Terminal (HIT) with an IBM ML-1 Translator Processor (TP). The HIT will be referred to as the Class 1 Terminal. The ASIT converts the TADIL B Message Standard of the host platform/system into the Interim JTIDS Message Specification (IJMS) and vice versa.

ID : 21
SITE : WR-ALC
SYSTEM : JTIDS
SOFTWARE SUBSYSTEM : E-3A AWACS/OCF
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The Joint Tactical Information Distribution System (JTIDS) is an advanced system which provides Communications, Navigation, and Identification capabilities in an integrated form for application to military tactical and air defense operations. These capabilities are provided through the ability of the system to distribute information quickly and encrypted to provide security and reliability in hostile environments. Security and jamming resistance are obtained through the use of pseudorandom signal processing techniques. The system provides a capability to interconnect scattered sources of surveillance, support, and intelligence information, weapons controllers, weapons systems, and decision-making commanders. JTIDS provides mobile surface and airborne force elements with a relative navigation capability within a common position reference grid and an intrinsic identification capability through the dissemination of crypto-secure position, velocity, and identity information concerning both friendly and hostile force elements.

The Class 1 is a high powered terminal for use in the E-3 and Adaptable Surface Interface Terminal (ASIT) Command, Control and Communications (C3) systems. It consists of both hardware and computer program software to participate in the JTIDS. The terminal provides the capability to transmit in assigned time slots within the network structure and to receive in all time slots not used for transmission. The Class 1 Terminal uses the Interim JTIDS Message Specification (IJMS) as its message format.

The E-3 and ASIT version of the Class 1 is required to [illegible] changes to the operational flight program [illegible] used as a final verification of the [illegible] for testing and program [illegible]

AD-A190 284 SOFTWARE SUPPORTABILITY RISK ASSESSMENT IN OT&E (OPERATIONAL TEST AND EVA..(U) BDM CORP ALBUQUERQUE NM D E PEERCY ET AL. 07 OCT 85 BDM/A-85-0510-TR-VOL-2 2/2

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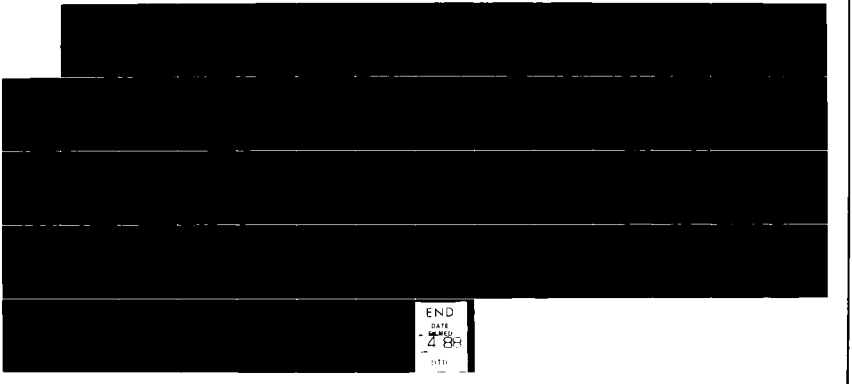

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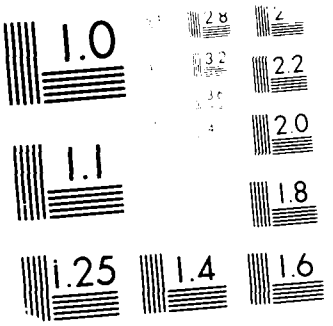
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1.1
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2.0
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ID : 21
SITE : WR-ALC
SYSTEM : JTIDS
SOFTWARE SUBSYSTEM : SP/USER
SOFTWARE SUBSYSTEM TYPE : SIM
DESCRIPTION:

The Joint Tactical Information Distribution System (JTIDS) is an advanced system which provides Communications, Navigation, and Identification capabilities in an integrated form for application to military tactical and air defense operations. These capabilities are provided through the ability of the system to distribute information quickly and encrypted to provide security and reliability in hostile environments. Security and jamming resistance are obtained through the use of pseudorandom signal processing techniques. The system provides a capability to interconnect scattered sources of surveillance, support, and intelligence information, weapons controllers, weapons systems, and decision-making commanders. JTIDS provides mobile surface and airborne force elements with a relative navigation capability within a common position reference grid and an intrinsic identification capability through the dissemination of crypto-secure position, velocity, and identity information concerning both friendly and hostile force elements.

The Signal Processor User (SP/USER) Simulation Software is used to decud, test and exercise the Adaptable Surface Interface Terminal (ASIT)/E-3 Class 1 Operational Computer Programs (OCPs). It also simulates 3 users (ASIT and/or E-3) or one user and/or a JTIDS network.

ID : 22
SITE : WR-ALC
SYSTEM : JTIDS
SOFTWARE SUBSYSTEM : SYS EXERCISER
SOFTWARE SUBSYSTEM TYPE : SIM
DESCRIPTION:

The Joint Tactical Information Distribution System (JTIDS) is an advanced system which provides Communications, Navigation, and Identification capabilities in an integrated form for application to military tactical and air defense operations. These capabilities are provided through the ability of the system to distribute information quickly and encrypted to provide security and reliability in hostile environments. Security and jamming resistance are obtained through the use of pseudorandom signal processing techniques. The system provides a capability to interconnect scattered sources of surveillance, support, and intelligence information, weapons controllers, weapons systems, and decision-making commanders. JTIDS provides mobile surface and airborne force elements with a relative navigation capability within a common position reference grid and an intrinsic identification capability through the dissemination of crypto-secure position, velocity, and identity information concerning both friendly and hostile force elements.

The JTIDS System Exerciser (JSE) will be used to fully load the JTIDS net and create test scenarios for correcting problems. The JSE will enable real-time JTIDS tracks to be entered on the net independent from the surface subscriber source.

ID : 23
SITE : WR-ALC
SYSTEM : PAVE TACK
SOFTWARE SUBSYSTEM : AISF
SOFTWARE SUBSYSTEM TYPE : SUP
DESCRIPTION:

Pave Tack (AN/AVQ-26) is a 24 hour electro-optical target acquisition, laser/designator, and weapon delivery system for the United States Air Force. The system consists of a fuselage mounted pod and associated cockpit controls and display. It employs an Infrared Detecting Set which permits both day and night operation along with a relative adverse weather capability. In addition, it provides target location data to the aircraft weapons delivery digital computer to permit more accurate delivery of both conventional and guided ordanance. Pave Tack is currently configured for the USAF RF-4C, F-4E, and the F-111F aircraft.

The PAVE TACK Avionics Integration Support Facility (AISF) is an integrated set of hardware and software tools and avionics equipment used for the operational life support of the Pave Tack Operational Flight Program and Operational Test Program as used in the Pave Tack pod. The PTAISF provides capability to analyze impacts of Pave Tack user requests for changes, to modify the Operational Software, to verify and validate the modified software and to generate organizational maintenance level cassettes.

ID : 24
SITE : WR-ALC
SYSTEM : PAVE TACK
SOFTWARE SUBSYSTEM : OFP
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

Pave Tack (AN/AVQ-26) is a 24 hour electro-optical target acquisition, laser/designator, and weapon delivery system for the United States Air Force. The system consists of a fuselage mounted pod and associated cockpit controls and display. It employs an Infrared Detecting Set which permits both day and night operation along with a relative adverse weather capability. In addition, it provides target location data to the aircraft weapons delivery digital computer to permit more accurate delivery of both conventional and guided ordanance. Pave Tack is currently configured for the USAF RF-4C, F-4E, and the F-111F aircraft.

The PAVE TACK Operational Flight Program (OFP) provides an interface function between the PAVE TACK pod, and the associated aircraft cockpit controls/display system and weapons delivery digital computer.

ID : 25
SITE : SM-ALC
SYSTEM : F-111D
SOFTWARE SUBSYSTEM : WNC
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The navigation and weapon delivery system in the F-111 aircraft is an integrated avionics system. The heart of this system consists of two mission computers. One of these computers functions primarily as a weapons delivery computer and the other functions primarily as a general navigation computer. The Operational Flight Programs (OFP) loaded into these computers provides the navigation and weapon delivery computations and data required for automatic weapon delivery. Backup logic for most functions of each computer allows either computer to perform both navigation and weapon delivery functions in the event of a single computer failure. Some of the major modules in the OFPs are:

(1) Navigation
(2) Data Entry
(3) Designation
(4) Steering
(5) Weapon Delivery
(6) Air/Air Display

All F-111 OFPs written before 1985 were in IBM Assembly Language and were hosted in IBM 4-PI computers. Current OFPs are written in Singer CP2-EA Assembly Language and are hosted in Singer Weapons Navigation Computers (WNC). A rewrite of the FB-111A OFP into High Order Language (JOVIAL) is currently in progress.

ID : 26
SITE : SM-ALC
SYSTEM : F-111F
SOFTWARE SUBSYSTEM : WNC
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The navigation and weapon delivery system in the F-111 aircraft is an integrated avionics system. The heart of this system consists of two mission computers. One of these computers functions primarily as a weapons delivery computer and the other functions primarily as a general navigation computer. The Operational Flight Programs (OFP) loaded into these computers provides the navigation and weapon delivery computations and data required for automatic weapon delivery. Backup logic for most functions of each computer allows either computer to perform both navigation and weapon delivery functions in the event of a single computer failure. Some of the major modules in the OFPs are:

(1) Navigation
(2) Data Entry
(3) Designation
(4) Steering
(5) Weapon Delivery
(6) Air/Air Display

All F-111 OFPs written before 1985 were in IBM Assembly Language and were hosted in IBM 4-PI computers. Current OFPs are written in Singer CP2-EX Assembly Language and are hosted in Singer Weapons Navigation Computers (WNC). A rewrite of the FB-111A OFP into High Order Language (JOVIAL) is currently in progress.

ID : 27
SITE : BM-ALC
SYSTEM : FB-111A
SOFTWARE SUBSYSTEM : WNC
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The navigation and weapon delivery system in the F-111 aircraft is an integrated avionics system. The heart of this system consists of two mission computers. One of these computers functions primarily as a weapons delivery computer and the other functions primarily as a general navigation computer. The Operational Flight Programs (OFP) loaded into these computers provides the navigation and weapon delivery computations and data required for automatic weapon delivery. Backup logic for most functions of each computer allows either computer to perform both navigation and weapon delivery functions in the event of a single computer failure. Some of the major modules in the OFPs are:

(1) Navigation
(2) Data Entry
(3) Designation
(4) Steering
(5) Weapon Delivery
(6) Air/Air Display

All F-111 OFPs written before 1985 were in IBM Assembly Language and were hosted in IBM 4-PI computers. Current OFPs are written in Singer CP2-EX Assembly Language and are hosted in Singer Weapons Navigation Computers (WNC). A rewrite of the FB-111A OFP into High Order Language (JOVIAL) is currently in progress.

ID : 18
SITE : CASTLE AFB
SYSTEM : B-52
SOFTWARE SUBSYSTEM : CPT
SOFTWARE SUBSYSTEM TYPE : ATD
DESCRIPTION:

The B-52 G/H Flight Simulator System Cockpit Trainer (B-52 CPT is a uniquely tailored stand-alone software system which operates in real-time, receiving inputs from and transmitting outputs to the Flight Simulator and the Instructor Station.

ID : 29
SITE : CASTLE AFB
SYSTEM : B-52
SOFTWARE SUBSYSTEM : WST
SOFTWARE SUBSYSTEM TYPE : ATD
DESCRIPTION:

The B-52 Weapons System Trainer (WST) will effectively support the training conducted at the Combat Crew Training Schools (CCTS) and Main Operating Bases (MOB) by providing capability in initial combat crew qualification, mission qualifications and continuation training for the maintenance of individual crew members and combined crew proficiency in the assigned tactical missions. Training that is directly transferable to the aircraft will be provided for B-52 Pilots, Copilots, Navigators, Electronic Warfare Officers, and Defensive Gunners. These capabilities will be implemented through high fidelity simulation of flight and system characteristics and incorporation of instructional features designed to aid instructors in their task of instruction and performance evaluation.

Training in mission requirements from preflight to postflight may be accomplished and will include:

(1) Mission planning
(2) Transition training
(3) Takeoff and landing training
(4) Emergency procedure training
(5) Instrument flight procedures and techniques
(6) Aerial refueling operations
(7) General navigation procedures
(8) Celestial and pressure pattern navigation
(9) Gravity weapon delivery
(10) Special weapon delivery
(11) Short Range Attack Missile/Air Launched Cruise Missile delivery
(12) Terrain avoidance procedures and techniques
(13) Threat evaluation and jamming
(14) Tailgun Firing
(15) Communication procedures
(16) Crew coordination
(17) Emergency war order training

ID : 30
SITE : CASTLE AFB
SYSTEM : KC-135
SOFTWARE SUBSYSTEM : WST
SOFTWARE SUBSYSTEM TYPE : ATD
DESCRIPTION:

The KC-135 Weapons System Trainer (WST) will effectively support the training conducted at the combat Crew Training Schools and Main Operating Bases by providing capability in initial combat crew qualification, mission qualification, and continuation training for the maintenance of individual crew members and combined crew directly transferable to the aircraft will be provided for KC-135 pilots, copilots, and navigators. These capabilities will be implemented through high fidelity simulation of flight and system characteristics and incorporation of instructional features designed to aid instructors in their task of instruction and performance evaluation.

The KC-135 WST design is subdivided into four major subsystems: Flight, Navigator, Digital Radar Landmass, and Digital Image Generation (DIG) and includes the following:

(1) Replica of the KC-135 Flight Station with positions for the pilot and copilot
(2) Six-degree-of-freedom synergistic motion system for the Flight Station
(3) Independent replica of the KC-135 Navigator Station with position for the Navigator
(4) Modern CRT Instructor Stations
(5) Digital Radar Landmass System
(6) DIG Visual System
(7) Perkin-Elmer 8/32 computer complexes
(8) Over-the-shoulder instructor positions on board each of the two stations

ID : 11
SITE : CASTLE AFB
SYSTEM : T-4 TRAINER
SOFTWARE SUBSYSTEM : T-4 SIMULATOR
SOFTWARE SUBSYSTEM TYPE : MTD
DESCRIPTION:

The T-4 Simulator system simulates the Electronic Warfare (EW) portion of the B-52. Basically all T4 simulators consist of four major sections in addition to the power distribution panels. The instructor station section, system simulation section, and student station section make up the instructor student equipment. The T4-V5 has four additional student stations and associated power panel.

ID : FC
SITE : CO-ALC
SYSTEM : F-16
SOFTWARE SUBSYSTEM : FCC
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The Fire Control Computer (FCC) performs five functions of primary importance to the F-16 weapon system: weapon delivery, energy management, MIL-STD-1553 multiplex bus control, navigation-related functions, and self test. The majority of the logical operations and mathematical computations needed to implement these five functions are carried out in the FCC. Additionally, the FCC interfaces with other subsystems such as the cockpit controls/displays, fuel measurement system, etc., through discrete inputs/outputs and analog inputs/outputs.

The software executed in the FCC is referred to as the FCC Operational Flight Program (OFP). The majority of the FCC OFP is written in the JOVIAL J73-I high order language and is mechanized in a modular structure. Minor elements of FCC code are written in Magic 20I Assembly language. The FCC OFP is the only F-16 OFP written in high order language. The other six OFPs are written their applicable assembly languages. The FCC OFP is stored in magnetic core memory. The programming languages used were implemented prior to the USAF HOL policy. Cost and timing considerations preclude reprogramming these OFPs in HOL.

The FCC OFP provides logic and computations to implement and integrate fire control system modes and functions. The OFP consists of computer processing instructions which have been developed to satisfy allocated avionic requirements. Because of its central role in integrating F-16 sensors and equipment into the desired fire control system, the OFP is designated a configuration item and is managed in accordance with MIL-STD-483 and the configuration management plan (OFP1E).

The FCC OFP is a real-time program which coordinates sensor and equipment data transfers over the serial digital multiplex data bus and schedules various processing activities to implement the fire control and navigation modes selected by the pilot.

ID : DD
SITE : CO-ALC
SYSTEM : F-16
SOFTWARE SUBSYSTEM : HUD
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The new Head-Up Display (HUD) system element is a proven electro-optical design configured as a functional follow-on to the HUD currently (1984) installed and operating in the F-16. The HUD is composed of three line replaceable units (LRUs): a display unit, an electronics unit, and a rate sensor unit. All of these are provided by Marconi-Elliott.

The HUD presents to the pilot visual flight and weapon delivery information as a forward real-world view while operating in a head-up position. The display provides a collimated image that is optically superimposed on the real-world view.

The display unit includes a combiner glass and mount capable of withstanding an air load of not less than 600 knots, a high brightness cathode ray tube that provides stroke-written symbology refreshed at a 50Hz rate, a night filter, a stencil manually depressible (2-2½ mr) reticle, and selectable symbol declutter control.

The electronics unit processes input data for symbol format displays. This repertoire includes symbology for its selected operational modes. Also, the electronics unit provides the computation of the snapshot air-to-air gunnery solution and the backup missile launch solution.

The rate sensor unit includes the measurement, processing and output of the air frame angular velocity components of roll, pitch, and yaw and normal acceleration as inputs for avionic systems computations.

ID : I4
SITE : OO-ALC
SYSTEM : F-16
SOFTWARE SUBSYSTEM : OFT
SOFTWARE SUBSYSTEM TYPE : ATD
DESCRIPTION:

The Operational Flight Trainer (OFT) simulator cockpit is a replica of the F-16 aircraft cockpit. All instruments, fly-by-wire controls, avionics displays, and indicators are identical in appearance, color, feel and function to those of the F-16 aircraft design. All operating controls are monitored by the computational system, and resulting indications will be in response to the real-time software programs and avionic equipment. A mechanoreceptor cuing system comprised of a G-Seat, Anti-G Suit, and Seat Shaker is completely integrated into the cockpit to provide the needed motion indications. The fly-by-wire flight controls interact via signal conversion equipment (SCE) with the flight control system software model. An aural cue system will reproduce realistic aircraft sounds. The F-16 OFT is controlled and driven by a NORD-10/S0 computer system. The computer system includes all required SCE, avionics multiplex bus interface, interfaces to visual, tactical, and instructional systems, simulator peripheral equipment, and operational software to control the simulation.

The Fire Control Computer, Stores Management System, Stores Control Panel, Central Interface Unit, Fire Control Navigation Panel, Heads-Up Display and Radar Electro-Optics are unmodified aircraft hardware, while the Remote Interface Units and the Fire Control Radar are simulated. Hardware and software produce air-to-air simulation and a representative air-to-ground simulation providing a pseudoground return combined with actual spatial modeling of surface targets. The remaining items of the aircraft avionics equipment, Central Air Data Computer, Target Identification Set Laser, Inertial Navigation System and Flight Control computer are realistically simulated in software to provide the proper stimuli to the physical avionic equipment.

THE BDM CORPORATION

ID : 35
SITE : OO-ALC
SYSTEM : F-16
SOFTWARE SUBSYSTEM : FCR
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The F-16 Radar is a coherent pulse-doppler, multimode, digital fire control sensor designed to complement the air superiority and the strike roles of the F-16 multirole fighter. The radar is made up of six line replacable units (LRUs): Antenna, transmitter, low-power radio frequency unit, digital signal processor, radar computer, and radar control pannel.

The Fire Control Radar Operational Flight Progrm (FCR OFP) resides in the radar comouter and interactively controls the functions of the other five LRUs. Communication with the other avionic computers is via the MUX bus. Additionally, the FCR interfaces with other subsystems through discrete inputs/outputs, video, analog input/output, and synchro input/output. The FCR OFP is written in assembly language and the OFP storage medium is erasable-programmable read-only memory.

The FCR OFP provides the processing necessary to implement F-16 radar system modes and functions, and to provide overall control of the radar hardware. The FCR OFP provides the required computations to perform the F-16 modes of operation. The FCR operation mode is determined by mode commands received from the Radar Control Panel, the Fire Control Computer, and the Stores Management Subsystem.

ID : Jo
SITE : CO-HLC
SYSTEM : F-16
SOFTWARE SUBSYSTEM : SMS
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The Stores Management System (SMS) provides for the monitoring, control, release, and jettisoning of stores on a selective and emergency basis. The SMS consists of three major components: Stores Control Pannel (SCP), Central Interface Unit (CIU), and the Remote Interface Units. The SCP provides a continuous display of stores identification, location, quantity, percent status, and delivery mode.

Communication with other avionic computers is via the MUX bus. Additionally, the SMS interfaces with other subsystems through discrete and analog inputs/outputs. The SMS Operational Flight Program (OFP) resides in the CIU in erasable-programmable read-only memory and is written in assembly language.

The SMS contains two microprocessors. The first microprocessor provides for the monitor, control and release of the loaded stores, and for jettison on a selective and emergency basis. The second microprocessor updates the SCP display and outputs data to the Bus. If either microprocessor or its associated memory or data busses malfunction, the other microprocessor will shut it down and will take over its functions. The SMS contains the provisions for a comprehensive self-test to minimize the amount of external testing required. The functions provided by the SMS include the following features:

(1) Monitoring - display of store identification, location, quantity and present status.
(2) Control - preparation for stores release through controls which allow pre-programming the SMS on the ground or during a mission.
(3) Release - accomplishment of armed store release when requirements for release are satisfied.
(4) Jettison - selective or emergency jettison of stores.
(5) Mission Loading - acceptance of stores inventory data into SMS memory via the SCP.

A number of pre-determined alternative programs for individual stores are present in the main memory. Each program contains a selection of all of the options (except master Arm) necessary to ready a store for release, i.e., a weapon delivery option, an arming option, a release sequence option (such as step singles/pairs, ripple singles/pairs, etc.) and, applicable to ripple releases, the number of and separation between pulses.

THE BDM CORPORATION

ID : JJ
SITE : OO-ALC
SYSTEM : F-4
SOFTWARE SUBSYSTEM : MDTS
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

Not Available.

ID : I8
SITE : OO-ALC
SYSTEM : F-4E
SOFTWARE SUBSYSTEM : AN/ARN-[illegible]
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

Not Available.

ID : [illegible]
SITE : [illegible]
SYSTEM : F-4G
SOFTWARE SUBSYSTEM : [illegible]
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

Not Available.

ID : 40
SITE : CO-ALC
SYSTEM : F-4G
SOFTWARE SUBSYSTEM : [illegible]
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

Not Available.

ID : 41
SITE : CO-HILL
SYSTEM : MINUTEMAN
SOFTWARE SUBSYSTEM : WING II 2015
SOFTWARE SUBSYSTEM TYPE : SIM
DESCRIPTION:

Not Available.

ID : 42
SITE : [illegible]
SYSTEM : MINUTEMAN
SOFTWARE SUBSYSTEM : WING VI [illegible]
SOFTWARE SUBSYSTEM TYPE : SIM
DESCRIPTION:

Not Available.

ID : 41
SITE : OO-ALC
SYSTEM : MINUTEMAN
SOFTWARE SUBSYSTEM : WINGS/HS-28
SOFTWARE SUBSYSTEM TYPE : SIM
DESCRIPTION:

Not Available.

ID : 44
SITE : OO-ALC
SYSTEM : MINUTEMAN II
SOFTWARE SUBSYSTEM : SSAS/CAFS
SOFTWARE SUBSYSTEM TYPE : SIM
DESCRIPTION:

Not Available.

ID : 48
SITE : GO-ALC
SYSTEM : MINUTEMAN II
SOFTWARE SUBSYSTEM : WING XI/HEGAFRATE
SOFTWARE SUBSYSTEM TYPE : SUP
DESCRIPTION:

Not Available.

ID : 46
SITE : OO-ALC
SYSTEM : MINUTEMAN II
SOFTWARE SUBSYSTEM : WING XI MEB/SMTE
SOFTWARE SUBSYSTEM TYPE : SOF
DESCRIPTION:

Not Available.

ID : 47
SITE : OO-ALC
SYSTEM : RF-4C
SOFTWARE SUBSYSTEM : AN/ARN-[illegible]
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

Not Available.

ID : 48
SITE : OC-ALC
SYSTEM : ALCM
SOFTWARE SUBSYSTEM : LIT
SOFTWARE SUBSYSTEM TYPE : ATE
DESCRIPTION:

Level 1 Test (LIT) Software performs a field/depot level functional test of the AGM-86B Air Vehicle (ALCM). It supports Missile Shop Replacement Unit Fault Isolation, Inertial Platform Calibration and Air Vehicle Certification after component replacement or missile upgrade. Major Test areas are:

(1) ALCM/Electronic System Test Set Monitoring Circuits - verifies that monitoring circuits are within prescribed limits prior to applying power to the air vehicle.

(2) ALCM Power - Verifies the air vehicle power tolerance.

(3) ADCU Program Load and Verification - Loads and tests the load of the Air Vehicle Digital Unit (ADCU) test software.

(4) Status and Fault Monitoring - Initializes monitoring of the Fault Isolation Record Table for the Level 1 performance test and verifies proper ADCU hardware operation.

(5) INE Alignment and Navigation - Verifies execution of the INE Ground Alignment Sequence, the performance of the INE in the Navigation Mode and, that the effects of bias and scale factor of the vertical accelerometer are within tolerance.

(6) Missile Radar Altimeter (MRA), Common Missile Radar Altimeter (CMRA) - Tests the radar altimeters.

(7) Guided Missile Flight Controller Tests - Flight control of: Flight Control Power Supply Regulated Voltage; Movement of Engine thrust Controller; Gain and Frequency response of Flight Control Pitch/Roll Channels; movement of Air Vehicle Elevons and; Aliveness of Telemetry Points.

(8) Air Data Element - Verifies performance of the Pressure-Sensing Transducer and Electrical Resistance Temperature Transmitter.

(9) Inertial Reference Unit Torquing Test and INE Interface - Verifies the INE can torque the stable platform in roll and pitch and generate the correct phasing of the flight control roll channel error signal.

(10) Flight Control Sensor Test - Verifies the FCE sensed electrical power, wheel speed detection circuitry and, flight control enable isolation buffer circuit.

(11) Main DC Power, Rotary Switch and Warhead Commands - Verifies main DC power bus integrity from the DC generator, separation switch performance and associated circuit integrity, and CME/Warhead Safe/Arm/Fuzing commands.

(12) Flight Control Prelaunch Test - Verifies elevons are restraining when in a stowed position and that the FCE Prelaunch Test can be successfully conducted.

(13) INE Platform Calibration - Calibrates certain inertial reference unit error parameters.

ID : 49
SITE : OC-ALC
SYSTEM : ALCM
SOFTWARE SUBSYSTEM : LPT
SOFTWARE SUBSYSTEM TYPE : ATE
DESCRIPTION:

Loaded Pylon Test (LPT) Software is a field level functional test to verify operational status of loaded pylon and inertial platform calibration of all missiles, with or without warheads installed.

(1) Continuity and Isolation - verifies that the correct patchboard has been installed, cooling air applied, pylon continuity and isolation and sets the pylon terminal address.

(2) Power Application - Applies 400 Hz. power to the pylon and to each missile. It also applies electronic power to each missile.

(3) ADCU Program Load and Verification - Loads the Air Vehicle Digital Computer Unit (ADCU) test software and verifies that this software has been correctly loaded into the ADCU of each missile.

(4) INE Platform Calibration - This test is a calibration sequence to update certain inertial reference unit error parameters.

(5) INE Ground Alignment and Navigation - Verifies capability of the INE to execute properly the INE ground alignment sequence, the performance of the INE in the navigation mode and, that the effects of bias and scale factor of the vertical accelerometer have not exceeded acceptable limits.

(6) Flight Control Prelaunch Test - verifies that the FCS prelaunch test can be successfully conducted.

(7) Flight Control - Tests flight control functions including the roll and pitch channel integrators, cruise limit discretes, the DACR and DECR.

(8) IRU Torquing - verifies the Inertial Reference Unit (IRU) torquing about the INUE platform roll and pitch axis.

(9) Spin Down and Power Removal - used for gyro spin down and to remove power from the pylon and to verify the missile interface unit, MIU and missile status.

(10) Fast Data Block Screening Test - To detect a possible MIU modem and handshake intermittent failures.

(11) Load Flight Software - Reapplies power after the test program data storage disc has been replaced with the flight software data storage disc and load and initialize the flight software into each missile.

(12) Power Down - Removes power from the pylon at the successful conclusion of the LPT.

ID : 50
SITE : OC-ALC
SYSTEM : ALCM
SOFTWARE SUBSYSTEM : OFP
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The Air Launched Cruise Missile Operational Flight Program (ALCM OFP) provides all of the control logic required for captive alignment, free flight navigation and steering, terrain correlation and warhead control. The OFP executes a unique ALCM mission generated by the strategic mission planning system and loaded into the Air Vehicle Digital Computer Unit (AVDCU) by the B-52 Offensive Avionics System (OAS) or B-1B Embedded Computer System. Specifically, the OFP is designed to do the following:

(1) Provides commands to the Inertial Reference Unit to bring it into coarse alignment.
(2) Monitors Inertial Navigation Element Built-In-Test circuits and tests avionics subsystems.
(3) Computes Air Vehicle (A/V) position and velocity relative to earth.
(4) Processes independent position measurement data to correct errors in the level channel navigation and inertial element alignment.
(5) Compares the terrain altitude profile of the A/V flight path to prestored map areas.
(6) Provides for safe transition from captive carry to free flight by activating subsystems to provide A/V flight control and propulsion.
(7) Provides transitions of mission segments by processing A/V and waypoint position data.
(8) Controls mode sequencing of the inertial platform for caging, power down, and nuclear recovery.
(9) Uses A/V position data and mission data to compute vertical and lateral steering commands.
(10) Computes the throttle command to maintain the A/V at prestored mach/time of arrival schedule.
(11) Performs warhead arming by processing A/V position and target data to determine arrival at target and activates the warhead at the target via commands.
(12) Processes temperature and pressure data to compute A/V altitude, mach number, dynamic pressure and weight.
(13) Restores itself to the pre-event configuration and restarts the system after a nuclear shutdown of the AVDCU.
(14) Commands the A/V to the proper conditions required for deployment of the recovery system for midair retrieval.
(15) Provides the capability for the OFP to execute in free flight mode while the A/V is in captive carry.
(16) Provides for the OFP to execute in the system flydown laboratory without initialization data from the carrier aircraft.

ID : 51
SITE : OC-ALC
SYSTEM : B-1B
SOFTWARE SUBSYSTEM : CADC
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The program requirement of the Central Air Data Computer (CADC) is to supply air data and stall warning data to the primary air data displays, flight control subsystem, avionics computer, and other aircraft subsystems. The basic functions supplied by CADC are as follows:

(1) Provides altitude and rate of climb/descent calculation.
(2) Provides mach/mach rate calculation.
(3) Provides calibrated airspeed and acceleration calculation.
(4) Provides true airspeed/acceleration, and temperature computation.
(5) Supplies air data and stall warning data to the primary air data displays.
(6) Provides operational performance data to Centralized Integrated Test System.

ID : 52
SITE : OC-ALC
SYSTEM : B-1B
SOFTWARE SUBSYSTEM : CITS
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The B-1B Centralized Integrated Test System (CITS) provides for the collection and display of fault conditions in both avionics and non-avionics subsystems. Data identifying failures detected by the Central Computing System (CCS), as well as those detected by the TFACU and FACU, are consolidated into a single ACU (GNACU) and transimitted to the CITS dedicated computer. In performing those functions, CITS performs the following tasks:

(1) Scheduling and timing control of functional modules.
(2) System error handling.
(3) Verification and selection of operator commanded CITS and Avionics Ground Readiness Tests.
(4) Transient fault filtering.
(5) CITS peripheral and computer self-test.
(6) Scheduling and servicing of I/O operations.
(7) Reading and recording of operator entered data.
(8) Supplying responses to operator request.
(9) Configuration of aircraft power per load management mode and test requirements.
(10) Displays avionics messages.
(11) Assembles messages for display, print and recording purposes.
(12) Performs fault detection and isolation tests on the aircraft subsystems.

ID : 53
SITE : OC-ALC
SYSTEM : B-1B
SOFTWARE SUBSYSTEM : EMUX
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The Electronic Multiplex System (EMUX) computer program provides for processing necessary to perform electrical control of aircraft subsystems via interface units called remote boxes. The program also provides the interface by which ground maintenance equipment can control and test aircraft subsystems. The EMUX program does not have a functional relationship to other computer programs. The primary functions which are implemented by this computer program are given below.

(1) Control Box Data Transfer Function - This function provides for data transfer within the control box read-write memory. The processing includes transfer of remote box status data and loop-test data.

(2) CGMI Function - This function provides for Central Integrated Test System Ground Maintenance Interface (CGMI) data processing. The function processes three words which contain aircraft subsystem control signals.

(3) Control Box BIT Function - This function provides for performing the control box self-test functions. The processing consists of testing Boolean processor instructions, the accumulator, the FC Processor and the Caution Data Processor.

(4) Load Management Function - This function provides processing necessary to determine the aircraft electrical load management mode. The function processes signals received from the various aircraft subsystems, the CGMI, and from the EMUX Mode Control function to generate a 4-bit code.

(5) Caution Light Function - This function provides processing in support of the Caution Light Processor (CLP). The function generates a light flashing term value, and three other term values for the equations which the CLP evaluates in its processing.

(6) Pre/Post FC Processing Function - This function provides for processing in support of the FC Processor. This function is performed before and after FC processing. The purpose of this function is to validate and configure FC data and to initiate the FC Processor. The Post FC processing part of this function provides processing for CGMI indication panel display.

(7) EMUX Mode Control Function - This function provides processing for determining EMUX system mode of operation. There are two EMUX modes: flight mode and ground maintenance mode.

(8) Aircraft Subsystem Control Functions - These functions provide processing for power control of aircraft subsystems. Though the subsystems are different, the processing performed in support of each is virtually the same.

ID : 54
SITE : OC-ALC
SYSTEM : B-1B
SOFTWARE SUBSYSTEM : F/CGMS
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The Fuel/Center of Gravity Management System (F/CGMS) software is divided into two separate programs: Main Program and Signal Conditioning Program. Together, the Fuel/Center of Gravity Management Programs provide the processing necessary to measure and display fuel quantity, schedule fuel usage/transfer and control and display aircraft center of gravity. In addition, the F/CGMS processed inputs from the surface position sensors, the Central Air Data Computer (flight regime data), and from the Electronic Multiplex System (EMUX) (discrete inputs from the cockpit controls). It also provides outputs to EMUX (electrical control signals) and to Centralized Integrated Test System (BIT data). The basic functions performed by the F/CGMS software are as follows:

(1) Provides an executive function which maintains control of the Operational Flight Programs (OFPs).
(2) Provides an input/output function.
(3) Provides a fuel quantity correction function which corrects the fuel quantity valve for variations in fuel reference signal, fuel contamination, and fuel density.
(4) A center of gravity function determines the aircraft Center of Gravity and its limits.
(5) A fuel usage scheduling function provides for fuel pump and fuel valve controls.
(6) A test function performs CPU memory, signal conditioners, and F/CGMS system indicators test.
(7) A ground test function provides ground test routines to perform aircraft ground checkout.
(8) Development and test software will apply to each module.

ID : 55
SITE : OC-ALC
SYSTEM : B-1B
SOFTWARE SUBSYSTEM : INS
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The Inertial Navigation System (INS) provides the navigational data utilized by the Central Computing System (CCS) and Offensive Radar System. The basic functions of the INS operational software are as follows:

(1) Real-Time Executive
(2) Inertial Measurement Unit (IMU) Alignment/Preflight Calibrator
(3) Provides Navigational calculation information to the CCS
(4) Provides steering outputs to the CCS
(5) Provides IMU Torquing
(6) Performs Built In Test
(7) Processes Mux Messages
(8) Provides various utility programs for support
(9) Provides for System Mode Control

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ID : 56
SITE : OC-ALC
SYSTEM : B-1B
SOFTWARE SUBSYSTEM : ORS
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The B-1B Offensive Radar Subsystem (ORS) operational flight program is used to control the Programmable Signal Processor (PSP) and the Radar Display Electronics Unit (RDEU) as necessary to accomplish radar functions. The PSP is composed of two functional computing elements, the Radar Computer (RC) and the Array Processor (AP). The RC in general performs the radar control and external interface functions while the AP performs the radar detection data processing. The RDEU contains a general purpose computer which interfaces with the PSP and controls the display of information on the Radar Display Unit. Two basic modes of operation are below:

(1) Multi-Mode Radar Mode - This inclusive mode consists of many modes performing the following functions:
(a) Provides quiet mode for non-radiating periods between active modes
(b) Provides high resolution ground map to provide SAR surface mapping for navigation and target location
(c) Provides accurate measurement of navigation position errors in Position Update mode
(d) Provides low altitude terrain evaluation profiles in Terrain Following mode
(e) Provides an azimuth vs. range display of terrain above a specified altitude in Terrain Avoidance mode
(f) Provides surface mapping for navigation and target location in Real Bean Ground Map mode
(g) Provides navigation position update with respect to the known locations of fixed ground beacons in Ground Map Beacon mode
(h) Provides azimuth vs. range display of rainfall in front of aircraft in Weather mode
(i) Provides interrogation/tracking of airborne beacon for manual rendezvous with tankers in Rendezvous Beacon mode
(j) Provides skin-return tracking of other aircraft
(k) Ground Moving Target Identification/Tracking mode detects/tracks fast moving ground targets in Rendezvous mode
(l) Measures aircraft ground velocity for navigation alignment in Velocity Update mode
(m) Measures aircraft altitude above terain beyond range of the altimeters in High Altitude Calibrate mode
(n) Provides ranging data to a designated ground location in Air to Ground Ranging mode
(2) Radar Terrain Sensor Mode - The following modes, described in the multi-mode radar mode section, are included: quiet, terrain following, terrain avoidance, real beam ground map, position update, and high altitude calibrate.

ID : 57
SITE : DO-HILL
SYSTEM : 2-50
SOFTWARE SUBSYSTEM : SNST
SOFTWARE SUBSYSTEM TYPE : ATD
DESCRIPTION:

Not Available.

ID : 88
SITE : JC-HLL
SYSTEM : 6-IC
SOFTWARE SUBSYSTEM : FTSS
SOFTWARE SUBSYSTEM TYPE : SLF
DESCRIPTION:

Not Available.

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ID : 58
SITE : DO-ALL
SYSTEM : S-52
SOFTWARE SUBSYSTEM : MOD-1 EXEC
SOFTWARE SUBSYSTEM TYPE : OFF
DESCRIPTION:

Not Available.

ID : [illegible]
SITE : [illegible]-ALL
SYSTEM : A-3D
SOFTWARE SUBSYSTEM : MC-1 EXEC
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

Not Available.

ID : S1
SITE : OC-HILL
SYSTEM : E-3A
SOFTWARE SUBSYSTEM : INS
SOFTWARE SUBSYSTEM TYPE : OFF
DESCRIPTION:

The E-3 Airborne Warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (CC) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs (including programs for Automatic Test Equipment (ATE)).

The Inertial Navigation System (INS) Computer Program provides navigation information to the Airborne Operational Computer Program through the Control Power Supply. It provides for automatic navigation and guidance through the computations of inertial-sensed accelerations augmented by inputs and guidance from external avionics equipment. It includes the following capabilities:

(1) Determine angular orientation and horizontal velocity of the aircraft.
(2) Determine ground speed and drift angle.
(3) Determine geographic position.
(4) Generate and supply a steering signal for control of flight.
(5) Generate and supply attitude reference signal to flight instruments.
(6) Determine the north and east velocity of the aircraft.

ID : 52
SITE : OC-ALC
SYSTEM : E-3A
SOFTWARE SUBSYSTEM : OMEGA
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The E-3 Airborne Warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (C3) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs (including programs for Automatic Test Equipment (ATE)).

The Omega Navigation Computer Program provides corrections to the navigation data in the Inertial Navigation Equipment Computer Program. It provides automatic navigation and guidance through the computations of Omega transmission signals and Doppler velocity measurements augmented by inputs from external avionics equipment. The Omega Navigation Computer program combines the inputs from the Inertial, Omega, and Doppler sensors in a Kalman filter, which then provides corrections to the inertial equipment.

ID : 53
SITE : CC-HLC
SYSTEM : E-3A
SOFTWARE SUBSYSTEM : SMCP
SOFTWARE SUBSYSTEM TYPE : CPF
DESCRIPTION:

The E-3 Airborne Warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (C3) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs (including programs for Automatic Test Equipment (ATE)).

The System Maintenance Computer Program (SMCP) operates in real time with, and under the direct control of, the Airborne Operational Computer Program (AOCP) Executive. SMCP execution is interleaved with execution of AOCP tasks and the In-Flight Performance Program.

The SMCP is made up of the following four functions:

(1) Monitor And Test Subsystem Control - Provides fault detection and isolation for the displays of the Identification Functional Group and On-Board Test Monitor and Maintenance Functional Group (OBTM&MFG) through control and interrogation of OBTM&MFG test points. Test sequences and failure criteria are specified by performance monitoring and fault isolation trees.

(2) Confidence Testing - Provides for detection of Unit 2 Power Supply (CPS) and avionics interface faults through control and monitoring of wrap around tests and CPS subsystem status report.

(3) Display Dialog - Provides for isolation of display failures by use of a man-machine dialog consisting of display test patterns, messages, and operator replies via switch actions.

(4) Central Maintenance - Processes equipment status reports received from other SMCP functions, the AOCP executive, and the computer operator. It maintains equipment status tables for use in device allocation and system reconfiguration; initiates display messages and line printer output, notifies operator of incidents and provides replace repair instructions; and records maintenance history data on magnetic tape for data reduction on the ground.

ID : 84
SITE : OC-ALC
SYSTEM : E-3A
SOFTWARE SUBSYSTEM : SRCP
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

The E-3 Airborne Warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (C3) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs (including programs for Automatic Test Equipment (ATE)).

The Surveillance Radar Computer Program (SRCP) operates on the E-3 Radar Data Correlator (RDC) and sends preprocessed data to the Airborne Operational Computer Program. The RDC consists of a dual processor with separate core program memory and MOS data memory, a special hard-wired processor for pulse doppler range resolution, and an I/O unit for communicating with the radar subsystems and the Control Power Supply. The SRCP is organized into a main program, normally resident in the RDC, and a fault isolation test library, which resides off-line on magnetic tape. The SRCP is divided into three functional areas: Data Processing And Control (DPAC), Fault Detection (FD), and Fault Isolation Test (FIT).

(1) The DPAC software provides the specific radar functions of input/output (I/O) control and data sequencing, data memory allocation management, mode control, beam stabilization, main beam clutter tracking, range resolution, correlation of radar returns over multiple modulation periods, data processing for pulse doppler, target formatting, and a maritime surveillance capability.

(2) The FD software provides continuous monitoring of various GO/NO-GO fault indications of the radar. Interleaved tests are performed to diagnose faults in the RDC or in the communications links with other radar subsystems. Dedicated time tests and manually selectable tests provide detailed diagnosis of radar units. The FD software controls execution of all tests during turn-on and normal operation. If parameters or test results require it, the FD software directs reconfiguration of the radar by switching in redundant units.

(3) The FIT software consists of detailed tests to isolate radar faults to replaceable units in major radar subsystem elements. These tests normally reside off-line, and, when requested manually/automatically, are loaded into the RDC.

ID : 68
SITE : OC-ALC
SYSTEM : E-3A
SOFTWARE SUBSYSTEM : SRGSCF
SOFTWARE SUBSYSTEM TYPE : SUP
DESCRIPTION:

The E-3 Airborne Warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (C3) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs (including programs for Automatic Test Equipment (ATE)).

The Surveillance Radar Ground Support Computer Program (SRGSCF) provides the support software needed to generate, maintain, and test the SRCP and SRMCP. It consists of the following functional components:

(1) Program Generation Package (PGP) - Provides for production of the SRCP tapes and maintenance of the radar program files. Includes the RDC assembler and loader.
(2) Radar Data Generator (RDG) - Generates realistic radar target and ECM detection data from a scenario input for exercising the SRCP.
(3) RDC Functional Simulator (RDCFS) - Simulates the RDC processor and data transfer for active and passive I/O for testing the SRCP on the IBM 370/168.
(4) Digital Land Mass Blanker Map Tape Generation Program (DLMB MTGP) - Generates and/or modifies Land Mass Blanking Maps on magnetic tapes that are read into the DLMB unit.

PGP, RDG, and RDCFS run on the IBM 370/168 and are written mainly in IBM 370 Assembly Language. DLMB MTGP is written mainly in FORTRAN.

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ID : 88
SITE : CO-ALL
SYSTEM : BLOM
SOFTWARE SUBSYSTEM : CFB
SOFTWARE SUBSYSTEM TYPE : SUP
DESCRIPTION:

Not Available.

ID : 57
SITE : CC-HLL
SYSTEM : GLCM
SOFTWARE SUBSYSTEM : M-DTD
SOFTWARE SUBSYSTEM TYPE : SLF
DESCRIPTION:

Not Available.

ID : 56
SITE : DC-HQ2
SYSTEM : GLOM
SOFTWARE SUBSYSTEM : MFT
SOFTWARE SUBSYSTEM TYPE : SUP
DESCRIPTION:

Not Available.

ID : BF
SITE : DC-ALB
SYSTEM : GLOM
SOFTWARE SUBSYSTEM : OFF
SOFTWARE SUBSYSTEM TYPE : OFF
DESCRIPTION:

Not Available.

ID : TR
SITE : DO-HLO
SYSTEM : GLCM
SOFTWARE SUBSYSTEM : WCS
SOFTWARE SUBSYSTEM TYPE : OFP
DESCRIPTION:

Not Available.

ID : T1
SITE : SD-HLC
SYSTEM : SRAM
SOFTWARE SUBSYSTEM : OFF
SOFTWARE SUBSYSTEM TYPE : OFF
DESCRIPTION:

Not Available.

ID : TC
SITE : TINKER AFB
SYSTEM : E-3A
SOFTWARE SUBSYSTEM : ACCF
SOFTWARE SUBSYSTEM TYPE : O-E
DESCRIPTION:

The E-3 Airborne Warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (C3) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs including programs for Automatic Test Equipment (ATE).

The Airborne Operational Computer Program (ACCP) is a compilation of real-time programs that execute on the aircraft during an airborne mission. In general, ACCP processes navigation and radar data, performs calculations, and formats information for display on the E-3 consoles. It is written in JOVIAL Language and Assembly Language and operates on the DAPS 4P, CC-1 or CC-2 Data Processing System. Specifically, ACCP processes data received from all avionics subsystems and from prerecorded magnetic tapes to perform the intended mission. It assists the on-board personnel in the following areas:

1. Detect, track, and identify air traffic.
2. Commit and control weapon resources.
3. Communicate with external interfaces and relay communication messages.
4. Display and process data for on-board operations.
5. Perform on-board training.
6. Record data for analysis in the Computer Program Ground Support Center.

ACCP functions include the DAPS Executive, Surveillance, Weapons Control, Communications, Displays, Switch Actions, Internal Simulation, Battle Stall, and the System Maintenance Computer Program execution. These programs are the very core of the E-3 system.

ID : TT
SITE : TINKER AFB
SYSTEM : E-3A
SOFTWARE SUBSYSTEM : UTILITIES
SOFTWARE SUBSYSTEM TYPE : SCF
DESCRIPTION:

The E-3 Airborne Warning and Control System (AWACS) is a high-capacity radar station and command, control, and communication (C3) center in a modified Boeing 707 airframe. The system includes its associated ground support facilities and equipment. The airborne equipment is composed of five integrated computers and their software. The ground support equipment includes software-driven simulators, trainers, and test equipment, and computer hardware, software, and facilities to support the E-3 computer resources. Each version of E-3 software consists of over 700 individual computer programs including programs for Automatic Test Equipment (ATE).

The Utility Computer Program (UCP) provides data for the Airborne Operational Computer Program (AOCP) in support mission deployment. It supports generation, test, and maintenance of E-3 computer programs and data bases. The UCP includes the following functions.

Generates binary map files for display on Situation Display Consoles from alphanumeric inputs consisting of latitude and longitude and display control information. Provides the capability of presetting values in the AOCP data base. Generates or updates E-3 data bases from input adaptation values and JOVIAL COMPOOL symbol definition information for use in the E-3 operating environment. Assembles programs written in AFSC Data Processing System Assembly Language. Includes seventeen programs and several support routines supporting three functions: control, compilation, and COMPOOL assembly. Generates program and adaptation tapes for use on the AFSC CC-1 or CC-2 data processor by retrieving program and data elements from secondary storage volumes and transferring them to magnetic tape in a machine-useable format. Receives as input the magnetic tape containing information produced by the Unit Test Controller Function. Selected portions are formatted and directed to printer for output. Includes a machine instruction level simulator that provides a capability to test AFSC CC-1 or CC-2 computer program units on the CPSSC computer. Includes a utility subprogram library of commonly used mathematical, data conversion, and data manipulation subroutines.

ID : T4
SITE : LANGLEY
SYSTEM : JTIDS
SOFTWARE SUBSYSTEM : ASIT-TPOCF
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The Joint Tactical Information Distribution System (JTIDS) is an advanced system which provides communications, navigation, and identification capabilities in an integrated form for application to military tactical and air defense operations. These capabilities are provided through the ability of the system to distribute information quickly and encrypted to provide security and reliability in hostile environments. Security and jamming resistance are obtained through the use of pseudorandom signal processing techniques. The system provides a capability to interconnect scattered sources of surveillance, support, and intelligence information, weapons controllers, weapons systems, and decision-making commanders. JTIDS provides mobile surface and airborne force elements with a relative navigation capability within a common position reference grid and an intrinsic identification capability through the dissemination of crypto-secure position, velocity, and identity information concerning both friendly and hostile force elements.

The Translator Processor Operational Computer Program (TPOCP) software is one part of the Modifiable Surface Interface Terminal (MSIT) system (the other is the MSIT Class 1 Terminal and its software, the Communications Processor Operational Computer Program (CPOCP)). The TPOCP provides a transparent translation of tactical air control message traffic between the Interim JTIDS Message Specification format and the Tactical Air Control System Tacti-B format, for one to five subscribers. The subscribers are Air Force Army ground-based control and Reporting Centers or Message Processing Centers.

The TPOCP performs several basic functions in providing the transparent interface for the MSIT. The primary function of the TPOCP is to translate JTIDS messages to Surface Subscriber (SS) messages and to translate SS messages to JTIDS messages. Other functions include the maintenance of the data base of all active tracks, the implementation of the Joint Tactical Air Operations transmission rules, message acknowledgement, and the control of the transmission and reception of messages. The TPOCP also provides for:

1. Statistics gathering and fault detection by use of the performance monitoring
2. Recording of operational statistics and data for subsequent data reduction
3. The ability to select alternate or previously defined [illegible] and operator [illegible]

ID : 75
SITE : LANGLEY
SYSTEM : STRTS
SOFTWARE SUBSYSTEM : STRTS
SOFTWARE SUBSYSTEM TYPE : ATD
DESCRIPTION:

The Simulator Tactical Radar Training System (STRTS) is a simulator system to support training requirements of the 407L operational system. STRTS will provide an improved system for training and exercising the Tactical Air Control System, Control and Reporting Center/Control and Reporting Post operations personnel. The STRTS consists of digital computers with peripheral equipment; a video generator; positions for one simulation supervisor, one simulation supervisor technician, six pilot simulators, and a computer operator; automatic inter-system data link equipment; voice communications; and the operational, diagnostic and support software to control system functions. The STRTS can be housed in a van (for portability) or a fixed facility.

ID : [illegible]
SITE : LANGLEY
SYSTEM : TACS
SOFTWARE SUBSYSTEM : CAFMS
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The Tactical Air Control Center (TACC) is the operations center of the Tactical Air Control System (TACS). The mission of the TACC is to prepare, disseminate, and monitor the execution of coordinated orders for the employment of all the forces assigned, attached, or otherwise made available to the Air Force Component Commander. The manual TACC procedures are inadequate to handle the increasing complexity and amount of operational information. Computer Assisted Force Management System (CAFMS) provides an automated assist to the TACS through information storage and retrieval along with secure digital communications. A minicomputer located at the TACC will support up to 12 local terminals and 18 remote terminals. The remote terminals have limited stand-alone capabilities and will be located at the Wing Operations Center (WOC), Air Support Operations Center (ASOC), or Control and Reporting Center (CRC). Each terminal consists of a display unit, a keyboard, and a table top printer. Remote terminals also have a floppy disc.

The CAFMS software provides automated assistance to two of the TACC functions, Combat Plans and Combat Operations. Combat Plans will use CAFMS to construct, review, and disseminate the Air Tasking Order, generate operational mission schedules, and monitor TACC resources. Combat Operations will use CAFMS to follow mission progress, generate recaps and reports, and monitor TACC resources. In addition, CAFMS will expedite information transfer between the TACC and lower echelon elements including the WOC, ASOC, and the CRC.

ID :
SITE : SAMGLS
SYSTEM : TIPI
SOFTWARE SUBSYSTEM : DC/SR
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The Tactical Information Processing and Interpretation (TIPI) System is comprised of several segments. These currently include the Display and Control/Storage and Retrieval (DC/SR) Segment; the Imagery Interpretation (II) Segment; and the Manual Radar Reconnaissance Exploitation System (MRRES) Segment.

The DC/SR system is a mobile, sheltered, computer-based Data Management System used by the Intelligence division as their master intelligence data base. The DC/SR software provides the capability for a self-contained (e.g., noncommercial) communications capability to transmit and receive message (e.g., (I) traffic via teletype, digital data link, hard disk, and voice communication lines. This message flow is essential to the Tactical Air Control Center (TACC) since it is the only means by which the combat plans division can receive and transmit intelligence information.

The DC/SR segment provides automated assistance to the operational intelligence, collections and targeting functions associated with the TACC pre-planned air tasking order coordination and production cycle. Digital installation and order of battle data base files are maintained and located with the DC/SR. A capability for weaponeering, and automated report/plot generation and dissemination is also available in the segment. Its communication subsystem provides automated assistance for the receipt, processing and transmission of messages, and allows for dedicated digital data link interfaces with the II segments and the AUTODIN network.

ID : 78
SITE : LANGLEY
SYSTEM : TIPI
SOFTWARE SUBSYSTEM : II/MARRES/TERED
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The Tactical Information Processing and Interpretation (TIPI) System is comprised of several segments. These currently include the Display and Control/Storage and Retrieval (DC/SR) Segment; the Imagery Interpretation (II) Segment; and the Manual Radar Reconnaissance Exploitation System (MARRES) Segment.

The II software provides computer assisted interpretation and exploitation of photo imagery reconnaissance data. The mission derived from early 1964 Vietnam requirements for photo interpretation. In 1981 the Tactical Electronic Reconnaissance (TERED) capability was added to provide Electronic Intelligence (ELINT) at near real-time information processing capability. The MARRES software provides computer assisted interpretation and exploitation of Side Looking Radar Imagery.

The II Segment employs automated light stations and associated ADP equipment and computer programs to expedite the processing and formatting of photographic imagery and ELINT data into meaningful intelligence report. These automated facilities better equip the analyst to fully exploit the increased volume rate and sophistication of present-day imagery by providing the following capabilities: rapid scanning, magnified viewing, and accurate computer aided mensuration of photographic imagery; rapid initial interpretation of photographic imagery to produce intelligence information which is time critical; detailed interpretation and analysis of photographic imagery including collation with data base information collected by other means; and computer assistance in exploiting the data form MIL-STD-[illegible] Code blocks.

The MARRES Segment is a basic shelter integrated with [illegible] and software designed to be employed by the USMC for the purpose of exploiting radar imagery.

The MARRES has been developed to provide the automated equipment, techniques, and procedures required to significantly increase the intelligence capabilities of the echelons where it will be employed. The MARRES is designed to accomplish the following basic functions: pre-mission planning and preparation of collated data; analysis/interpretation of AN/UPD-8 (formerly AN/UPD-4) type radar imagery; generation of intelligence reports; and dissemination of analyzed [illegible].

ID : 78
SITE : LANGLEY
SYSTEM : 407L
SOFTWARE SUBSYSTEM : HUGHES UTIL
SOFTWARE SUBSYSTEM TYPE : SUP
DESCRIPTION:

The 407L Computer Programs were designed in a modular fashion to facilitate program maintenance and modifications; planned growth items may be added with minimum impact. The state-of-the-art has been advanced in diagnostic programs, tracking logic, on-line site adaptation, and site registration. The net effect is a software package which is easily maintained and capable of modular expansion to meet future contingencies. The 407L programs include operational and recording, utility support for simulation and data reduction, system utility support, and diagnostic troubleshooting.

The Simulation and Data Reduction Programs operate off-line in support of training, system exercise, and program maintenance. The Simulation Programs generate magnetic tape inputs of simulated data which are processed on-line by the Operational Programs. Target reports, switch actions, data link inputs, and tabular data may be simulated. The Data Reduction Programs process data recorded on magnetic tape by the Operational Programs and provide hardcopy output for post-mission debriefing or program checkout.

The System Utility Programs are used for computer program production and maintenance. The Assembler converts symbolic computer instructions into machine code and provides a library of mathematical routines. The remainder of the Utility Programs provide program debugging aids.

The Diagnostic Programs provide on-line System Status monitoring and off-line equipment troubleshooting. The equipment design and design of the diagnostic routines were conducted in concert to provide fault detection capability with isolation to a functional card group of from one to ten cards.

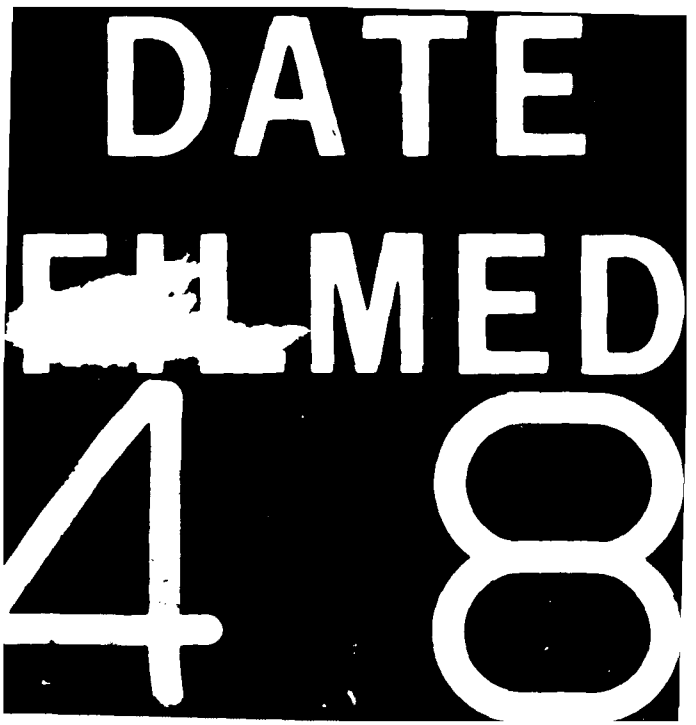
ID : BD
SITE : LANGLEY
SYSTEM : 4.7L
SOFTWARE SUBSYSTEM : IBM UTIL
SOFTWARE SUBSYSTEM TYPE : SUP
DESCRIPTION:

The IBM UTIL is essentially a conversion and enhancement of HUGHES UTIL software to an IBM computer environment. It has a functional description similar to the HUGHES UTIL software.

ID : 31
SITE : LANGLEY
SYSTEM : 407L
SOFTWARE SUBSYSTEM : IORP/IMFP
SOFTWARE SUBSYSTEM TYPE : C-E
DESCRIPTION:

The 407L Computer Programs were designed in a modular fashion to facilitate program maintenance and modifications; planned growth items may be added with minimum impact. The state-of-the-art has been advanced in diagnostic programs, tracking logic, on-line site adaptation, and site registration. The net effect is a software package which is easily maintained and capable of modular expansion to meet future contingencies. The 407L programs include operational and recording, utility support for simulation and data reduction, system utility support, and diagnostic troubleshooting.

The Operational and Recording Programs accomplish real-time command and control processing in support of the prime DFC/DFP ADCW mission. The two primary functions controlled by the operational programs are surveillance and weapons control. The Surveillance Programs accomplish automatic and rate-aided-manual tracking, identification processing, crosstell and automatic intersite radar alignment. Planned growth features in the surveillance area include automatic split tracking, and flight plan processing. The Weapons Control Programs provide automatic guidance computations for offensive and defensive mission (voice) control. The weapons programs accommodate three tactic and profile options structured for tactical air operations. Planned growth features in the weapons area are trial intercept computations for weapons assignment, fuel/weapons status monitoring, and ground-to-air data link. The General Data Programs accomplish such program control and input/output functions as executive processing, display generation, switch action processing, data recording, and peripheral equipment input/output processing. The input/output processing for the automatic data link and radar processor also falls under general data processing.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