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ADVANCED ON-THE-JOB TRAINING SYSTEM:
MASTER TEST PLAN

Douglas Aircraft Company
A Division of McDonnell Douglas Corporation
2450 South Peoria
Aurora, Colorado 80014

TRAINING SYSTEMS DIVISION
Brooks Air Force Base, Texas 78235-5601

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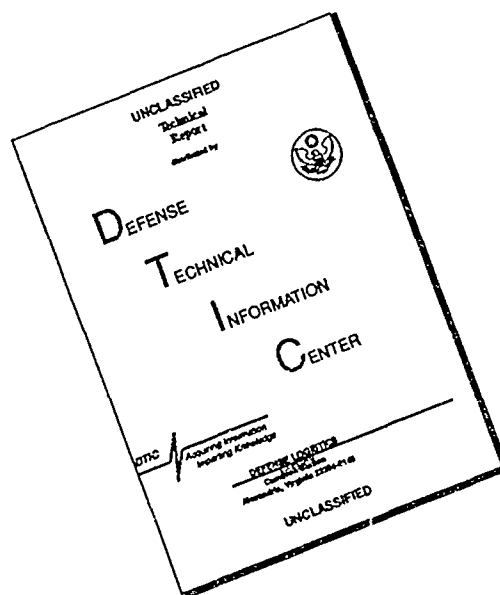
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This publication is primarily a working paper. It is published solely to document work performed.

SUMMARY

The Advanced On-the-job Training System (AOTS) was an Air Staff-directed, AFHRL-developed prototype which designed, developed, and tested a proof-of-concept prototype AOTS within the operational environment of selected work centers at Bergstrom AFB, Texas, and Ellington ANGB, Texas, from August 1985 through 31 July 1989. The Master Test Plan (MTP) describes the overall strategy that was followed during the test and evaluation of the Advanced On-the-job Training (AOTS). The Master Test Plan is synonymous with program evaluation and consists of a plan to evaluate AOTS with regard to assessment of the four critical issues of system compliance, acceptance, performance and suitability. Within the MTP, these critical issues are assessed at sub-component, component, and subsystem levels.

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PREFACE

This paper was developed by Douglas Aircraft Company, the AOTS development contractor, under Government Contract Number F33615-C-84-0059. The AFHRL Work Unit Number for the project is 2557-00-02. The primary office of responsibility for management of the work unit is the Air Force Human Resources Laboratory, Training Systems Division, and the Air Force AOTS manager is Major Jack Blackhurst.

MASTER TEST PLAN
FOR THE
ADVANCED ON-THE-JOB TRAINING SYSTEM (AOTS)

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1.0 DESCRIPTION

1.1 Mission

1.1.1 Introduction. The primary mission of the Advanced On-the-job Training System (AOTS) is to supply the Air Force with airmen who are position qualified within operational duty positions. To meet the mission objective, AOTS must focus on-the-job training (OJT) on job task proficiency by specifying and defining the tasks required in a given duty position and by adequately defining the training required to become fully position qualified. AOTS must provide workable and cost effective methods for evaluating task performance in an operational setting. AOTS must also ease the inherent difficulties of using operational equipment for OJT. It must address the problem of the limited availability of technically qualified personnel who can act as trainers and the limited training skills of those personnel. AOTS must ease the paperwork burden associated with scheduling both expected and unique OJT opportunities, tracking trainee progress, evaluating associated knowledge test and task performance, and managing the flow of OJT data. It must ultimately increase individual and unit productivity and readiness.

1.1.2 Operational Concept. The prototype AOTS will demonstrate the management and evaluation functions for OJT in five Air Force Specialties (AFSS) within eight regular Air Force, five Reserve, and six Air National Guard (ANG) workcenters. AOTS will provide the capabilities and methodologies to:

- a. identify and define task performance and training requirements
- b. schedule training and identify evaluation resource requirements

- c. track individual airman training accomplishments
- d. evaluate individual airman task knowledge and performance
- e. track, evaluate, and report the AOTS program effectiveness
- f. report airman training, evaluation status, and evaluation results to appropriate Air Force managers.

AOTS will primarily be a computer based system. Editors, data bases, and system utilities will be made available, either in whole or in part, to various Air Force users. These users will include: developers and managers of AOTS information such as ISD personnel and AOTS operators; end users of AOTS products such as trainees, trainers, and evaluators; and Air Force managers such as supervisors, base level commanders, Air Staff, etc. AOTS design incorporates the concepts of user friendliness, flexibility, and efficiency. The system support concept incorporates a formalized logistics plan for hardware, software, and personnel.

1.2 Key Functional Characteristics

1.2.1 AOTS Management Subsystem. The Management Subsystem provides computer based capabilities and methodologies to: identify Air Force Specialty and other training required to achieve position qualification within an assigned operational duty position; manage and record airman training progress toward task proficiency and position qualification within an operational duty position; schedule training and evaluations; and identify base level training and evaluation resource requirements.

1.2.2 AOTS Evaluation Subsystem. The Evaluation Subsystem

provides computer based capabilities and methodologies to: manage evaluation instrumentation including the planning and development of objectives and tests; evaluate performance of airmen in both objective-based knowledge tests and performance evaluations; provide standardized quality control evaluation procedures to the on-the-job training process; and evaluate the AOTS system itself, providing trainee and system status reports to different levels of Air Force management.

1.2.3 AOTS Computer Support Subsystem. The Computer Support Subsystem provides the computer based tools and capabilities to meet the objectives of the other subsystems. This subsystem provides the hardware and the software products such as editors, data bases, computational models, system utilities, and other computer support, as required.

1.2.4 Key Functions. AOTS will include functional capabilities to support the ongoing OJT for Air Force personnel. The key functions are:

- a. Management of training requirements and OJT records
- b. Development and delivery of evaluation objectives and instruments

- c. Evaluation of airmen's knowledge and performance
- d. Generation of reports documenting the AOTS system and trainee evaluation results.

1.2.5 Interfaces. As defined in the AOTS System Specification, the AOTS includes both external and internal interfaces. The Air Force has numerous centers, groups, offices, and data bases that maintain data vital to AOTS operation. These external offices and data bases are interfaced with the prototype AOTS through off line data gathering and subsequent on line input. After the system is internally integrated, the AOTS subsystems interface interactively to accomplish system requirements. However, the AOTS Test and Evaluation activities do not impose any special requirements on these interfaces.

1.2.6 Unique System Characteristics. Not applicable.

1.3 Key Technical Performance Characteristics.

The performance characteristics to be tested are listed in the Test Objectives for the various Test Plans in Appendix A. These characteristics derive from the Prime Item Development Specifications for each subsystem. Data to establish the reliability and maintainability of the prototype system will be collected in accordance with the AOTS Reliability Program Plan and Maintainability Program Plan.

1.3.1 Management Subsystem.

- a. Training requirements management
- b. Airman training management

1.3.2 Evaluation Subsystem.

- a. Evaluation instrumentation management
- b. Performance evaluation
- c. Training quality control
- d. System evaluation

1.3.3 Personnel and Support Subsystem.

- a. Personnel support
- b. Logistics support
- c. Maintainability, reliability, and human factors

1.4 Formative and Summative Test and Evaluation*

Formative evaluation activities are conducted internally by the developers to determine the degree of attainment of specific program design goals and to pinpoint parts of the goals not yet achieved. Summative evaluation, on the other hand, is directed to a more general assessment of the degree to which broader program outcomes have been obtained over the entire program. The distinctions between the two types of evaluation can be explained in terms of timing, level of generalization, and the use of the information learned. Formative evaluation occurs during the "formative" or development stage of a program. Very specific information about individual program components is gathered to

* Formative Evaluation and Summative Evaluation are not standard terminology for Air Force testing, but are standard in the literature on evaluation of training and training systems.

develop the kind of evidence that will be most useful to the developers in improving the program. The term summative evaluation is used to indicate the type of evaluation used after development for purposes of making judgments about the new program's worth. Certification of outcomes achieved or research on the effectiveness of the program (when compared to another) is the intent of the data collection and analysis activities.

The Formative Test and Evaluation (T&E) of AOTS during Phase II development will be primarily concerned with verifying attainment of technical performance specifications and objectives. This includes testing and evaluating subcomponents, components, interfaces, and subsystems of AOTS. Formative evaluation results can then be used to revise or modify the system elements so they perform at or above acceptable levels, and so that the integrated system will be functionally complete.

During Phase III, the implementation of the system, summative T&E will be accomplished. The results of the summative evaluation will be used to evaluate the AOTS, based on program outcomes achieved.

1.5 Critical Issues

Following are four critical issues of overriding concern in assessing the success of AOTS. More global in relation to the functional integrity of the system, they relate to a system's overall capability and must be addressed in an evaluation of the system as a whole. Furthermore, they are of primary importance to the decision authority for AOTS.

1.5.1 Critical Issue No. 1: Compliance. Does the prototype AOTS meet the design and functional requirements of the System, Subsystem, and Component specifications?

1.5.2 Critical Issue No. 2: Performance. How does performance of the prototype AOTS compare with the conventional OJT system, and does AOTS meet the system performance standards?

1.5.3 Critical Issue No. 3: Suitability. Does the AOTS overcome currently defined deficiencies in the Air Force's OJT system, and can AOTS be used for OJT throughout the Air Force?

1.5.4 Critical Issue No. 4: Acceptance. Is AOTS accepted by the various system users as user friendly and easy to use?

2.0 MTP OVERVIEW

2.1 Approach

This Master Test Plan (MTP) describes the overall strategy that will be followed during T&E of the prototype AOTS. From an evaluative standpoint, the MTP is synonymous with program evaluation. Furthermore, it describes an "internal evaluation" which will be planned and conducted by the contractor, in conjunction with the Air Force, rather than an evaluator external to the project.

An effective evaluation program is typically designed as a continual process that remains in effect for the program's duration (see Figure 1). Ongoing feedback loops support continual revision and improvement of the program. Data are collected on a regular basis, testing and evaluation take place, and feedback to the program occurs. The program is then modified and the cycle repeats. The MTP must, therefore, be dynamic rather than static if it is to be effective. Note that the feedback loop from summative evaluation is weaker than that from formative evaluation, reflecting the different emphasis in these two types of evaluation.

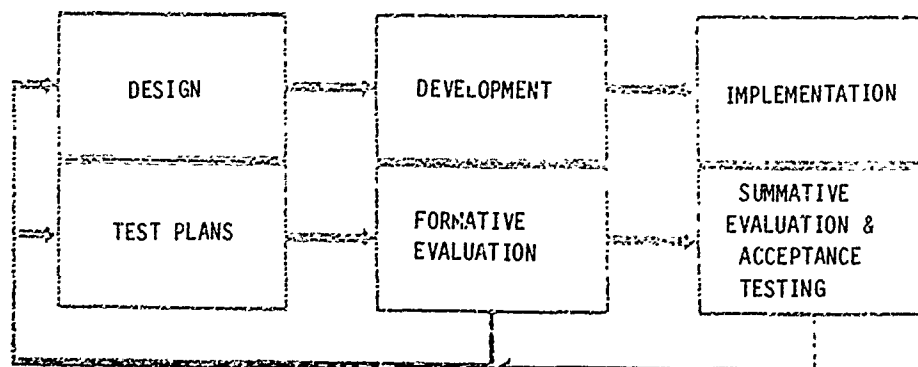


FIGURE 1. EVALUATION PROCESS

2.2 Formative and Summative Evaluation

A major function of the formative stage of evaluation activities is to enable the developers to examine, review, and rethink assumptions and designs that underlie the newly developed program components. This is to provide input to decisions involving alternative courses of actions and settle controversies about more effective ways to install the program. If the purpose of the evaluation is to advise the program planners and developers in the actual development of the program itself, a formative evaluation is in order. Evaluation activities are designed to gauge potential problems, identify areas where the program needs improvement, describe and monitor program activities, and periodically test progress or assess attitudes of the users.

The underlying purpose of the AOTS summative evaluation is to produce statements summarizing the program's accomplishments, and a summary statement about the effectiveness of the program, in a report to the Air Force. The following information will be reported:

- o description of the program
- o summary statements concerning program achievement of announced goals
- o descriptions of any unanticipated outcomes
- o as possible, comparisons with alternative programs

Since this report could affect important decisions about the program's future, the evaluations must be able to support the findings and conclusions. Although few field evaluations of program outcomes can or need to live up to the rigid standards of true scientific experiments, a critical characteristic of any

evaluation study is that it provides the best information that could be gathered under the circumstances, and that this information meets the credibility requirements of its review audience. The goal of the evaluator during summative evaluations is to provide findings about a program's effects that can be generalized to contexts other than the one currently under study. For this reason, use of a research design is typically associated with summative evaluations.

Formative evaluations are appropriate for testing and improving a prototype system; summative evaluation is appropriate in determining the worth of the system or when alternate systems are being compared following the debugging and program refinement period. It is not unusual, due to time and money constraints, for both types of evaluation to occur very close in time to the prototype implementation. The problem arising in this situation is the possibility that projections about program outcomes and effects based on early implementation data are premature and subject to high error. However, program sponsors and users need evidence on which to base their decisions. It is essential that evaluation audiences not attempt to use formative data for summative evaluation purposes. Summative evaluation of a program is appropriate only in an operational mode.

Formative and summative evaluation of AOTS will be as shown in Figure 2. Part 1 of the MTP, as implemented during Phase II, constitutes formative evaluation. Summative evaluation (System Level Test and Evaluation, SLT&E) of the prototype AOTS is accomplished in Phase III, as Part 2 of the MTP is implemented. The results of the SLT&E, submitted in a final report late in Phase III, will play a significant role in establishing whether or not the prototype AOTS adequately addresses the critical issues identified for AOTS. Note that the time distinction will not be quite this clear - some aspects of summative evaluation,

especially baseline data collection, will have to occur during Phase II.

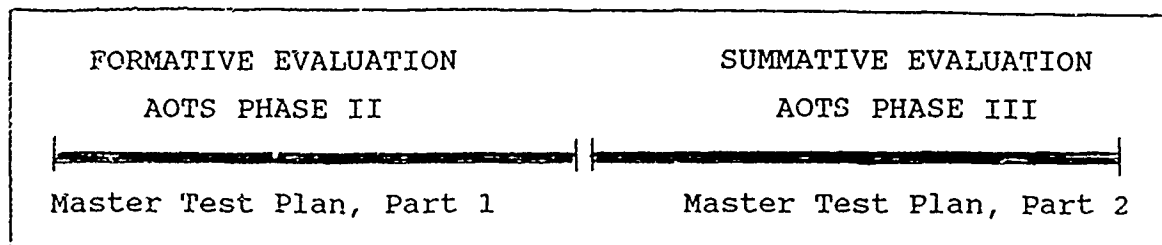


FIGURE 2. FORMATIVE AND SUMMATIVE EVALUATION OF AOTS

A first step in the formation of general plans for the testing and evaluation program for AOTS was the identification of each element of the AOTS program. These elements are initially defined at the subcomponent level. The subcomponents are, in turn, the elements of the components; the components are the elements of the subsystems; and the subsystems are the elements of the system. Because each subcomponent is an element, there will be as many elements at the component level as there are subcomponents and as many elements at the subsystem level as there are components, and so on. It is not feasible to work with the concept of an element existing at all these levels. An element defined and tested at the subcomponent level, for example, will "disappear" at the component level.

There must be a clear hierarchical structure in order to lead naturally to an evaluation at the integrated system level. This structure will help to keep the evaluation plan efficient and well organized. Test objectives that are considered critical at the subcomponent level may seem relatively insignificant when compared to the critical objectives identified at the subsystem or system level. Once an element is identified, requirements against it (the conditions it must meet) must be specified. The element's function in the system becomes the criterion by which

the performance of the element may be demonstrated or verified (i.e. what are the indications of the element functioning as planned?). These steps are strongly linked to the test objectives associated with each element. Success criteria, or levels of successful performance, will be the standard used to verify that the element has "passed" the test.

2.3 MTP Test Phases

Part 1 of the MTP defines the focus and order of the subcomponent, component, and subsystem levels of evaluation of the AOTS. It is the basis of the formative evaluation of the AOTS. The ongoing T&E of the basic elements of the system, as the subsystems are being developed during Phase II, will be both qualitative and quantitative in nature. Assessment of an element's satisfactory functioning may rely on subjective data, objective data, or both. Indications of less than satisfactory performance will be used to focus revision efforts on the elements of concern. Part 1 of the MTP principally addresses Compliance - do the elements of AOTS meet specifications (Critical Issue 1, as described in Section 1.5.1).

Questions to be answered by AOTS T&E are summarized in Figure 3. Basic evaluation questions are identified at the subcomponent, component, and subsystem levels of the AOTS.

LEVEL	QUESTION	CRITICAL ISSUE
Subcomponents	Do manual and computer based plans, procedures, and tools satisfy the design requirements for AOTS? Are software products supported by the hardware?	Compliance
	Are they user friendly?	Acceptance
	Are they effective, etc. (i.e., how well do they work)?	Performance Suitability
Components	Do the components meet the specification requirements?	Compliance
	Are they user friendly?	Acceptance
	Do the components provide valid and reliable methodologies and mechanisms for accomplishing the intended functions?	Performance Suitability
Subsystems	Do the subsystems provide the required functions?	Compliance
	Are they user friendly?	Acceptance
	Do the subsystems provide the required capabilities?	Performance Suitability

FIGURE 3. QUESTIONS AND LEVELS OF EVALUATION

During Part 1 of the MTP, alpha testing, beta testing, and readiness testing of the AOTS subcomponents, components, and sub-systems will be accomplished (see Figure 4). Alpha, beta, and readiness testing are defined as follows:

- o Alpha Testing. Alpha testing is accomplished by the contractor's software development group to determine that the software does function properly on the AOTS hardware, and that together the hardware and software provide the functions required by the AOTS specifications. Alpha testing includes the Unit Tests, Integration Tests, and System Level Tests which are described in Appendix D (Software Test Plan). A software product will complete alpha testing before being released from the contractor's software development group.

- o Beta Testing. Beta testing includes software testing which begins after alpha testing of a software product is completed, and testing of off line products (processes and procedures). The products are inspected, and contractor and AF personnel (during Phase II, principally instructional design personnel) use and evaluate the products. Beta testing is in accordance with Appendix A (Part 1 Test Plans). A product is considered to be "in production" after beta testing is satisfactorily completed.

- o Readiness Testing. Testing near the end of Phase II to demonstrate to the Air Force that products are ready for use in Phase III. Readiness testing is the responsibility of Ball Systems Engineering Division.

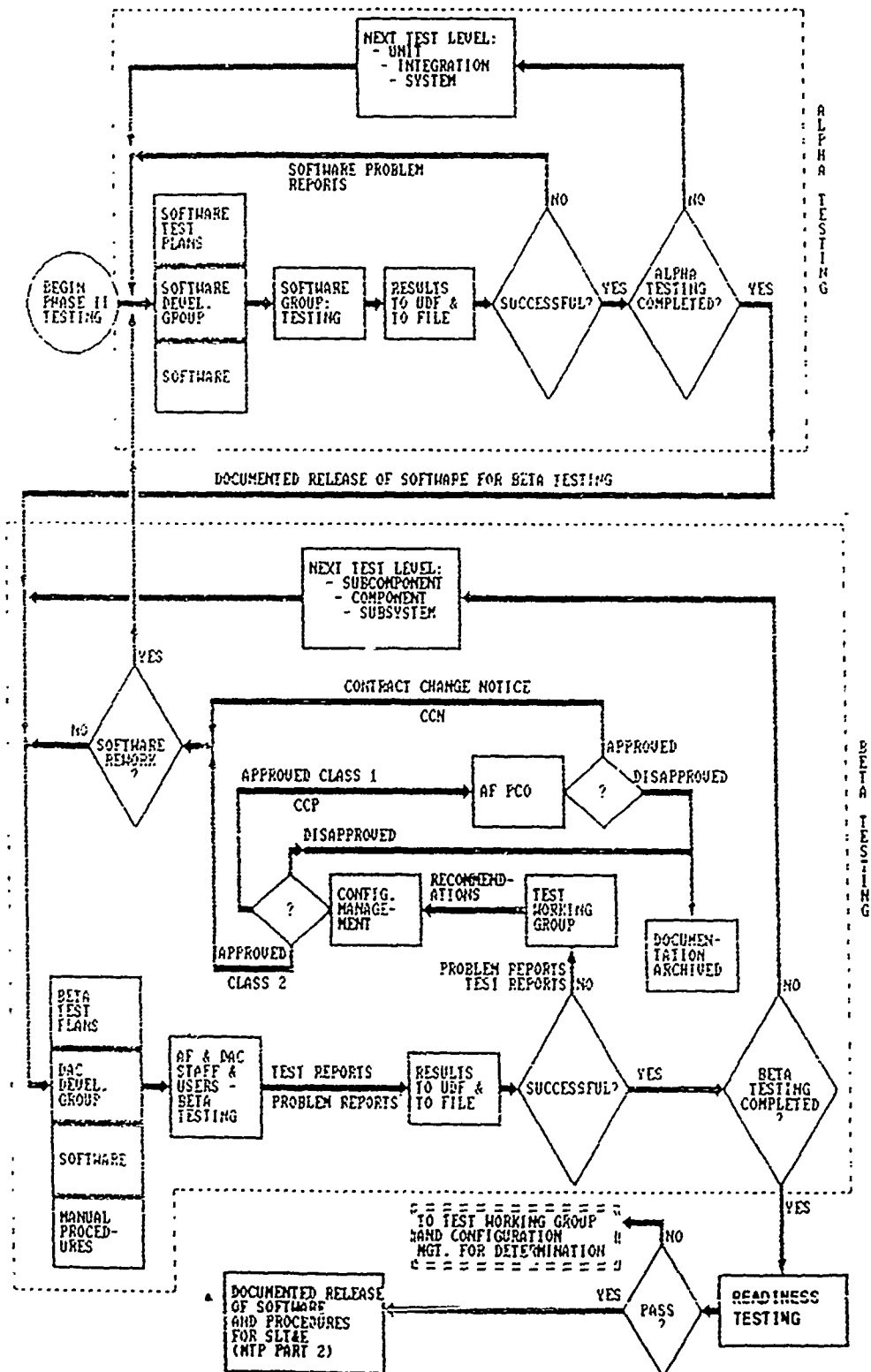


FIGURE 4. FLOW OF TESTING DURING PHASE II

As shown in Figure 4, Phase II testing begins with the DAC Software Development Group. Software programs proceed through the three levels of alpha testing (Unit Testing, Integration Testing, and System Level Testing) in accordance with the Software Test Plan. Test results are filed in the software Unit Development Folders (UDFs), and test reports in the Test Report File which DAC will maintain at its location on Bergstrom AFB. The UDFs and Test Report File will be available for AF inspection at any time. If a problem is detected at any level of alpha testing, the software is reworked as necessary and alpha testing begins again. Software which successfully completes one level of alpha testing advances to the next level or, if alpha testing is completed, is released for beta testing.

Beta testing involves the DAC development staff, DAC and AF users of AOTS (principally instructional design and Instructional Systems Team [IST] personnel during Phase II), and DAC and AF experts serving as evaluators and inspectors. As testing proceeds in accordance with the Test Plans (Appendix A), test reports and problem reports (see Appendix B) are entered into DAC's Test Report File at Bergstrom AFB. Documentation on unsuccessful tests is referred to the AF/DAC Test Working Group (TWG) for consideration and recommendations. The TWG's recommendations enter into the Configuration Management process for classification as Class 1 or Class 2 change (as defined in the AOTS Configuration Management Plan) and for approval or disapproval. Approved Class 1 changes are forwarded as Contract Change Proposals to the AF Program Contracting Officer (PCO). If approved by the PCO, a Contract Change Notice (CCN) will result. If disapproved by the Air Force/DAC Configuration Control Board (CCB) or the PCO, the documentation is archived in the Test Report File. Approved changes which do not require software change are referred to DAC's Development Group for rework and reentry into beta testing. Approved changes which do require software rework go to the DAC

Software Development Group, and then into new alpha testing. After a product completes a round of beta testing, it either enters into the next higher level of beta testing or continues in use in Phase II awaiting Readiness Testing.

Readiness Testing occurs during the last two months of Phase II. Whereas alpha and beta testing are conducted and witnessed principally by DAC (although AF observation and participation is welcome), readiness testing will be observed by AF representatives (to be designated by the AFHRL Program Manager). Readiness testing is intended to demonstrate to the AF that the AOTS products are ready for use in Phase III System Level Test and Evaluation.

Part 2 of the MTP, developed and revised during Phase II and implemented during Phase III, defines the focus and order of the overall integrated system level evaluation of the AOTS; outlines the procedural guides for the summative evaluation stage; and provides procedures and schedules for data collection, data analysis, evaluation, and reporting so that overall performance of the integrated system can be assessed. Execution of Part 2 of the MTP will examine how well the AOTS prototype accomplishes its design goals and what benefits accrue from its implementation. Part 2 makes use of pretest/post-test comparisons and non-equivalent control groups in order to provide the required comparisons.

As indicated in Figure 1, the MTP may be revised and updated as DAC and the AF gain experience with the evaluation of the elements of the system. Some of the test objectives identified in the MTP, as well as some of the indicators of the elements' performance, may be found to be impractical or unnecessary. On the other hand, some unanticipated critical issues may emerge, or better indicators may be found.

2.4 The Criteria Acquisition Model

A classic, widely used model from the program evaluation literature provides a framework for evaluation of the AOTS program. The Criteria Acquisition Model* (CAM) supports systematic, comprehensive evaluation of a large scale system. The central notion of the model is that there are distinct evaluation stages in the life of a development product and it is possible to specify criteria that should be met before the product advances to the next stage. There are three basic facets of the CAM:

1. the formal stages of the program are specified and described
2. the domains of the specific criteria that will be used as the basis for the evaluation are established
3. the various audiences for the evaluation are specified.

The CAM is usually depicted as a three dimensional matrix with one facet along each dimension. Each facet is broken down into several levels or categories. The model is quite general and very flexible. For example, depending on the stage of the program during which the evaluation takes place, different levels of emphasis may be placed on the criteria domains or the audiences because certain criteria or audiences are more important than others at certain stages. Each stage in the development/evaluation sequence represents a relatively easily identified milestone in the life of a project. Moreover, the entry of a test element into a given stage can be viewed as a decision point. If a test element lacks certain characteristics

* Wright, W.J., & Hess, R.J. (1974), A criteria acquisition model for educational evaluation. In G.D. Borich (Ed.), Evaluating Educational Programs and Products. Englewood Cliffs, NJ: Educational Technology Publications.

or has failed to meet certain criteria required for entry into the next stage, revision may be indicated. Evaluative feedback will be provided at these milestones for Air Force review. It is the stages of development and evaluation that constitute the major milestones or decision points in the life of a product. According to the extent to which a product meets the criteria established for it at a given stage, it will be advanced or referenced to the contractor for change. Deciding how much weight is to be applied to any criterion is, of course, a product specific decision.

The three-dimensional CAM model tailored for use in the AOTS program evaluation is depicted in Figure 5. The stages and audiences should be self explanatory, and the criteria domains, listed below, are the critical issues identified in Section 1.5.

2.4.1 Compliance. Does the prototype AOTS meet the design and functional requirements of the System, Subsystem, and Component Specifications?

2.4.2 Performance. How does performance of the prototype ACTS compare with the conventional OJT system, and does AOTS meet the system performance standards?

2.4.3 Suitability. Does the AOTS overcome currently defined deficiencies in the Air Force's OJT system, and can AOTS be used for OJT throughout the Air Force?

2.4.4 Acceptance. Is AOTS perceived by the various system users as easy to use and user friendly?

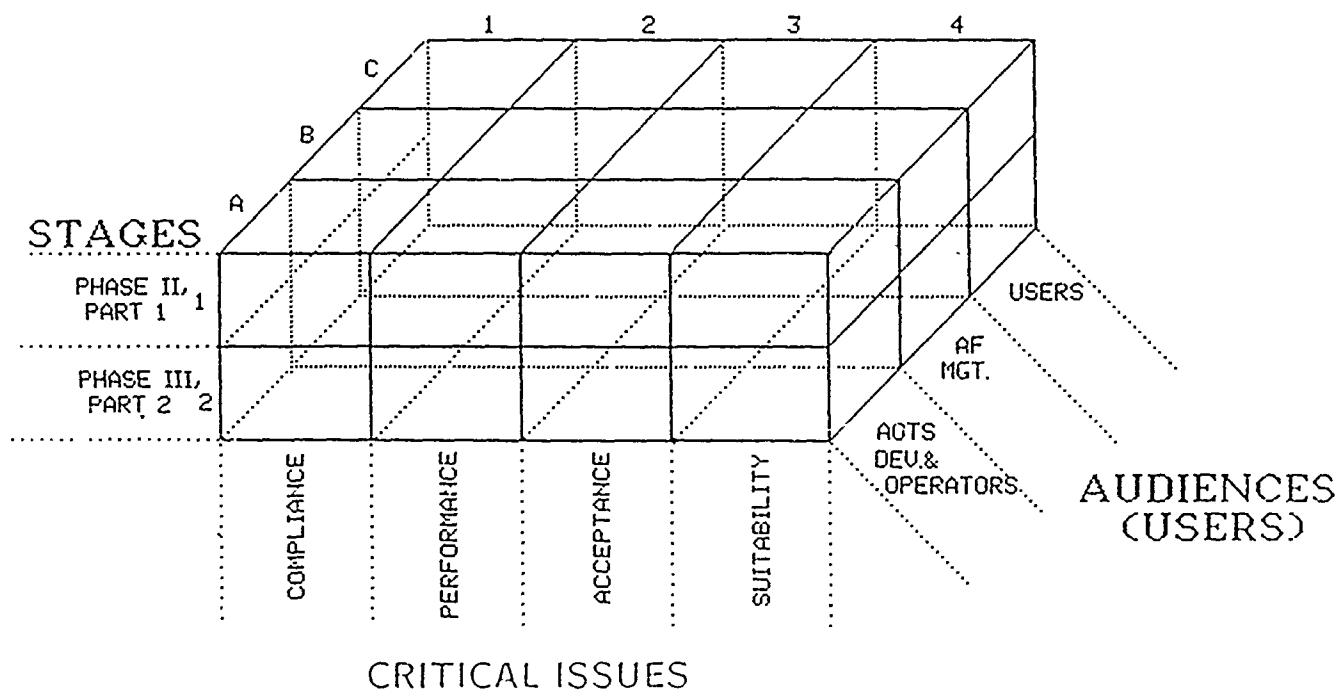


FIGURE 5. THE CAM MODEL

2.5 Definitions and Descriptions of the Basic Assessment Process.

Processes identified in the requirements specifications for the MTP for assessing the performance of the system elements are: testing, measurement, analysis, demonstration, evaluation, inspection, and reporting. Interpreting how these assessment process terms can be implemented in practice, the seven processes can be collapsed into the four basic assessment processes that are being required in the MTP. The seven processes are as follows.

Inspection. This term refers to the examination of a system or an element of the system by visual means, and implies the physical presence of an observer (i.e., the inspector). Inspection also implies standards against which the element or system is to be compared.

Analysis. This process refers to breaking down a system into its component parts, and usually requires that an examination be conducted of the system, its component parts, and the interrelations among the parts in forming the whole. Analysis is often necessary in trouble shooting a system to identify the component causing problems so that the faulty component can be corrected. Data analysis is a specific technique involving descriptive and/or inferential statistics to describe, summarize, predict, or evaluate some system or measures of system performance. Thus, analysis often connotes analysis, gathering, and interpretation of data.

Test. A test is basically a procedure conducted to determine whether some element works. That is, does the element function as it was designed to function? The result of the test is usually a dichotomous decision (e.g., yes or no), but the test may also produce quantitative measures. In all cases, the test determines whether the element conforms to the requirements or performance characteristics specified for it.

Evaluation. This term refers to the process by which value judgments or decisions are made through the use of a variety of evidence including tests, measures, demonstrations, inspections, etc. Evaluation requires both qualitative and quantitative interpretation of the cumulative weight of evidence to determine the worth or value of a system. Evaluation usually takes place in a less controlled environment than tests or measurements, such as field evaluations. Evaluation also implies some standards of performance to be met, a set of criteria to decide if the standard has been exceeded, and often includes comparisons of the system being evaluated with alternate systems. Finally, evaluation typically involves the descriptive or inferential statistical analysis of individual or composite measures of system performance.

Measurement. Measurement involves the assignment of numbers (quantitative values that indicate magnitude, amount, degree, quantity, etc.) to objects, events, systems, or persons according to some rule. In the measurement of physical characteristics such as height or weight, the quantification rules have been agreed upon and standardized so that everyone knows the procedures to be followed. In other contexts, however, the rule will usually have to be specified in greater detail. It is important to remember that what is measured are the attributes, traits, or characteristics of the objects, events, or systems, not the objects, events, or systems themselves. For example, the efficiency, the user friendliness, the costs, the reliability, and the frequency of use of a system are all attributes that might be measured.

Demonstration. This term refers to the process of showing some aspect, attribute, or property of a system. The merits, capabilities, capacities, and/or performance levels of a system are displayed or illustrated to prove its effectiveness. This

overt display may involve the use of simulations, explanations, or examples to make the demonstration convincing.

Reporting. Reporting is the effective communication of evaluation results to the audiences requiring the information. Reports may be verbal or written.

Given these definitions, it follows that the process of measurement is always a part of testing and analysis; reporting (communicating evaluation results) is a part of the general evaluation process; and demonstration may be viewed as a procedural step within evaluation. The four remaining processes, invoked by the Part 1 Test Procedures, are Inspection, Analysis, Test, and Evaluation. The operational definitions and representative tools and analyses associated with each are shown in Figure 6.

2.6 Organization and Responsibilities.

Organizations involved in AOTS T&E, and their responsibilities, are as shown in Figure 7.

2.6.1 DAC Responsibilities. DAC is principally responsible for designing, conducting, and documenting the tests and evaluations, and for taking necessary corrective actions. Under the DAC Program Manager, the DAC Test Manager has overall responsibility for all T&E activities described in this MTP. The DAC Software Manager has principal responsibility for corrective actions on software products. The DAC Manager of Configuration Management, and the joint AF/DAC CCB, will be involved in any changes which arise from T&E and which impact a product under configuration control.

LEVEL OF TEST/EVALUATION	TYPE OF TEST	CONDITIONS OF TEST	CRITERION MEASURE	TOOLS/ANALYSES
Inspection	Visual examination or equivalent	Controlled or uncontrolled	Established standards of performance by expert consensus or equivalent.	Checklist. Rating scale. Item by item adherence or composite score with equal or varying weights applied.
Analysis	Descriptive data gathering, and interpretation techniques	Controlled or uncontrolled	Quantifiable measure or composite measures about x (e.g. opinions, freq. of occurrence, etc.)	Attitude scale Questionnaire Perf. measures - opinion or performance data collection and descriptive data analysis; summary of composite values . . . "a profile".
Test	Specified inputs, outputs, and data analysis methods	Controlled	Quantified measure or composite measures to a specified probability level (i.e. confidence levels, significance against criterion)	Procedure that determines if x works, as far as conforming to requirements specified for it, at a statistically acceptable confidence level.
Evaluation	Specified inputs, outputs, and data analysis methods: - o variation of input and determination of differential outputs and consequences - o descriptive or statistical treatment of individual or composite data measures. <u>demonstration</u>: act of proving/illustrating worth of x; providing evidence <u>evaluation</u>: process by which value judgements are made based on a variety of evidence: to ascertain or fix a value or worth	Controlled or uncontrolled (usually less controlled, e.g. field evaluations)	Quantifiable - o measure - o composite measure - o index - o profile - o configuration	Quantitative and qualitative interpretation of cumulative weight of evidence, and judgment as to whether or not standards of performance have been met or exceeded; may include comparisons with alternate systems, judgements

FIGURE 6. OPERATIONAL DEFINITIONS, TOOLS, AND ANALYSES

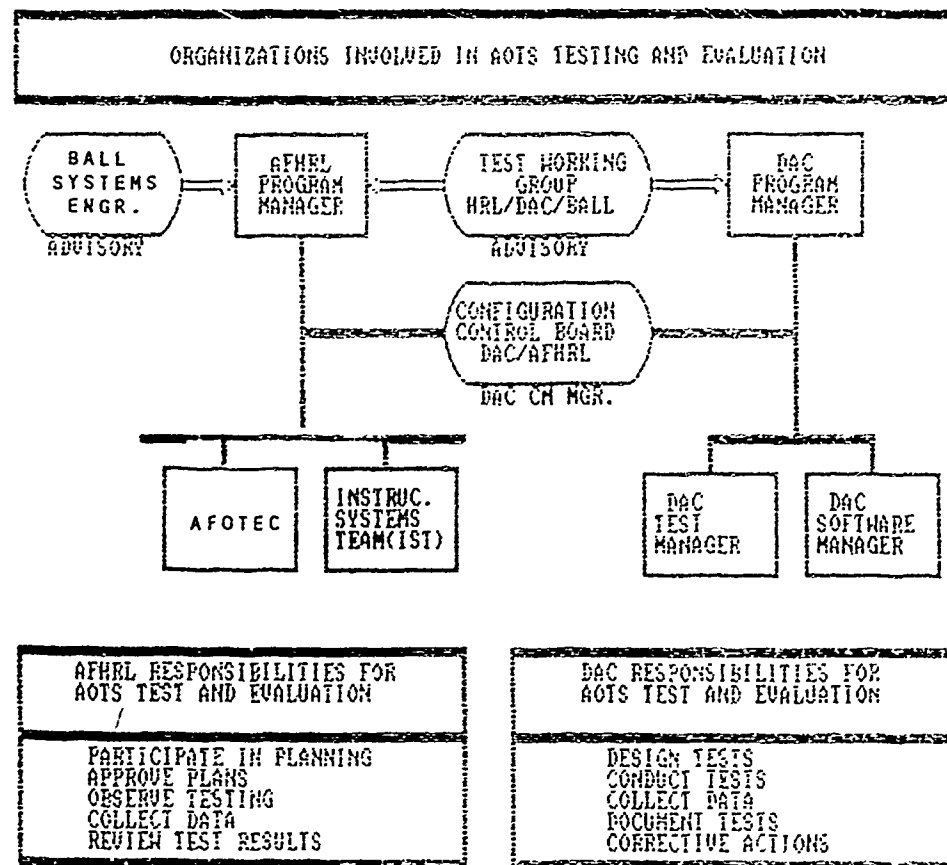


FIGURE 7. ORGANIZATION AND RESPONSIBILITIES

2.6.2 AFHRL Responsibilities. AFHRL participates in planning and approves plans for T&E, observes testing, and reviews test results. AFHRL's Instructional Systems Team and Concepts and Analysis Branch, other AF personnel and organizations including the Air Force Operational Test and Evaluation Center (AFOTEC), and Ball Systems Engineering will be involved in the T&E activities as the AFHRL Program Manager may direct.

2.6.3 Test Working Group. The purpose of the Test Working Group (TWG) is to provide a forum for continuous interchange on test related issues among organizations involved in the test and evaluation planning process. The TWG, chaired by the DAC Test Manager, will advise the DAC and AFHRL Program Managers on all significant test matters. The TWG will operate throughout the period of AOTS Test and Evaluation.

2.6.3.1 TWG Responsibilities. Responsibilities of the TWG are summarized below. These responsibilities will be revised or expanded as program requirements may dictate.

- a. Review and comment on formative and summative test objectives, test evaluation criteria baselines, T&E organizational responsibilities, and test documentation requirements.
- b. Review and comment on policy and plans for major test milestones.
- c. Review and comment on test plans to determine that test objectives and requirements are addressed.
- d. Review and comment on the Master Test Plan (AFHRL as the procuring agency has responsibility and authority for approval).

- e. Identify test support requirements to appropriate organizations, and recommend alternate test methods or objectives when specific test resources are not available.
- f. Maintain current knowledge of the critical T&E issues, test objectives, progress toward attainment, and resolution of deficient areas. In cases requiring interpretation of requirements and/or results, the TWG will make recommendations to DAC and HRL management and to the CCB.
- g. Review program redirection and the effects on current T&E costs, performance, schedule, and resource estimates.

2.6.3.2 TWG Membership. The TWG will consist of designated focal points from each participating organization, as follows:

- a. Chairperson: DAC Test Manager
- b. Vice chairperson: DAC Program Manager
- c. Permanent Members:
 - AFHRL Program Management Representative (1)
 - IST Representatives (2)
 - DAC Representatives (2)
 - Ball Systems Engineering Representative (1)
- d. Special Advisors: From time to time the TWG Chairperson may request other individuals to assist with or participate in the group's activities. These persons will not be considered permanent TWG members.

2.6.3.3 TWG Procedures.

a. Meetings of the TWG will be held quarterly, at Bergstrom AFB locations and at times to be determined by the Chairperson. Insofar as possible, meetings will be scheduled when a majority of TWG members will be available. Any permanent TWG member may request a meeting to discuss, plan, and resolve T&E issues.

b. Meeting minutes will be distributed to members of the TWG and to DAC and AFHRL program management within 10 days after each meeting. Minutes will outline the meeting objectives, the major results, action items, and recommendations made by the group. The Chairperson will appoint a recorder for each session.

c. Documents requiring TWG action will be provided to the members sufficiently in advance of a meeting to allow adequate review time.

3.0 MTP PART 1: PHASE II TEST AND EVALUATION

3.1 Introduction

As described above, T&E activities for Part 1 of the MTP are formative in nature. The principal objective for Part 1 is to test each subcomponent, component, and subsystem of AOTS for adherence to functional requirements and for acceptability. The performance characteristics and functions identified in system and subsystem specifications become the testing objectives for subcomponents, components, and subsystems.

3.2 Formative Level Test Objectives

Part 1 of the MTP, formative evaluation of AOTS, is an ongoing qualitative and quantitative assessment while subsystems are being developed. Each element of the system (i.e., subcomponent, component, and subsystem) is identified here. The requirements for each element to be tested are stated. In some cases, the requirements are qualitative, e.g., "an element shall include X, Y, and Z," and in some cases are quantitative, e.g., "the element shall perform its function with 98% accuracy." Testing procedures and instruments will be unique for each test. Refer to Appendix A, the individual test plans for each element identified in the T&E plans, for specific test objectives, evaluation questions, and methods of evaluation. General descriptions of procedural guides to be developed for test activities are contained in Appendix B.

3.3 Order of Testing.

Refer to Appendix G of this document for the testing milestones and the order in which tests of the system elements will be performed. Beta testing of an element will not begin until the associated alpha testing of that element has been completed.

Since AOTS hardware will be purchased off the shelf, hardware testing will be done using hardware tests supplied by

the manufacturer. There will, therefore, be no AOTS unique hardware tests. In all cases, specific hardware tests will be conducted prior to initiating MTP test activities whose results might be constrained by the operation of that hardware. Details of hardware testing procedures are contained in Specifications 70S647401 and 70S647402. Software required to support an MTP beta test activity will complete alpha testing prior to beginning the MTP beta test activities. Specific details of software testing procedures (alpha testing) are documented in the Software Test Plan, Appendix D of this MTP.

Whenever, during MTP testing, a problem or deficiency is noted and the cause is not apparent, both hardware and software will be considered as possible contributors. If problems with hardware are found and the solution is outside the manufacturer's stated capabilities for said hardware, then the Air Force will be consulted for mutual resolution. If the problem is related to software, the programmers will review the problem, and keep the Air Force apprised of the proposed resolution.

4.0 MTP PART 2: SYSTEM LEVEL TEST AND EVALUATION

The Air Force Human Resources Laboratory (AFHRL) has been tasked to design, develop, and test a prototype Advanced On-the-job Training System for Air Force On-the-Job Training (OJT). The prototype system is to be demonstrated and evaluated in an operational environment. Four Air Force Specialties (AFSSs) have been selected to participate in this effort. These are 426X2, Jet Engine Maintenance; 431X1, Aircraft Maintenance; 732X0, Personnel; and 811XX, Security Police. All Air Force components (Active, Reserve, and Guard) will participate in this effort. Bergstrom AFB, TX has been selected as the site at which the Active and Reserve Forces will participate, and Ellington ANGB, TX is the site selected for the Guard Forces. The workcenters involved, by AFS at each site, are listed in Appendix E.

The McDonnell Douglas Corporation was awarded a contract for developing the prototype AOTS in August 1985. Time for the effort is four years; August 1985 - July 1989. The effort is divided into three phases: Phase I for preliminary design of the prototype system; Phase II for detailed design and development; and Phase III for implementation, demonstration, and System Level Test and Evaluation (SLT&E).

This Part 2 of the Master Test Plan (MTP) outlines the requirements to be met during the SLT&E. Included are test plans for the critical issues of Compliance, Performance, Suitability and Acceptance; surveys to be completed by the Air Force users; and the SLT&E time schedules.

4.1 Background and Authority

4.1.1 System. The AOTS grew out of an Air Staff-directed functional management inspection of the Air Force OJT program in the late 1970s. The inspection found a number of problems and summarized the current system as being labor- and paper-intensive

and having limited use of automation, which is focused on record keeping instead of training and readiness. The Air Staff directed a study of possible solutions. One was an initial plan for an automated unit-level training system that eventually became AOTS.

4.1.2 Acquisition Program. The Air Force Systems Command was directed (RPR 80-03, PMD 2029, most recent update 9 Oct 86) to design, develop, and test a prototype for a job-site training system. The system was to address training concerns such as responsiveness, standardizing instruction and evaluation, training proficiency, and applying computer-based training delivery and management. Air Force Systems Command assigned the Air Force Human Resources Laboratory (AFHRL) Training Systems Division to do the work. In 1985, AFHRL contracted with McDonnell Douglas Corporation's Douglas Aircraft Company (DAC) for a 4-year program to design, develop, test and evaluate the prototype AOTS. Phase I, preliminary design, was completed in May 1986; Phase II, detailed design and development, will be completed in July 1988; and Phase III, implementation of the prototype, will begin in August 1988. System Level Test and Evaluation (SLT&E) will begin in August 1988 and will be concluded in July 1989.

4.1.3 Test Program. The Air Staff sponsor for the project, HQ USAF/DPP, directed that the AOTS prototype be developed and evaluated within an operational environment to ensure that the system is useful and acceptable to the noncommissioned officer (NCO) force. CONUS MAJCOMs recommended and AFHRL assessed a set of bases. HQ USAF/DPP selected Bergstrom AFB, Texas, using criteria which included the following:

- (a) a representative flying mission
- (b) total force units (active Air Force, Air Force Reserve, and Air National Guard) in close proximity
- (c) all units of the total force components fly the same weapon system; and
- (d) stable weapon system

The prototype will be implemented and evaluated in work centers of the following units:

<u>Component</u>	<u>Unit</u>	<u>Weapon System</u>
Active Air Force	67 TRW Bergstrom AFB, TX	RF-4C
Air Force Reserve	924 TFG Bergstrom AFB, TX	F-4D
Air National Guard	147 FIG Ellington ANGB, TX	F-4D

Before the start of Phase III, DAC will conduct alpha and beta testing. The Air Force will conduct readiness testing (MTP Part 1) to ensure that the AOTS works before it is placed in the operational workcenters.

The AFSs participating in the AOTS prototype were selected for a number of reasons, including (a) they are large (together they include approximately 20% of the enlisted force); (b) they represent a wide range of job types; and (c) the OJT for each is somewhat different. Together they should provide a realistic test of the usefulness of the AOTS. Also, the functional areas including each of these specialties have either an existing or

planned automation system (CAMS, MMICS, PC-III, and SPAS). This offers an opportunity to integrate AOTS and these representative automation systems.

4.1.4 Program Documentation.

1. AFHRL-TP-83-54, Integrated Training System for Air Force On-the-job Training: Specification Development. March 1984.
2. AOTS Statement of Work. 16 April 1984.
3. Program Management Directive (PMD) 2029. 9 October 1986.
4. Memorandum of Agreement (MOA) Between AFHRL/HQ AMD and HQ TAC, HQ ATC, HQ Air University, ANG, AFRES, AFMPC, AFOSP, AF/MPPT, and AF/LEYM. July 1984.

4.2 SLT&E Description

4.2.1 Purposes. Four major evaluation areas (critical issues) are to be addressed during SLT&E: Compliance, Performance, Suitability, and Acceptance. The purposes of the SLT&E are to show that DAC meets the conditions of the contract and specifications (Compliance), and to evaluate the AOTS in the operational environment by comparing it to existing OJT and discovering any problems or deficiencies with AOTS (Performance, Acceptance, and Suitability).

4.2.2 Approach. The elements of the system that will be tested and evaluated will depend on the evaluation area being addressed. Also, the target groups to participate in the test and evaluation and the methods for gathering data will vary depending on the element being tested or evaluated. Target

groups refer to: the Instructional Systems Team (IST), both Air Force and Douglas Aircraft Company members; the supervisors, trainers, trainees and evaluators assigned to the applicable work centers; and commanders and training managers. The methods to be used for gathering data include interviews, surveys, and collection of statistical data.

Interview and survey instruments, and procedures for administration, are contained in Appendix J.

The test plans which follow (Appendix E) include, in matrix format for each evaluation area, the following information:

- 1) the critical questions and subquestions to be addressed for each critical issue
- 2) the method or methods to be used for measurement for each subquestion,
- 3) the data to be collected and the target groups to participate
- 4) how data will be collected
- 5) how data will be analyzed
- 6) how the results of analyses will be evaluated
- 7) how the results of data analysis and evaluation will be reported, and
- 8) the elements being tested.

During SLT&E, DAC will cooperate with base OJT managers to keep them aware of activities and to include them in the coor-

dination loop with ACTS activities. AOTS will support scheduling of FTD courses through the MAT. MAT training managers will be asked to complete questionnaires during SLT&E to respond to critical issues of Acceptance and Suitability.

4.3 Program Schedules and Milestones

The milestones associated with SLT&E are shown in Appendix G of this MTP. Appendix G also contains flowcharts showing the order in which interviews, surveys, data collection, analysis, evaluation, and reporting will occur, and the timelines for each.

4.4 System Description

The AOTS is a computer-based system that will administer, evaluate, track, and manage OJT. Refer to MTP Part 1, Sections 1.0--1.3.3 for a more detailed description.

The test hardware for Phase III will include Zenith Z-248 Personal Computers; a VAX 8600 mainframe computer located at Brooks AFB in San Antonio, Texas; a 56KB high-speed communications line between Brooks AFB and Bergstrom AFB; printers; optical mark readers; digitizing tablets; and other associated equipment necessary for AOTS operation. During SLT&E, the system will be maintained in accordance with the AOTS Maintenance Plan.

4.5 Scope and Limiting Factors

4.5.1 Locations. This test will be conducted in workcenters at Bergstrom AFB and Ellington ANGB. The following specific locations will be used:

1. Bergstrom AFB

- a. Jet Engine Maintenance Workcenters

- Active - Bldgs 1612 and 4529; Reserves - Bldg 4589

- b. Aircraft Maintenance Workcenters
Active - Bldgs 1609 and 4529; Reserves - Bldg 4515
 - c. Personnel Workcenters
Active - Bldg 2202; Reserves - Bldg 4555
 - d. Security Police Workcenters
Active - Bldgs 207 and 208; Reserves - Bldg 4204
 - e. AFHRL/OL-AK Program Management
Trailer T-1
 - f. AFHRL/OL-AK Instructional Systems Team
Bldg 1808
 - g. DAC Management and Programming
Bldg 428
 - h. Chiefs of Maintenance Training Staffs
Active - Bldg 1501; Reserve - Bldg 4592
- 2. Brooks AFB
 - a. Base Information Processing Center (VAX 8600)
Bldg 578
- 3. Ellington ANGB
 - a. Jet Engine Maintenance Workcenters
Bldg 1290
 - b. Aircraft Maintenance Workcenters
Bldg 1382
 - c. Personnel Workcenters
Bldgs 1057 and 1382

d. Security Police Workcenters

Bldg 1193

4.5.2 Personnel Requirements. Conducting this test will require participation of the following personnel:

1. AFHRL personnel, including IST members, at Bergstrom AFB
2. Workcenter personnel (AOTS and control groups) at Bergstrom AFB and Ellington ANGB (Figures 8, 9, and 10 further illustrate the participation of each group.)
3. DAC Employees at Bergstrom AFB

. Estimates of the time required from AF personnel for SLT&E activities are included in the test plans in Appendix E.

4.5.3 Limiting Factors. Planning for SLT&E of AOTS is influenced strongly by a variety of practical constraints and limitations. The major factor is that the nature of the implementation of AOTS, as a small scale prototype, dictates that a "field research" approach be taken. The evaluation will take place in the operational Air Force environment, precluding the possibility of a more controlled laboratory or experimental approach (along with the advantages and benefits of such evaluation methods). The objective is to accomplish the best possible evaluation of AOTS within the constraints imposed by the operational environment. The Master Test Plan therefore adopts quasi-experimental designs for use in SLT&E (cf. Campbell & Stanley, Experimental and Quasi-Experimental Designs for Research, Rand McNally, 1966). As indicated in the Test Plans (Appendix E), nonequivalent control group designs will be used where appropriate control groups exist at Bergstrom AFB. Where suitable control groups are lacking, time series designs will be used to compare the pre-AOTS baseline with AOTS.

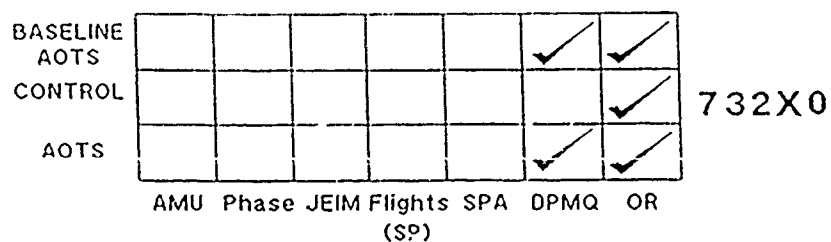
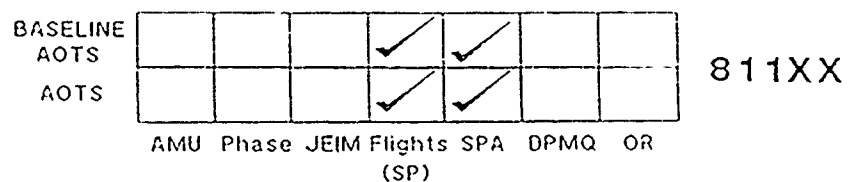
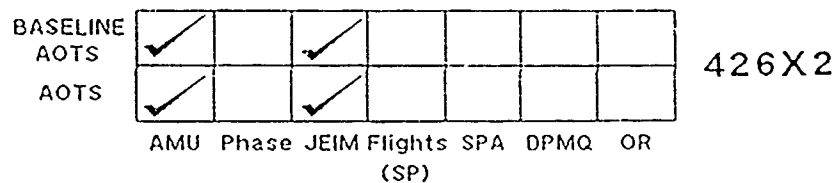
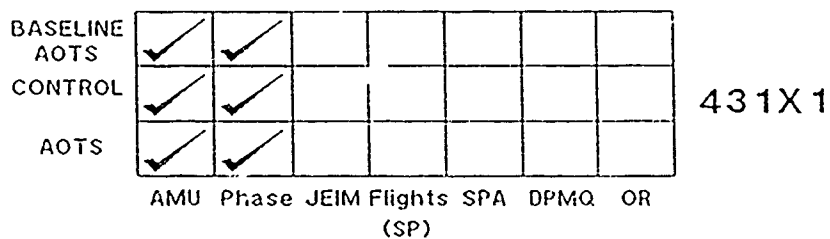
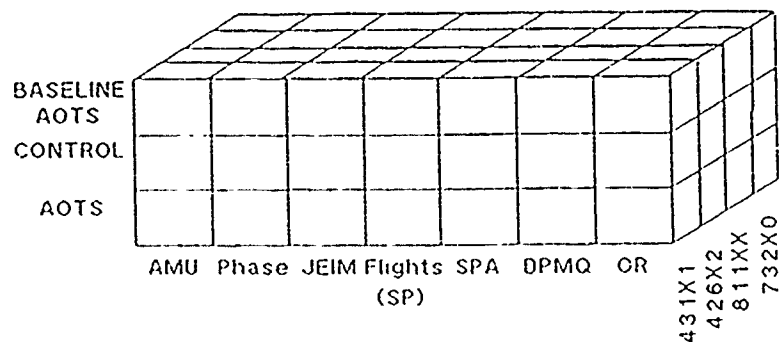


FIGURE 8. ACTIVE AIR FORCE PARTICIPATION IN AOTS SLT&E

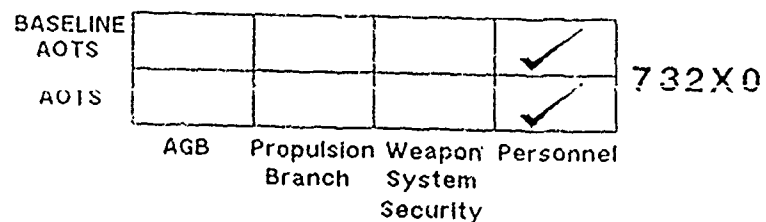
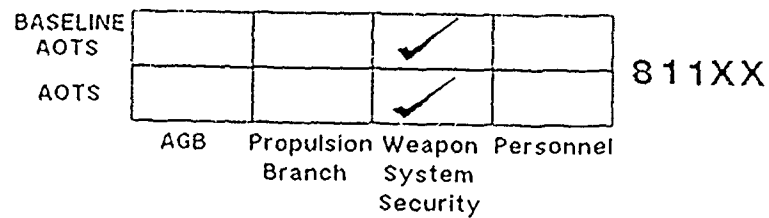
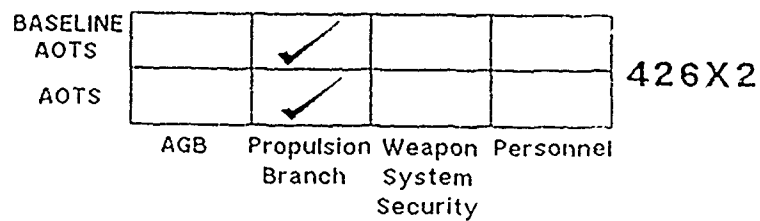
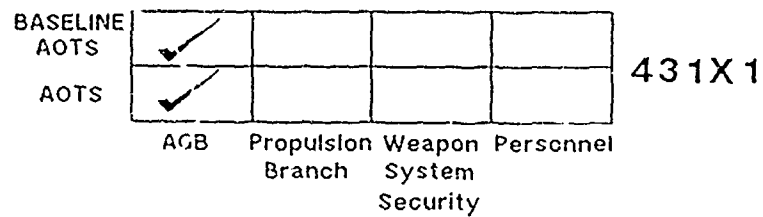
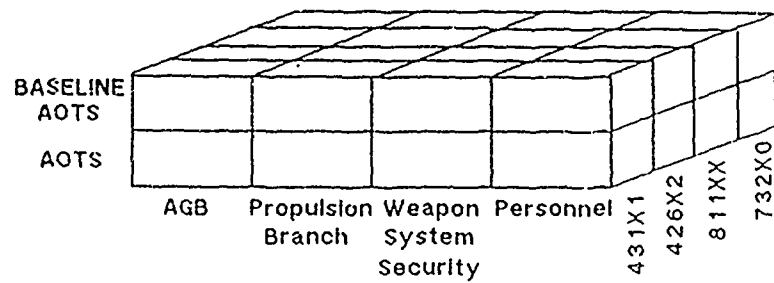


FIGURE 9. AIR FORCE RESERVE PARTICIPATION IN AOTS SLT&E

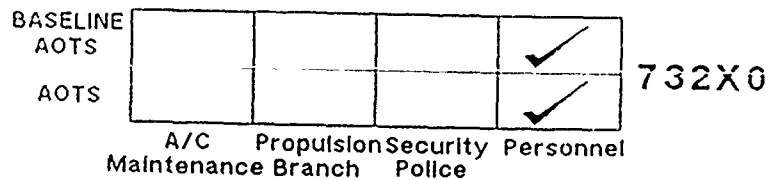
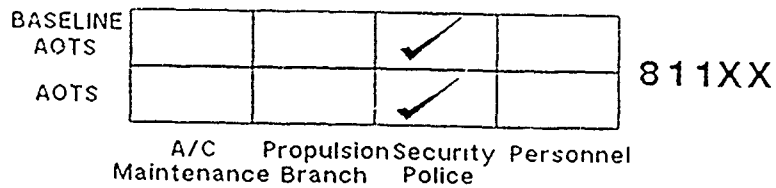
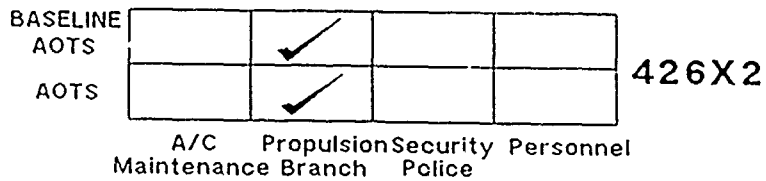
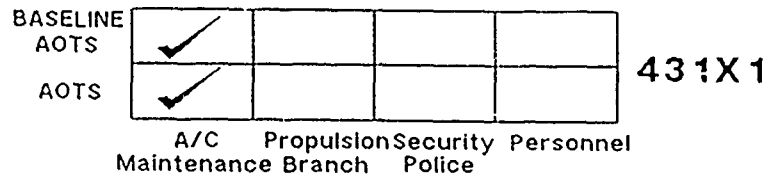
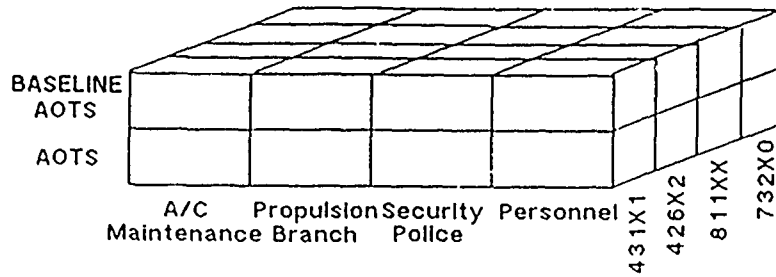


FIGURE 10. AIR NATIONAL GUARD PARTICIPATION IN AOTS SLT&E

Any consideration of the features and design of the MTP needs to bear in mind the restrictive conditions under which testing will have to be conducted. The major limitations on the MTP are summarized below, in approximate order of importance or impact on the SLT&E.

Lack of Randomization - The AOTS prototype will be implemented in only a few workcenters, for four Air Force Specialties, at two bases. Bergstrom AFB and Ellington ANGB were not selected randomly, nor were the four AFSSs or the workcenters selected randomly from among all AFSSs or workcenters. Furthermore, subjects to be studied in Personnel, Security Police, Jet Engine Maintenance, and Aircraft Maintenance workcenters comprise convenience samples, self-selected to some degree, rather than random samples. It will not be possible to assign airmen to treatment conditions randomly. Instead, intact workcenters will be measured during a baseline period prior to the installation of AOTS; again during the implementation of the AOTS prototype; and in control groups. The lack of random selection and assignment of subjects eliminates the possibility of conducting any type of true experimental design.

Control Groups - There are practical considerations which limit the availability and use, at Bergstrom AFB, of control groups of non-AOTS participants. In the case of Jet Engine Intermediate Maintenance, the only such workcenter at Bergstrom AFB will be under AOTS. In other cases, even though there may be similar workcenters at Bergstrom, duties differ considerably. Also, personnel may be transferred from one workcenter to another during the course of AOTS, thus confounding the groups.

Practical considerations and costs limit the usefulness of control groups from AFBs other than Bergstrom. Such groups need to come from an AFB similar in size and functions - same type, number, and configuration of weapon systems, same positions and

tasks, similar environment and geographic location, etc. The near certainty of marked differences in these respects from AOTS workcenters at Bergstrom AFB argues against this approach.

Non-independence of Groups - Because all of the active and reserve personnel participating in AOTS are located at Bergstrom AFB (and all of the Air National Guard personnel are at Ellington ANGB) substantial interaction among personnel is inevitable. Airmen will talk among themselves both within and across workcenters about the AOTS prototype - its features, what they like and dislike, etc. In cases where we identify and use a nonequivalent control group, interactions among airmen from AOTS and control group workcenters will occur, and airmen may be transferred between AOTS and control group workcenters. All of these factors will contaminate the treatment groups.

Internal Validity - The MTP is vulnerable to several internal validity concerns. First, there is always the possibility that changes external to the AOTS program could account for any differences from pre- to post-AOTS. As an extreme example, the F-4s might be replaced with another aircraft. Vulnerability to such changes is high, because of the length of time during which the baseline and treatment take place and because of the high priority which must be accorded to operational considerations in the workcenters. Another problem is that people themselves change over time, irrespective of the AOTS program in which they may be participating. Any observed effects after implementation of AOTS could be due to natural maturation of the personnel rather than to AOTS per se.

Treatment Period - Officially, the AOTS program is to be implemented for a test period (Phase III) of one year. However, workcenter personnel will require at least a month to "come up to speed" in using AOTS, and data analysis, evaluation, interpretation, and reporting will take at least two months at the end of

the period. Thus the time period during which the AOTS can make its impact on the test results will be, at most, nine months. During this nine months, only a few airmen will move from entry into a position to full position qualification. Most airmen will already be fully or partly position qualified when the AOTS program begins, compounding the difficulty of demonstrating the effects of AOTS training. Again, these problems prevent any "pure" assessment of the effectiveness of AOTS.

Instrumentation - Due to practical considerations (including the need to keep interference with normal Air Force operations at a minimum while evaluating AOTS) and costs, it will generally not be feasible to develop and use new instruments or to design new variables for measuring the effectiveness of AOTS. Instead, the evaluation will have to rely mostly on existing sources of data, including variables currently measured in each AFS, as well as existing data bases. Where new instruments are developed (e.g., questionnaires and structured interviews), it will not be possible to pilot test them extensively to refine their psychometric properties and ensure their reliability and validity.

Samples - The number of personnel in the AOTS and control group workcenters at Bergstrom AFB and Ellington ANGB is another limitation. The workcenters are quite small and are unequal in size, ranging from 1 to about 50 airmen. Sample sizes for analyses are further reduced below the number in the workcenters by fractionation into supervisors, trainers, and trainees. These problems lead to a lack of power in statistical hypothesis testing and to unbalanced designs for data analysis.

External Validity - The mere act of measuring personnel may sensitize them to what is being measured and to what is expected, or may motivate them to improve their performance. Data collection will necessarily have to take place in AOTS workcenters

during the baseline period before AOTS is implemented, after AOTS implementation, and in control groups. Workcenter personnel will be responding to questionnaires and participating in interviews. The reactive effects of these experiences can cloud attempts to measure the impact of the AOTS program. Finally, because the AOTS prototype is being tested on a small scale in five AFSs at one AFB for active and reserve and one ANGB for Guard, the validity of generalizing the results of the evaluation to other AFSs or to other bases will be very questionable.

4.6 Management

4.6.1 Test Management. The responsibilities of principal participants in the SLT&E of the AOTS are shown in Figure 11. The principal participants are as follows.

A. AFHRL

B. DAC

C. Ball Systems Engineering

|R

Other participants to be involved in the SLT&E of the AOTS in either advisory or coordinating roles include the following.

A. HQ USAF/DPPT

G. HQ ATC/DPAE

B. HQ USAF/LEY

H. HQ AFRES/DPTS

C. AFMPC/DPMRTC3

I. ANGSC/TET

D. HQ TAC/DP: T

J. AFHRL/LRC

· HQ TAC/LGMT

E. HQ SAC/DPAT

K. AFOTEC

|R

F. HQ MAC/DPAT

L. BDM

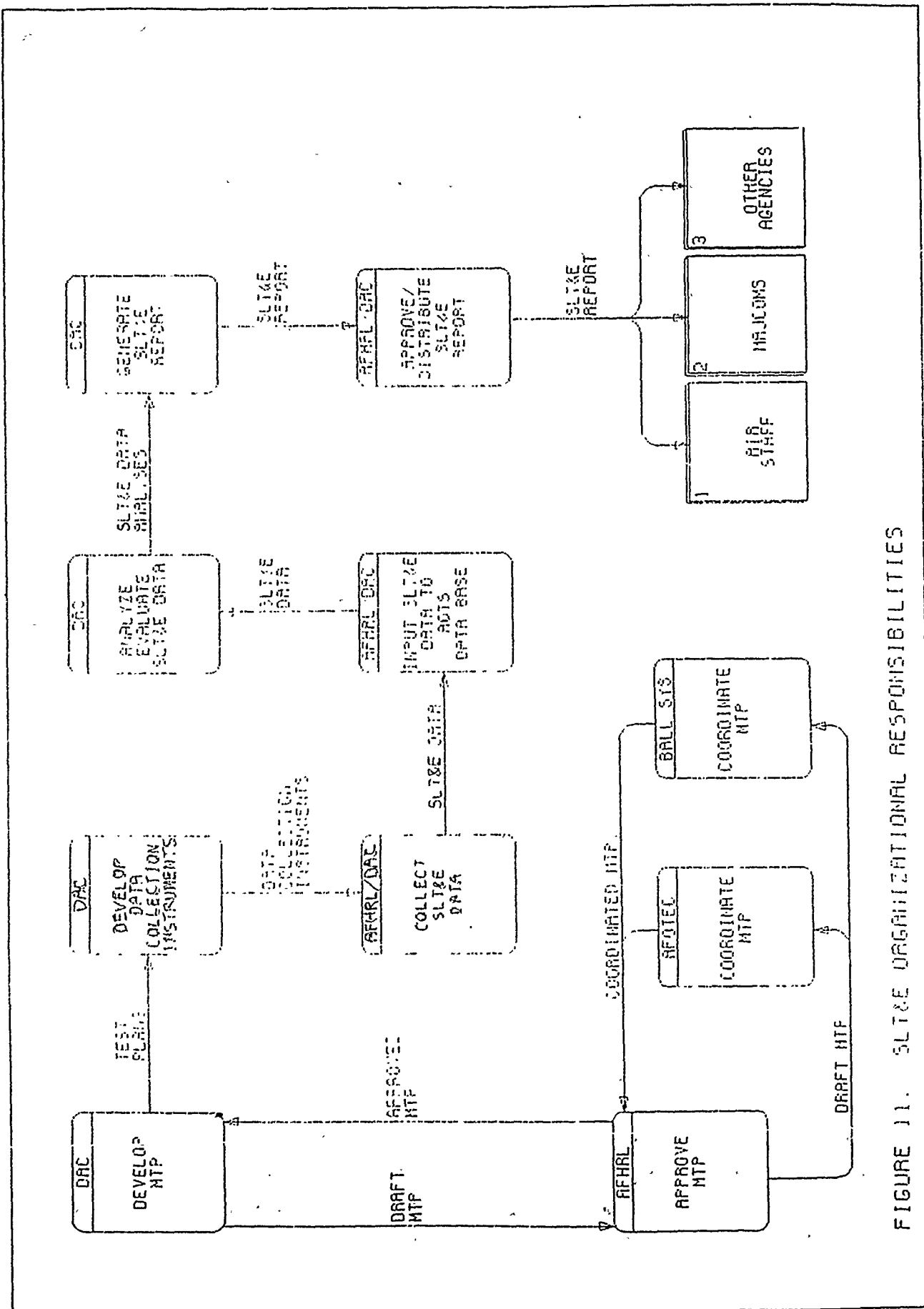


FIGURE 11. SLT&E ORGANIZATIONAL RESPONSIBILITIES

4.6.2 AOTS Program Management

- A. Air Force Program Manager--Major Jack L. Blackhurst
- B. PEM--Major Glen Tanner
- C. SYSTO--Captain Frank Vaccaro
- D. DAC Program Manager--Mr. D. Brooks

4.7 Training Requirements

4.7.1 Test Team Training. DAC, with AF members of the test team, will collect SLT&E data and will enter data into the AOTS test data base. Training times are included within the estimates in Appendices E and H. DAC will provide demonstrations and over-the-shoulder training for test team members in the procedures for:

- Interviewing
- Administering questionnaires
- Collecting other data for performance and suitability
- Entering data into the test data base

4.7.2 SLT&E Requirements for Training Workcenter Personnel. SLT&E will impose very few special requirements for training workcenter personnel. Principally, personnel in workcenters will need to learn how to complete such SLT&E forms as weekly time sheets. The test team will provide this training as they carry out the test procedures provided by DAC.

4.8 Environmental Impact

Not Applicable.

4.9 Safety

No special safety requirements are imposed as a result of SLT&E activities.

4.10 Security

All portions of this test plan and of the AOTS program are unclassified.

4.11 Release of Information

No restrictions except as imposed on DAC by the AOTS contract.

4.12 Intelligence Threat

Not Applicable.

ACRONYMS

AF	Air Force
AFB	Air Force Base
AFFM	Air Force Form
AFHRL	Air Force Human Resources Laboratory
AFMPC	Air Force Military Personnel Center
AFOSP	Air Force Office for Security Police
AFOTEC	Air Force Operational Test and Evaluation Center
AFRES	Air Force Reserves
AFS	Air Force Specialty
AFSC	Air Force Specialty Code
AGB	Aircraft Generation Branch
AGS	Aircraft Generation Squadron
AMD	Aerospace Medical Division
AMU	Aircraft Maintenance Unit
ANG	Air National Guard
ANGB	Air National Guard Base
ANGSC	Air National Guard Support Center
AOTS	Advanced On-the-job Training System
APDS	Advanced Personnel Data System
ATC	Air Training Command
ATR	Airman Training Records
CAM	Criteria Acquisition Model
CAMS	Consolidated Aircraft Maintenance Squadron
CCN	Contract Change Notice

CDRL	Contract Deliverable Requirements List
CONUS	Continental United States
CPC	Computer Program Component
CPCI	Computer Program Configuration Items
CRS	Component Repair Squadron
CSG	Combat Support Group
CSS	Combat Support Squadron
DAC	Douglas Aircraft Company
DBA	Data Base Administrator
DBMS	Data Base Management System
DCR	Data Collection Representative
DESIRE	Direct English Statement Retrieval
DID	Data Item Description
DIR	Data Input Representative
DP	Directorate of Personnel
DPMQ	Office Symbol (Director of Personnel Mgt. Qualification)
DTM	DAC Test Manager
EMS	Equipment Maintenance Squadron
FIG	Fighter Interceptor Group
GPTR	Generic Position Task Requirements
HQ	Headquarters
ISD	Instructional Systems Development
IST	Instructional Systems Team
ITR	Individual Training Requirements
JCN	Job Control Number
JEIM	Jet Engine Intermediate Maintenance
JQS	Job Qualification Standard

MAJCOM	Major Command
MAT	Maintenance Training Office Symbol
MDC	Maintenance Data Collection
MILAP	Maintenance Information Logically Analyzed and Presented
MMICS	Maintenance Management Information Control System
MOA	Memorandum Of Agreement
MTL	Master Task List
MTP	Master Test Plan
NCO	Noncommissioned Officer
OJT	On-the-Job Training
OMR	Optical Mark Reader
OPTR	Operational Position Task Requirements
OR	Orderly Room
PCO	Program Contracting Officer
POC	Point of Contact
PE	Personnel Evaluation
PMD	Program Management Directive
PCIII	Personnel Concept Third Generation
RPR	Request for Personnel Research
SLT&E	System Level Test and Evaluation
SP	Security Police
SPA	Security Police Administration
SPAS	Security Police Automated System
SPF	Security Police Flight
SPR	Software Problem Report
SPS	Security Police Squadron
SQL	Structured Query Language

STS	Specialty Training Standard
TAC	Tactical Air Command
T&E	Test and Evaluation
TFG	Tactical Fighter Group
TP	Technical Paper
TRW	Tactical Reconnaissance Wing
TWG	Test Working Group
UDF	Unit Development Folder
USAF	United States Air Force
WITS	Weekly Inventory of Time Spent
WSF	Weapons Support Flight
WUC	Work Unit Code

APPENDIX A
MASTER TEST PLAN
PART 1 TEST PLANS

APPENDIX A TABLE OF CONTENTS

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CROSS REFERENCE, TEST ELEMENTS TO CRITICAL ISSUES
MANAGEMENT SUBSYSTEM

B1 SPEC. REF. #	TEST ELEMENT	OBJECTIVE #	CRITICAL ISSUE #			
			1	2	3	4
3.7	MANAGEMENT SUBSYSTEM	1 - 7	X			
3.7.1	TRAINING REQUIREMENTS MANAGEMENT COMPONENT	1				X
		2	X			
3.7.1A	DEVELOP MASTER TASK LIST	1 - 3	X			
		4	X			X
3.7.1B	MAINTAIN AFS TASK PERFORM- ANCE AND PROFICIENCY DATA	1 - 2	X			
		3	X			X
3.7.1D	MANAGE POSITION TRAINING REQUIREMENTS	1	X			
		3	X			X
3.7.1E	MANAGE OTHER TRAINING REQUIREMENTS	1 - 4	X			
		5	X			X
3.7.1F	MANAGE LOCAL/NEW TASKS	1 - 3	X			
		4	X			X
3.7.2	AIRMAN TRAINING MANAGEMENT COMPONENT	1				X
		2	X			
3.7.2A	GENERATE AIRMAN TRAINING RECORD	1	X			
		2	X			X
3.7.2B	DIAGNOSE TRAINING NEEDS	1	X			
		2	X			X
3.7.2C	MANAGE TRAINEE PROGRESS	1 - 2	X			
		3	X			X

CROSS REFERENCE, TEST ELEMENTS TO CRITICAL ISSUES (Cont.)
EVALUATION SUBSYSTEM

B1 SPEC. REF. #	TEST ELEMENT	OBJECTIVE #	CRITICAL ISSUE #			
			1	2	3	4
3.7	EVALUATION SUBSYSTEM	1 - 7	X			
3.7.1	MANAGE EVALUATION INSTRUMENTATION COMPONENT	1				X
		2	X			
3.7.1.1	BEHAVIORAL OBJECTIVES DEVELOPMENT	1	X			
		2	X			X
3.7.1.2	TEST ITEM BANK	1 - 2	X			
		3	X			X
3.7.1.4	EVALUATION MATERIALS DEVELOPMENT	1 - 3	X			
		4	X			X
3.7.1.5	EVALUATION INSTRUMENTS DELIVERY	1 - 3	X			
		4	X			X
3.7.2	PERFORMANCE EVALUATION COMPONENT	1				X
		2 - 4	X			
3.7.2.1	TASK PERFORMANCE EVALUATION	1	X			
		2	X			X
3.7.2.2	REQUISITE KNOWLEDGE TEST ADMINISTRATION	1 - 2	X			
		3	X			X
3.7.2.3	PERFORMANCE OBSERVATION	1 - 2	X			
		3	X			X
3.7.2.4	ACCESS CONTROL	1 - 3	X			
		4	X			X
3.7.2.5	ACCEPT OFF-LINE COMPLETION RESULTS	1	X			
		2	X			X
3.7.2.6	COLLECT PERFORMANCE EVALUATION DATA	1	X			
		2	X			X
3.7.3	APPLY TRAINING QUALITY CONTROL COMPONENT	1				X
		2	X			
3.7.3.1	QUALITY CONTROL EVALUATION EVENT SELECTION	1	X			
		2	X			X
3.7.3.2	QUALITY CONTROL EVALUATION FOLLOW-UP	1 - 3	X			
		4	X			X
3.7.3.3	QUALITY CONTROL REPORT GENERATION	1	X			
		2	X			X

3.7.4	SYSTEM EVALUATION COMPONENT	1			X
		2	X		
3.7.4.1	UNIT TRAINING REPORT GENERATION	1	X		
		2	X		X
3.7.4.2	SYSTEM EFFECTIVENESS REPORT GENERATION	1 - 3	X		
		4	X		X

INTRODUCTION

The following Test Plans reference sections of the AOTS B1 Specifications (in the versions current as of 7 Nov 1986) and the Software Test Plan (STP) (Appendix D to this Master Test Plan).

Each Test Plan identifies what is being tested by naming the subsystem, the paragraph(s) in the associated Prime Item (B1) specification, and the name of the element (subsystem, component, or subcomponent). The Test Objectives identify the functions being tested, indicating whether each is an off line (manual) or on line (automated) function and giving a description abstracted from the referenced specification paragraphs. After the statement of the Test Objectives, the evaluation questions are listed. Each evaluation question is keyed to one or more of the Critical Issues which are described in MTP paragraphs 1.5.1 through 1.5.4 (respectively Compliance, Performance, Suitability, and Acceptance) of this Master Test Plan. For example, "CI 1, 3" attached to an Evaluation Question indicates the question addresses Critical Issues 1 and 3, Compliance and Suitability.

Each evaluation question is addressed, by number, under each of the following sections of a Test Plan:

Level of T&E Required - Whether the question requires Test (T), Inspection (I), Analysis (A), and/or Evaluation (E).

Scheduled Test Date - Time period for test, referencing the Master Test Plan Schedule (Appendix G of the MTP).

Resources/Facilities Requirements - Who (DAC staff, DAC/IST experts, DAC/AF inspectors, IST) and what facilities are involved in the test.

Evaluation Instruments Requirements - Inspection Review Form, Problem Report, or User Survey (see samples in Appendix B).

Baseline Data Collection Requirements - Not applicable for MTP Part 1 testing.

Test Data Collection Requirements - Sources of test data.

Data Analysis Requirements - General type of analysis to be performed.

Test Criteria Goals - Intended goals of the testing.

During alpha and readiness testing, inputs and expected results will be as described in the Software Test Plan. During beta testing, inputs will be real data encountered in the course of implementing and using the prototype AOTS. Expected results are stated in the Test Criteria Goals for each Test Plan.

"Expert judgment" is judgment by one or more subject matter experts (designated as described in Appendix B) that the product observed or evidence gathered demonstrates compliance to Specification requirements.

"Go-no go" is the determination, under the procedures of the Software Test Plan, that a software product is ready to advance to the next stage of testing or development ('go') or needs rework before advancing ('no go').

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7

TEST ELEMENT: Management Subsystem

TEST OBJECTIVE(S):

1. The Management Subsystem shall be compatible and interactive within its own components.
2. The Management Subsystem shall provide the capability for the user to identify all AFS training required to achieve position qualification.
3. The Management Subsystem shall provide the capability for the user to manage and record training progress toward task proficiency and position qualification.
4. The Management Subsystem shall provide the capability for the user to schedule training efficiently and effectively.
5. The Management Subsystem shall maintain proficiency/performance data at the job task level.
6. The Management Subsystem shall be compatible and interactive with the other AOTS subsystems.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Do the subcomponents interact effectively?

CI-1

- 2-6. Do the on-line capabilities, manual tools, and procedures established in the Management Subsystem satisfy the AF requirements for AOTS?

CI-1

7. Does the subsystem interact effectively with other AOTS subsystems?

LEVEL OF T&E REQUIRED:

- 1, 7. T see Software Test Plan for details on integration testing within the Management Subsystem, and between Management Subsystem and other AOTS Subsystems, and external interfaces with Air Force.

- 2-6. E expert judgment based on summary data from lower level evaluations.

SCHEDULED TEST DATE:

1, 7. Alpha Test immediately following software development; see schedule, Appendix G.

2-6. Review completed within 10 days following development; see schedule, Appendix G.

RESOURCES/FACILITIES REQUIREMENTS:

1, 7. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

2-6. DAC/AF experts in Buildings 1808 and 428.

EVALUATION INSTRUMENTS REQUIREMENTS:

1, 7. Software Alpha Test procedures.

2-6. Inspector Review Form.

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1, 7. Software Alpha Test procedures.

2-6. DAC/AF expert(s) review of plans, products, and records.

DATA ANALYSIS REQUIREMENTS:

1, 7. Analysis of Alpha Test results.

2-6. Descriptive judgments.

TEST CRITERIA GOALS:

1, 7. Go/No Go Status.

2-6. Expert judgment that product(s) satisfies requirements.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1

TEST ELEMENT: Training Requirements Management Component

TEST OBJECTIVE(S):

1. The component shall provide valid and reliable methodologies and mechanisms for generating a master task list, obtaining AFS performance and proficiency data, creating evaluation and training requirements, generating position training requirements, and monitoring other necessary training requirements.

2. The component shall be compatible and interactive within and among its own subcomponents.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-4

1. Does the Training Requirements Management Component provide the user with acceptable methods and tools needed to identify and manage airmen training requirements?

CI-1

2. Do the subcomponents interact effectively?

LEVEL OF T&E REQUIRED:

1. E user Acceptance Survey Results - Component level.
2. T see Software Test Plan for details on interactive testing at the component level.

SCHEDULED TEST DATE:

1. Surveys administered during Beta Tests.
2. Alpha Test immediately following software development; see schedule, Appendix G.

RESOURCES/FACILITIES REQUIREMENTS:

1. AF Workstation/AF Workgroup.
2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. User surveys (see sample for software products).
2. Software Alpha Test procedures.

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. AF reactions to use of products.
2. See Software Test Plan.

DATA ANALYSIS REQUIREMENTS:

1. Descriptive individual item and composite score data analysis.
2. Analysis of Alpha Test results.

TEST CRITERIA GOALS:

1. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.
2. Go/No Go Status.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1A

TEST ELEMENT: Develop Master Task List

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to access Air Force data and to generate and review a Tentative Master Task List (TMTL).
2. Off-line. The subcomponent shall provide guidelines and coordination procedures for validating the master task list of all performed within an AFS.
3. On-line. The subcomponent shall provide the capability for the user to generate and review a validated final Master Task List (FMTL). Average time to search for and display an isolated task shall not exceed sixty seconds.
4. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Process 1.1.1.1.1 - 1.1.1.1.6 met?

CI-1

2. Are the requirements as specified in Data Dictionary Process 1.1.1.2.1 - 1.1.1.2.4 met?
- 3.7.1A cont.

CI-1

3. Are the requirements as specified in Data Dictionary Process 1.1.1.3.1 - 1.1.1.3.6 met?

CI-1

- 4a. Does the associated hardware support the software products?

CI-4

- 4b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan for further details
2. I expert judgment
3. T see Software Test Plan for further details
- 4a. I Software Problem Report results - see Software Test Plan
- 4b. A user surveys

SCHEDULE TEST DATE:

1. Alpha Test immediately following software development;
see phased-in schedule
2. Review completed within 10 days following development;
see phased-in schedule
3. Alpha Test immediately following software development;
see phased-in schedule
- 4a. Part of Alpha Test procedures
- 4b. Surveys administered during Beta Tests for 1,2,3

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy
and/or real data
2. DAC/AF experts in Buildings 1808 and 428
3. DAC staff utilizing Air Force facilities/equipment/dummy
and/or real data
- 4a. DAC/AF inspectors for review of software problem report
- 4b. AF Workstation/AF Workgroup

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures
2. Inspector Review Form
3. Software Alpha Test procedures
- 4a. Software Problem Report
- 4b. Users surveys (see sample for software products)

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details
2. DAC/AF expert(s) review of off-line plans and products
3. See Software Test Plan for further details
- 4a. See Software Test Plan for further details
- 4b. AF reactions to use of products

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results
2. Descriptive judgments
3. Analysis of Alpha Test results
- 4a. Analysis of Alpha Test results
- 4b. Descriptive individual item and composite score data analysis

TEST CRITERIA GOALS:

1. Go/No Go Status
2. Expert judgment that product(s) satisfies requirements
3. Go/No Go Status
- 4a. Go/No Go Status
- 4b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1B

TEST ELEMENT: Maintain AFS Task Performance and Proficiency Data

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to identify sources of task performance and proficiency data, cross reference sources and tasks, catalogue task performance and proficiency source identifications for easy assess.
2. On-line. Following the manual review of new publications or changes to existing publications for update requirements, the subcomponent shall provide the capability for the user to store new tasks and flag follow-up requirements, and flag tasks, objectives, evaluation instruments, and training material identities for review.
3. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary, Processes 1.1.2.1 - 1.1.2.3 met?

CI-1

2. Are the requirements as specified in Data Dictionary, Processes 1.1.2.4 - 1.1.2.6 met?

CI-1

3. a. Does the associated hardware support the software products?

CI-4

- b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1, 2. T see Software Test Plan

3a. I Software Problem Report results - see Software Test Plan

3b. A user surveys

SCHEDULED TEST DATE:

1, 2. Alpha Test immediately following software development; see schedule, Appendix G.

3a. Software Problem Report results.

3b. Surveys administered during Beta Tests.

RESOURCES/FACILITIES REQUIREMENTS:

1, 2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

3a. DAC/AF inspectors for review of Software Problem Reports.

3b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1, 2. Software Alpha Test procedures.

3a. Software Problem Report.

3b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1, 2. See Software Test Plan for details.

3a. See Software Test Plan for details.

3b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1, 2. Analysis of Alpha Test results.

3a. Analysis of Alpha Test results.

3b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1, 2. Go/No Go Status.

3a. Go/No Go Status.

3b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1D

TEST ELEMENT: Manage Position Training Requirements

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability to generate and prioritize Generic Position Task Requirements and Operational Position Task Requirements.
2. Off-line. Verification of position types and verification of duty position titles and their matches with duty position types shall be accomplished by the Air Force through coordination with Work Center supervisors, and is not subject to evaluation under the MTP.
3. The plans, tools, and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Processes 1.1.4.1 and 1.1.4.2 met?

CI-1

- 3a. Does the associated hardware support the software products?

CI-4

- 3b. Do users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan
- 3a. I Software Problem Report results - see Software Test Plan
- 3b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.
- 3a. Part of Alpha Test procedures.
- 3b. Surveys administered during Beta Tests.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 3a. DAC/AF inspectors for review of Software Problem Reports.
- 3b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 3a. Software Problem Report.
- 3b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 3a. See Software Test Plan for further details.
- 3b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 3a. Analysis of Alpha Test results.
- 3b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 3a. Go/No Go Status.
- 3b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1E

TEST ELEMENT: Manage Other Training Requirements

TEST OBJECTIVE(S):

1. Off-line. The subcomponent shall (or the user shall) manually research the appropriate document or source and identify: approved Ancillary Training Requirements, approved Additional Duties Training Requirements, Contingency Task Requirements and Career Development Course training requirements.

2. Off-line. The subcomponent shall establish coordination plans and procedures to ensure approved revisions to policy related to other training requirements are identified in advance of implementation to permit proper planning and execution of system changes, as required.

3. Off-line. The subcomponent shall develop algorithms to select training requirements to be managed in the Airman Training Management component, and to support the identification of potential position task training requirements after OPTRs have been compared to the ATR.

4. On-line. The subcomponent shall provide the capability to enter and update training requirements and frequencies of training as needed; match requirements to organizational levels, AFSS, or event or condition for which they are prescribed; assign identification codes to each course or training requirement; and to store both requirements and selection algorithms in the system.

5. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1, 2. Are the manual requirements as specified in Data Dictionary Processes 1.1.5.1 - 1.1.5.6 met?

CI-1

3. Are the requirements as specified in Data Dictionary Process 1.1.5.7 met?

CI-1

4. Are the automated requirements as specified in Data Dictionary Processes 1.1.5.1 - 1.1.5.6, and 1.1.5.8 met?

CI-1

5a. Does the associated hardware support the software products?

CI-4

5b. Do users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1, 2, 3. I expert judgment

4. T see Software Test Plan

5a. I Software Problem Report results, see Software Test Plan

5b. A user survey

SCHEDULED TEST DATE:

1, 2, 3. Review completed within 10 days following development; see schedule, Appendix G.

4. Alpha Test immediately following software development; see schedule, Appendix G.

5a. Part of Alpha Test procedures.

5b. Surveys administered during Beta Tests.

RESOURCES/FACILITIES REQUIREMENTS:

1, 2, 3. DAC/AF experts in Buildings 1808 and 428.

4. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

5a. DAC/AF inspectors for review of Software Problem Reports.

5b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1, 2, 3. Inspector Review Form.

4. Software Alpha Test procedures.

5a. Software Problem Report.

5b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

- 1, 2, 3. DAC/AF expert(s) review of off-line plans and products.
4. See Software Test Plan for further details.
- 5a. See Software Test Plan for further details.
- 5b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

- 1, 2, 3. Expert judgment that product(s) satisfies requirements.
4. Analysis of Alpha Test results.
- 5a. Analysis of Alpha Test results.
- 5b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

- 1, 2, 3. Expert judgment that product(s) satisfies requirements.
4. Go/No Go Status.
- 5a. Go/No Go Status.
- 5b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1F

TEST ELEMENT: Manage Local/New Tasks

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to add new/local AFS tasks to the OPTR task list.

2. Off-line. The subcomponent shall provide hard copies of all tasks that are being performed within a specified AFS but were not contained in occupational survey data for that AFS to the AFOMC.

3. Off-line. The subcomponent shall make decisions concerning whether or not to include Local or New Tasks on applicable MTLs based on manually supplied data indicating how widespread the requirements are for performing the tasks.

NOTE: Following actual implementation of the prototype AOTS, the capability shall exist for this task use data to be collected and reviewed on-line.

4. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the automated and automatic requirements as specified in Data Dictionary Processes 1.1.5.1 - 1.1.6.9 met?

CI-1

2. Are the manual requirements as specified in Data Dictionary Process 1.1.6.5 met?

CI-1

3. Are the manual requirements as specified in Data Dictionary Process 1.1.6.9 met?

CI-1

4a. Does the associated hardware support the software products?

CI-4

4b. Do users of the plans, tools, and CI-1 procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan
2. I expert judgment
3. I expert judgment
- 4a. I Software Problem Report results - see Software Test Plan
- 4b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.
- 2, 3. Review completed within 10 days following development; see schedule, Appendix G.
- 4a. Part of Alpha Test procedures.
- 4b. Surveys administered during Beta Tests.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2, 3. DAC/AF experts in Buildings 1808 and 428.
- 4a. DAC/AF inspectors for review of Software Problem Reports.
- 4b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2, 3. Inspector Review Form.
- 4a. Software Problem Report.
- 4b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2, 3. DAC/AF expert(s) review of off-line plans and products.
- 4a. See Software Test Plan for further details.
- 4b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2, 3. Descriptive judgments.
- 4a. Analysis of Alpha Test results.
- 4b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2, 3. Expert judgment that product(s) satisfies requirements.
- 4a. Go/No Go Status.
- 4b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2

TEST ELEMENT: Airman Training Management Component

TEST OBJECTIVE(S):

1. The component shall provide valid and reliable methodologies and mechanisms for creating automated Airman Training Records on line, identifying individual training requirements, and managing and tracking training requirements through certification.
2. The component shall be compatible and interactive within and among its own subcomponents.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-4

1. Does the Airman Training Management Component provide the user with acceptable methods and tools needed to track and manage individual airman training requirements through certification?

CI-1

2. Do the subcomponents interact effectively?

LEVEL OF T&E REQUIRED:

1. E User Acceptance Survey results - component level
2. T see Software Test Plan for details on interactive testing at the component level

SCHEDULED TEST DATE:

1. Surveys administered during Beta Tests for 1, 2, 3.
2. Alpha Test immediately following software development; see schedule, Appendix G.

RESOURCES/FACILITIES REQUIREMENTS:

1. AF Workstation/AF Workgroup.
2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. User surveys (see sample for software products).
2. Software Alpha Test procedures.

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. AF reactions to use of products.
2. See Software Test Plan for further details.

DATA ANALYSIS REQUIREMENTS:

1. Descriptive individual item and composite score data analysis.
2. Analysis of Alpha Test results.

TEST CRITERIA GOALS:

1. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.
2. Go/No Go Status.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2A

TEST ELEMENT: Generate Airman Training Record

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to create, access, and review new data in a permanent training record of all training received, current training status, position qualification and task certification history, and task trainer qualifications records.

2. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary 1.2.1.1-1.2.1.2 met?

CI-1

2a. Does the associated hardware support the software products?

CI-4

2b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan

2a. I Software Problem Report results, see Software Test Plan

2b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.

2a. Part of Alpha Test procedures.

2b. Surveys administered during Beta Tests.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of Software Problem Reports.
- 2b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2a. Software Problem Report.
- 2b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2a. See Software Test Plan for further details.
- 2b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2a. Analysis of Alpha Test results.
- 2b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2a. Go/No Go Status.
- 2b. Majority of users rate product satisfactory: review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2B

TEST ELEMENT: Diagnose Training Needs

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to review position qualifications and qualification assessments and to provide accurate information of the training required for an airman to become position qualified.

2. The subcomponent plans, procedures, and tasks shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary, Processes 1.2.2.1 - 1.2.2.7 met?

CI-1

2a. Does associated hardware support the software products?

CI-4

2b. Do the users of the plans, tools and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan

2a. I Software Problem Report results - see Software Test Plan

2b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule. Appendix G.

2a. Part of Alpha Test procedures.

2b. Surveys administered during Beta Tests.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of Software Problem Reports.
- 2b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2a. Software Problem Report.
- 2b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2a. See Software Test Plan for further details.
- 2b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2a. Analysis of Alpha Test results.
- 2b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2a. Go/No Go Status.
- 2b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: MANAGEMENT

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2C

TEST ELEMENT: Manage Trainee Progress

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to consolidate and coordinate training/evaluation requirements, trainee progress, and generate training progress reports.
2. Off-line. The subcomponent shall manually pass printed lists of training and evaluation requirements which are scheduled and conducted outside of AOTS to the applicable agencies.
3. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the automated and automatic requirements as specified in Data Dictionary Processes 1.2.3.1 - 1.2.3.5 met?

CI-1

2. Are the manual requirements as specified in Data Dictionary Process 1.2.3.2 met?

CI-1

- 3a. Does the associated hardware support the software products?

CI-4

- 3b. Do users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan
2. I expert judgment
- 3a. I Software Problem Report results - see Software Test Plan
- 3b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.
2. Review completed within 10 days following development; see schedule, Appendix G.
- 3a. Part of Alpha Test procedures.
- 3b. Surveys administered during Beta Tests.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
2. DAC/AF experts in Buildings 1808 and 428.
- 3a. DAC/AF inspectors for review of Software Problem Reports.
- 3b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
2. Inspector Review Form.
- 3a. Software Problem Report.
- 3b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
2. DAC/AF expert(s) review of off-line plans and products.
- 3a. See Software Test Plan for further details.
- 3b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
2. Descriptive judgments.
- 3a. Analysis of Alpha Test results.
- 3b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
2. Expert judgment that product(s) satisfies requirements.
- 3a. Go/No Go Status.
- 3b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7

TEST ELEMENT: Evaluation Subsystem

TEST OBJECTIVE(S):

1. The Evaluation Subsystem shall be compatible and interactive within its own components.
2. The Evaluation Subsystem shall provide the capability for the user to effectively develop and administer airman performance measures.
3. The Evaluation Subsystem shall provide the capability for the user to develop adequate task measurement criteria and standards for individual airman proficiency evaluation task certifications.
4. The Evaluation Subsystem shall provide the capability for the user to efficiently collect and report system/program evaluation data.
5. The Evaluation Subsystem shall provide the capability for the user to apply effective methods of training quality control.
6. The Evaluation Subsystem shall ensure proper security controls over evaluation materials and evaluation results.
7. The Evaluation Subsystem shall be compatible and interactive with the other AOTS subsystems.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Do the subcomponents interact effectively?

CI-1

- 2-6. Do the on-line capabilities, manual tools, and procedures established in the Evaluation Subsystem satisfy the AF requirements for AOTS?

CI-1

7. Does the subsystem interact effectively with other AOTS subsystems?

LEVEL OF T&E REQUIRED:

1, 7. T see Software Test Plan for details on integration testing within the Evaluation Subsystem, and between the Evaluation Subsystem and other AOTS subsystems.

2-6. E expert judgment based on summary data from lower level evaluations.

SCHEDULED TEST DATE:

1, 7. Alpha Test immediately following software development; see schedule, Appendix G.

2-6. Review completed within 10 days following development; see schedule, Appendix G.

RESOURCES/FACILITIES REQUIREMENTS:

1, 7. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

2-6. DAC/AF experts in Buildings 1808 and 428.

EVALUATION INSTRUMENTS REQUIREMENTS:

1, 7. Software Alpha Test procedures.

2-6. Inspector Review Form.

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1, 7. See Software Test Plan for further details.

2-6. DAC/AF expert(s) review of off-line plans and products.

DATA ANALYSIS REQUIREMENTS:

1, 7. Analysis of Alpha Test results.

2-6. Descriptive judgments.

TEST CRITERIA GOALS:

1, 7. Go/No Go Status.

2-6. Expert judgment that product(s) satisfies requirements.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1

TEST ELEMENT: Manage Evaluation Instrumentation Component

TEST OBJECTIVE(S):

1. The component shall provide valid and reliable methodologies and mechanisms for producing, maintaining, controlling, and managing the evaluation instruments required for AOTS.
2. The component shall be compatible and interactive within its own subcomponents.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-4

1. Does the Manage Evaluation Instrumentation Component provide the user with acceptable methods and tools needed to prepare and manage evaluation instruments?

CI-1

2. Do the subcomponents interact effectively?

LEVEL OF T&E REQUIRED:

1. E User Acceptance Survey Results - component level
2. T see Software Test Plan for details on interactive tests at the component level

SCHEDULED TEST DATE:

1. Surveys administered during Beta Tests.
2. Alpha Test immediately following software development; see schedule, Appendix G.

RESOURCES/FACILITIES REQUIREMENTS:

1. AF Workstation/AF Workgroup.
2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. User surveys (see sample for software products).
2. Software Alpha Test procedures.

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. AF reactions to use of products.
2. See Software Test Plan for further details.

DATA ANALYSIS REQUIREMENTS:

1. Descriptive individual item and composite score data analysis.
2. Analysis of Alpha Test results.

TEST CRITERIA GOALS:

1. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.
2. Go/No Go Status.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1.1

TEST ELEMENT: Behavioral Objectives Development

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to access tasks and develop behavioral objectives for a whole task and each of its subtasks, or to revise existing objectives.

2. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Process 2.1.1 met?

CI-1

2a. Does the associated hardware support the software products?

CI-4

2b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan for the details

2a. I Software Problem Report results - see Software Test Plan

2b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see phased-in schedule.

2a. Part of Alpha Test procedures.

2b. Survey administered during Beta Test for 1.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of software problem reports.
- 2b. AF Workstation/AF Workgroup

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test Procedures
- 2a. Software Problem Report
- 2b. user survey (see sample for software products)

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further detail
- 2a. See Software Test Plan for further detail
- 2b. AF reactions to use of product

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results
- 2a. Analysis of Alpha Test results
- 2b. Descriptive individual item and composite score data analysis

TEST CRITERIA GOALS:

1. Go/No Go Status
- 2a. Go/No Go Status
- 2b. Majority of users rate product satisfactory; review of specific comments for possible revisions of additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1.2

TEST ELEMENT: Test Item Bank

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to generate (develop) individual knowledge test item from the behavioral objectives, revise, and store them in an item bank store; conduct catalog search for knowledge items, performance measures, and oral test guides; select items and/or alternate test by individual objectives and sets of objectives; select performance measurement instruments and oral guides by job task and/or subtask; set test parameters for knowledge tests; sequence measurement items and distractors, cross reference items to products; and conduct test item and performance measure analyses.

2. Off-line. The subcomponent shall provide the validation logic, plans and procedures for the user to validate evaluation materials.

3. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Process 2.1.2.1 - 2.1.2.9 met?

CI-1

2. Are requirements as specified - Data Dictionary Process 2.1.2.10 met?

CI-1

3a. Does the associated hardware support the software products?

CI-4

3b. Do users of the plans, tools, and procedures rate each as satisfactory or higher?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan
2. I expert judgment
- 3a. I Software problem Report results - see Software Test Plan
- 3b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see phased-in schedule
2. Review completed within 10 days following development; see phased-in schedule
- 3a. Part of Alpha Test procedures
- 3b. Surveys administered during Beta Test for 1 and 2

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data
2. DAC/AF experts in Buildings 1808 and 428
- 3a. DAC/AF inspectors for review of software problem report
- 3b. AF Workstation/AF Group

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test Procedures
2. Inspector Review form
- 3a. Software Problem Report
- 3b. user surveys

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details
2. DAC/AF expert(s) review of off-line plans and products
- 3a. See Software Test Plans for further detail
- 3b. AF reactions to use of products

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test Results
2. Descriptive judgments
- 3a. Analysis of Alpha Test results
- 3b. Descriptive individual item

TEST CRITERIA GOALS:

1. Go/No Go Status
2. Expert judgment that product(s) satisfies requirements
- 3a. Go/No Go Status
- 3b. Majority of users rate product satisfactory; review of specific comments for possible or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1.4

TEST ELEMENT: Evaluation Materials Development

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to develop and revise modular evaluation materials, in accordance with ISD practices.
2. Off-line. The subcomponent shall provide guidelines and procedures for validation of evaluation modules against a criterion of job performance in an operational setting.
3. On-line. The subcomponent shall provide the capability for the user to identify changes in existing task evaluation material, and revise as necessary.
4. The subcomponent plans, tools and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Process 2.1.4 met?

CI-1

2. Are the requirements as specified in Data Dictionary Processes 2.1.4.1.1 - 2.1.4.1.8 met?

CI-1

3. Are the requirements as specified in Data Dictionary Process 2.1.4.2.4 met?

CI-1

- 4a. Does the associated hardware support the software products?

CI-4

- 4b. Do the users of the plans, tools and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan
2. I expert judgment
3. T see Software Test Plan
- 4a. I Software Problem Report results - see Software Test Plan
- 4b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.
2. Review completed within 10 days following development; see schedule, Appendix G.
3. Alpha Test immediately following software development; see schedule, Appendix G.
- 4a. Part of Alpha Test procedures.
- 4b. Surveys administered during Beta Tests for 1, 2, 3.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
2. DAC/AF experts in Buildings 1808 and 428.
3. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 4a. DAC/AF inspectors for review of Software Problem Reports.
- 4b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
2. Inspector Review Form.
3. Software Alpha Test procedures.
- 4a. Software Problem Report.
- 4b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
2. DAC/AF expert(s) review of off-line plans and products.
3. See Software Test Plan for further details.
- 4a. See Software Test Plan for further details.
- 4b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
2. Descriptive judgments.
3. Analysis of Alpha Test results.
- 4a. Analysis of Alpha Test results.
- 4b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
2. Expert judgment that product(s) satisfies requirements.
3. Go/No Go Status.
- 4a. Go/No Go Status.
- 4b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.1.5

TEST ELEMENT: Evaluation Instruments Delivery

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to control access to evaluation materials on-line by granting individuals access to various Editors and by granting various permissions to functions within each Editor; and to control the receipt, storage, and delivery of all evaluation materials during on-line test presentations.

2. On-line. The subcomponent shall provide the capability for the user to control access to printed evaluation materials (off-line) by allowing the user to enter a delivery and return notice containing name, SSAN, date, and time of delivery/return, and a materials destroyed notice when applicable.

NOTE: Control of the actual printed evaluation materials is a manual process to be developed by the Air Force and, therefore, not subject to evaluation under the MTP.

3. Off-line. The subcomponent shall provide the user with guidelines for off-line procedures for storage, distribution, and collection of evaluation materials and devices for job site task performance evaluations.

4. The subcomponent plans, tools, and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1, 2. Are the automated and automatic requirements as specified in Data Dictionary Processes 2.1.5.2 - 2.1.5.3 met?

CI-1

3. Are the manual requirements as specified in Data Dictionary Process 2.1.5.2 met?

CI-1

4a. Does the associated hardware support the software products?

CI-4

4b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

- 1, 2. T see Software Test Plan
- 3. I expert judgment
- 4a. I Software Problem Report results - see Software Test Plan
- 4b. A user surveys

SCHEDULED TEST DATE:

- 1, 2. Alpha Test immediately following software development; see schedule, Appendix G.
- 3. Review completed within 10 days following development; see schedule, Appendix G.
- 4a. Part of Alpha Test procedures.
- 4b. Surveys administered during Beta Tests for 1, 2, 3.

RESOURCES/FACILITIES REQUIREMENTS:

- 1, 2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 3. DAC/AF experts in Buildings 1808 and 428.
- 4a. DAC/AF inspectors for review of Software Problem Reports.
- 4b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

- 1, 2. Software Alpha Test procedures.
- 3. Inspector Review Form.
- 4a. Software Problem Report.
- 4b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

- 1, 2. See Software Test Plan for further details.
3. DAC/AF expert(s) review of off-line plans and products.
- 4a. See Software Test Plan for further details.
- 4b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

- 1, 2. Analysis of Alpha Test results.
3. Descriptive judgments.
- 4a. Analysis of Alpha Test results.
- 4b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

- 1, 2. Go/No Go Status.
3. Expert judgment that product(s) satisfies requirements.
- 4a. Go/No Go Status.
- 4b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2

TEST ELEMENT: Performance Evaluation Component

TEST OBJECTIVE(S):

1. The component shall provide the capability for the user to administer on- or off-line requisite knowledge tests and off-line performance evaluations, and collect knowledge performance and task performance evaluation results.
2. The component shall provide the capability for the user to permit an airman to bypass unnecessary training requirements based on pretest results.
3. The component shall be compatible and interactive within its own subcomponents.
4. The component shall have the capability to interface with new evaluation strategies that may become available during the contract period.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-4

1. Does the Performance Evaluation Component provide the user with acceptable methods and tools needed to administer evaluation instruments, and collect knowledge/performance evaluation results?

CI-1

2. Does the Performance Evaluation Component provide the user with the capability to "override" standard training requirements based on pretest results?

CI-1

3. Do the subcomponents interact effectively?

CI-1

4. Can the system accommodate new Evaluation strategies?

LEVEL OF T&E REQUIRED:

1. E user acceptance survey results - component level
2. A descriptive analysis of summary data on expected outcomes
3. T see Software Test Plan for details on interactive tests
4. I expert judgment

SCHEDULED TEST DATE:

1. Surveys administered during Beta Tests for 1, 2, 3.
- 2, 3. Alpha Test immediately following software development; see schedule, Appendix G.
4. Review completed within 10 days following development; see schedule, Appendix G.

RESOURCES/FACILITIES REQUIREMENTS:

1. AF Workstation/AF Workgroup.
- 2, 3. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
4. DAC/AF experts in Buildings 1808 and 428.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. User surveys (see sample for software products).
- 2, 3. Software Alpha Test procedures.
4. Inspector Review Form.

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. AF reactions to use of products.
- 2, 3. See Software Test Plan for further details.
4. DAC/AF expert(s) review of off-line plans and products.

DATA ANALYSIS REQUIREMENTS:

1. Descriptive individual item and composite score data analysis.
- 2, 3. Analysis of Alpha Test results.
4. Descriptive judgments.

TEST CRITERIA GOALS:

1. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.
- 2, 3. Go/No Go Status.
4. Expert judgment that product(s) satisfies requirements.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2.1

TEST ELEMENT: Task Performance Evaluation

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to administer task requisite knowledge test on-line and task requisite knowledge tests and task performance evaluations off-line.

2. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Process 2.2.1 met?

CI-1

2a. Does the associated hardware support the software products?

CI-4

2b. Do the users of the plans, tools and procedures, rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan

2a. I Software Problem Report results - see Software Test Plan

2b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.

2a. Part of Alpha Test procedures.

2b. Surveys administered during Beta Tests for 1.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of Software Problem Reports.
- 2b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2a. Software Problem Report.
- 2b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2a. See Software Test Plan for further details.
- 2b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2a. Analysis of Alpha Test results.
- 2b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2a. Go/No Go Status.
- 2b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2.2

TEST ELEMENT: Requisite Knowledge Test Administration

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to administer and score task requisite knowledge tests on-line, and report test results to other subcomponents as required.
2. On-line. The subcomponent shall provide the capability for the user to print requested off-line task requisite knowledge tests and performance evaluation materials, and to accept and score off-line test results, and report test results to other subcomponents as required.
3. The subcomponent plans, tools, and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

- 1, 2. Are the requirements as specified in Data Dictionary Process 2.2.2 met?

CI-1

- 3a. Does the associated hardware support the Software products?

CI-4

- 3b. do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

- 1, 2. T see Software Test Plan
- 3a. I Software Problem Report results, see Software Test Plan
- 3b. A user survey

SCHEDULED TEST DATE:

- 1, 2. Alpha Test immediately following software development; see schedule, Appendix G.
- 3a. Part of Alpha Test procedures.
- 3b. Surveys administered during Beta Tests for 1, 2.

RESOURCES/FACILITIES REQUIREMENTS:

1, 2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

3a. DAC/AF inspectors for review of Software Problem Reports.

3b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1, 2. Software Alpha Test procedures.

3a. Software Problem Report.

3b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1, 2. See Software Test Plan for further details.

3a. See Software Test Plan for further details.

3b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1, 2. Analysis of Alpha Test results.

3a. Analysis of Alpha Test results.

3b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1, 2. Go/No Go Status.

3a. Go/No Go Status.

3b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2.3

TEST ELEMENT: Performance Observation

TEST OBJECTIVE(S):

1. Off-line. The subcomponent shall provide guidelines and standardized administration and scoring procedures for the user to use when administering performance evaluation.
2. On-line. The subcomponent shall provide the capability for the system to accept performance evaluation pass/fail results and report the results to other components as required.
3. The subcomponent plans, tools, and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the manual requirements as specified in Data Dictionary Process 2.2.3 met?

CI-1

2. Are the automated requirements as specified in Data Dictionary Process 2.2.3 met?

CI-1

- 3a. Does the associated hardware support the software products?

CI-4

- 3b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. I expert judgment
2. T see Software Test Plan
- 3a. I Software Problem Report results, see Software Test Plan
- 3b. a user survey

SCHEDULED TEST DATE:

1. Review completed within 10 days following development; see schedule, Appendix G.
2. Alpha Test immediately following software development; see schedule, Appendix G.
- 3a. Part of Alpha Test procedures.
- 3b. Surveys administered during Beta Tests for 1, 2, 3.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC/AF experts in Buildings 1808 and 428.
2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 3a. DAC/AF inspectors for review of Software Problem Reports.
- 3b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Inspector Review Form.
2. Software Alpha Test procedures.
- 3a. Software Problem Report.
- 3b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. DAC/AF expert(s) review of off-line plans and products.
2. See Software Test Plan for further details.
- 3a. See Software Test Plan for further details.
- 3b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Expert judgment that product(s) satisfies requirements.
2. Analysis of Alpha Test results.
- 3a. Analysis of Alpha Test results.
- 3b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Expert judgment that product(s) satisfies requirements.
2. Go/No Go Status.
- 3a. Go/No Go Status.
- 3b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2.4

TEST ELEMENT: Access Control

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to control access to evaluation materials on-line by granting individuals access to various Editors and by granting various permissions to functions within each Editor; and to control the receipt, storage, and delivery of all evaluation materials during on-line test presentations.

2. On-line. The subcomponent shall provide the capability for the user to control access to printed evaluation materials (off-line) by allowing the user to enter a delivery and return notice containing name, SSAN, date, and time of delivery/return, and a materials destroyed notice when applicable.

NOTE: Control of the actual printed evaluation materials is a manual process to be developed by the Air Force and, therefore, not subject to evaluation under the MTP.

3. Off-line. The subcomponent shall provide the user with guidelines for off-line procedures for storage, distribution, and collection of evaluation materials and devices for job site task performance evaluations.

4. The subcomponent plans, tools, and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1, 2. Are the automated and automatic requirements as specified in Data Dictionary Processes 2.1.5.2 - 2.1.5.3 met?

CI-1

3. Are the manual requirements as specified in Data Dictionary Process 2.1.5.2 met?

CI-1

4a. Does the associated hardware support the software products?

CI-4

4b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1, 2. T see Software Test Plan

3. I expert judgment

4a. I Software Problem Report results - see Software Test Plan

4b. A user surveys

SCHEDULED TEST DATE:

1, 2. Alpha Test immediately following software development; see schedule, Appendix G.

3. Review completed within 10 days following development; see schedule, Appendix G.

4a. Part of Alpha Test procedures.

4b. Surveys administered during Beta Tests for 1, 2, 3.

RESOURCES/FACILITIES REQUIREMENTS:

1, 2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

3. DAC/AF experts in Buildings 1808 and 428.

4a. DAC/AF inspectors for review of Software Problem Reports.

4b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1, 2. Software Alpha Test procedures.

3. Inspector Review Form.

4a. Software Problem Report.

4b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

- 1, 2. See Software Test Plan for further details.
- 3. DAC/AF expert(s) review of off-line plans and products.
- 4a. See Software Test Plan for further details.
- 4b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

- 1, 2. Analysis of Alpha Test results.
- 3. Descriptive judgments.
- 4a. Analysis of Alpha Test results.
- 4b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

- 1, 2. Go/No Go Status.
- 3. Expert judgment that product(s) satisfies requirements.
- 4a. Go/No Go Status.
- 4b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2.5

TEST ELEMENT: Accept Off-line Completion Results

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to input the results of off-line knowledge tests, performance evaluations, and/or evaluation cancellation notices into the system.

2. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Process 2.2.5 met?

CI-1

2a. Does the associated hardware support the software products?

CI-4

2b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan

2a. I Software Problem Report results - see Software Test Plan

2b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.

2a. Part of Alpha Test procedures.

2b. Surveys administered during Beta Tests for 1.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of Software Problem Reports.
- 2b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2a. Software Problem Report.
- 2b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2a. See Software Test Plan for further details.
- 2b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2a. Analysis of Alpha Test results.
- 2b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2a. Go/No Go Status.
- 2b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.2.6

TEST ELEMENT: Collect Performance Evaluation Data

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to transfer all evaluation results to a data store where it can be accessed by other subcomponents as required.
2. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Process 2.2.6 met?

CI-1

- 2a. Does the associated hardware support the software products?

CI-4

- 2b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan
- 2a. I Software Problem Report results - see Software Test Plan
- 2b. A User survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.
- 2a. Part of Alpha Test procedures.
- 2b. Surveys administered during Beta Tests for 1, 2, 3.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of Software Problem Reports.
- 2b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2a. Software Problem Report.
- 2b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2a. See Software Test Plan for further details.
- 2b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2a. Analysis of Alpha Test results.
- 2b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2a. Go/No Go Status.
- 2b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.3

TEST ELEMENT: Apply Training Quality Control Component

TEST OBJECTIVE(S):

1. The component shall provide valid and reliable, systematic task performance evaluations to assess effectiveness of AOTS training.
2. The component shall be compatible and interactive within its own subcomponents.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-4

1. Does the Apply Training Quality Control Component provide the user with acceptable methods and tools needed to assess the effectiveness of AOTS training?

CI-1

2. Do the subcomponents interact effectively?

LEVEL OF T&E REQUIRED:

1. E User Acceptance Survey Results, component level
2. T see Software Test Plan for details on integration tests.

SCHEDULED TEST DATE:

1. Surveys administered during Beta Test.
2. Alpha Test immediately following software development; see schedule, Appendix G.

RESOURCES/FACILITIES REQUIREMENTS:

1. AF Workstation/AF Workgroup.
2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. User surveys (see sample for software products).
2. Software Alpha Test procedures.

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. AF reactions to use of products.
2. See Software Test Plan for further details.

DATA ANALYSIS REQUIREMENTS:

1. Descriptive individual item and composite score data analysis.
2. Analysis of Alpha Test results.

TEST CRITERIA GOALS:

1. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.
2. Go/No Go Status.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.3.1

TEST ELEMENT: Quality Control Evaluation Event Selection

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to activate automatic sampling algorithms to select an appropriate task, airman candidate, external evaluator, and alternate evaluator for a training quality control evaluation event; and send a request for the selected event to take place. Note: Establishment of selection criteria guidelines will be the responsibility of the user and not subject to evaluation under the Master Test Plan.

2. The subcomponent plans, tools, and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Processes 2.3.1.1 - 2.3.1.4 met?

CI-1

2a. Does the associated hardware support the software products?

CI-4

2b. Do users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan

2a. I Software Problem Report results - see Software Test Plan

2b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.

2a. Part of Alpha Test procedures.

2b. Surveys administered during Beta Tests for 1.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of Software Problem Reports.
- 2b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2a. Software Problem Report.
- 2b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2a. See Software Test Plan for further details.
- 2b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2a. Analysis of Alpha Test results.
- 2b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2a. Go/No Go Status.
- 2b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.3.2

TEST ELEMENT: Quality Control Evaluation Follow-up

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to automatically receive Q.C. Event confirmation/cancellation data for review and action.
2. On-line. Following manual notification of Q.C. results and any decertification recommendations to training manager, unit supervisor, and unit commander for review and action, the subcomponent shall provide the capability for the user to send Q.C. results follow-up data to the Airman Training Management component for review and further action.
3. On-line. The subcomponent shall provide the capability for the user to enter all Q.C. evaluation events, cancellations, and Q.C. results follow-up data into a data store for report generation.
4. The subcomponent plans, tools, and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1, 2, 3. Are the requirements as specified in Data Dictionary Process 2.3.2 met?

CI-1

4a. Does the associated hardware support the software products?

CI-4

4b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1, 2, 3. T see Software Test Plan

4a. I Software Problem Report results - see Software Test Plan

4b. A user survey

SCHEDULED TEST DATE:

1, 2, 3. Alpha Test immediately following software development; see schedule, Appendix G.

4a. Part of Alpha Test procedures.

4b. Surveys administered during Beta Tests for 1, 2, 3.

RESOURCES/FACILITIES REQUIREMENTS:

1, 2, 3. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

4a. DAC/AF inspectors for review of Software Problem Reports.

4b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1, 2, 3. Software Alpha Test procedures.

4a. Software Problem Report.

4b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1, 2, 3. See Software Test Plan for further details.

4a. See Software Test Plan for further details.

4b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1, 2, 3. Analysis of Alpha Test results.

4a. Analysis of Alpha Test results.

4b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1, 2, 3. Go/No Go Status.

4a. Go/No Go Status.

4b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.3.3

TEST ELEMENT: Quality Control Report Generation

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to generate periodic summary reports of training quality control activities.
2. The subcomponent plans, tools, and procedures shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Process 2.3.3 met?

CI-1

- 2a. Does the associated hardware support the software products?

CI-4

- 2b. Do users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan
- 2a. I Software Problem Report results - see Software Test Plan
- 2b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.
- 2a. Part of Alpha Test procedures.
- 2b. Surveys administered during Beta Tests for 1, 2, 3.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of Software Problem Reports.
- 2b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2a. Software Problem Report.
- 2b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2a. See Software Test Plan for further details.
- 2b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2a. Analysis of Alpha Test results.
- 2b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2a. Go/No Go Status.
- 2b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.4

TEST ELEMENT: System Evaluation Component

TEST OBJECTIVE(S):

1. The component shall provide the capability for the user to collect, maintain, and report data regarding the performance of the prototype AOTS in meeting system goals for training quality and task performance.
2. The component shall be compatible and interactive within its own subcomponents.

EVALUATION QUESTION(S) TO BE ANSWERED:

CJ-4

1. Does the System Evaluation Component provide the user with acceptable tools and methods needed to generate required system level reports?

CI-1

2. Do the subcomponents interact effectively?

LEVEL OF T&E REQUIRED:

1. E user acceptance survey results - component level
2. T see Software Test Plan for details on interactive testing

SCHEDULED TEST DATE:

1. Surveys administered during Beta Test.
2. Alpha Test immediately following software development; see schedule, Appendix G.

RESOURCES/FACILITIES REQUIREMENTS:

1. AF Workstation/AF Workgroup.
2. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. User surveys (see sample for software products).
2. Software Alpha Test procedures.

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. AF reactions to use of products.
2. See Software Test Plan for further details.

DATA ANALYSIS REQUIREMENTS:

1. Descriptive individual item and composite score data analysis.
2. Analysis of Alpha Test results.

TEST CRITERIA GOALS:

1. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.
2. Go/No Go Status.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.4.1

TEST ELEMENT: Unit Training Report Generation

TEST OBJECTIVE(S):

1. On-line. The subcomponent shall provide the capability for the user to collect, maintain, and report up-to-date to system managers in reports that summarize unit training accomplished, training goal status, and training and performance trends. Reports generated shall include standard reports generated at periodic intervals for specified recipients, and ad hoc reports generated on demand to address specific AOTS performance aspects. Note: Requests for data verification and user defined ad hoc reports are a manual process and not subject to evaluation under the Master Test Plan.

2. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the requirements as specified in Data Dictionary Processes 2.4.1.1 - 2.4.1.4 met?

CI-1

2a. Does the associated hardware support the software products?

CI-4

2b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

1. T see Software Test Plan

2a. I Software Problem Report results - see Software Test Plan

2b. A user survey

SCHEDULED TEST DATE:

1. Alpha Test immediately following software development; see schedule, Appendix G.

2a. Part of Alpha Test procedures.

2b. Surveys administered during Beta Tests for 1.

RESOURCES/FACILITIES REQUIREMENTS:

1. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 2a. DAC/AF inspectors for review of Software Problem Reports.
- 2b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

1. Software Alpha Test procedures.
- 2a. Software Problem Report.
- 2b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. See Software Test Plan for further details.
- 2a. See Software Test Plan for further details.
- 2b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Analysis of Alpha Test results.
- 2a. Analysis of Alpha Test results.
- 2b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Go/No Go Status.
- 2a. Go/No Go Status.
- 2b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

TEST PLAN

SUBSYSTEM: EVALUATION

B₁ SPEC REQUIREMENT REFERENCE NO.: 3.7.4.2

TEST ELEMENT: System Effectiveness Report Generation

TEST OBJECTIVE(S):

1. Off-line. The subcomponent shall provide the guidelines and mechanisms for the user to manually collect evaluation materials development data generated during the development process.
2. Off-line. The subcomponent shall provide the capability for the user to store evaluation materials development data for use in the generation of standard and ad hoc system effectiveness reports.
3. On-line. The subcomponent shall provide the capability to collect, maintain, and report up-to-date information to system managers. The reports shall provide an analysis of system data reflecting the effectiveness of the AOTS. Reports generated shall include standard reports generated at periodic intervals for specified recipients, and ad hoc reports generated on demand to address specific AOTS performance aspects. Note: Requests for data verification and user defined ad hoc reports are a manual process and not subject to evaluation under the Master Test Plan.
4. The subcomponent plans, procedures, and tools shall be user friendly and supportable.

EVALUATION QUESTION(S) TO BE ANSWERED:

CI-1

1. Are the manual requirements as specified in Data Dictionary Process 2.4.2.5 met?

CI-1

2. Are the requirements as specified in Data Dictionary Process 2.4.2.5 met?

CI-1

3. Are the requirements as specified in Data Dictionary Processes 2.4.2.1 - 2.4.2.4 met?

CI-1

- 4a. Does the associated hardware support the software products?

CI-4

- 4b. Do the users of the plans, tools, and procedures rate each as satisfactory?

LEVEL OF T&E REQUIRED:

- 1. I expert judgment
- 2, 3. T see Software Test Plan
- 4a. I Software Problem Report results - see Software Test Plan
- 4b. A user survey

SCHEDULED TEST DATE:

- 1. Review completed within 10 days following development; see schedule, Appendix G.
- 2, 3. Alpha Test immediately following software development; see schedule, Appendix G.
- 4a. Part of Alpha Test procedures.
- 4b. Surveys administered during Beta Tests for 1, 2, 3.

RESOURCES/FACILITIES REQUIREMENTS:

- 1. DAC/AF experts in Buildings 1808 and 428.
- 2, 3. DAC staff utilizing Air Force facilities/equipment/dummy and/or real data.
- 4a. DAC/AF inspectors for review of Software Problem Reports.
- 4b. AF Workstation/AF Workgroup.

EVALUATION INSTRUMENTS REQUIREMENTS:

- 1. Inspector Review Form.
- 2, 3. Software Alpha Test procedures.
- 4a. Software Problem Report.
- 4b. User surveys (see sample for software products).

BASELINE DATA COLLECTION REQUIREMENTS:

N/A

TEST DATA COLLECTION REQUIREMENTS:

1. DAC/AF expert(s) review of off-line plans and products.
- 2, 3. See Software Test Plan for further details.
- 4a. See Software Test Plan for further details.
- 4b. AF reactions to use of products.

DATA ANALYSIS REQUIREMENTS:

1. Descriptive judgments.
- 2, 3. Analysis of Alpha Test results.
- 4a. Analysis of Alpha Test results.
- 4b. Descriptive individual item and composite score data analysis.

TEST CRITERIA GOALS:

1. Expert judgment that product(s) satisfies requirements.
- 2, 3. Go/No Go Status.
- 4a. Go/No Go Status.
- 4b. Majority of users rate product satisfactory; review of specific comments for possible revisions or additional training.

APPENDIX B
MASTER TEST PLAN
PROCEDURAL GUIDES AND FORMS
GENERAL DESCRIPTION AND REPRESENTATIVE SAMPLES

APPENDIX B
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INTRODUCTION

In accordance with this Master Test Plan, AOTS products undergo alpha testing (informal and formal software testing) and beta testing (initial use and evaluation by users) prior to becoming operational.

Alpha testing will ensure that the software meets the functional requirements, operates correctly, and is satisfactorily supported by the hardware. Alpha testing will be governed by Appendix D, the Software Test Plan (STP), and will be conducted by DAC software development personnel using real and simulated data bases as appropriate. The Software Problem Report (pp. B-14, -15) will be used to document difficulties, and will be the basis for initiating corrective actions. Sample procedural checklists for software follow (pp. B-11 to B-13).

Beta testing of software products will begin after alpha testing is completed. Beta testing will be in accordance with the Master Test Plan, and will be conducted by DAC with both DAC and AF personnel using and evaluating the software products. Problem Reports (p. B-16) will be used to document difficulties and will be the basis for corrective actions. During beta testing, products will be evaluated for user friendliness by means of user surveys (see pp. B-4, to B-7). Experts (DAC and AF) will use procedure checklists (sample on pp. B-10, -11) and inspection review forms (see pp. B-8, -9) to establish that AOTS products meet requirements.

Whenever "expert judgment" or "panel of experts" is called for during testing, the DAC Test Manager will designate one or more DAC personnel with knowledge of the product to serve as the expert(s) for testing. The AF Program Manager or designee may, as desired, designate one or more AF personnel to serve in this expert capacity for any of the testing activities. The Test Working Group will serve as clearing house for discussion and recommendations as to DAC and AF experts.

PROCEDURAL GUIDE FOR USER SURVEY

1. Users of the product (during Phase II, usually DAC and AF personnel) will be given time to become acquainted with the product.

2. Users will then respond to a survey where they will indicate their level of agreement to each item of concern on a 7-point opinion scale. The surveys for software products will contain standard statements to aid in cross comparisons of products. When required, the survey for a particular product will contain additional items of specific concern. The users will be provided directions and space for recording specific reactions, problems, or questions related to the product. These will be tabulated and analyzed separately from the descriptive item analysis.

Each survey will contain general directions to the survey administrator for setting a positive climate for administering the survey. Standard directions to the users will also be contained on the survey instrument.

3. Results will be tabulated by frequency and percent on an item by item basis, and across items for a total score. A product would satisfy the user friendliness goal by reaching the following test criteria goal.

Product is rated satisfactory or higher on each item by 70% of those surveyed.

Alternate goals (could be considered):

Product is rated satisfactory or higher on all critical items by 80% of those surveyed, and on all other items by 50% of those surveyed.

Each item response is given a relative value, with Strongly Agree (SA) coded 7 and Strongly Disagree (SD) coded 1. An average score for each item is calculated, and each item must meet or exceed minimum acceptance value (4.0) or be flagged for review.

SAMPLE: AOTS USER SURVEY

TEST EDITOR SURVEY

DIRECTIONS: Please complete this survey without conferring with other IST members. The opinions you give should be your own.

Enter your name, SSAN, and the date in the appropriate spaces. Indicate your response to each statement by circling the number that corresponds with your opinion of the item. Specific reactions, comments, and explanation may be added at the end of the survey.

NAME _____ SSAN _____

DATE _____

1. I found it easy to learn to use the Test Editor.

1 2 3 4 5 6 7

STRONGLY
DISAGREE

NEUTRAL

STRONGLY
AGREE

2. The Test Editor was predictable and consistent.

1 2 3 4 5 6 7

STRONGLY
DISAGREE

NEUTRAL

STRONGLY
AGREE

3. I felt I controlled the system as much as I needed.

1 2 3 4 5 6 7

STRONGLY
DISAGREE

NEUTRAL

STRONGLY
AGREE

4. I could leave the Test Editor without losing data.

1 2 3 4 5 6 7

STRONGLY
DISAGREE

NEUTRAL

STRONGLY
AGREE

5. The editing capability (being able to correct or change entries) was easy to use.						
1	2	3	4	5	6	7
STRONGLY DISAGREE		NEUTRAL			STRONGLY AGREE	
6. The displays were uncluttered.						
1	2	3	4	5	6	7
STRONGLY DISAGREE		NEUTRAL			STRONGLY AGREE	
7. The displays were pleasing to the eye.						
1	2	3	4	5	6	7
STRONGLY DISAGREE		NEUTRAL			STRONGLY AGREE	
8. The displays gave me enough information to do my work.						
1	2	3	4	5	6	7
STRONGLY DISAGREE		NEUTRAL			STRONGLY AGREE	
9. The displays had a consistent layout.						
1	2	3	4	5	6	7
STRONGLY DISAGREE		NEUTRAL			STRONGLY AGREE	
10. I did not require a computer background to understand the information displayed on the screen.						
1	2	3	4	5	6	7
STRONGLY DISAGREE		NEUTRAL			STRONGLY AGREE	

11. The prompts (messages at the bottom of the screen) were clear and understandable.

1	2	3	4	5	6	7
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

12. The commands--for example, (E)XIT, (N)EXT PAGE--did what I expected.

1	2	3	4	5	6	7
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

13. The error messages in the Test Editor were descriptive and helpful.

1	2	3	4	5	6	7
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

14. The Test Editor responded quickly to my commands.

1	2	3	4	5	6	7
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

15. The Test Editor functioned well.

1	2	3	4	5	6	7
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

COMMENTS:

SOFTWARE PROBLEM REPORT (SPR)		DATE SUBMITTED	CONTROL NO.
TO:	FROM:	INFO COPIES TO:	
AOS	PROGRAM NAME	IDENTIFICATION	
RUN DATE	POINT OF CONTACT <i>(Type or print name)</i>		
PROBLEM DESCRIPTION			
COMMENTS			

PROGRAM ANALYSIS

NAME OF ANALYST *(Type or print)*

RECOMMENDED ACTION

☐ APPROVED
☐ DISAPPROVED

DATE

APPROVING OFFICIAL *(Type or print
name)*

SIGNATURE

ACTION TAKEN

DATE ACTION COMPLETED

PROBLEM REPORT

Log No. _____ Date: ____/____/____ Time: _____

Name: _____ Location: _____

Telephone number: _____

Hardware being used when problem was detected: ☐ Z248 ☐ 8600
☐ Other: _____

Description of problem: _____

=====

Recommendation of Test Working Group | Date: ____/____/____

Priority: ☐ Immediate ☐ Delayed ☐ Workaround ☐ Other: _____

Recommended Corrective action: _____

Date work completed: ____/____/____

CM: ☐ CM Entered ☐ CCB approved ☐ CM Action: _____

Classification: ☐ Bug ☐ User Error ☐ Class 1 (Enhancement)

Corrective action approval: _____

Software Manager _____ Configuration Mgt. _____ Program Manager _____

APPENDIX C
MASTER TEST PLAN
PROCESS DATA

PROCESS DATA PROCEDURES

Process data will involve the acquisition of Deployment Observations, hotline records, and Log-On data. This data will be collected during the AOTS prototype deployment period and used to provide ongoing feedback on the utilization of AOTS. Moreover, this data will be used to enhance the interpretation of the outcome measures collected during and near the end of the prototype deployment period.

C.1 WORKCENTER OBSERVATION FORMS

C.1.1 Data to be Collected. Workcenter observation data involves notations and comments on how the software and hardware are functioning at the workcenter level. In addition to collecting descriptive information (i.e., user AFSC, user position, and workcenter), computer down time will be recorded; and the functioning of AOTS software tools and hardware components will be observed and documented.

C.1.2 Requirements for DCRs. The DCRs will be AOTS IST and staff members who will:

1. Learn to conduct an observation during visits to the workcenters, using the Deployment Observation Form, Figure C.1, p. 7.
2. Accurately document observations on said form.

C.1.3 Frequency of Data Collection. Behavioral observations will be conducted at least once a week per workcenter. Documentation of the observations will be completed during each visit to the workcenters.

C.1.4 Data Collection Procedure. Members of the IST will act as the DCRs for the workcenters within their respective AFSSs.

C.1.4.1 Complete Deployment Observation Form.

1. Enter date and identifying information at the top of the form (i.e., observer, user AFSC, workcenter, user level) Figure C.2, p. 8.
2. Record a notation of +(positive), -(negative), or o(neutral) to the left of the software function and/or hardware component.

3. Record a brief statement in the comment section to explain the notation. For example, if you observe a trainer effectively using the ATR, and he responds favorably when you ask him about the ATR, you would enter + A 10 (reference code for the ATR function) then a brief explanation of the observation. Similar procedures will apply for entries pertaining to the hardware.
4. Conduct observations in the workcenters during computer down times resulting from problems with the communication lines, VAX 8650, etc.. Document the duration of down time, impact on OJT, continued OJT activity during this down period, and the process of re-entering the system when the computer is functioning again. Because the down time period may be prolonged, a follow-up visit may be necessary to collect this information from the workcenters.

C.1.5 Time Required for Data Collection. Time needed to conduct observations at the workcenters and document information is as follows:

30 - 45 min.	Conduct observation
15 min.	Complete observation form

C.1.6 Disposition of Data. After the observation forms have been completed, they will be delivered to the IST Superintendent, who will conduct a quality control check of the data to assure that accurate and understandable information is on the observation form. The quality control will involve:

- Check to see that all descriptive information has been accurately entered on the form;
- Check to assure that an explanation of the observation has been entered in the comment section.

These observation forms will be forwarded to T-1 for analysis by the AF staff. Analysis of the data will consist of descriptive statistics and content analysis.

C.2 AOTS HOTLINE PROBLEM REPORT

C 2.1 Data to be collected. The AOTS Hotline Problem Report is designed to document the incoming calls from AOTS users needing assistance with various problems encountered during the deployment period. This form will involve recording the specific AOTS function, type of malfunction, specific information regard-

ing the problem, and resolution or recommended action.

C.2.2 Requirements for DCR. DCR will be composed of a designated IST member who will:

1. Learn to respond to calls made on the AOTS hotline,
2. Accurately document information on the hotline report form.

C.2.3 Frequency of Data Collection. The frequency of the data collection will be contingent on the number of incoming calls on the hotline.

C.2.4 Data Collection Procedure.

C.2.4.1 Complete AOTS Hotline Problem Report.

1. On the upper portion of the form, enter the caller's name phone number, date of call, time of call, and workcenter.
2. In terms of the reported problem, enter the following information:
 - specific OJT/computer function that is being attempted (e.g., log-on, ATR),
 - description of the malfunction,
 - question being asked to resolve the problem,
 - individual providing the resolution,
 - action taken/recommended to resolve the problem,
 - comments that may provide additional information.
3. On the bottom of the form, enter the person recording the problem report.

C.2.5. Time Required for Data Collection. Time needed to complete information on the problem report should be, in most cases, within 15 minutes. Calls recorded on the answering machine should be returned within 24 hours of the recorded message.

C.2.6 Disposition of Data. After the problem report is completed, it will be submitted to the AOTS Hotline NCOIC. He will perform a quality control check to assure complete and understandable entry of the information. After the quality control check, this data will be submitted for analysis at T-1. AF Technical Advisor will use descriptive analysis to analyze the data.

C.3 LOG-ON DATA

C.3.1 Data to be collected. The log-on data consists of a computer program that records the utilization of the AOTS products at the workcenter level. More specifically, this program identifies the user by ID number, records the date, entry/exit time when user logs on/off the system, specific AOTS tools/functions that have been used, and the CPU time spent on each tool/function.

C.3.2 Frequency of data collection. The log-on computer program will be accessed on the VAX at Brooks AFB on a bimonthly basis.

C.3.3 Data Collection Procedure. The log-on computer program will record the utilization of the AOTS functions on a daily basis. Every two weeks, this program will be converted to an ASCII text file for statistical analysis. This ASCII file will be accessed on the Zenith 248 at T-I for completion of the analysis.

The following is the type of data that will be available for analysis:

- Log-on procedures: User Log-On, program start, program end;
- Type of users: Trainee, Trainer, Supervisor, Training Manager, Evaluator;
- Log records: Activity date, Activity time, System Start, User ID (SSAN) , program (function) name, CPU time.

This program will be sorted by AFSC, component, and user type.

C.3.4 Disposition of Data. Statistical analysis of the Log-on data is as follows:

1. Descriptive analysis of data to determine range, mean, and distribution of CPU time. This data will, in turn, be sorted by AFS, components and user type.
2. Basic inferential analysis (e.g., t-tests, linear regression) will be conducted to determine differences within and/or between AFSS and/or components.
3. Trend analysis within AFSS, components, and users to determine utilization or under-utilization of the AOTS functions across time.

4. Develop user groupings (e.g., low and high users of AOTS AOTS functions) to interpret and/or add meaning to the outcome measures (e.g., Acceptance Survey, Opinion Survey).
5. The SAS program will be used by the AF technical advisor to analyze this data.

AOTS DEPLOYMENT OBSERVATION FORM

OBSERVER_____

USER'S AFSC_____

DATE_____

WORKCENTER_____

USER'S POSITION_____

PLEASE ADD A + FOR POSITIVE COMMENTS 0 FOR NEUTRAL COMMENTS - FOR NEGATIVE COMMENTS

I. SOFTWARE

A. MANAGEMENT

1. LOGON	7. GPTR
2. MTL	8. OPTR
3. IM	9. OTR
4. TPP	10. ATR
5. SCHEDULER	11. ITR
6. REPORTS	12. OTHER

B. EVALUATION

- | |
|----------------------|
| 1. ROE |
| 2. TIB |
| 3. TE |
| 4. TEST PRESENTATION |
| 5. SCORING PROGRAM |
| 6. OTHER |

C. TRAINING DELIVERY

- | |
|----------|
| 1. GrEd |
| 2. ISS |
| 3. CAI |
| 4. IVD |
| 5. OTHER |

COMMENTS:

II. HARDWARE

A. CPU

E. OMR

B. SCREEN

F. COMM CABLES / LINES

C. KEYBOARD

G. IVD PLAYER

D. PRINTER

H. OTHER

COMMENTS:

III. COMPUTER DOWN TIME

DATE COMPUTER WAS DOWN_____

DURATION (TO NEAREST 1/4 HOUR):_____

1. HOW DOES COMPUTER DOWN TIME AFFECT OJT?

2. WHAT PROCEDURES DO THE WORKCENTERS HAVE FOR ACCOMPLISHING THEIR TRAINING REQUIREMENTS DURING THE DOWN TIME?

3. DO WORKCENTERS EXPERIENCE ANY PROBLEMS RE-ENTERING THE SYSTEM WHEN IT'S UP AGAIN?

COMMENTS:

Figure C.1

— Example —

AOTS DEPLOYMENT OBSERVATION FORM

OBSERVER B. Marrero

DATE 10-6-88

USER'S AFSC 431

WORKCENTER 12 AMU/F

USER'S POSITION Supervisor
Trainer/Trainee

PLEASE ADD A + FOR POSITIVE COMMENTS 0 FOR NEUTRAL COMMENTS - FOR NEGATIVE COMMENTS

I. SOFTWARE

A. MANAGEMENT

1. LOGON	7. GPTR
2. MTL	8. OPTR
3. IM	9. OTR
4. TPP	+ 10. ATR
5. SCHEDULER	11. ITR
6. REPORTS	12. OTHER

B. EVALUATION

1. BOE
2. TIB
3. TE
4. TEST PRESENTATION
5. SCORING PROGRAM
6. OTHER

C. TRAINING DELIVERY

1. GrEd
2. ISS
3. CAI
- 4. IVD
5. OTHER

COMMENTS:

- + A10 Trainer comment - ATR much more efficient than 623
- C4 Trainee speeding through training session. Comment - lesson was too long and drawn-out (Lesson - wheel & tire assembly installation)

II. HARDWARE

A. CPU E. OMR

B. SCREEN F. COMM CABLES / LINES

C. KEYBOARD G. IVD PLAYER

- D. PRINTER H. OTHER

COMMENTS:

- D paper in printer slipped off track

III. COMPUTER DOWN TIME

DATE COMPUTER WAS DOWN 10-7-88

DURATION, TO NEAREST 1/4 HOUR, 2 hrs.

1. HOW DOES COMPUTER DOWN TIME AFFECT OJT?

Supervisor changed plans to review incoming trainee's ATR.

2. WHAT PROCEDURES DO THE WORKCENTERS HAVE FOR ACCOMPLISHING THEIR TRAINING REQUIREMENTS DURING THE DOWN TIME?

No alternative procedure.

3. DO THE WORKCENTERS EXPERIENCE ANY PROBLEMS RE-ENTERING THE SYSTEM WHEN IT'S UP AGAIN?

Follow-up: Supervisor had re-entered system completed review of ATR and scheduled qualification assessment.

COMMENTS:

Supervisor readily shifted focus to other responsibilities and returned to system when computer was up!

Figure C.2

APPENDIX D
SOFTWARE TEST PLAN
FOR
ADVANCED ON-THE-JOB TRAINING SYSTEM

Prepared For:

UNITED STATES AIR FORCE
AIR FORCE SYSTEMS COMMAND
AIR FORCE HUMAN RESOURCES LABORATORY/OL-AK
BERGSTROM AFB, TX. 78743-5000

21 August 1987

PREFACE

This document was prepared for the AOTS software development team. It is not a CDRL item, however, it is referred to by the CPCI Development Specifications, Software Development Plan, and Master Test Plan. It is intended to be used both as a standalone document, in low level software development testing, and in conjunction with the Master Test Plan, in higher level requirement verification testing.

This document describes formal test plans for system testing and acceptance testing. Acceptance testing was deleted from the DAC requirements list. However, since this document is used as a stand-alone, a decision was made to include the document as a whole to avoid future confusion. Any mention in this document to acceptance testing should be disregarded and not considered in conjunction with the Master Test Plan. Only procedures detailing system testing should be referenced in conjunction with the MTP.

This document is based on the provisions set forth in Data Item Description (DID) DI-MCCR-80014. This DID is applicable to DOD-STD-2167, which is not an AOTS applicable document. Some deviation is taken from this DID in Sections 3 and 4. In Section 3, the terminology Computer Program Component (CPC) was substituted for Computer Software Component (CSC). CPC is consistent with the AOTS CPCI Development Specifications, written according to the 21 March 79 version of MIL-STD-483. CSC is terminology adopted at a later point in time and is used with DOD-STD-2167 documentation. In Section 4, this document divides formal testing into system and acceptance testing. The DID does not make this distinction.

DIDs DI-MCCR-80015, Software Test Description, and DI-MCCR-80016, Software Test Procedure, were not followed structurally in the Formal Test Procedure model, see Attachment C. The Formal Test Procedure contains the same information as these two DIDs describe, but in a format that makes formal test procedures consistent with informal test procedures. The same is true for DID DI-MCCR-80017, Software Test Report, and the Formal Test Report model presented in Attachment D.

The identification of AOTS formal test procedures in Section 4 is complete to the point of the current state of the phased software development effort. As detailed design proceeds on the next set of software, these tables will be updated accordingly.

ACKNOWLEDGEMENTS

Some of the material contained in this document has been adapted for use from the following manuals and books:

- MDAC-STL Software Engineering Practices Manual
- The Software Development Project, Planning & Management
Phillip Bruce and Sam M. Pederson
1982, John Wiley and Sons, Inc.
- Software System Testing and Quality Assurance
Boris Beizer
1984, Van Nostrand Reinhold Company
- Productive Software Test Management
Michael W. Evans
1984, John Wiley and Sons, Inc.

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1. SCOPE

1.1 Identification. This Software Test Plan establishes the plan for testing the Computer Program Configuration Items (CPCIs) in the Advanced On-the-job Training System (AOTS) Computer Support Subsystem, Software Component. The CPCIs are identified as the Management CPCI as described in the development specification numbered 70S647411; the Evaluation CPCI, 70S647413; and the System Support CPCI, 70S647414.

1.2 Purpose. The purpose of the AOTS is to test a design concept that will apply automated support to increase the efficiency and effectiveness of the current Air Force On-the-Job Training (OJT) system. The Management CPCI will provide software support for the AOTS Management Subsystem, 70S647100. It will provide software to support the functions of identifying and managing training requirements for an Air Force Speciality (AFS), and managing the airmen undergoing training in the AFS.

The Evaluation CPCI will provide software support for the AOTS Evaluation Subsystem, 70S647300. It will provide software to support the functions of developing and maintaining evaluation instrumentation, evaluating performance of tasks by airmen, performing training quality control functions, and evaluating the effectiveness of the AOTS as a system.

The System Support CPCI will be composed of the services required by the other CPCIs to interface with the Hardware Component, 70S647401. This CPCI will perform operating system functions, terminal communication and data base input/output, and will provide security functions to control access to the system.

1.3 Introduction. This plan describes AOTS Phase II software testing. Software testing is divided into two phases: informal and formal testing. Both of the testing phases are divided into two levels. Unit and integration level testing are done in the informal phase. System and acceptance level testing are done in the formal phase. Together, these four levels satisfy the Phase II testing requirements for the Software Component. Figure 1 depicts software testing phases and their levels. The following paragraphs detail each test phase accompanied by the two levels of testing within the phase.

It is appropriate to equate the levels of testing described in this document with the test types described in the quality assurance provisions paragraphs in the Development Specifications for the Management CPCI, Evaluation CPCI, and System Support

CPCI. Computer Program Test and Evaluation as described in the Development Specifications is equivalent to unit level and integration level testing as described in this document.

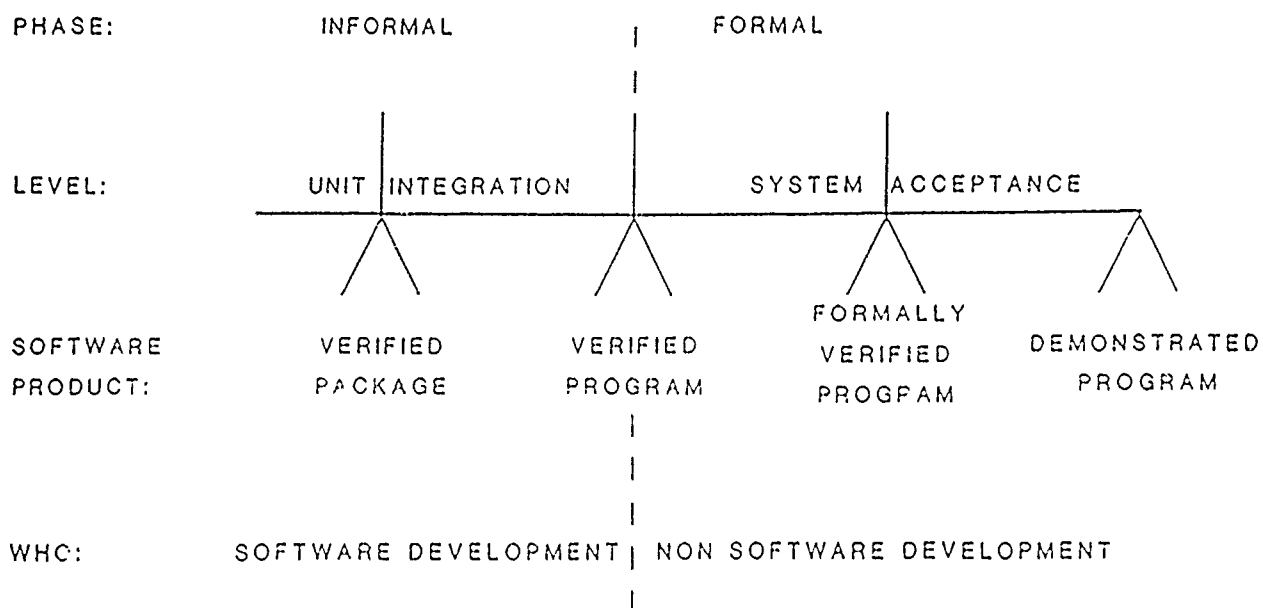


Figure 1. AOTS SOFTWARE TEST PLAN

Preliminary Qualification Tests as described in the Development Specifications is equivalent to system level testing as described in this document. Formal Qualification Tests as described in the Development Specifications is equivalent to acceptance level testing as described in this document.

2. REFERENCED DOCUMENTS. The following government documents are referenced in this plan. These documents were written by DAC as part of system design and development under the AOTS contract.

70S647100	Prime Item Development Specification for the Management Subsystem of the AOTS
70S647300	Prime Item Development Specification for the Evaluation Subsystem of the AOTS
70S647401	Critical Item Development Specification for the Hardware Component of the AOTS
70S647411	AOTS Management CPCI Development Specification
70S647413	AOTS Evaluation CPCI Development Specification
70S647414	AOTS System Support CPCI Development Specification
	AOTS Software Development Plan
	AOTS Configuration Management Plan
	AOTS Master Test Plan

3. PLANS FOR INFORMAL TESTING. The informal phase of testing consists of unit level testing and integration level testing. It is informal because the testing takes place as the code is being developed and is planned and performed by the people doing that development. The expected result of informal testing is a verified program.

3.1 Unit Test Planning. The intent of unit testing is to verify that a program unit performs as specified in the respective CPCI Product Specification. For the purposes of AOTS software development, unit is defined as an Ada package.

3.1.1 Unit Test Requirements. Unit testing consists of two phases. The first phase consists of compiling the unit and correcting compilation errors. The second phase consists of testing the unit for adherence to the following general requirements:

- a. Conformation to specifications and requirements will be verified;
 - Check that the unit is necessary
 - Check function, logic, and computations
 - Check adherence to standards - justify exceptions
- b. Execution paths will be verified;
 - Execute every instruction at least once
 - Every decision should be executed at least once in each possible direction
- c. Data handling capability will be verified;
 - Check type and format of input data
 - Check input data at nominal, extreme, erroneous, and exceptional values
 - Check value, type, and format of output data
- d. Design extremes will be verified.
 - Check error detection and recovery

This second phase is accomplished by desk checking the unit and actual execution of the unit. The testing continues until all known errors have been eliminated and coded unit logic matches the design. Interfaces may be checked by using stubs to simulate other units.

3.1.2 Unit Test Responsibilities. The unit test is planned, performed, and controlled by the programmer responsible for the unit. Planning includes what the programmer intends to accomplish for a test, the inputs that are required, the outputs that are expected, and how the test is to be conducted. Paragraph 3.1.4 provides a model for putting this data together in to a unit test procedure. The programmer prepares a

procedure, according to this model, that contains the tests to be conducted for each unit. This procedure should be reviewed at the unit code walkthru. The procedure is maintained in the Unit Development Folder (UDF). Much of the testing at this level is very detailed and will not be conducted again in higher level tests. Thus, the record of informal testing and the corresponding test results will be kept in the UDF and preserved for reference purposes. A model test report is provided in paragraph 3.1.5 to assist in this.

Unit testing can uncover coding deficiencies. The programmer responsible for the unit is expected to correct the deficiencies and perform the unit test again.

Unit testing can also uncover design deficiencies. The programmer responsible for the unit should report the possibility of any such conditions to the CPCI team leader and, in turn, to the software manager. Together, they will determine the effect on the unit and released documentation. Correction of the deficiencies of this nature must be handled in accordance with the Configuration Management Plan.

During unit testing, the primary goal is to test the functions of the unit. Thus, stubs are used to simulate other units which the unit in test is targeted to interface with, but which are still under development. Data that the unit in test provides to another unit must be checked for accuracy. However, data provided by another unit to the unit in test could be simulated.

3.1.3 Unit Test Schedule. Initial unit testing takes place during the software development period for a unit. Thus the unit test schedule follows the software development schedule for a program. The general program development schedule is specified in the AOTS Software Development Plan. The detailed unit test schedules are kept with the test procedures in the UDFs.

3.1.4 Unit Test Procedure Model. Attachment A provides a model test procedure. This is to be used as a guide for the individual creating specific AOTS software unit test procedures. The following paragraphs describe the elements of the procedure and include instructions to be used by the author in making up the procedure.

Section I identifies the unit and the author of a test procedure. Both of these items, as well as the preparation date of the procedure, should be filled in. The test type should be identified as "unit". As the document is revised, the revision information, including author and date, should be filled in.

Section II is scheduling information for the performance of

the unit test during development. Enter the date that the test is projected to start and the date it is expected to complete, as well as an estimate of the length of time to perform the procedure. These entries can be used for planning and scheduling purposes for this unit. The development hours entry is a record of how long this test procedure took to develop and is intended to be used for future planning and schedule purposes.

Section III specifies the plan for resources necessary for conducting the unit test. Identify the source of the unit to be tested. Identify data base files, if any, that are necessary to test this unit. Indicate whether the files are new to this unit or if existing files and data can be used. Identify other units, if any, that are necessary to test this unit. Besides serving as a planning tool this provides a low level critical path, i.e., the actual versions of unit x and unit y have to be completed for you to test unit z. Identify hardware requirements for the test. If the normal AOTS hardware environment is to be used, then indicate this. If the unit requires hardware that has not been used in the AOTS test environment before, e.g. mark sense reader or X/Y input device, then list this equipment.

Section IV identifies debug information, should that be appropriate. Does the unit have special debugging code? If so, how is that feature activated?

Section V describes the specific functional testing to be performed on the unit. Identify the elements of the unit that are tested by this procedure. Identify the functions of the unit that are tested by this procedure. Identify execution paths in the unit that are not tested by this procedure. This may include fatal error conditions, nonexistent production data base files, permanent i/o errors, etc. Elaborate on the actual sequence for the test procedure: what inputs are necessary, what outputs are expected from that input, and what function does this input/output sequence check out (this is indicated with an ordinal cross reference to the above function list). If specific input from a file is necessary for the test, indicate what this data is. Similarly, record what the condition of particular files are as a result of this test. List what error handling is to be verified in this unit. If the unit uses data produced by another unit or produces data to be used by another unit, then this information should be recorded under "data compatibility". The heading "other testing" is to be used to describe testing that you feel should be performed but does not fall into one of the other classes. When writing the test procedure, be familiar with the contents of the Test Report and the Testing Check List, described in the following paragraph, so that minimum and maximum data ranges, as well as typical values and similar constraints

can be tested. Remember to author the test plan in such a manner that other people, besides yourself, can perform the test. Be clear, complete, yet concise.

3.1.5 Unit Test Report Model. Attachment B is a model test report. It is to be used as a guide to report on the execution of unit tests and should be filled out by the individual performing the test during the process of, or immediately after, a unit test. The Test Report should be used as an aid in all unit testing, with the completed test reports placed in the UDF. When unit testing is performed at several levels, i.e. testing each subprogram, or group of subprograms, followed by testing at the package level, the test reporting should follow that same plan. The following paragraphs describe the elements of the report.

Section I identifies the unit tested, the person that performed the test, and the date of the test. The same report form is used to document results for a unit level test and for an integration level test. Therefore mark the test level as appropriate. Fill in the environment that the unit was executed in. The time duration of the test can be used for future planning purposes in unit testing and should be entered as hours or minutes.

Section II is the reason the test was performed. Is the test being performed on a newly developed unit, is a unit being enhanced, or is the unit being tested because other units that it references were changed? Unit test reports are necessary not only for new units but also for maturing units.

Section III is an indication of the test results. Was the outcome expected or unexpected? If the outcome was not as expected, then a description of the problem or the action to be performed should be furnished, either in this section or in the following checklist. This area can also be used for notes or reminders if the test was successful.

Section IV is a worksheet to be used in conjunction with the test sequence section of the test procedure. It is to be used to note problems or to act as a placeholder while executing the test sequence.

Section V is a checklist for unit testing. It is to be used as a guide, as well as a reminder of what to test and what to look for while testing. The headings in the checklist represent the major software performance and requirement classifications to be checked in unit testing. Beneath each heading is a list of items to exercise or check. As items are tested, they are marked off or notes made for problem reminders.

3.2 CPC Integration and Test Planning. Computer Program Component (CPC) Integration consists of building a program by iteratively adding units, and, as the units are integrated, testing to ensure the resulting software matches that described in the Development and Product Specifications.

At each iteration, integration subelements are combined to form integration elements. This process begins with two or more functionally and logically related units which have passed unit testing. These units are integrated and the resultant integration element tested. Once fully tested, such elements become the subelements which are integrated to form larger elements. Thus, an integration subelement may be either a fully tested unit or a fully integrated set of units and an integration element is a set of functionally and logically related subelements.

Ultimately, aggregates of integration elements form CPCs. For the purposes of AOTS software development, the terminology CPC and program are used interchangeably.

3.2.1 CPC Integration and Test Requirements. Many of the requirements for integration testing are the same as for unit testing. Other requirements are imposed to ensure that subelements are compatible and consistent.

Like unit testing, integration testing consists of two phases. The first phase consists of compiling, linking, and loading the integration element and correcting any resulting errors. The second phase consists of testing the unit for adherence to the following general requirements:

- a. Conformation to specifications and requirements will be verified;
 - Check that the elements are necessary
 - Check function, logic, and computations
 - Check adherence to standards - justify exceptions
- b. Execution paths will be verified;
 - Execute every major path through the subelement
 - Every subelement should be called at least once by each possible calling subelement
- c. Data handling capability will be verified;
 - Check type and format of input data
 - Check input data at nominal, extreme, erroneous, and exceptional values
 - Check value, type, and format of output data
- d. Design extremes will be verified.
 - Check error detection and recovery
 - Check data compatibility between subelements

Finally, the testing must verify that the integration is

forming the CPCs as they are described in the specifications. If the CPCs interface with other CPCs, then these interfaces must also be validated.

The second phase is accomplished by desk checking the element and actual execution of the element. The testing continues until all known errors have been eliminated and integrated element logic matches the design.

3.2.2 CPC Integration and Test Responsibilities. As in unit testing, the CPC integration test is planned, performed, and controlled by the programmer(s) responsible for the CPC. Planning includes what the programmer intends to accomplish for a test, the inputs that are required, the outputs that are expected, and how the test is to be conducted. Paragraph 3.2.5 provides a model for a CPC integration test procedure. The programmer prepares a procedure, according to this model, that contains the tests to be conducted for the CPC. This procedure should be reviewed at the CPC walkthru. This test procedure is maintained in the UDF for the unit that is the linkable entity that results in a program. A record of test performance along with the corresponding test results should be preserved for reference purposes in the UDF. A model test report is provided in paragraph 3.2.6 to assist in this.

CPC integration testing can uncover coding deficiencies. The programmer(s) responsible for the CPC is expected to correct the deficiencies and perform the CPC integration test again. If the testing reveals problems with a unit outside of the CPC that the CPC is integrating with, then the programmer should report this to the CPCI Team Leader, and if the unit is outside of the particular CPCI, to the software manager. Resolution for the integration deficiency should be made as quickly as schedules allow so as to not hamper further testing.

CPC integration testing can also uncover design deficiencies. The programmer responsible for the CPC should report the possibility of any such conditions to the CPCI team leader and, in turn, to the software manager. Together, they will determine the effect on the CPC and released documentation. Correction of the deficiencies of this nature must be handled in accordance with the Configuration Management Plan.

Any stubs that were used in unit testing are replaced, in stages, by actual units until CPC integration testing is complete. The product of a completed CPC integration test is a complete CPC.

3.2.3 CPC Integration Test Classes. The test classes for CPC integration testing, and as appropriate for unit testing, include

functional requirement testing, interface testing, terminal and device input/output testing, file input/output testing, and error handling testing. The model test procedure described in paragraph 3.2.5 and the checklist described in the model test report in paragraph 3.2.6 reflect these test classes.

3.2.4 CPC Integration and Test Schedules. Integration testing for a program takes place during the software development cycle for that program. Thus the integration test schedule follows the program development schedule. The general program development schedule is specified in the AOTS Software Development Plan. The detailed integration test schedules are kept with the test procedures in the UDFs.

3.2.5 Integration and Test Procedure Model. Attachment A is a model test procedure. The same model is used for the unit test procedure and the integration and test procedure, as much of required information is the same. As in the unit test procedure description, this model is to be used as a guide for the individual preparing specific integration test procedures. The following paragraphs describe the elements of the procedure and include instructions to be used by the author in formulating the procedure.

Section I identifies the CPC to be integrated and the author of the test procedure. Each of these items, as well as the preparation date of the procedure, should be completed. The test type should be identified as "integration". As the document is revised, the revision information, including author and date, should be filled in.

Section II is scheduling information for the performance of the integration and test during development. Enter the date that the test is projected to start and the date it is expected to complete, as well as an estimate of the length of time to perform the procedure. These entries can be used for planning and scheduling purposes for this unit. The development hours entry is a record of how long this test procedure took to develop and is intended to be used for future planning and schedule purposes.

Section III specifies the plan for resources necessary for conducting the integration and test. Identify the source of the unit containing the subelements being integrated. Identify data base files, if any, that are necessary to test this unit. Identify people whose expertise or time is required. Identify other software, such as stubs, drivers, or test data generators, necessary to test this element. Identify unique hardware, i.e. hardware of limited availability or hardware not normally a part of the AOTS hardware environment, that is necessary to test this

element. Unique hardware might include a logic analyzer. Limited availability hardware might include a mark sense reader or X/Y input device.

Section IV identifies debug information, should that be appropriate. Does the element have special debugging code? If so, how is that feature activated?

Section V describes the specific functional testing to be performed by the integration test. Identify the elements that are being integrated and tested by this procedure. Identify the functions of the unit that are tested by this procedure. Identify execution paths in the unit that are not tested by this procedure. This may include fatal error conditions, nonexistent production data base files, permanent i/o errors, etc. Elaborate on the actual sequence for the test procedure: what inputs are necessary, what outputs are expected from that input, and what function does this input/output sequence check out (this is indicated with an ordinal cross reference to the above function list). If specific input from a file is necessary for the test, indicate what this data is. Similarly, record what the condition of particular files are as a result of this test. List what error handling is to be verified in this unit. If the test uses data produced by another test procedure or produces data to be used by another test procedure, then this information should be recorded under "data compatibility". The heading "other testing" is to be used to describe testing that you feel should be performed but does not fall into one of the other classes. When writing the test procedure, be familiar with the contents of the Test Report and its Testing Check List, described in the following paragraph, so that minimum and maximum data ranges, as well as typical values and similar constraints can be tested.

Section V of this test plan is much like Section V of the Unit Test Plan. However, the intent of the Specific Testing section is different between the two plans. In the Unit Test Plan the scope of the Specific Testing section deals with all instructions within the unit. In the Integration and Test Plan, the Specific Testing section is concerned with major paths through elements and all of the calling sequences of subelements being integrated.

3.2.6 Integration and Test Report Model. Attachment B is a model test report. As with the test procedure model, the same model for reports is used for unit testing and integration testing, as much of required information is the same. As described in the unit test report description, this model is to be used as a guide to report on the execution of integration tests and should be filled out by the individual performing the

test during the process of, or immediately after, an integration test. The Test Report should be used as an aid in all integration and testing, with the completed test reports placed in the UDF. The following paragraphs describe the elements of the report.

Section I identifies the integration test being performed, the person that performed the test, and the date of the test. The same report form is used to document results for a unit level test and for an integration level test. Therefore mark the test level as appropriate. Fill in the environment that the test was executed in. The time duration of the test can be used for future planning purposes in integration testing and should be entered as hours or minutes.

Section II is the reason the test was performed. Is the test being performed on a newly developed element, is an element or subelement being enhanced, or is the element being tested because other elements that it references were changed? Integration and test reports are necessary not only for newly integrated elements but also for maturing elements.

Section III is an indication of the test results. Was the test outcome expected or unexpected? If the outcome was not as expected, then a description of the problem or the action to be performed should be furnished, either in this section or in the following checklist. This area can also be used for notes or reminders if the test results were satisfactory.

Section IV is a worksheet to be used in conjunction with the test sequence section of the test procedure. It is to be used to note problems or to act as a placeholder while executing the test sequence.

Section V is a checklist for integration and testing. It is to be used as a guide, as well as a reminder of what to test and what to look for while testing. The headings in the checklist represent the major software performance and requirement classifications to be checked in unit testing. Beneath each heading is a list of items to exercise or check. As items are tested, they are marked off or notes made for problem reminders.

3.3 Resources Required for Informal Testing.

3.3.1 Facilities. The DAC facilities at Building 428 Bergstrom AFB Austin, Texas, will be the location at which informal testing will be performed. The AFHRL facilities at Building 578 Brooks AFB San Antonio, Texas, will be the location where the host computer for AOTS resides. No classified information will be processed in conjunction with the AOTS Phase II informal tests.

3.3.2 Personnel. Personnel required for informal testing are members of the DAC AOTS Software Development Organization. An in-depth knowledge of the requirements and design of the unit or CPC whose test is being planned or performed is mandatory for the personnel. Access to Bergstrom AFB is necessary for these personnel, however, security clearances are not necessary.

3.3.3 Hardware. Hardware to be used for informal testing is as follows:

- A. VAX 8600 located at Building 578, Brooks AFB;
- B. Zenith Z248 Personal Computers located at Building 428, Bergstrom AFB;
- C. Printers, of the following types, located in Building 428, Bergstrom AFB:
 - 1. Laser printers
 - 2. Color printers
 - 3. Dot matrix printers;
- D. Digitizing tablets, of the following types, located at Building 428, Bergstrom AFB:
 - 1. 11x11 digitizers
 - 2. 20x20 digitizers;
- E. Optical Mark Readers located at DAC, Building 428, Bergstrom AFB;
- F. Communication lines and equipment to link the above hardware.

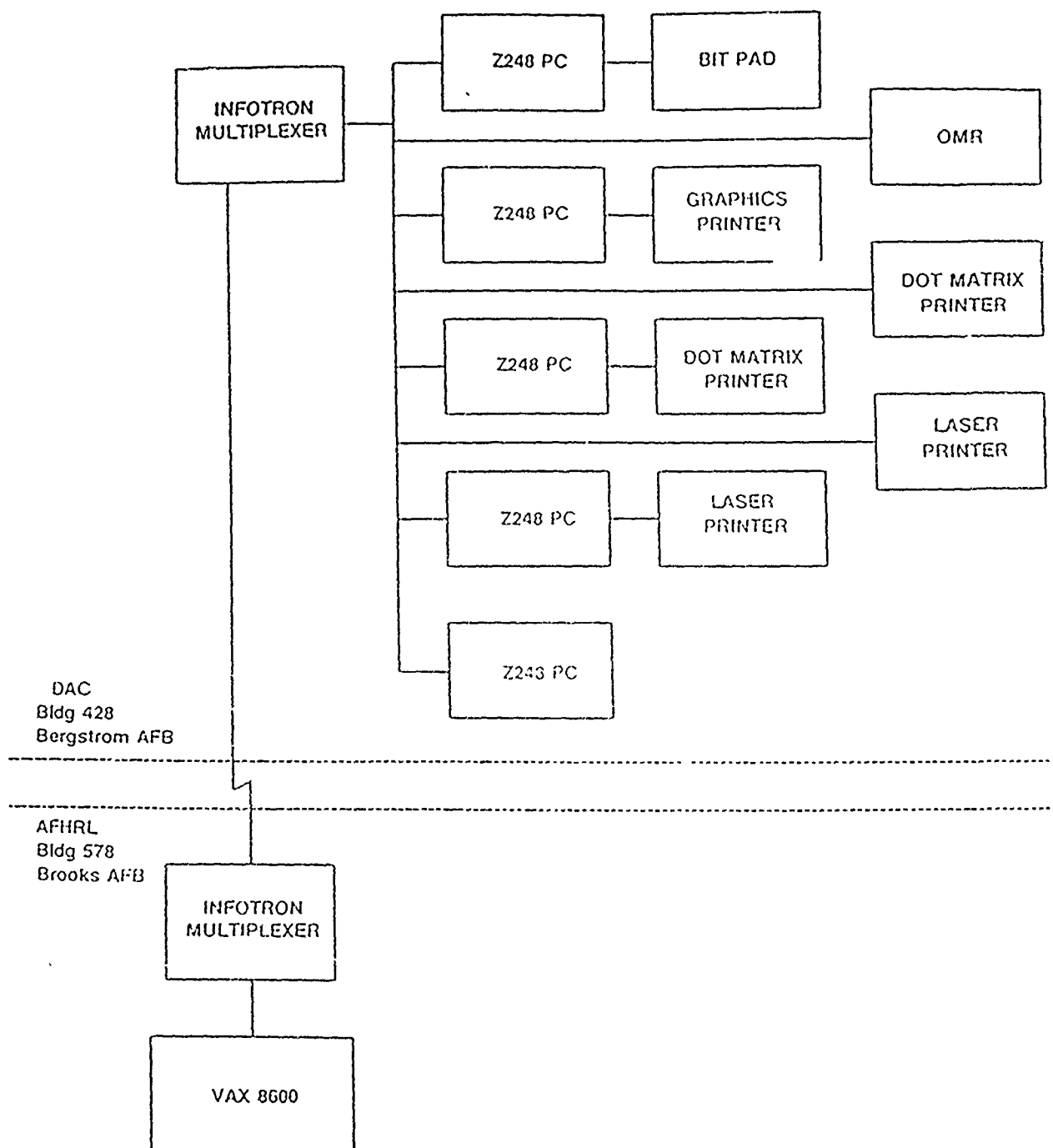
3.3.4 Interfacing/Support Software. Software required for informal testing is as follows:

- A. VAX/VMS operating system, including the utilities:
 - 1. Command Language
 - 2. EDT
 - 3. Linker
 - 4. Debug
 - 5. Run-time Library
- B. DEC Ada Compiler
- C. VAX-11 FORTRAN Compiler
- D. VAX-11 MACRO Assembler
- E. DEC Code Management System
- F. MS-DOS, including the utilities
 - 1. Command Language
 - 2. Editor
 - 3. Debug
- G. Alslys Ada Compiler
- H. Microsoft Macro Assembler

3.3.5 Source. The above resources are provided by AFHRL and DAC in support of the AOTS contract.

3.3.6 Test Configuration. The test configuration is graphically portrayed in Figure 2. It consists of the hardware listed in paragraph 3.3.3, located at the facilities specified in paragraph 3.3.1. Note that the peripheral equipment layout in Building 428 at Bergstrom AFB shows all the different types of devices to be used in Phase III AOTS. A particular unit or integration test will use a subset of this equipment. However, the unit and integration tests, considered as a group, will use all of the devices.

Figure 2



4. PLANS FOR FORMAL TESTING. The formal phase of testing consists of system level testing and acceptance level testing. The objective is verification that software meets performance and interface requirements and demonstration that the software meets the acceptance criteria. Formal testing is planned by the software development group but is performed by a group independent of the software developers. The expected product is a demonstratable and deliverable program.

Formal testing will be conducted in accordance with the phased software development approach for AOTS Phase II. A formal test procedure, at the system test level, will be prepared during the development period for that program. This test procedure will be performed and results recorded before the program is released for Air Force use. Thus, before the data development programs are released to the IST, they will go through the system testing cycle.

Formal test procedures, at the acceptance test level, will be performed and results recorded, in order for the Air Force to accept AOTS Phase II software.

Both system and acceptance test procedures can be used to satisfy test objectives in the AOTS Master Test Plan that require automated support.

4.1 System Test Planning. The intent of System Testing is to formally verify software performance and interface requirements. System level testing is performed on programs that have completed integration level testing.

4.1.1 System Test Requirements. System Testing consists of tests and analyses performed to confirm that the software satisfies all the requirements set forth in the AOTS CPCI Development Specifications. It verifies that the "as built" software conforms to these specifications. Formal test plans and procedures are written for System Testing. Analysis is performed for those requirements that are too expensive, in terms of time or resources, to verify by testing.

In order for a program to be ready for system testing, it must have successfully completed integration level testing and be placed under configuration control. The system tests are performed according to test procedures. Test results are documented, including any discrepancies found.

4.1.2 System Test Responsibilities. The system test procedures are prepared by the DAC AOTS software development organization, in particular by the programmer(s) responsible for individual CPCs. This preparation is done during the software

development cycle for a particular program. The test procedure should define in detail the actual activities required to perform the test. It should include a description of what should be accomplished by the test, the inputs that are required, the outputs that are expected, and how the test is to be conducted. The programmer responsible for a CPC will ask that both the program and test procedure be placed under configuration management when the program has completed integration testing, thereby declaring the program is ready for system testing.

Conduct of the system tests will be carried out by the DAC AOTS Instructional Technology Branch personnel. These individuals are different from the people that comprise the software development group, but they are very familiar with system and program requirements. The people who conduct a system test will also be responsible for recording the test results.

Monitoring of system tests will be performed by the DAC AOTS Program Manager or designee. This person's responsibility will be to spot check that the system tests are being conducted according to procedures and that results are recorded.

The Air Force AOTS Program Manager, or representative, may witness system tests.

Results of the system tests are recorded in test reports. If the tests uncovered deficiencies, these are also recorded in the test reports. All deficiencies found in system testing are examined by the Software Technical Review Board. This board is comprised of the software manager and each CPCI team leader. The board decides the extent of each deficiency and schedules the problem to be fixed or directs the deficiency and its ramifications to the Configuration Control Board.

4.1.3 System Test Schedule. The system test schedule is specified in the AOTS Software Development Plan.

4.1.4 System Test Procedure Model. Attachment C provides a model formal test procedure. The model is to be used as a guide for the individual creating specific formal test procedures for AOTS software. Note that the model is very similar to the informal testing model discussed under unit level testing and integration level testing. Also note that this formal test procedure model is valid for both System Test Procedures and Acceptance Test Procedures. The following paragraphs describe the elements of the procedure and include instructions to be used by the author in making up the procedure.

Section I identifies the type of formal test procedure, full identification of the program to be tested, and the author of the test procedure. As the plan is revised, the revision author and

date should be filled in.

Section II is scheduling information for the performance of the formal test. Enter a projection of the date when the test will start and how long will it take. Also enter the time necessary to develop the plan. This entry, as well as the projected test performance date and duration are for planning and scheduling purposes.

Section III specifies the resources required for conducting the formal test. The software resource category identifies the program executable to be tested and other programs that are necessary for the test. Identify the data base files required to test this program. Indicate what the state of these files should be, e.g. whether these files are required to contain a previously determined set of data, whether they should be empty, etc. Some test procedures may require a known data base to predict known test results. This resource category should reflect that. Identify what other test procedures need to be run prior to this procedure. This is important when test procedures need to be run in a certain order. For example, it may be necessary to run the Tentative MTL Test Procedure prior to running the MTL Editor Test Procedure. Identify the hardware configuration for the test by listing the required hardware. If the tester needs special qualifications to run the test, enter this data under the personnel requirements category. An example of this might be that the tester should be familiar with one of the AOTS supported Air Force Specialities. When special resources are required, such as a video disk or a drawing, enter this information under the "other" category.

Section IV describes the test. A high level overview of the test should be entered to explain the test. The functions provided by the program that the test procedure is to check should be listed. If there are program functions not tested by the procedure, then these should be listed together with the identification of the test procedure in which they are tested.

Section V lists the actions necessary to perform the test. The test sequence listed here details the input expected from the user, what output can be expected, and a cross reference as to what program function that this action applies to. The listed test sequence should be as exact as possible, in order to produce test consistency.

Attachment F is an example of an AOTS Formal Test Procedure to perform system testing on the task information field editing functions in the MTL Editor. This is to serve as an example only and is not intended to be complete.

4.1.5 System Test Report Model. Attachment D is a model AOTS

Formal Test Report. It is to be used as a guide to report on the execution of formal system tests and should be filled out by the individual performing the test during the process of, or immediately after, a system test.

Section I identifies the program tested and the person that did the test. The same report form is used to document results for a system level test and for an acceptance level test. Therefore mark the test level as appropriate. Fill in the test environment, as well as the date. The time duration of the test can be used for future planning purposes in system testing and should be entered as hours or minutes. If there is a test witness then the identity of that individual should be recorded.

Section II is the reason the test was performed. Is the test being performed on a newly developed program, for a program that has been enhanced, or as part of a release of other enhancements?

Section III is an indication of the test results. Was the outcome expected or unexpected? If the outcome was not as expected, then a description of the problem or the action to be performed should be furnished, either in this section or in the following worksheet. This area can also be used for notes or reminders if the test was successful.

Section IV is a worksheet for system testing. It is to be used to keep notes of test progress, as well as to keep track of possible discrepancies or questions.

4.2 Acceptance Test Planning. The intent of acceptance testing is to demonstrate that the software satisfies the set of predetermined acceptance criteria.

4.2.1 Acceptance Test Requirements. Acceptance Testing consists of performing test procedures designed to confirm that the software satisfies all the requirements set forth in the AOTS CPCI Development Specifications. Acceptance testing must show that the software performs in the operational environment, as it did in test environment. This includes using actual external interfaces.

Generally acceptance testing is performed when a system is delivered. In the case of AOTS, acceptance testing will be performed during the latter part of Phase II. Test results are documented, including any discrepancies found. Some discrepancies are permissible. The Air Force and DAC AOTS management must agree jointly upon the number and severity of permissible discrepancies.

4.2.2 Acceptance Test Responsibilities. The acceptance test procedures are prepared by the DAC AOTS software development

organization, in particular by the programmer(s) responsible for individual CPCs. This preparation is done after system testing has been performed on the CPC. The test procedure should define in detail the actual activities required to perform the test. It should include a description of what should be accomplished by the test, the inputs that are required, the outputs that are expected, and how the test is to be conducted. The acceptance test procedure is placed under configuration control after it is written and approved.

Conduct of the acceptance tests will be carried out by the DAC AOTS Instructional Technology Branch personnel. These individuals may be the same people that performed the system tests. They should be familiar with system and program requirements. The people who conduct an acceptance test will also be responsible for recording the test results.

Monitoring of acceptance tests will be performed by the DAC AOTS Program Manager or designee. This person's responsibility will be to verify the acceptance tests are being conducted according to procedures and that results are recorded.

The Air Force AOTS Program Manager, or representative, will witness acceptance tests.

Results of the acceptance tests are recorded in test reports. If the tests uncover deficiencies, these are also recorded in the test reports. As in system testing, all deficiencies found in acceptance testing are examined by the Software Technical Review Board. The board decides the extent of each deficiency and schedules the problem to be fixed or directs the deficiency and its ramifications to the Configuration Control Board.

Execution of an acceptance test procedure with expected and agreed upon results, as well as the generation of the corresponding test report, should result in acceptance of the program by the Air Force AOTS Program Manager.

4.2.3 Acceptance Test Schedule. The acceptance test schedule is specified in the AOTS Software Development Plan.

4.2.4 Acceptance Test Procedure Model. Attachment C provides a model formal test procedure. The model is discussed in paragraph 4.1.4. Sections I, II, III, and IV of the test procedures should be filled out accordingly.

Section V of the acceptance test procedure has the same format as the system test procedure. This section, the test sequence, should list the actions necessary to perform the test. The test sequence includes the input expected from the user, what output can be expected, and a cross reference as to what program

function that the actions apply to. However, the inputs and outputs listed in the acceptance test procedure are more descriptive than in the system test procedure. The reason for this is that since the acceptance test procedures can be used for demonstration purposes, the audience for the test procedure might not be familiar with the program being demonstrated.

Attachment G is an example of an AOTS Formal Test Procedure to perform acceptance testing on the MTL Editor. This is to serve as an example only and is not intended to be complete.

4.2.5 Acceptance Test Report Model. Attachment D is a model AOTS Formal Test Report. It is to be used as a guide to report on the execution of formal acceptance tests and should be filled out by the individual performing the test during the process of, or immediately after, an acceptance test. The sections of the model are discussed further in paragraph 4.1.5.

4.3 Formal Test Classes. The test classes for formal testing include functional requirement testing, interface testing, user input/output testing, file input/output testing, error condition testing, timing constraints, and capacity testing. The first six of these classes are verified by each system and acceptance test procedure for which the class is appropriate. AOTS capacity testing is verified by its own test procedure.

4.4 Formal Tests. Each AOTS CPCI will have a series of formal tests, both at the system and acceptance test level, designed to verify each CPC and interface required by the CPCI. The tests will be structured according to the models described in paragraphs 4.1.4 and 4.2.4. The paragraphs below identify these tests for the initial design and development effort. Further tests will be identified during the secondary design effort with an update to this document prior to the Critical Design Review for the total software effort.

4.4.1 Management CPCI Test Procedures. The Management CPCI Test Procedures will consist of the tests listed in Table 1. With each entry is a paragraph reference to the Management CPCI Development Specification. This reference specifies the functions to be performed and the requirements to be satisfied by the program and therefore to be tested by the test procedure. The actual test procedure will describe the test, the functions the procedure is to check, and the inputs and expected outputs to exercise the functions. Other entries in the table specify the levels of testing to be performed for each program and the test methods involved to check each program.

Table 1. Management CPCI Test Procedures

Test #	Test Procedure Name	70S647411 Ref (1)	Test Level(2)	Test Method(3)
1	Tenative_MTL	3.2.1.1.1	U,I,S,Ac	T,D
2	Final_MTL	3.2.1.1.2	U,I,S,Ac	T,D
3	MTL_Editor	3.2.1.1.3	U,I,S,Ac	T,D
4	Task_Publications_Editor	3.2.1.2.1	U,I,S,Ac	T,D
5	Generic_Position_Training_Requirements_Editor	3.2.1.4.1	U,I,S,Ac	T,D
6	Operational_Position_Training_Requirements_Editor	3.2.1.4.2	U,I,S,Ac	T,D
7	Other_Training_Requirements_Editor	3.2.1.5	U,I,S,Ac	T,D
8	IMEdit	3.2.3.1.1	U,I,S,Ac	T,D
9	Requirement Deleted			
10	Requirement Deleted			
11	Capacity Test	3.1.1	S,Ac	T,D
12-n	(4)			

Notes:

1. 70S647411 is the AOTS Management CPCI Development Specification. Items in this column are references to paragraphs in this specification.
2. Test Level Codes: U=Unit, I=Integration, S=System, Ac=Acceptance
3. Test Method Codes: A=Analysis, I=Inspection, D=Demonstration, T=Test, R=Review
4. The remainder of this table will be developed in accordance with the AOTS phased software development concept.

4.4.2 Evaluation CPCI Test Procedures. The Evaluation CPCI Test Procedures will consist of the tests listed in Table 2. With each entry is a paragraph reference to the Evaluation CPCI Development Specification. This reference specifies the functions to be performed and the requirements to be satisfied by the program and therefore to be tested by the test procedure. The actual test procedure will describe the test, the functions the procedure is to check, and the inputs and expected outputs to exercise the functions. Other entries in the table specify the levels of testing to be performed for each program and the test methods involved to check each program.

Table 2. Evaluation CPCI Test Procedures

Test #	Test Procedure Name	70S647413 Ref (1)	Test Level (2)	Test Method (3)
1	Behavioral_Objectives_Editor	3.2.1.1	U,I,S,Ac	T,D
2	Test_Item_Bank_Editor	3.2.1.2	U,I,S,Ac	T,D
3	Test_Editor	3.2.1.3	U,I,S,Ac	T,D
4	Requirement Deleted			
5	Graphics_Editor	3.2.1.5	U,I,S,Ac	T,D
6	Requirement Deleted			
7-n	(4)			

Notes:

1. 70S647413 is the AOTS Evaluation CPCI Development Specification. Items in this column are references to paragraphs in this specification.
2. Test Level Codes: U=Unit, I=Integration, S=System, Ac=Acceptance
3. Test Method Codes: A=Analysis, I=Inspection, D=Demonstration, T=Test, R=Review
4. The remainder of this table will be developed in accordance with the AOTS phased software development concept.

4.4.3 System Support CPCI Test Procedures. Many of the functional requirements of the System Support CPCI are considered tested as a result of the software development process and informal and formal testing of the Management and Evaluation CPCIs. Therefore these requirements need no separate test procedures. These requirements are listed in Table 3 without a test procedure number, but instead a reference to note 4. The System Support Test Procedures will test the remaining requirements of the System Support CPCI. The test procedures listed in Table 3 with a test procedure number identify these procedures. With each entry in Table 3 is a paragraph reference to the System Support CPCI Development Specification. This reference specifies the functions to be performed and the requirements to be satisfied by the program and therefore to be tested by the test procedure, when a formal test procedure is applicable. The actual test procedure will describe the test, the functions the procedure is to check, and the inputs and expected outputs to exercise the functions. Other entries in the table specify the levels of testing to be performed for each program and the test methods involved to check each program.

Table 3. System Support CPCI Test Procedures

Test #	Test Procedure Name	70S647414 Ref (1)	Test Level (2)	Test Method (3)
(4)	Operating System	3.2.1.1		D
(4)	Ada Compiler	3.2.1.2.1		D
(4)	Host Language Compiler	3.2.1.2.2		D
(4)	Text Editor	3.2.1.3		D
(4)	Virtual Machine Interface	3.2.2		D
(4)	Program Control	3.2.3.1		D
(4)	Inter-Process Communication	3.2.3.2		D
(4)	Data Management	3.2.3.3		D
(4)	Terminal Communication	3.2.3.4		D
(4)	Text Handling	3.2.3.5		D
(4)	Mathematical Services	3.2.3.6		D
(4)	AOTS Utilities	TBD		D
(4)	Operating System (Terminal)	3.2.5.1		D
(4)	Ada Compiler (Terminal)	3.2.5.2		D
1	Terminal	3.2.5.3	U, I, S, Ac	T, D
2	Capacity Test	3.1.1	S, Ac	T, D
3-n	(5)			

Notes:

1. 70S647414 is the AOTS System Support CPCI Development Specification. Items in this column are references to paragraphs in this specification.
2. Test Level Codes: U=Unit, I=Integration, S=System, Ac=Acceptance
3. Test Method Codes: A=Analysis, I=Inspection, D=Demonstration, T=Test, R=Review
4. These functions are demonstrated to be performing properly as a result of other system and acceptance test procedures using the functions.
5. The remainder of this table will be developed in accordance with the AOTS phased software development concept.

4.5 Formal Test Levels. The levels of formal testing for AOTS are system level testing and acceptance level testing. These are discussed in paragraphs 4.1 and 4.2, respectively.

4.6 Formal Test Summary. Identification of formal tests is provided in Tables 1, 2, and 3 above. Additionally, these tables identify test levels, test methods, and program requirements. Test classes are identified, and checked, as necessary in each test procedure, with the exception of capacity testing, which has its own formal test procedure.

4.7 Formal Test Schedule(s). Refer to paragraph 4.1.3 for the System Test Schedule and paragraph 4.2.3 for the Acceptance Test Schedule.

4.8 Data Recording, Reduction, Analysis. The specification of data to be recorded, reduced, or analyzed in order for programs to be properly verified will be detailed in the system and acceptance test procedures for those programs. When the results of the data recording, reduction, or analysis is on hard copy, then this hard copy will be stored with the test reports, which are described in paragraphs 4.1.5 and 4.2.5.

A test log shall be kept when performing acceptance test procedures. All significant events will be reported chronologically on the test log. A completed test log is stored with the test report. A model test log is contained in Appendix E.

4.9 Formal Test Reports. Formal test report models are described in paragraphs 4.1.5 and 4.2.5.

4.10 Resources Required for Formal Testing.

4.10.1 Facilities. The DAC facilities at Building 428 and the AFHRL IST facilities at Building 1808, both at Bergstrom AFB Austin, Texas, will be the locations at which formal testing will be performed. The AFHRL facilities at Building 587 Brooks AFB San Antonio, Texas, will be the location where the host computer for AOTS resides. No classified information will be processed in conjunction with the AOTS Phase II formal tests.

4.10.2 Personnel. Personnel required for the preparation of formal test procedures are members of the DAC AOTS Software Development Organization. An in-depth knowledge of the requirements and design of the CPC whose test is being planned is mandatory for the personnel.

Personnel required for conducting formal tests are members of the DAC AOTS Instructional Technology Branch. The personnel represent the Management Subsystem, Evaluation Subsystem, and IST Support group and must have the following qualifications:

- A. An in-depth knowledge of one or all subsystems;
- B. Familiarity with the user interface to automated functions for a subsystem;
- C. Understanding of data contents requirements for the automated functions.

Access to Bergstrom AFB is necessary for both groups of personnel, however, security clearances are not necessary.

4.10.3 Hardware. Hardware to be used for formal testing is as follows:

- A. VAX 8600 located at Building 578, Brooks AFB;
- B. Zenith Z248 Personal Computers located at Buildings 428 and 1808, Bergstrom AFB;
- C. Printers, of the following types, located in Buildings 428 and 1808, Bergstrom AFB:
 - 1. Laser printers
 - 2. Color printers
 - 3. Dot matrix printers;
- D. Digitizing tablets, of the following types, located at Buildings 428 and 1808, Bergstrom AFB;
 - 1. 11x11 digitizers
 - 2. 20x20 digitizers;
- E. Optical Mark Readers located in Buildings 428 and 1808, Bergstrom AFB;
- F. Communication lines and equipment to link the above hardware.

4.10.4 Interfacing/Support Software. Software required for formal testing is as follows:

- A. VAX/VMS operating system, including the utilities:
 - 1. Command Language
 - 2. EDT
 - 3. Linker
 - 4. Debug
 - 5. Run-time Library
- B. DEC Ada Compiler
- C. VAX-11 FORTRAN Compiler
- D. VAX-11 MACRO Assembler
- E. DEC Code Management System
- F. MS-DOS, including the utilities
 - 1. Command Language
 - 2. Editor

- 3. Debug
- G. Alsys Ada Compiler
- H. Microsoft Macro Assembler

4.10.5 Source. The above resources are provided by AFHRL and DAC in support of the AOTS contract.

5. TEST PLANNING ASSUMPTIONS AND CONSTRAINTS. To help assure valid system level and acceptance level testing, it is assumed that actual AOTS data, e.g. Master Task List data, Behavioral Objectives, Test Items, etc., will be available to exercise the code. Until such time that this actual data is available, simulated versions of the data must be used for testing purposes.

6. NOTES. Not Applicable.

APPENDIX E
MASTER TEST PLAN
SYSTEM LEVEL TEST AND EVALUATION (SLT&E) PLANS

APPENDIX E
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AOTS Acceptance Test Log

Page ____ of ____

I. Identification

CPCI: _____

Program: _____

Person Completing Log: _____

Date: _____

II. Event Log

Time	Event

The Air Force components, locations, Air Force Specialties (AFSS), and organizations that will participate in the SLT&E for the AOTS are as follows:

1. Active Air Force, Bergstrom AFB, TX
 - AFS 426X2 - 67 CRS and 67 AGS
 - AFS 431X1 - 67 AGS and 67 EMS
 - AFS 732X0 - 67 CSG and 67 SPS
 - AFS 811X0 - 67 SPS
 - AFS 811X2 - 67 SPS
2. Air Force Reserves, Bergstrom AFB, TX
 - AFS 426X2 - 924 CAMS
 - AFS 431X1 - 924 CAMS
 - AFS 732X0 - 924 TFG
 - AFS 811X0 - 924 WSF
3. Air National Guard, Ellington ANGB, TX
 - AFS 426X2 - 147 CAMS
 - AFS 431X1 - 147 CAMS
 - AFS 732X0 - 147 CAMS/MSS
 - AFS 811X0 - 147 SPF
 - AFS 811X2 - 147 SPF

The following figure reflects for each Air Force component the numbers of personnel within each AFS and workcenter type that are to be involved in the SLT&E for the AOTS.

AFS	WORKCENTER	NUMBER ASSIGNED			TOTALS
		ACTIVE	RESERVE	GUARD	
PERSONNEL 732X0	DPMQ OR	13 1	2	1 2	19
JET ENGINE MAINT. 426X2	JEIM AMU	25 9	26	32	92
AIRCRAFT MAINT. 431X1	AMU PHASE	44 * 24 *	73 21	86	228
SECURITY POLICE 811X0 - 811X2 811X0	FLIGHTS SPA	67 14	43	68	176 14
		197	165	167	529

* Ns for Control Groups will be approximately equal to these workcenter Ns

CRITICAL ISSUE: COMPLIANCE		DOES THE PROTOTYPE AOTS MEET THE REQUIREMENTS OF THE SYSTEM SPECIFICATION, WHILE OPERATING IN AN OPERATIONAL ENVIRONMENT?					COMPLI	
SUBQUESTION		HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	AOTS ELEMENTS
A	DOES AOTS PROVIDE THE REQUIRED INTERFACES WITH EXTERNAL ENTITIES (SYSTEM SPECIFICATION SECTION 3.1.3.1-1-4, 3.1.3.1-1-5, AND 3.1.5.1-9-10)?	DETERMINE VIA INSPECTION WHETHER INTERFACES WITH EXTERNAL ENTITIES MEET SPECIFICATION REQUIREMENTS.	COMPLETED CHECKLISTS OF REQUIREMENTS INDICATING COMPLIANCE WITH THE SYSTEM SPECIFICATION.	DAC WILL REFER TO THE AOTS SYSTEM SPECIFICATION IN CONSTRUCTING CHECKLISTS OF AOTS DESIGN AND FUNCTIONAL CHARACTERISTICS. DAC AND AFRL WILL, JOINTLY, COMPLETE THE CHECKLISTS DURING PHASE III OPERATION OF THE AOTS PROTOTYPE AS NECESSARY. DAC AND AFRL WILL CALL ON WORKCENTER USERS (OPERATORS, EVALUATORS, AND ASSISTANCE AND EXPERT OPINION. INSPECTION WILL BE A ONE-TIME EFFORT, BEGINNING 3 MONTHS INTO PHASE III. ANY CHANGE TO THESE INTERFACES SUBSEQUENT TO THIS INSPECTION WILL BE SUBJECT TO RE-INSPECTION.	DAC WILL ANALYZE THE CHECKLIST RESPONSES TO DETERMINE EXTENT OF COMPLIANCE WITH THE SPECIFICATION.	DATA WILL BE EVALUATED TO DETERMINE IF GOALS AND REQUIREMENTS ARE MET.	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	THIS PHASE III INSPECTION VERIFIES COMPLIANCE AT THE SYSTEM LEVEL THAT THE PHASE II INSPECTIONS VERIFIED FOR THE SUBSYSTEM, COMPONENT, AND SUBCOMPONENT LEVELS.
B	DOES AOTS MEET THE RESPONSE PERFORMANCE GOALS (SYSTEM SPECIFICATION SECTION 3.2.1.1)?	DETERMINE VIA TESTING WHETHER AOTS MEETS THE RESPONSE PERFORMANCE GOALS.	WITH SYSTEM UNDER NORMAL LOAD, MEASURE TERMINAL RESPONSE TIMES AND MASTER TASK LIST SEARCH TIME.	DAC WILL DEVELOP THE DETAILED PLANS AND SCHEDULES NECESSARY FOR CONDUCTING THE TESTS. DAC WILL PARTICIPATE IN THE TESTS AND COLLECT AND ANALYZE THE DATA. THE TESTS WILL BE CARRIED OUT DURING PHASE III. IN LOCATIONS IN BUILDINGS 11, 1000, AND 428 AT BEECHSTROM AFB.	DAC WILL ANALYZE THE DATA COLLECTED DURING THE TESTS TO DETERMINE EXTENT OF COMPLIANCE WITH THE SPECIFICATION.	EVALUATION WILL COMPARE TEST RESULTS WITH THE SYSTEM SPECIFICATION.	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	THIS PHASE III TESTING VERIFIES COMPLIANCE AT THE SYSTEM LEVEL (VERIFICATION AT THE SUBSYSTEM, COMPONENT, AND SUBCOMPONENT LEVELS IS ACCOMPLISHED IN PHASE II, UNDER PART I OF THE HIP).
C	DOES AOTS MEET THE HARDWARE RELIABILITY GOALS (SYSTEM SPEC. SECTION 3.2.3.1)?	MEASUREMENT WILL BE IAW THE AOTS RELIABILITY PLAN.	THE DATA TO BE COLLECTED WILL BE AS REQUIRED BY THE AOTS RELIABILITY PLAN.	RELIABILITY DATA WILL BE COLLECTED IAW THE AOTS RELIABILITY PLAN.	RELIABILITY DATA WILL BE ANALYZED IAW THE AOTS RELIABILITY PLAN.	RELIABILITY DATA WILL BE COMPARED WITH THE GOALS AS STATED IN THE SYSTEM SPECIFICATION.	RELIABILITY DATA WILL BE REPORTED IAW THE AOTS RELIABILITY PLAN. SUMMARY RESULTS WILL BE INCLUDED IN THE AOTS TEST REPORTS.	SYSTEM, COMPONENT, AND SUBCOMPONENT RELIABILITIES WILL BE ADDRESSED, IAW THE AOTS RELIABILITY PLAN.
D	DOES AOTS MEET THE HARDWARE MAINTAINABILITY GOALS (SYSTEM SPEC. SECTION 3.2.4.2)?	MEASUREMENT WILL BE IAW THE AOTS MAINTAINABILITY PLAN.	THE DATA TO BE COLLECTED WILL BE AS REQUIRED BY THE AOTS MAINTAINABILITY PLAN.	MAINTAINABILITY DATA WILL BE COLLECTED IAW THE AOTS MAINTAINABILITY PLAN.	MAINTAINABILITY DATA WILL BE ANALYZED IAW THE AOTS MAINTAINABILITY PLAN.	MAINTAINABILITY DATA WILL BE COMPARED WITH THE GOALS AS STATED IN THE SYSTEM SPECIFICATION.	MAINTAINABILITY DATA WILL BE REPORTED IAW THE AOTS MAINTAINABILITY PLAN. SUMMARY RESULTS WILL BE INCLUDED IN THE AOTS TEST REPORTS.	THE MAINTAINABILITY OF THE SYSTEM, COMPONENTS, AND SUBCOMPONENTS WILL BE ADDRESSED, IAW THE AOTS MAINTAINABILITY PLAN.
E	DOES AOTS PROVIDE THE REQUIRED SYSTEM AVAILABILITY (SYSTEM SPEC. SECTION 3.2.5)?	AVAILABILITY WILL BE MEASURED IAW THE AOTS RELIABILITY PLAN.	DATA TO BE COLLECTED ARE RELIABILITY AND MAINTAINABILITY DATA, AS REQUIRED BY THE AOTS RELIABILITY AND MAINTAINABILITY PLANS.	RELIABILITY DATA WILL BE COLLECTED IAW THE AOTS RELIABILITY PLAN. MAINTAINABILITY DATA WILL BE COLLECTED IAW THE AOTS MAINTAINABILITY PLAN.	DATA WILL BE ANALYZED IAW THE AOTS RELIABILITY PLAN, TO DERIVE MEASURES OF AVAILABILITY.	MEASURES OF AVAILABILITY WILL BE COMPARED WITH THE GOALS AS STATED IN THE SYSTEM SPECIFICATION.	AVAILABILITY WILL BE REPORTED IAW THE AOTS RELIABILITY PLAN. SUMMARY RESULTS WILL BE INCLUDED IN THE AOTS TEST REPORTS.	AVAILABILITY WILL BE ADDRESSED AT THE SYSTEM LEVEL.

COMPLIANCE: PART 2 TEST PLANS (1 OF 1)

CRITICAL ISSUE: COMPLIANCE	CRITICAL QUESTION / SUBQUESTIONS / ACTIONS	1987												REFERENCE
		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	
CRITICAL QUESTION: DOES THE PROTOTYPE AOTS MEET THE REQUIREMENTS OF THE SYSTEM SPECIFICATION, AS INDICATED IN THE ATTACHED COMPLIANCE TABLE, WHILE OPERATING IN AN OPERATIONAL ENVIRONMENT?														
SUBQUESTION: Does AOTS provide the required interfaces with external entities?														
ACTIONS: Collect AOTS data														F-5A
SUBQUESTION: Does AOTS meet the response performance goals?														
ACTIONS: Collect AOTS data														E-5B
SUBQUESTION: Does AOTS meet the hardware reliability goals?														
ACTIONS: Collect AOTS data														C-5C
SUBQUESTION: Does AOTS meet the hardware maintainability goals?														
ACTIONS: Collect AOTS data														E-5D
SUBQUESTION: Does AOTS meet the system availability goals?														
ACTIONS: Collect AOTS data														E-5E

TEST PLAN: PERFORMANCE

TEST PLAN: PERFORMANCE

CRITICAL ISSUE: PERFORMANCE.	CRITICAL QUESTION: DO TRAINEES ACHIEVE POSITION QUALIFICATION AT A FASTER RATE UNDER THE PROTOTYPE AOTS?	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	AOTS ELEMENTS
DO TRAINEES BECOME POSITION QUALIFIED SOONER UNDER AOTS THAN UNDER CONVENTIONAL OUT?	DETERMINE HOW LONG IT TAKES FOR MEMBERS IN THE APPLICABLE WORKCENTERS TO BECOME QUALIFIED IN ALL TASKS THAT MAKE UP THEIR DUTY POSITIONS.	THE AOTS TASKS FOR EACH POSITION, THE DATES TRAINING STARTED ON THE FIRST TASKS, THE DATES TRAINING WAS COMPLETED ON THE LAST TASKS. THE SAME DATA WILL BE COLLECTED ACROSS ALL AIR FORCE COMPONENTS, SPECIALTIES AND WORKCENTERS.	COPO IDENTIFY THE MEMBERS WITHIN EACH APPLICABLE WORKCENTER. AT THE START OF TEST PERIOD, MEMBERS' QUALIFICATIONS, DATES TRAINING STARTED AND COMPLETED. DATA WILL BE INPUT INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED FROM APPLICABLE WORKCENTERS BEFORE AND AFTER AOTS IMPLEMENTATION. ALSO, DATA WILL BE COLLECTED FROM THE CONTROL GROUPS LISTED IN APPENDIX K, AFTER AOTS IMPLEMENTATION.	DAC WILL COMPARE THE TIMES REQUIRED FOR EACH MEMBER TO BECOME POSITION QUALIFIED UNDER THE AOTS TO THE TIMES REQUIRED UNDER CONVENTIONAL OUT. COMPARISONS WILL BE MADE FOR EACH SERVICE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE PROTOTYPE AOTS IN TERMS OF ITS CAPABILITIES TO PRODUCE POSITION QUALIFIED AIRMEN IN LESS TIME THAN CONVENTIONAL OUT. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NECESSARY, INFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL AS OPPOSED TO SUBORDINATE ELEMENTS OF THE SYSTEM.	
DOES THE AOTS IMPROVE THE RATE AT WHICH AIRMEN PROGRESS TOWARD POSITION QUALIFICATION?	DETERMINE THE PERCENT TOWARD POSITION QUALIFICATION ON WHICH AIRMEN QUALIFY MONTHLY	THE NUMBERS OF AOTS TASKS REQUIRED FOR EACH MEMBER, AND THE NUMBERS OF TASKS CERTIFIED EACH MONTH FOR EACH MEMBER. THE SAME DATA WILL BE COLLECTED ACROSS ALL AIR FORCE COMPONENTS, SPECIALTIES AND WORKCENTERS.	COPO IDENTIFY THE MEMBERS WITHIN EACH APPLICABLE WORKCENTER. AT THE START OF TEST PERIOD, AND AT END OF TEST PERIOD, REVIEW THE MEMBERS' MANUALLY MAINTAINED TRAINING RECORDS. DETERMINE THE NUMBERS OF TASKS REQUIRED FOR EACH DUTY POSITION AND EACH MEMBER, AND THE NUMBERS OF TASKS CERTIFIED FOR EACH MEMBER EACH MONTH. DATA WILL BE INPUT INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED FROM APPLICABLE WORKCENTERS BEFORE AND AFTER AOTS IMPLEMENTATION. ALSO, DATA WILL BE COLLECTED FROM THE CONTROL GROUPS LISTED IN APPENDIX K, AFTER AOTS IMPLEMENTATION.	DAC COMPARE THE PERCENTAGE OF TASKS CERTIFIED AS QUALIFIED FOR EACH MEMBER UNDER THE AOTS AND UNDER CONVENTIONAL OUT. COMPARISONS WILL BE MADE FOR EACH SERVICE COMPONENT (ACTIVE, RESERVE, AND ANG). EACH TYPE OF DUTY POSITION AND EACH SPECIALTY ACROSS DUTY POSITIONS.	DAC WILL EVALUATE THE PROTOTYPE AOTS IN TERMS OF ITS CAPABILITIES TO SURPASS THE CONVENTIONAL OUT SYSTEM IN THE PERCENTAGE OF TASKS CERTIFIED EACH MONTH. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NECESSARY, INFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL AS OPPOSED TO SUBORDINATE ELEMENTS OF THE SYSTEM.	

PERFORMANCE: PART 2 TEST PLANS (1 OF 6)

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TEST PLAN: PERFORMANCE

TEST PLAN: PERFORMANCE

SUGGESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	Perf2 AOTS ELEMENTS
A DOES THE AOTS IMPROVE THE PERFORMANCE OF AIRMEN ON QUALITY CONTROL AND OTHER STANDARD EVALUATIONS?	DETERMINE THE PASSING RATES ON QUALITY ASSURANCE EVALUATIONS FOR MEMBERS IN AFST 4262 AND 431X. DETERMINE THE AVERAGE SCORING ON QUALITY CONTROL EVALUATIONS IN AFST 811XX.	FOR AFST 4262, COLLECT THE RESULTS OF QUALITY ASSURANCE SUMMARIES. THE SAME DATA WILL BE COLLECTED FOR THE AIR FORCE COMPONENTS (ACTIVE, RESERVE, AND ANG).	FOR AFST 4262 AND 431X, ACTIVE, THE DON STAFF WILL, EACH MONTH OF THE TEST PERIOD, SEND COPIES OF THE QUALITY ASSURANCE PROGRAM MONTHLY SUMMARIES TO AFRL. FOR AFST 426 431X, RESERVE, THE DON STAFF WILL, EACH QUARTER OF THE TEST PERIOD, SEND COPIES OF THE QUALITY ASSURANCE PROGRAM MONTHLY SUMMARIES TO AFRL. FOR AFST 811XX, DON WILL, EACH QUARTER OF THE TEST PERIOD, SEND THE QUALITY CONTROL TRENDS ANALYSIS TO AFRL. AFRL WILL EXTRACT REQUIRED DATA FROM SUMMARIES AND INPUT THE DATA INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED FOR APPLICABLE WORKCENTERS BEFORE AND AFTER AOTS IMPLEMENTATION. ALSO, DATA WILL BE COLLECTED FOR CONTROL GROUPS AS LISTED IN APPENDIX A, AFTER AOTS IMPLEMENTATION.	DAC WILL COMPARE THOSE DATA COLLECTED FOR THE NON-AOTS WORKCENTERS TO THOSE DATA COLLECTED FOR THE AOTS WORKCENTERS. FOR AFST 4262 AND 431X, ACTIVE AND RESERVE, THE PASS RATES FOR QUALITY ASSURANCE EVALUATIONS IN THE CATEGORIES OF PERSONNEL TASK EVALUATIONS, COMPLETED MAINTENANCE ACTIONS, AND COMPLETED MAINTENANCE ACTIONS WILL BE COMPARED. THE GUARD QUALITY ASSURANCE EVALUATION PROGRAM ONLY ADDRESSES THE COMPLETED MAINTENANCE INSPECTIONS. THEREFORE, ANALYSIS WILL BE LIMITED TO THAT CATEGORY FOR THESE AFST. ALL AIR FORCE TEST GROUPS AND RESERVE COMPONENTS (ACTIVE, RESERVE, AND ANG) THE PASS RATES FOR EVALUATIONS IN THE CATEGORIES OF WRITTEN TESTS, USE-OF-FORCE TESTS, ORAL TESTS AND PERFORMANCE EVALUATIONS WILL BE COMPARED.	DAC WILL EVALUATE THE AOTS PER THE FOLLOWING: FOR AFST 4262 AND 431X, EVALUATION RATES WILL BE COMPARED AGAINST THE ESTABLISHED STANDARDS OF: 1) EXCELLENT, 2) SATISFACTORY, AND 3) UNSATISFACTORY. THE AOTS WILL THEN BE EVALUATED ON ITS CAPABILITIES TO IMPROVE THE PASS RATES WHEN TRAINED UNDER THE AOTS VS CONVENTIONAL OUT. FOR AFST 811XX, THE AVERAGE TEST SCORES ATTAINED WILL BE COMPARED WITH PREVIOUS AOTS TEST SCORES AND RESERVE COMPONENTS. THE AOTS WILL BE MADE. THE AOTS WILL BE EVALUATED ON ITS CAPABILITIES TO DEMONSTRATE THAT MEMBERS ATTAIN HIGHER TEST SCORES AND PASS RATES WHEN TRAINED UNDER THE AOTS COMPARED TO CONVENTIONAL OUT.	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND COMPARISONS IN FIGURES AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL AS OPPOSED TO THE ELEMENTS OF THE SYSTEM.

TEST PLAN: PERFORMANCE

TEST PLAN: PERFORMANCE

SUBQUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	DOES IT
DO THE REPEAT MAINTENANCE ACTIONS WITHIN THE AIRCRAFT MAINTENANCE WORKCENTERS DECREASE AFTER THE AOTS IS IMPLEMENTED?	DETERMINE FOR EACH MONTH OF THE TEST PERIOD THE NUMBER OF ACTUAL REPAIR MAINTENANCE ACTIONS THAT ARE ATTRIBUTED TO THE APPLICABLE AIRCRAFT MAINTENANCE WORKCENTERS.	THE AIRCRAFT REPAIR MAINTENANCE ACTIONS DETERMINED FROM EXAMINATION OF 450 MONTHLY REPORTS.	FOR ITS 431ST, ACTIVE DUTY FORCES, THE DOMINANT STAFFS WILL, FOR EACH MONTH OF THE TEST PERIOD, PROVIDE COPIES OF MCC REPORTS TO THE AIRCRAFT MAINTENANCE WORKCENTERS. THE DOMINANT STAFFS WILL ALSO PROVIDE TO THE AIRCRAFT MAINTENANCE WORKCENTERS THE DATA INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED FOR APPLICABLE WORKCENTERS BEFORE AND AFTER AOTS IMPLEMENTATION. DATA WILL ALSO BE COLLECTED FOR CONTROL GROUPS LISTED IN APPENDIX K, AFTER AOTS IMPLEMENTATION.	DAG WILL ANALYZE THE STATISTICAL DATA TO DETERMINE THE NUMBER OF REPEAT MAINTENANCE ACTIONS FOR EACH MONTH OF THE TEST PERIOD.	DAG WILL EVALUATE THE AOTS IN TERMS OF ITS CAPABILITIES TO DEMONSTRATE THAT REPEAT MAINTENANCE ACTIONS DECREASE AFTER AOTS IS IMPLEMENTED UNDER AOTS VS. CONTROL GROUP AOTS VS. CONTROL GROUP. DAG WILL USE INDEPENDENT NON-PARAMETRIC STATISTICS, AND DESCRIBE THE STATISTICS.	DAG WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL, AS OPPOSED TO SUB-SYSTEM ELEMENTS OF THE SYSTEM.

TEST PLAN: PERFORMANCE

TEST PLAN: PERFORMANCE

CRITICAL ISSUE: PERFORMANCE. CRITICAL QUESTION: DO THE WORK CENTERS USING THE PROTOTYPE AOTS CONTRIBUTE MORE TO MISSION READINESS?	SUBQUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	AOTS ELEMENTS	perf13
DO BASE CRIME STATISTICS ATTRIBUTED TO THE APPLICABLE SECURITY POLICE WORKCENTERS IMPROVE AFTER THE AOTS IS IMPLEMENTED?		DETERMINE THE DEGREE TO WHICH THE APPLICABLE WORKCENTERS PROTECT BASE PROPERTY, EQUIPMENT AND PERSONNEL.	COPIES OF BASE CRIME STATISTICS, PROVIDED QUARTERLY BY THE SECURITY POLICE STAFFS.	FOR AOTS, OTIX, ACTIVE, RESERVE, AND ANG, THE SECURITY POLICE STAFFS WILL PROVIDE TO AFHRL, EACH QUARTER DURING THE TEST PERIOD. CAPTAIN STEVENSON WILL BE RESPONSIBLE FOR THE REPORTING PERIOD. THE STATISTICS WILL BE PROVIDED IN TIMES AND DATES THAT INCIDENTS OCCURRED. TO FACILITATE TRACKING TO THE APPROPRIATE FLIGHTS, AFHRL WILL REQUIRE THE REQUIRED DATA FROM THE STATISTICAL REPORTS, AND INPUT THE DATA INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED FOR APPLICABLE WORKCENTERS BEFORE AND AFTER AOTS IMPLEMENTATION. DATA WILL ALSO BE COLLECTED FOR CONTROL GROUPS LISTED IN APPENDIX K, AFTER AOTS IMPLEMENTATION.	DAC WILL ANALYZE THE CRIME STATISTICS TO DETERMINE THE FREQUENCIES OF OCCURRENCE BY CATEGORY, FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG). COMPARISONS WILL BE MADE TO DETERMINE CHANGES OVER TIME BEFORE AND AFTER THE IMPLEMENTATION OF AOTS.	DAC WILL EVALUATE THE AOTS IN TERMS OF ITS CAPABILITIES TO DEMONSTRATE THAT CRIME RATES ARE REDUCED WHEN MEMBERS ARE PROVIDED WITH THE AOTS VS UNDER THE PRELIMINARY TIONAL OUT. DAC WILL USE INFERENTIAL, NONPARAMETRIC STATISTICS, AND DESCRIPTIVE STATISTICS.	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL, AS OPPOSED TO SUBORDINATE ELEMENTS OF THE SYSTEM.	
DO SUPERVISORS FEEL THAT THE WORKCENTERS CONTRIBUTE MORE TO MISSION READINESS AS A RESULT OF AOTS IMPLEMENTATION?		DETERMINE, VIA SURVEYS, IF SUPERVISORS FEEL THAT THE WORKCENTERS CONTRIBUTE MORE TO MISSION READINESS.	SUPERVISORS' OPINIONS AS TO THE DEGREE TO WHICH THE AOTS AFFECTS THEIR WORKCENTERS' CONTRIBUTIONS TO MISSION READINESS.	AFHRL DISTRIBUTE SURVEYS TO SUPERVISORS ASSIGNED TO AOTS WORKCENTERS. SUPERVISORS COMPLETE SURVEYS INDICATING THEIR OPINIONS AS TO WHETHER THE AOTS RESULTS IN THEIR WORKCENTERS CONTRIBUTING MORE TO MISSION READINESS. AFHRL COLLECT SURVEYS AND INPUT DATA INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED DURING THE LAST QUARTER OF THE 12-MONTH PERIOD.	DAC WILL DETERMINE THE EXTENT OF AGREEMENT THAT AOTS RESULTS IN WORKCENTERS CONTRIBUTING MORE TO MISSION READINESS. THE NUMBERS OF RESPONSES FOR EACH STATEMENT AND FOR EACH POINT USED IN THE RATING SCALE FOR EACH STATEMENT WILL BE CALCULATED. THE MEAN SCORE FOR EACH STATEMENT WILL BE CALCULATED. STATISTICS WILL BE PRODUCED BY AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORK CENTER.	DAC WILL EVALUATE THE AOTS BASED ON SUPERVISOR RESPONSES ON THE POSITIVE SIDE OF THE RATING SCALE. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NECESSARY, NONPARAMETRIC TESTS FOR SIGNIFICANCE OF DIFFERENCES.	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL, AS OPPOSED TO SUBORDINATE ELEMENTS OF THE SYSTEM.	

TEST PLAN: PERFORMANCE

TEST PLAN: PERFORMANCE

CRITICAL ISSUE: PERFORMANCE. CRITICAL QUESTION: DOES THE PROTOTYPE AOTS REQUIRE LESS TIME FOR MANAGEMENT OF AFS RELATED TRAINING?					
SUBQUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA
HOW MUCH TIME IS SPENT MANAGING AFS RELATED TRAINING UNDER THE AOTS, VS CONVENTIONAL OUT?	DETERMINE, FOR EACH MONTH OF THE TEST PERIOD, THE NUMBER OF DAYS THAT USERS ARE AVAILABLE FOR DUTY AND THE NUMBERS OF HOURS THEY SPEND MANAGING TRAINING.	THE NUMBERS OF HOURS, EACH MONTH, THAT SUPERVISORS, TRAINERS, AND EVALUATORS ARE AVAILABLE FOR DUTY AND THE NUMBERS OF HOURS THEY SPEND EACH MONTH TO SCHEDULE, CONDUCT, AND RECORD TRAINING.	AFHRL WILL, EVERY OTHER WEEK OF THE TEST PERIOD, HAVE WEEKLY INVENTORY TIME SPENT (WITS) SHEETS FILLED OUT FOR ONE WEEK BY ACTIVE DUTY SUPERVISORS, TRAINERS, AND EVALUATORS ASSIGNED TO THE APPLICABLE WORKCENTERS. AMG AND RESERVE COMMANDERS WILL COMPLETE WITS SHEETS MONTHLY. FULL-TIME PERSONNEL WILL COMPLETE WITS SHEETS FOR A FULL WEEK ONCE A MONTH. PART-TIME PERSONNEL WILL BE STRATIFIED FOR THE DATA WEEKEND EACH MONTH. WITS SHEETS WILL BE SUBMITTED VIA WEEKEND MAIL AFTER THE INITIAL DISTRIBUTION. SUPERVISORS, TRAINERS, AND EVALUATORS WILL COMPLETE ACCOUNTS OF HOURS AVAILABLE FOR DUTY AND HOURS SPENT TO SCHEDULE, CONDUCT, AND/OR RECORD TRAINING. THE WITS SHEETS SHOULD BE ANNOTATED EACH DAY OF THE RESPECTIVE PERIOD. AFHRL WILL BE REQUIRED TO INPUT THE DATA INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED AND ANALYZED WEEKLY. IMPLEMENTATION: WITS SHEETS FOR ONLY ONE WEEK EACH MONTH AFTER AOTS IMPLEMENTATION. DATA WILL ALSO BE COLLECTED FOR CONTROL GROUPS LISTED IN APPENDIX K, AFTER AOTS IMPLEMENTATION.	DAC WILL TOTAL THE TIMES AVAILABLE AND THE TIMES SPENT TOWARD MANAGING TRAINING, BY AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), AFS, WORKCENTER, AND CATEGORY IF PERSON COVERED. THE PERCENTAGES OF TIME SPENT MANAGING TRAINING WILL BE CALCULATED AS THE RATIO OF TIME SPENT TO THE TOTAL TIME AVAILABLE FOR DUTY. THE PERCENTAGES OF TIME SPENT UNDER THE AOTS WILL BE COMPARED TO THE PERCENTAGES OF TIME SPENT UNDER CONVENTIONAL OUT.	DAC WILL EVALUATE THE PROTOTYPE AOTS IN TERMS OF ITS CAPABILITIES TO REDUCE THE TIME REQUIRED FOR MANAGING TRAINING, AS COMPARED TO CONVENTIONAL OUT. DAC WILL USE DESCRIPTIVE STATISTICS AND AS MS PERMIT. THE ANALYSIS WILL TESTS OF SIGNIFICANCE (ANALYSIS OF VARIANCE).
					port4
					AOTS ELEMENTS
					TESTING WILL BE AT THE SYSTEM LEVEL, AS OPPOSED TO SUBSYSTEM LEVELS OF THE SYSTEM.

AN- PERFORMANCE

CRITICAL ISSUE: PERFORMANCE. CRITICAL QUESTION: DO USERS FEEL THAT TRAINING UNDER THE PROTOTYPE AOTS IS MORE EFFECTIVE?

SUBQUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	AOTS ELEMENTS	DATA
DO USERS FEEL THAT TRAINEES WHO HAVE BEEN TRAINED UNDER THE AOTS ARE MORE CAPABLE OF PERFORMING AFS TASKS THAN TRAINEES WHO ARE TRAINED UNDER THE AOTS?	DETERMINE, THROUGH ADMINISTRATIVE SURVEYS IN THE APPLICABLE WORK CENTERS, IF USERS FEEL THAT TRAINEES WHO ARE TRAINED UNDER THE AOTS ARE MORE CAPABLE OF PERFORMING AFS TASKS THAN TRAINEES WHO ARE TRAINED UNDER THE AOTS.	SUPERVISOR, TRAINER, AND EVALUATOR OPINIONS AS TO THE CAPABILITY OF TRAINEES WHO ARE TRAINED UNDER THE AOTS TO PERFORM AFS TASKS. TRAINEES WHO ARE TRAINED UNDER THE AOTS WILL BE TRAINED UNDER THE AOTS.	AFRL WILL DISTRIBUTE SURVEYS TO SUPERVISORS, TRAINERS, AND EVALUATORS ASSIGNED TO THE APPLICABLE WORKCENTERS. SUPERVISORS, TRAINERS, AND EVALUATORS WILL COMPLETE SURVEYS INDICATING WHETHER, IN THEIR OPINIONS, TRAINEES UNDER THE AOTS ARE MORE CAPABLE OF PERFORMING AFS TASKS THAN TRAINEES WHO ARE TRAINED UNDER CONVENTIONAL OUT. AFRL WILL COLLECT THE COMPLETED SURVEYS. THE REQUIRED DATA WILL BE ENTERED INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED ONE MONTH FROM AOTS WORKCENTERS, AFTER AOTS IMPLEMENTATION, DURING THE LAST QUARTER OF THE SLICE.	DAC WILL DETERMINE THE EXTENT OF AGREEMENT THAT TRAINEES ARE MORE CAPABLE OF PERFORMING AFS TASKS WHEN TRAINED UNDER THE AOTS THAN TRAINEES WHO ARE TRAINED UNDER CONVENTIONAL OUT. THE NUMBERS OF TRAINEES FOR EACH STATEMENT AND FOR EACH POINT USED IN THE RATING SCALE FOR EACH STATEMENT WILL BE TABULATED. THE MEAN SCORE FOR EACH STATEMENT AND MEAN SCORE FOR THE SURVEY WILL BE CALCULATED. STATISTICS WILL BE PROCESSED FOR EACH DIFFERENCE COMPONENT (ACTIVE, RESERVE, AND ANG), AFS, AND WORK CENTER.	DAC WILL EVALUATE THE AOTS BASED ON OPINIONS THAT IT DOES RESULT IN TRAINEES BEING MORE CAPABLE TO PERFORM AFS TASKS AS COMPARED TO TRAINEES WHO ARE TRAINED UNDER CONVENTIONAL OUT. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NE PERMIT, NONPARAMETRIC TESTS FOR SIGNIFICANCE OF DIFFERENCE.	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE DONE AT THE SYSTEM LEVEL, REPORTED TO SUBORDINATE LEVELS OF THE SYSTEM.	

PERFORMANCE: PART 2 TEST PLANS (6 OF 6)

TIME SCHEDULE FOR AOTS PHASE III SLIRE

CRITICAL ISSUE: PERFORMANCE	1987												REFERENCE
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	
CRITICAL QUESTIONS / SUBQUESTIONS / ACTIONS													
CRITICAL QUESTION: DO TRAINEES ACHIEVE POSITION QUALIFICATION AT A FASTER RATE UNDER THE PROTOTYPE AOTS?													
SUBQUESTION: Do trainees become position qualified sooner under the prototype AOTS?													
ACTIONS: Collect baseline data													
Collect data from control groups													
SUBQUESTION: Does the AOTS improve the rate at which airman progress toward position qualification?													
ACTIONS: Collect baseline data													
Collect AOTS data													
Collect data from control groups													
CRITICAL QUESTION: DO THOSE TRAINEES WHO ARE TRAINED UNDER THE PROTOTYPE AOTS PERFORM BETTER IN DUTY POSITION TASKS?													
SUBQUESTION: Does the AOTS improve the performance of airman in quality control and other standard evaluations?													
ACTIONS: Collect baseline data													
Collect AOTS data													
Collect data from control groups													
CRITICAL QUESTION: DO THE WORK CENTERS USING THE PROTOTYPE AOTS CONTRIBUTE MORE TO MISSION READINESS?													
SUBQUESTION: Do the repeat maintenance actions attributed to maintenance discrepancies within the workcenters decrease after AOTS is implemented?													
ACTIONS: Collect baseline data													
Collect AOTS data													
Collect data from control groups													

TIME SCHEDULE FOR AOS PHASE III SLTREC

	1987			1988												1989											
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL			
CRITICAL QUESTIONS / SUBQUESTIONS / ACTIONS																											
SUBQUESTION: Do bone crime statistics, attributed to the applicable security police work centers, improve after the AOS is implemented?																											
ACTIONS: Collect baseline data																											
Collect AOS data																											
SUBQUESTION: Do supervisors feel that their work centers contribute more to mission readiness, as a result of AOS implementation?																											
ACTION: Collect AOS data																											
CRITICAL QUESTION: DOES THE PROTOTYPE AOS REQUIRE LESS TIME FOR MANAGEMENT OF AFS RELATED TRAINING?																											
SUBQUESTION: How much time is spent managing AFS related training under the AOS, vs conventional OJT?																											
ACTIONS: Collect baseline data																											
Collect AOS data																											
Collect data from control groups																											
SUBQUESTION: Do users feel that trainees who have been trained under the AOS are more capable of performing AFS test requirements than trainees trained under conventional OJT?																											
ACTIONS: Collect AOS data																											

PERFORMANCE: PART 2 TEST SCHEDULE (2 OF 2)

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CRITICAL ISSUE: SUITABILITY						
CRITICAL QUESTION: DOES THE PROTOTYPE AOTS RESULT IN MORE TIME SPENT ON AFS TASK TRAINING, FOR THOSE AIRMEN WHO ARE NOT YET FULLY POSITION QUALIFIED?						
SUBQUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA
DOES THE TIME SPENT ON TASK TRAINING INCREASE UNDER AOTS?	DETERMINE THE TIME SHEETS THE TIME SPENT ON POSITION TASK TRAINING IN WORKCENTERS.	TIME SPENT ON POSITION TASK TRAINING SUPERVISORS, TRAINERS, AND TRAINEES IN WORKCENTERS WITH AND WITHOUT AOTS.	AFRL WILL, EVERY OTHER WEEK OF THE TEST PERIOD, HAVE WEEKLY MEETINGS WITH SUPERVISORS, TRAINERS, AND TRAINEES ASSIGNED TO THE APPLICABLE WORKCENTERS AND RESERVE COMPONENTS. WILL COMPLETE VITS SHEETS MONTHLY. FULL-TIME PERSONNEL WILL FILL OUT VITS SHEETS FOR A FULL WEEK ONCE A MONTH. PART-TIME PERSONNEL WILL FILL OUT VITS SHEETS FOR THE VTA WEEKEND EACH MONTH. VITS SHEETS WILL BE DISTRIBUTED/COLLECTED VIA MAIL AFTER THE INITIAL DISTRIBUTION. SUPERVISORS, TRAINERS, AND TRAINEES WILL COMPLETE ACCOUNTS OF WORKCENTERS, POSITION TASK TRAINING, AND POSITION TASK TRAINING. THE VITS SHEETS WILL BE DOWNGRADED TO THE RESPECTIVE PERIOD. AFRL WILL INPUT THE REQUIRED DATA INTO THE AOTS DATA BASE. DATA WILL ALSO BE COLLECTED FROM THE CONTROL GROUPS LISTED IN APPENDIX K, AFTER AOTS IMPLEMENTATION.	OAC WILL COMPARE THE TIME SPENT UNDER CONVENTIONAL TRAINING UNDER AOTS WITH THE TIME SPENT UNDER CONVENTIONAL OJT. COMPARISONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORK CENTER.	OAC WILL EVALUATE THE POSITION TASK TRAINING TIME USING DESCRIPTIVE STATISTICS AND, AS NECESSARY, INFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	OAC WILL REPORT THE RESULTS OF THE ANALYSES AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.
						TESTING WILL BE AT THE SYSTEM LEVEL, AS OPPOSED TO SUBORDINATE ELEMENTS OF THE SYSTEM.

SUITABILITY: PART 2 TEST PLANS (1 OF 11)

CRITICAL ISSUE: SUITABILITY CRITICAL QUESTION: DOES THE PROTOTYPE ADIS PROVIDE STANDARDIZED METHODS FOR EVALUATING TASK PERFORMANCE IN AN OPERATIONAL SETTING?						
SUBQUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA
DO THE ADIS EVALUATION METHODS MEET THE NEEDS OF THE WORKINTEREST?	ASSESS, VIA SURVEYS, OPINIONS REGARDING ADIS EVALUATION METHODS.	SUPERVISORS' AND EVALUATORS' RATINGS OF ADIS EVALUATION METHODS.	AFMPL PERSONNEL DISTRIBUTE SURVEYS TO WORKCENTER PERSONNEL (SUPERVISORS AND EVALUATORS). WORKCENTER PERSONNEL COMPLETE 7-POINT SCALE STATEMENTS INDICATING EXTENT TO WHICH THEY FEEL ADIS EVALUATION METHODS MEET THE NEEDS OF THE WORK. AFMPL PERSONNEL COLLECT COMPLETED SURVEYS. DATA WILL BE ENTERED INTO ADIS TEST DATA BASE. DATA WILL BE COLLECTED FROM ALL AVAILABLE WORKCENTERS AFTER ADIS IMPLEMENTATION, DURING THE LAST QUARTER OF SLICE.	DAC WILL ANALYZE THE NUMBERS SELECTED BY THE WORKERS, SCALE, AND THE NUMBERS RESPONDING FAVORABLY. COMPARISONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORK CENTER.	DAC WILL DETERMINE THE EXTENT OF AGREEMENT THAT ADIS WILL MEET THE NEEDS OF THE WORKCENTERS. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NE PERMIT, NONPARAMETRIC TESTS TO DETERMINE SIGNIFICANCE OF DIFFERENCE, FAVORABLE VS. UNFAVORABLE.	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.
DOES THE ADIS PROVIDE STANDARDIZED EVALUATION PROCESSES FOR EVALUATION IN AN OPERATIONAL SETTING OF OJT?	DETERMINE, VIA OBSERVER OPINION, WHETHER THE ADIS PROVIDES STANDARDIZED PROCESSES FOR EVALUATION IN AN OPERATIONAL SETTING OF OJT.	OPINIONS OF OBSERVERS REGARDING THE ADIS EVALUATION PROCESSES.	DAC WILL ASSEMBLE A SET OF ADIS EVALUATION INSTRUMENTS AND PROCEDURES. AFMPL PERSONNEL WILL CONDUCT SURVEYS FOR AND ADMINISTER A SURVEY FOR OBSERVER GROUPS TO SERVE PANELS, AND WILL MONITOR THE PROCESS AS PANELS EXAMINE THE ADIS EVALUATION PROCEDURES AND REGISTER THEIR OPINIONS VIA 7-POINT SCALE STATEMENTS. AFMPL PERSONNEL COLLECT COMPLETED EVALUATION SHEETS. RESULTS WILL BE ENTERED INTO THE ADIS TEST DATA BASE. DATA WILL BE COLLECTED FROM SPECIFIED GROUPS OVER A THREE-MONTH PERIOD OF TIME AFTER ADIS IMPLEMENTATION.	DAC WILL DETERMINE THE EXTENT TO WHICH ADIS PRODUCTS DO MEET THE NEEDS OF THE OPERATIONAL OJT SETTINGS.	DAC WILL ANALYZE THE SURVEY SHEET RESPONSES TO DETERMINE EXTENT OF AGREEMENT THAT ADIS WILL MEET THE NEEDS OF THE WORKCENTERS. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NE PERMIT, NONPARAMETRIC TESTS TO DETERMINE SIGNIFICANCE OF DIFFERENCE, FAVORABLE VS. UNFAVORABLE.	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.
						TESTING WILL BE AT THE SYSTEM, COMPONENT, AND SUBCOMPONENT LEVELS.
						TESTING WILL BE AT THE SYSTEM, COMPONENT, AND SUBCOMPONENT LEVELS.

SUITABILITY: PART 2 TEST PLANS (4 OF 11)

REQUIREMENT DELETED

SUITABILITY: PART 2 TEST PLANS (5 OF 11)

E-19

CRITICAL ISSUE: SUBSTANTIALLY
 CRITICAL QUESTION: DOES THE PROTOTYPE AOTS COMPENSATE FOR THE LIMITED AVAILABILITY OF OPERATIONAL EQUIPMENT FOR TRAINING?

SUBQUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	SUBS AOTS ELEMENTS TESTING WILL BE AT THE SYSTEM LEVEL.
A IS THE AVAILABILITY OF OPERATIONAL EQUIPMENT A PROBLEM FOR TRAINING?	Determine, via surveys, users' opinions as to effectiveness of equip- ment.	Supervisors' and trainers' opinions as to effectiveness of equip- ment, limited availa- bility of operational equipment is a problem for OJT	AFMRL personnel distribute surveys to workcenter personnel. Workcenter personnel complete point scale statements regarding the effectiveness of the equipment and the availability of operational equipment is a problem for OJT. AFMRL personnel collect completed surveys and enter data into AOTS test data base. Data will be collected during baseline "A."	DAC will analyze the survey responses to determine extent of problem.	DAC will evaluate the extent of problem using descriptive statistics.	DAC will report the results of analysis and conclusions via charts, figures, and narrative summaries.	
B DOES THE PROTOTYPE AOTS PROVIDE EFFECTIVE METHODS TO COMPENSATE FOR THE LIMITED AVAILABILITY OF OPERATIONAL EQUIPMENT FOR TRAINING?	Determine, via observer opinions, the effective- ness of AOTS methods to provide alternatives to operational equipment for training.	Opinions of observers as to the effectiveness of the AOTS provided alternatives to opera- tional equipment for training.	DAC will assemble a set of AOTS-provided alternatives to operational equipment for training. AFMRL personnel will conduct a two day tour and a survey for observer groups to serve as panels, and will monitor the process as panels examine the alternatives and register their opinions of effectiveness via 7 point scale statements. AFMRL personnel collect completed surveys. Data will be entered into the test data base. Data will be collected during baseline "B." for a three month period to time after AOTS imple- mentation.	DAC will determine the extent to which the AOTS products do compensate for limited availability of operational equipment.	DAC will evaluate the panels' responses to determine extent of agreement on the effectiveness of AOTS products in this area. DAC will use descriptive statistics to determine extent of compensating tests of significance of differences, favorable vs. unfavorable.	DAC will report the results of analysis and conclusions via charts, figures, and narrative summaries.	TESTING WILL BE AT THE SYSTEM LEVEL.

SUBSTANTIALLY: PART 2 TEST PLANS (6 OF 11)

CRITICAL ISSUE: SUITABILITY
CRITICAL QUESTION: DOES THE PROTOTYPE AOTS ENHANCE TRAINER EFFECTIVENESS?

QUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW/TO REPORT DATA	AOTS ELEMENTS
A DO USERS FEEL THAT THE PROTOTYPE AOTS ENHANCES TRAINER EFFECTIVENESS?	DETERMINE, VIA SURVEYS, TRAINERS' OPINIONS AS TO WHETHER THE PROTOTYPE AOTS ENHANCES TRAINER EFFECTIVENESS.	SUPERVISORS' AND TRAINERS' OPINIONS AS TO WHETHER THE PROTOTYPE AOTS ENHANCES TRAINER EFFECTIVENESS.	AFMRL PERSONNEL DISTRIBUTE SURVEYS TO WORKCENTER PERSONNEL. INDICATING WHETHER THEY FEEL AOTS ENHANCES EFFECTIVENESS OF QUALIFIED TRAINERS. AFMRL PERSONNEL COLLECT COMPLETED SURVEYS. DATA WILL BE ENTERED INTO THE AOTS WORKCENTERS AFTER DATA COLLECTION. DATA WILL BE COLLECTED DURING THE LAST QUARTER OF AOTS IMPLEMENTATION.	DAC WILL ANALYZE THE SURVEY RESPONSES TO DETERMINE EXTENT OF AGREEMENT THAT AOTS ENHANCES TRAINER EFFECTIVENESS. PARSONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS IN THIS AREA, USING DESCRIPTIVE STATISTICS. PERMIT COMPARISON OF TESTS FOR SIGNIFICANCE OF DIFFERENCES, FAVORABLE VS. UNFAVORABLE.	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL.
B DO THE AOTS PRODUCTS AND PROCESSES MAKE TRAINERS MORE EFFECTIVE?	ASSESS, VIA OBSERVER OPINIONS, THE AOTS PRODUCTS AND PROCESSES RELATED TO TRAINER EFFECTIVENESS.	OBSERVER ASSESSMENT AS TO WHETHER AOTS PRODUCTS AND PROCESSES MAKE QUALIFIED TRAINERS MORE EFFECTIVE THAN UNDER CONVENTIONAL OUT.	DAC WILL ASSEMBLE A SET OF AOTS PRODUCTS AND DOCUMENTS WITH POTENTIAL TRAINING EFFECTIVENESS. AFMRL PERSONNEL WILL CONDUCT A TWO-DAY, 100% AND A SURVEY FOR OBSERVER GROUPS TO SERVE AS PANELS. AND WILL MONITOR THE PROCESS AS THE PANEL EXAMINES THE AOTS PRODUCTS DOCUMENTS AND REGISTER THEIR ASSESSMENTS VIA 7-POINT SCALE STATEMENTS. AFMRL PERSONNEL COLLECT COMPLETED OPINION SHEETS. DATA WILL BE ENTERED INTO THE AOTS TEST DATA BASE. DATA WILL BE COLLECTED FROM SPECIFIED GROUPS OVER A THREE-MONTH PERIOD OF TIME AFTER AOTS IMPLEMENTATION.	DAC WILL DETERMINE THE EXTENT OF AGREEMENT THAT THE AOTS PRODUCTS AND DOCUMENTS DO CONTRIBUTE TO THE EFFECTIVENESS OF QUALIFIED TRAINERS.	DAC WILL EVALUATE THE EFFECT OF AOTS IN THIS AREA. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NE PERMIT, COMPARISON OF TESTS OF DIFFERENCES, FAVORABLE VS. UNFAVORABLE.	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL.

CRITICAL ISSUE: SUITABILITY
 CRITICAL QUESTION: DOES THE PROTOTYPE AOTS REDUCE THE ADMINISTRATIVE BURDEN ASSOCIATED WITH THE MANAGEMENT OF TRAINING?

SUBQUESTION	HOW TO MEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	AOTS ELEMENTS TESTING WILL BE AT THE SYSTEM LEVEL.
DO USERS FEEL THAT THE PROTOTYPE AOTS REDUCES THE ADMINISTRATIVE BURDEN ASSOCIATED WITH THE MANAGEMENT OF TRAINING?	DETERMINE, VIA SURVEYS, USERS' OPINIONS AS TO WHETHER THE PROTOTYPE AOTS REDUCES THE ADMINISTRATIVE BURDEN.	SUPERVISORS' AND TRAINERS' OPINIONS AS TO WHETHER THE PROTOTYPE AOTS REDUCES THE ADMINISTRATIVE BURDEN.	AFHRL PERSONNEL DISTRIBUTE SURVEYS TO WORKCENTER PERSONNEL. INDICATING WHETHER THEY FEEL AOTS REDUCES THE ADMINISTRATIVE BURDEN ASSOCIATED WITH MANAGEMENT OF TRAINING. AFHRL PERSONNEL WILL COMPLETE SURVEYS. DATA WILL BE ENTERED INTO AOTS TEST DATA BASE. DATA WILL BE COLLECTED FROM AOTS WORKCENTERS AFTER AOTS IMPLEMENTATION, DURING THE LAST QUARTER OF SLICE.	DAC WILL ANALYZE THE SURVEY RESPONSES TO DETERMINE EXTENT TO WHICH USERS FEEL THAT AOTS IMPROVES THIS AREA. COMPARISONS WILL BE MADE FOR EACH AOTS COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS IN THIS AREA. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NECESSARY, INFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF DIFFERENCES, FAVORABLE VS. UNFAVORABLE.	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	su19
DO USERS SPEND LESS TIME ON ADMINISTRATIVE DUTIES THAN THEY SPEND ON TRAINING UNDER AOTS THAN UNDER CONVENTIONAL DUTY?	DETERMINE, VIA TIME SHEETS, THE TIME SPENT ON TRAINING MANAGEMENT.	TIME SPENT BY SUPERVISORS, TRAINERS, COMMANDERS, AND TRAINING MANAGERS ON TRAINING MANAGEMENT IN WORKCENTERS WITH AND WITHOUT AOTS.	AFHRL WILL, EVERY OTHER WEEK OF THE TEST PERIOD, HAVE WEEKLY SURVEYS DISTRIBUTE TO ALL AOTS WORKCENTERS. SUPERVISORS, TRAINERS, COMMANDERS, AND TRAINING MANAGERS IN THE APPLICABLE WORKCENTERS, ANG, AND RESERVE COMPONENTS WILL COMPLETE WITS SHEETS MONTHLY. FULL-TIME PERSONNEL WILL FILL OUT WITS SHEETS FOR A FULL WEEK ONCE A MONTH. PART-TIME PERSONNEL WILL FILL OUT WITS SHEETS FOR THE ENTIRE WEEKEND EACH MONTH. WITS SHEETS WILL BE DISTRIBUTED/COLLECTED VIA MAIL AFTER THE INITIAL DISTRIBUTION. SUPERVISORS, TRAINERS, COMMANDERS, AND TRAINING MANAGERS WILL COMPLETE WITS SHEETS FOR THE ENTIRE WEEKEND EACH MONTH. WITS SHEETS SHOULD BE ANNOTATED EACH DAY OF THE RESPECTIVE PERIOD. AFHRL WILL INPUT DATA RELATED TO THE NUMBERS OF MEMBERS PARTICIPATING IN TRAINING WITHIN EACH WORKCENTER DURING THE RESPECTIVE PERIOD INTO THE AOTS DATA BASE. DATA WILL BE COLLECTED FOR APPLICABLE WORKCENTERS BEFORE AND AFTER AOTS IMPLEMENTATION. ALSO, DATA WILL BE COLLECTED FOR THE CONTROL GROUPS LISTED IN APPENDIX K, AFTER AOTS IMPLEMENTATION.	DAC WILL COMPARE THE TIME SPENT BY SUPERVISORS, TRAINERS, COMMANDERS, AND TRAINING MANAGERS IN THE WORKCENTERS USING AOTS WITH TIME IN WORKCENTERS WITHOUT AOTS. COMPARISONS WILL BE MADE FOR EACH AOTS COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORK CENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS IN THIS AREA. DAC WILL USE DESCRIPTIVE STATISTICS AND, AS NECESSARY, INFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF DIFFERENCES, FAVORABLE VS. UNFAVORABLE.	DAC WILL REPORT THE RESULTS OF ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	TESTING WILL BE AT THE SYSTEM LEVEL.

[illegible]

CRITICAL ISSUE: SUSTAINABILITY	1987												1988												1989											
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
CRITICAL QUESTION / SUBQUESTIONS / ACTIONS																																				
CRITICAL QUESTION: DOES THE PROTOTYPIC AOTS PROVIDE STANDARDIZED METHODS FOR EVALUATING TASK PERFORMANCE IN AN OPERATIONAL SETTING?																																				
SUBQUESTION: Do the AOTS evaluation methods meet the needs of the task context?																																				
ACTIONS: Collect AOTS data																																				
SUBQUESTION: Does the AOTS provide standardized evaluation processes for the operational settings of ODT?																																				
ACTIONS: Collect AOTS data																																				

CRITICAL ISSUE: SUITABILITY	1987												REFERENCE
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	
CRITICAL QUESTION / SUGGESTIONS / ACTIONS													
CRITICAL QUESTION: DOES THE PROTOTYPE AOTS COMPENSATE FOR THE LIMITED AVAILABILITY OF OPERATIONAL EQUIPMENT FOR TRAINING?													
SUBQUESTION: Is the availability of operational equipment a problem for training?													
ACTIONS: Collect baseline data													E-20A
SUBQUESTION: Does the prototype AOTS provide effective methods to compensate for the limited availability of operational equipment for training?													
ACTIONS: Collect AOTS data												X	E-20B

SUITABILITY: PART 2 TEST SCHEDULES (3 OF 6)

CRITICAL ISSUE: SUITABILITY												
CRITICAL QUESTION / SUBQUESTIONS / ACTIONS												
CRITICAL QUESTION: DOES THE PROTOTYPE AOTS PROVIDE AVAILABLE CAPABILITIES FOR MANAGING THE SUBQUESTIONS: Do users feel that the prototype AOTS provides improved capabilities for managing the availability of qualified trainers, as compared with conventional AOTS? ACTIONS: Collect AOTS data												
1987 AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL												
1988 AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL												
1989 AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL												
X												
E-21												

CRITICAL ISSUE: SUITABILITY												
CRITICAL QUESTION / SUBQUESTIONS / ACTIONS												
CRITICAL QUESTION: DOES THE PROTOTYPE AOTS ENHANCE TRAINER EFFECTIVENESS? SUBQUESTIONS: Do users feel that the prototype AOTS enhances trainer effectiveness? ACTIONS: Collect AOTS data												
1987 AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL												
1988 AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL												
1989 AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL												
X												
E-22A												
X												
E-228												

CRITICAL ISSUE: SUITABILITY		1987												1988												1989												REFERENCE
		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	
CRITICAL QUESTION / SUBQUESTIONS / ACTIONS																																						E-23A
CRITICAL QUESTION: DOES THE PROTOTYPE AOTS REDUCE THE ADMINISTRATIVE BURDEN ASSOCIATED WITH THE MANAGEMENT OF TRAINING?																																						
SUBQUESTION: Do users feel that the prototype AOTS reduces the administrative burden associated with the management of training?																																						
ACTIONS: Collect AOTS data																																						
SUBQUESTION: Do users spend less time on administrative jobs related to management of training under AOTS than under conventional CJIT?																																						E-23B
ACTIONS: Collect baseline data Collect AOTS data Collect data from control groups																																						
CRITICAL QUESTION / SUBQUESTIONS / ACTIONS																																						E-24A
CRITICAL QUESTION: DOES THE PROTOTYPE AOTS PROVIDE IMPROVED CAPABILITIES FOR IMPLEMENTING STATE OF THE ART INSTRUCTIONAL TECHNOLOGY INTO THE OPERATIONAL ENVIRONMENT?																																						
SUBQUESTION: Do users feel that the prototype AOTS provides improved capabilities for implementing instructional technology into the operational environment?																																						
ACTIONS: Collect AOTS data																																						

CRITICAL ISSUE: SUITABILITY													
		1987						1988					
		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
CRITICAL QUESTION / SUBQUESTIONS / ACTIONS													
CRITICAL QUESTION: CAN THE PROTOTYPE AOTS BE DEPLOYED TO THE OPERATIONAL ENVIRONMENT?													
SUBQUESTIONS: Can the prototype AOTS feel that the prototype AOTS can be deployed to the operational environment?													
ACTIONS: Collect AOTS data													
												X	
													E-25
													REFERENCE

TEST PLAN: ACCEPTANCE:

CRITICAL ISSUE: ACCEPTANCE. CRITICAL QUESTION: DO USERS OF THE PROTOTYPE ACTS LIKE THE CAPABILITIES THAT ARE PROVIDED FOR MANAGING TRAINING?

SUBMISSION	HOW TO FEASURE	WHAT DATA TO COLLECT	HOW TO COLLECT DATA	HOW TO ANALYZE DATA	HOW TO EVALUATE DATA	HOW TO REPORT DATA	AOTS ELEMENTS
DO THE CAPABILITIES AND OPERATIONAL SKILLS OF THE AOTS MANAGING TRAINING WITHIN THE AOTS WORKCENTER?	DETERMINE, VIA SURVEYS, WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS.	SUPERVISORS' AND TRAINING MANAGERS' OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. ALSO, OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. IF ANY, SHOULD BE PROVIDED.	AFMRL WILL, TWO TIMES DURING SLITE, DISTRIBUTE SURVEYS TO USERS. ADMINISTRATION OF THE SURVEYS WILL BE CONDUCTED BY THE AOTS. THE AOTS PROVIDES ALL THE CAPABILITIES REQUIRED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE ENVIRONMENTS. FURTHER, USERS WILL INDICATE CAPABILITIES THEY FEEL NEED TO BE ADDED. AFMRL WILL COLLECT THE COMPLETED SURVEYS. DATA WILL BE INPUT INTO THE AOTS TEST DATA BASE.	DAC WILL ANALYZE THE SURVEY RESPONSES FOR PERCENT SELECTED FOR PERCENT FAVORABLE, AND FOR PERCENT UNFAVORABLE. COMPARISONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS ON THE TRAINING MANAGEMENT PROGRAMS. USING DESCRIPTIVE STATISTICS AND, AS NO PERMIT, INTERFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	ALL COMPONENTS OF THE MANAGEMENT COMPONENT OF THE PERSONNEL AND SUBSYSTEM WILL BE EVALUATED.
DO THE USERS LIKE THE PROGRAMS AND MAINTAINING MANAGEMENT DATA?	DETERMINE, VIA SURVEYS, WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. ALSO, OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. IF ANY, SHOULD BE PROVIDED.	SUPERVISORS' AND TRAINING MANAGERS' OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. ALSO, OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. IF ANY, SHOULD BE PROVIDED.	AFMRL WILL, TWO TIMES DURING SLITE, DISTRIBUTE SURVEYS TO USERS. ADMINISTRATION OF THE SURVEYS WILL BE CONDUCTED BY THE AOTS. THE AOTS PROVIDES ALL THE CAPABILITIES REQUIRED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE ENVIRONMENTS. FURTHER, USERS WILL INDICATE CAPABILITIES THEY FEEL NEED TO BE ADDED. AFMRL WILL COLLECT THE COMPLETED SURVEYS. DATA WILL BE INPUT INTO THE AOTS TEST DATA BASE.	DAC WILL ANALYZE THE SURVEY RESPONSES FOR PERCENT SELECTED FOR PERCENT FAVORABLE, AND FOR PERCENT UNFAVORABLE. COMPARISONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS ON THE TRAINING MANAGEMENT PROGRAMS. USING DESCRIPTIVE STATISTICS AND, AS NO PERMIT, INTERFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	THE AIRMAN TRAINING MANAGEMENT COMPONENT OF THE PERSONNEL AND SUBSYSTEM WILL BE EVALUATED.
HOW SATISFIED ARE USERS WITH THE PROGRAMS AND MAINTAINING MANAGEMENT DATA?	DETERMINE, VIA SURVEYS, WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. ALSO, OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. IF ANY, SHOULD BE PROVIDED.	SUPERVISORS' AND TRAINING MANAGERS' OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. ALSO, OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES THEY NEED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE OPERATIONAL WORK ENVIRONMENTS. IF ANY, SHOULD BE PROVIDED.	AFMRL WILL, TWO TIMES DURING SLITE, DISTRIBUTE SURVEYS TO USERS. ADMINISTRATION OF THE SURVEYS WILL BE CONDUCTED BY THE AOTS. THE AOTS PROVIDES ALL THE CAPABILITIES REQUIRED TO MANAGE TRAINING WITHIN THEIR RESPECTIVE ENVIRONMENTS. FURTHER, USERS WILL INDICATE CAPABILITIES THEY FEEL NEED TO BE ADDED. AFMRL WILL COLLECT THE COMPLETED SURVEYS. DATA WILL BE INPUT INTO THE AOTS TEST DATA BASE.	DAC WILL ANALYZE THE SURVEY RESPONSES FOR PERCENT SELECTED FOR PERCENT FAVORABLE, AND FOR PERCENT UNFAVORABLE. COMPARISONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS ON THE TRAINING MANAGEMENT PROGRAMS. USING DESCRIPTIVE STATISTICS AND, AS NO PERMIT, INTERFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	THE PERSONNEL COMPONENT OF THE PERSONNEL AND SUBSYSTEM WILL BE EVALUATED.

ACCEPTANCE: PART 2 TEST PLANS (1 OF 3)

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TEST PLAN: ACCEPTANCE

TEST PLAN: ACCEPTANCE

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CRITICAL ISSUE: ACCEPTANCE. CRITICAL QUESTION: DO USERS OF THE PROTOTYPE AOTS LIKE THE CAPABILITIES THAT ARE PROVIDED FOR EVALUATING TRAINING?		HOW TO MEASURE		HOW TO COLLECT DATA		HOW TO ANALYZE DATA		HOW TO EVALUATE DATA		HOW TO REPORT DATA		AOTS ELEMENTS	
A	HOW SATISFIED ARE USERS WITH THE CAPABILITIES PROVIDED FOR EVALUATING TRAINING?	DETERMINE, VIA SURVEYS, WHETHER USERS FEEL THE CAPABILITIES REQUIRED TO EVALUATE TRAINING PROGRAMS AND THE TRAINING SYSTEM EFFECTIVENESS.	SUPERVISORS', TRAINING MANAGERS', AND COMMANDERS' OPINIONS AS TO WHETHER THE AOTS PROVIDES THE CAPABILITIES REQUIRED TO EVALUATE TRAINING PROGRAMS AND THE TRAINING SYSTEM EFFECTIVENESS. ALSO, OPINIONS AS TO WHAT IF ANY, SHOULD BE PROVIDED.	AFHRL WILL, TWO TIMES DURING SLIDE, DISTRIBUTE SURVEYS TO USERS. ADMINISTRATION OF THE SURVEYS WILL BE CONDUCTED BY AFHRL. USERS WILL COMPLETE THE SURVEYS INDICATING WHETHER THEY FEEL THE AOTS PROVIDES ALL THE CAPABILITIES REQUIRED TO EVALUATE TRAINING PROGRAMS AND THE TRAINING SYSTEM EFFECTIVENESS. FURTHER, USERS WILL INDICATE CAPABILITIES THEY FEEL NEED TO BE ADDED. AFHRL WILL COLLECT THE COMPLETED SURVEYS, AND DATA WILL BE INPUT INTO THE AOTS TEST DATA BASE.	DAC WILL ANALYZE THE SURVEY RESPONSES FOR PERCENT SELECTING EACH POINT ON THE SCALE, AND FOR PERCENT FAVORABLE, AND FOR PERCENT FAVORABLE. COMPARISONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS EVALUATION CAPABILITIES ON TRAINING USING DESCRIPTIVE AND PERCENTAGE, INFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	ALL COMPONENTS OF THE EVALUATION SUBSYSTEM WILL BE EVALUATED.					
B	HOW SATISFIED ARE USERS WITH THE FUNCTIONS OF THE EVALUATION PROGRAMS?	DETERMINE, VIA SURVEYS, WHETHER USERS FEEL THE EVALUATION PROGRAMS ARE EASY TO USE, AND OPERATE EFFICIENTLY.	SUPERVISORS', TRAINERS', EVALUATORS', AND TRAINING MANAGERS' RATINGS ON THE EASE OF USING AOTS EVALUATION PROGRAMS; OPINIONS AS TO THE EFFICIENCIES OF THE PROGRAMS, AND RECOMMENDATIONS FOR IMPROVEMENTS.	AFHRL WILL, TWO TIMES DURING SLIDE, DISTRIBUTE SURVEYS TO USERS. ADMINISTRATION OF THE SURVEYS WILL BE CONDUCTED BY AFHRL. USERS WILL COMPLETE THE SURVEYS INDICATING WHETHER THEY FEEL THE EVALUATION PROGRAMS ARE EASY TO USE AND EFFICIENT. FURTHER, USERS WILL INDICATE CAPABILITIES THEY FEEL NEED TO BE ADDED. AFHRL WILL COLLECT THE COMPLETED SURVEYS, AND DATA WILL BE INPUT INTO THE AOTS TEST DATA BASE.	DAC WILL ANALYZE THE SURVEY RESPONSES FOR PERCENT SELECTING EACH POINT ON THE SCALE, AND FOR PERCENT FAVORABLE, AND FOR PERCENT FAVORABLE. COMPARISONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS EVALUATION CAPABILITIES ON TRAINING USING DESCRIPTIVE AND PERCENTAGE, INFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	ALL COMPONENTS OF THE EVALUATION SUBSYSTEM WILL BE EVALUATED.					
C	HOW SATISFIED ARE USERS WITH THE FUNCTIONS OF THE EVALUATION PROGRAMS?	DETERMINE, VIA SURVEYS, WHETHER USERS FEEL THE EVALUATION PROGRAMS ARE EASY TO USE, AND OPERATE EFFICIENTLY.	SUPERVISORS', TRAINERS', EVALUATORS', AND TRAINING MANAGERS' RATINGS ON THE EASE OF USING AOTS EVALUATION PROGRAMS; OPINIONS AS TO THE EFFICIENCIES OF THE PROGRAMS, AND RECOMMENDATIONS FOR IMPROVEMENTS.	AFHRL WILL, TWO TIMES DURING SLIDE, DISTRIBUTE SURVEYS TO USERS. ADMINISTRATION OF THE SURVEYS WILL BE CONDUCTED BY AFHRL. USERS WILL COMPLETE THE SURVEYS INDICATING WHETHER THEY FEEL THE EVALUATION PROGRAMS ARE EASY TO USE AND EFFICIENT. FURTHER, USERS WILL INDICATE CAPABILITIES THEY FEEL NEED TO BE ADDED. AFHRL WILL COLLECT THE COMPLETED SURVEYS, AND DATA WILL BE INPUT INTO THE AOTS TEST DATA BASE.	DAC WILL ANALYZE THE SURVEY RESPONSES FOR PERCENT SELECTING EACH POINT ON THE SCALE, AND FOR PERCENT FAVORABLE, AND FOR PERCENT FAVORABLE. COMPARISONS WILL BE MADE FOR EACH AIR FORCE COMPONENT (ACTIVE, RESERVE, AND ANG), SPECIALTY, AND WORKCENTER.	DAC WILL EVALUATE THE EFFECT OF AOTS EVALUATION CAPABILITIES ON TRAINING USING DESCRIPTIVE AND PERCENTAGE, INFERENTIAL TESTS OF SIGNIFICANCE (ANALYSES OF VARIANCE).	DAC WILL REPORT THE RESULTS OF DATA ANALYSIS AND CONCLUSIONS VIA CHARTS, FIGURES, AND NARRATIVE SUMMARIES.	ALL COMPONENTS OF THE EVALUATION SUBSYSTEM WILL BE EVALUATED.					

ACCEPTANCE: PART 2 TEST PLANS (3 OF 3)

TIME SCHEDULE FOR AOTS PHASE 111 SLICE

CRITICAL ISSUE: ACCEPTANCE	1987												1988												1989												REFERENCE
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	
CRITICAL QUESTIONS / SUBQUESTIONS / ACTIONS																																					
CRITICAL QUESTION: DO USERS OF THE PROTOTYPE AOTS LIKE THE CAPABILITIES THAT ARE PROVIDED FOR MANAGING TRAINING?																																					
SUBQUESTION: Are the capabilities provided adequate for managing training within the AOTS workcenters?																																					
ACTION: Collect AOTS data																																					
SUBQUESTION: Do users like the management products that are generated by the AOTS?																																					
ACTION: Collect AOTS data																																					
SUBQUESTION: How satisfied are users with the training they received on operating the AOTS management programs and maintaining management data?																																					
ACTION: Collect AOTS data																																					
CRITICAL QUESTION: DO USERS OF THE PROTOTYPE AOTS LIKE THE CAPABILITIES THAT ARE PROVIDED FOR DELIVERING TRAINING?																																					
SUBQUESTION: How satisfied are users with the capabilities provided for authoring training materials?																																					
ACTION: Collect AOTS data																																					
SUBQUESTION: How satisfied are users with the functions of the training delivery program?																																					
ACTION: Collect AOTS data																																					
SUBQUESTION: How satisfied are users with the training they received on operating the training delivery program?																																					
ACTION: Collect AOTS data																																					
CRITICAL QUESTION: DO USERS OF THE PROTOTYPE AOTS LIKE THE CAPABILITIES THAT ARE PROVIDED FOR EVALUATING TRAINING?																																					
SUBQUESTION: How satisfied are users with the capabilities provided for evaluating training?																																					
ACTION: Collect AOTS data																																					
SUBQUESTION: How satisfied are users with the functions of the evaluation program?																																					
ACTION: Collect AOTS data																																					
SUBQUESTION: How satisfied are users with the training they received on operating the AOTS evaluation program?																																					
ACTION: Collect AOTS data																																					
	</																																				

ACCEPTANCE: PART 2 TEST SCHEDULE (1 OF 1)

E-35

APPENDIX F
MASTER TEST PLAN
PRIMAVERA BI-WEEKLY STATUS UPDATE

APPENDIX F
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INTRODUCTION

This appendix contains a Primavera Bi-weekly MTP Status Update, showing the status of each MTP activity that is to occur during the month of the report.

The column headings in the report reflect the following:

ACTIVITY ID	The ID number assigned to the activity.
ORIG DUR	Original Duration. Number of days the activity was projected to require.
REM DUR	Remaining Duration. Number of days (from date of report) that are estimated to be required to complete the activity. (If, at the time of the report, it has been determined that more time will be required than originally anticipated, it is conceivable that the number of days remaining could be more than the number originally assigned.)
PCT	Percent of the total activity that has been completed. (In the sample report, none has been completed because the projection is a beginning one.)
CODE	Column for the individual responsible for carrying out the activity to initial when the activity has been completed.
ACTIVITY DESCRIPTION	Self-explanatory.

BALL SYSTEMS ENGINEERING DIVISION

PRIMAVERA PROJECT PLANNER

REPORT DATE 11FEB88 RUN NO. 49

--- SLT&E DATA ACQUISITION PRO

MTP BI-WEEKLY STATUS UPDATE

ACTIVITY ID	ORIG DUR	REM DUR	PCT	CODE	ACTIVITY DESCRIPTION
5	0	0	0		ANCHOR--S
				UPDATE	
905	14	14	0		BAFB DESIRE PRODUCT - IN
				UPDATE	
925	14	14	0		EANGB DESIRE PRODUCT - IN
				UPDATE	
935	5	5	0		EANGB DESIRE ENTERED INTO DBMS
				UPDATE	
1200	9	9	0		JANUARY 88 WITS DATA
				UPDATE	
1205	3	3	0		ACTIVE DUTY WITS LETTERS/SHEETS - OUT
				UPDATE	
1215	4	4	0		ACTIVE DUTY WITS DATA SHEETS - IN
				UPDATE	
1220	2	2	0		ACTIVE DUTY WITS DATA INPUT
				UPDATE	
1225	3	3	0		AFRES WITS LETTERS/SHEETS - OUT
				UPDATE	

BALL SYSTEMS ENGINEERING DIVISION

PRIMAVERA PROJECT PLANNER

REPORT DATE 11FEB88 RUN NO. 49

--- SLT&E DATA ACQUISITION PRO

MTP BI-WEEKLY STATUS UPDATE

ACTIVITY ID	ORIG DUR	REM DUR	PCT	CODE	ACTIVITY DESCRIPTION
1235	4	4	0		AFRES WITS DATA SHEETS - IN
				UPDATE	
1240	2	2	0		AFRES WITS DATA INPUT
				UPDATE	
1245	3	3	0		AIR GUARD WITS LETTERS/SHEETS - OUT
				UPDATE	
1255	4	4	0		AIR GUARD WITS DATA SHEETS - IN
				UPDATE	
1260	2	2	0		AIR GUARD WITS DATA INPUT
				UPDATE	
1265	9	9	0		FEBRUARY 88 WITS DATA
				UPDATE	
1270	3	3	0		ACTIVE DUT WITS LETTERS/SHEETS - OUT
				UPDATE	
1280	4	4	0		ACTIVE DUTY WITS DATA SHEETS - IN
				UPDATE	
1285	2	2	0		ACTIVE DUTY WITS DATA INPUT
				UPDATE	

 BALL SYSTEMS ENGINEERING DIVISION

PRIMAVERA PROJECT PLANNER

REPORT DATE 11FEB88 RUN NO. 49

--- SLT&E DATA ACQUISITION PRO

MTP BI-WEEKLY STATUS UPDATE

ACTIVITY ID	ORIG DUR	REM DUR	PCT	CODE	ACTIVITY DESCRIPTION
1290	3	3	0		AFRES WITS LETTERS/SHEETS - OUT
				UPDATE	
1300	4	4	0		AFRES WITS DATA SHEETS - IN
				UPDATE	
1305	2	2	0		AFRES WITS DATA INPUT
				UPDATE	
1310	3	3	0		AIR GUARD WITS LETTERS/SHEETS - OUT
				UPDATE	
1320	4	4	0		AIR GUARD WITS DATA SHEETS - IN
				UPDATE	
1325	2	2	0		AIR GUARD WITS DATA INPUT
				UPDATE	
3145	2	2	0		DCR "FIRST LOOK" ANALYSIS -- REPEAT MX
				UPDATE	
3150	4	4	0		SHE ANALYSIS FOR TRAINING-RELATED REPE
				UPDATE	
3155	1	1	0		ENTER MDC/MILAP DATA
				UPDATE	

BALL SYSTEMS ENGINEERING DIVISION

PRIMAVERA PROJECT PLANNER

REPORT DATE 11FEB88 RUN NO. 49

--- SLT&E DATA ACQUISITION PRO

MTP BI-WEEKLY STATUS UPDATE

ACTIVITY ID	ORIG DUR	REM DUR	PCT	CODE	ACTIVITY DESCRIPTION
3160	10	10	0		MDC REPORT IN
				UPDATE	
3161	10	10	0		480 REPORT IN
				UPDATE	
3162	10	10	0		MILAP REPORT IN
				UPDATE	
3165	2	2	0		DCR "FIRS LOOK" ANALYSIS -- REPEAT MX
				UPDATE	
4025	10	10	0		RECEIVE BASE CRIME AND TRAFFIC ANALYSI
				UPDATE	
4035	3	3	0		EXTRACT DATA
				UPDATE	
5000	4	4	0		ACTIVE QA SUMMARY REQUEST LETTER
				UPDATE	
5005	10	10	0		RECEIVE ACTIVE QA SUMMARY REPORT
				UPDATE	
5020	10	10	0		RECEIVE ACTIVE QA SUMMARY REPORT
				UPDATE	

BALL SYSTEMS ENGINEERING DIVISION

PRIMAVERA PROJECT PLANNER

REPORT DATE 11FEB88 RUN NO. 49

--- SLT&E DATA ACQUISITION PRO

MTP BI-WEEKLY STATUS UPDATE

ACTIVITY ID	ORIG DUR	REM DUR	PCT	CODE	ACTIVITY DESCRIPTION
5025	3	3	0		EXTRACT ACTIVE QA SUMMARY REPORT DATA
				UPDATE	
5035	10	10	0		RECEIVE ACTIVE QA SUMMARY REPORT
				UPDATE	
5040	3	3	0		EXTRACT ACTIVE QA SUMMARY REPORT DATA
				UPDATE	
5050	10	10	0		RECEIVE ACTIVE QA SUMMARY REPORT
				UPDATE	
5055	3	3	0		EXTRACT ACTIVE QA SUMMARY REPORT DATA
				UPDATE	

APPENDIX G
MASTER TEST PLAN
PRIMA VERA SYSTEM LEVEL TEST AND
EVALUATION (SLT&E) SCHEDULES

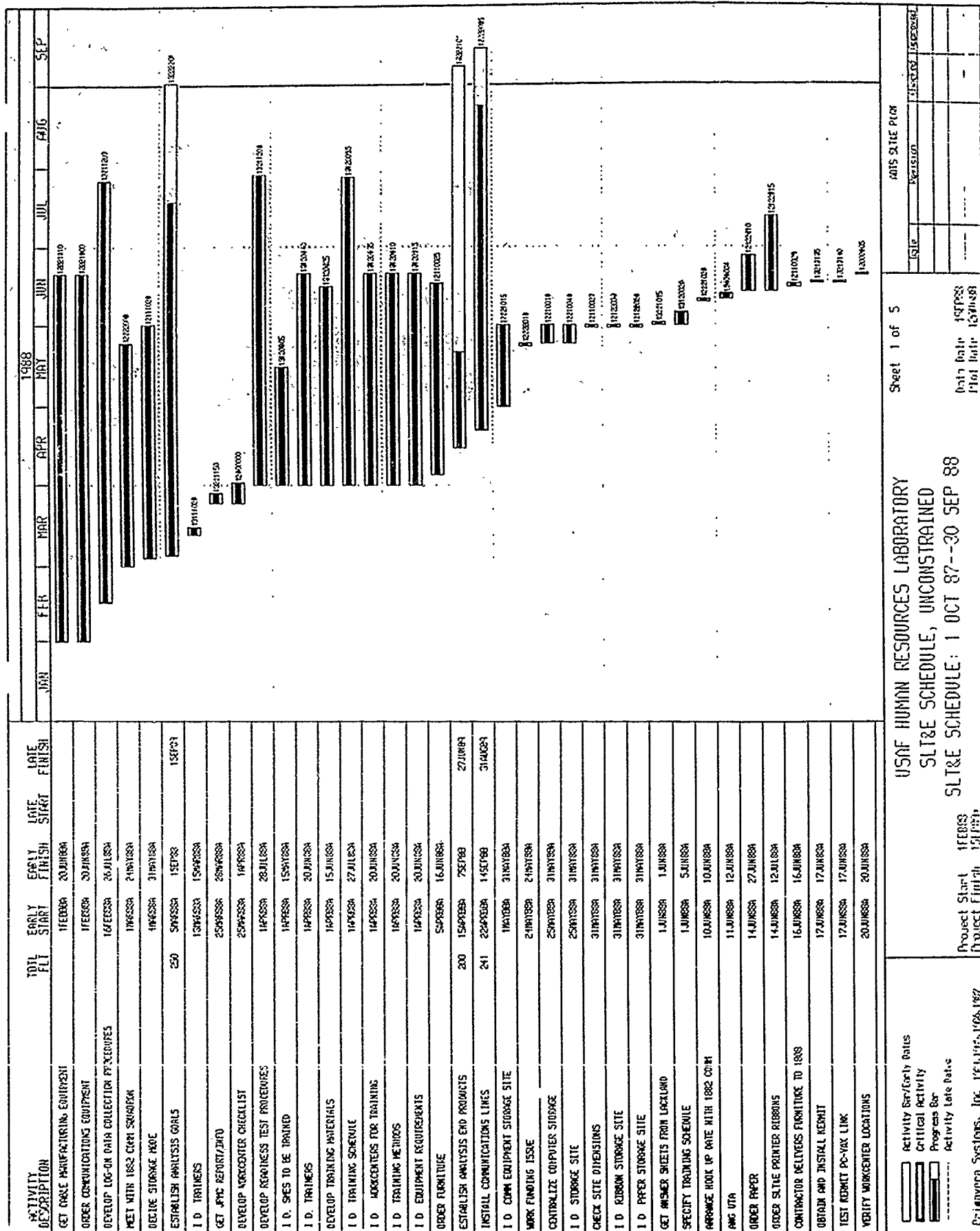
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INTRODUCTION

This appendix contains sample schedules for events to occur in support of the System Level Test and Evaluation (SLT&E) for the Advanced On-the-job Training System (AOTS). Included are:

1. Action required to prepare for the SLT&E.
2. Time table for collection of SLT&E data after the prototype AOTS has been implemented.



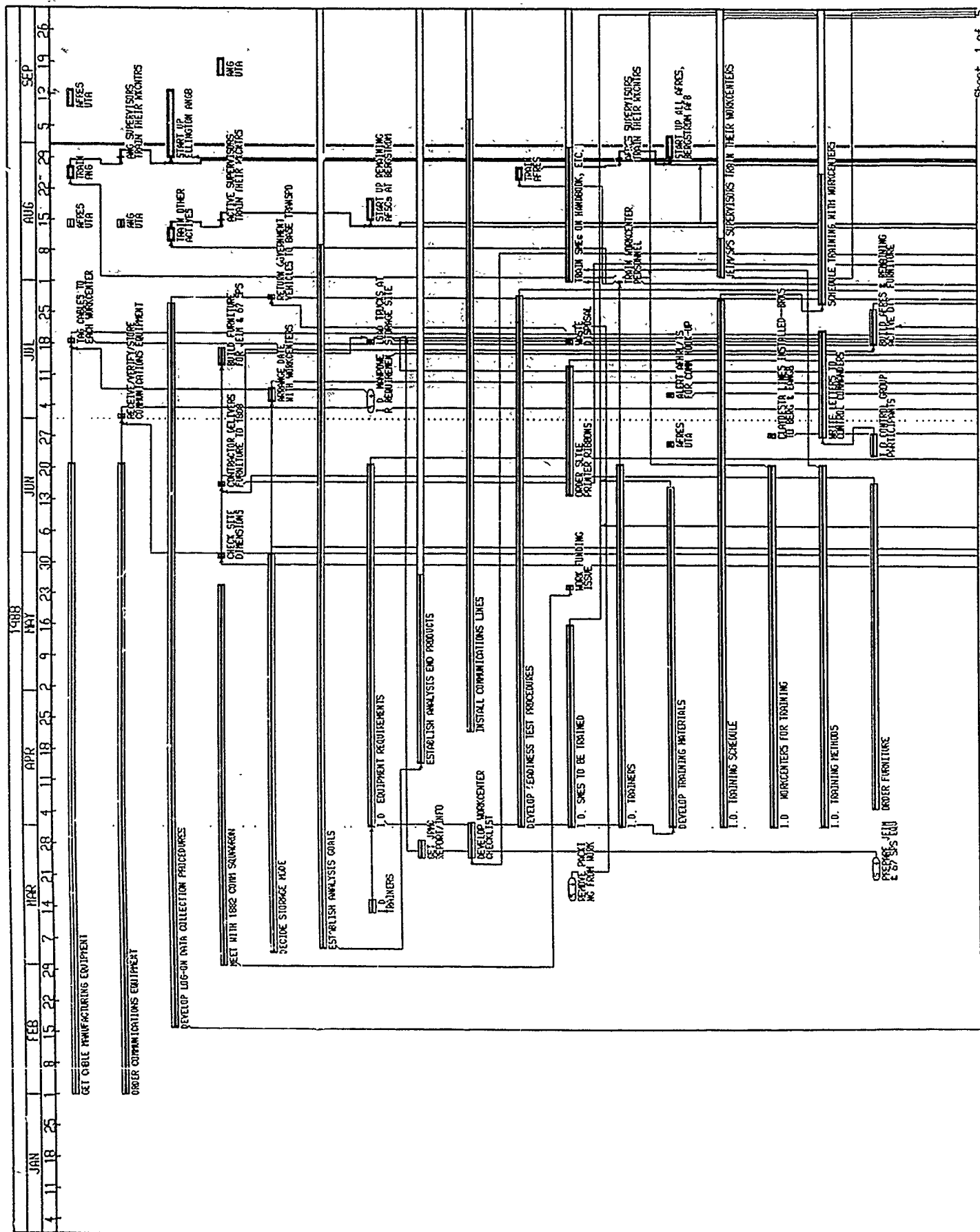
ACTIVITY DESCRIPTION	TOTAL FLY	EARLY START	FINISH	LATE START	LATE FINISH	1988											
						JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
J D CONTROL GROUP PARTICIPANTS		23JUN88	27JUN88														
AFRES VTA		25JUN88	25JUN88														
ARRANCE DMC TOTS		27JUN88	30JUN88														
CLAYESTER LINES INSTALLED—BROKS & EX-108		27JUN88	27JUN88														
WRITE LETTERS TO CONTROL COMMANDERS		27JUN88	30JUN88														
CREATE LABEL LIST BY WORKCENTER		27JUN88	12JUL88														
WRITE BRIEFING PAPER FOR TRAINING MANAGERS		27JUN88	27JUN88														
BRIEF ALL TEST & CONTROL TRAINING MANAGERS	250	27JUN88	15SEP88														
GET BRIDGE LIST OF PERSONNEL BY MONITOR		27JUN88	12JUL88														
RECEIVE & STORE PAPER		30JUN88	30JUN88														
GET LOANED 2-4000 BACK FROM BROOKS AFB		30JUN88	30JUN88														
IMP FLINE DESIRE VS. PDS TIME		1JUL88	1JUL88														
RECEIVE/MODIFY/STORE COMMUNICATIONS EQUIPMENT		1JUL88	1JUL88														
SCHEDULE GUY-T-TRANSPO		5JUL88	7JUL88														
ARRANCE DATE WITH WORKCENTERS		5JUL88	7JUL88														
PROFIT HELP STORES		5JUL88	12JUL88														
REQUEST GOVERNMENT VEHICLES		5JUL88	7JUL88														
CHECK OUT BROOKS 2-4000		5JUL88	11JUL88														
ARRANCE DATE WITH EMER WORKCENTERS		5JUL88	7JUL88														
ALERT AFFILIATES FOR COMB HOOK-UP		6JUL88	6JUL88														
I.D. MANPOWER REQUIREMENTS & SOURCES		6JUL88	12JUL88														
RECEIVE BASELINE SURVEY & ANSWER SHEETS		6JUL88	7JUL88														
ADMINISTRATOR BASELINE SURVEYS		8JUL88	14JUL88														
MODIFY AHS SOFTWARE TO CAPTURE LOG-OUT		8JUL88	8JUL88														
APPLY LABELS TO BASELINE SURVEYS/ANSWERS BY MONITOR		8JUL88	12JUL88														
AFRES VTA		9JUL88	10JUL88														
MAKE NECESSARY REPAIRS		11JUL88	11JUL88														
UPLOAD SOFTWARE & APPLY AHS I.D. (AFRES/AFRES/AFRES)		11JUL88	12JUL88														
STORE DATA		11JUL88	12JUL88														
RECEIVE & STORE RIBBONS		11JUL88	11JUL88														
HOOK UP BUILDING 1101		11JUL88	13JUL88														
SCHEDULE DATE WITH AFRES & REMAINING AHS MONITOR		11JUL88	11JUL88														
PRODUCE TRAINING ONE LESSON	-17	11JUL88	8SEP88														
FINISH HANDBOOK	244	11JUL88	6SEP88														
TEST COMMUNICATION LINES	250	11JUL88	1SEP88														
WATCH LOG-ON DATA DO WE SHUT?		12JUL88	12JUL88														
I.D. MANPOWER REQUIREMENTS		12JUL88	12JUL88														
UPLOAD SOFTWARE/APPLY AHS I.D. (SPS/JETN)		13JUL88	10JUL88														
PREPARE JETN & 67 SPS EQUIP. FOR SHIPPING		13JUL88	15JUL88														
BUILD RUNTIME FOR JETN & 67 SPS		13JUL88	16JUL88														
NOTIFY ANALYSIS THAT WE WANT CONTROL MONITOR		15JUL88	19JUL88														

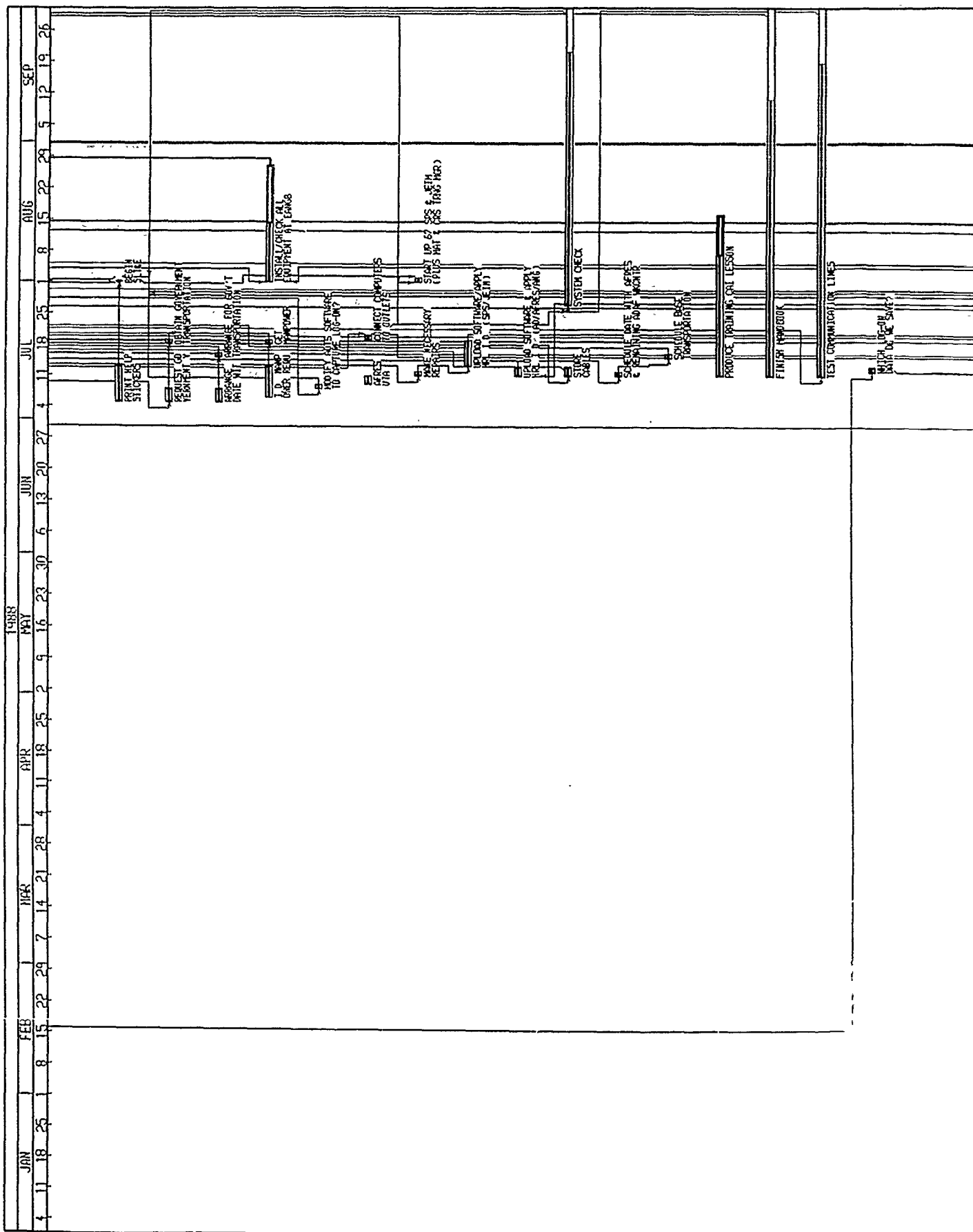
ACTIVITY DESCRIPTION	TOTAL FLT	EARLY START	EARLY FINISH	LATE START	LATE FINISH	1963											
						JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
MODIFY DMS FOR CONTROL GROUP	15 JUL 68	15 JUL 68	15 JUL 68														
INSTALL PLUGS & CONNECTORS	15 JUL 68	15 JUL 68	15 JUL 68														
DEVELOP ROUTINE FLOWCHART	15 JUL 68	15 JUL 68	27 JUL 68														
SCHEDULE BASE TRANSPORTATION	15 JUL 68	15 JUL 68	15 JUL 68														
REOPEN TEST-TIME FILE ON ENTRY SCREENS	15 JUL 68	15 JUL 68	27 JUL 68														
ARRANGE FOR GUY-T TRANSPORTATION	15 JUL 68	15 JUL 68	15 JUL 68														
AWG UTA	15 JUL 68	15 JUL 68	17 JUL 68														
GET MAPPOWER	18 JUL 68	18 JUL 68	18 JUL 68														
GET SUPPLIES FROM 1101	18 JUL 68	18 JUL 68	18 JUL 68														
WASTE DISPOSAL	18 JUL 68	18 JUL 68	18 JUL 68														
TAILORED EQUIP. FOR EACH WORKCENTER	18 JUL 68	18 JUL 68	18 JUL 68														
REPAIR PACKING FROM WORKCENTERS	18 JUL 68	18 JUL 68	18 JUL 68														
LONG CABLES WITH OTHER EQUIPMENT	18 JUL 68	18 JUL 68	18 JUL 68														
INSTALL/CHECK JEM & SPS EQUIPMENT IN WCTR	18 JUL 68	18 JUL 68	18 JUL 68														
BUILD APRES & REBUILDING ACTIVE DTI, FURNITURE	18 JUL 68	18 JUL 68	25 JUL 68														
OBTAIIN CONVEIMENT TRANSPORTATION	18 JUL 68	18 JUL 68	18 JUL 68														
VERIFY/CHECK FURNITURE	18 JUL 68	18 JUL 68	18 JUL 68														
TAG CABLES TO EACH WORKCENTER	18 JUL 68	18 JUL 68	18 JUL 68														
LONG TRUCKS AT STORAGE SITE	18 JUL 68	18 JUL 68	18 JUL 68														
CONNECT COMPUTERS TO OUTLETS	19 JUL 68	19 JUL 68	19 JUL 68														
WRITE CODE FOR AUTOMATIC DESIRE ENTRY	20 JUL 68	20 JUL 68	27 JUL 68														
MODIFY DMS DESIRE TABLE AS REQUIRED	20 JUL 68	20 JUL 68	27 JUL 68														
DECIDE WHERE WE STORE LOG-IN DATA	20 JUL 68	20 JUL 68	26 JUL 68														
REQUEST/RECEIVE DEMOGRAPHIC DATA	20 JUL 68	20 JUL 68	25 JUL 68														
MODIFY HQ WOC REPORT GENERATOR	25 JUL 68	25 JUL 68	28 JUL 68														
CHECKOUTX 1101 COMPUTERS & PERIPHERALS	25 JUL 68	25 JUL 68	25 JUL 68														
WRITE CODE FOR AUTO BASELINE SURVEY ENTRY	25 JUL 68	25 JUL 68	27 JUL 68														
T.O. HW, TMC, BY WHM FOR MAJOR VISITORS	138	25 JUL 68	8 SEP 68														
ASSEMBLE ROUTINE DOCUMENTATION & PIC LIST		26 JUL 68	26 JUL 68														
DECIDE ROUTINE PRINTING & SHIFTS		26 JUL 68	27 JUL 68														
SEND SAMPLE TAPES TO TORGES IN ALBANY FOR CODING		27 JUL 68	28 JUL 68														
SUPPLY DISTRIBUTION PLAN		27 JUL 68	5 AUG 68														
SCHEDULE TRAINING WITH WORKCENTERS	250	27 JUL 68	1 SEP 68														
SYSTEM CHECK	250	27 JUL 68	1 SEP 68														
RETURN CONVEIMENT VEHICLES TO BASE TRANSPORTATION		28 JUL 68	28 JUL 68														
REPAIR/REPLACE TEST EXECUTION		28 JUL 68	28 JUL 68														
INSTALL ANSWERING MACHINE		28 JUL 68	28 JUL 68														
INSTALL/CHECK APRES & REPAIR HQ WCTR EQUIP.	-14	28 JUL 68	1 SEP 68														
BEGIN SLIDE		1 AUG 68	1 AUG 68														
BUILD DOWNER FURNITURE		1 AUG 68	2 AUG 68														
TRAIN WORKCENTER PERSONNEL		1 AUG 68	1 AUG 68														

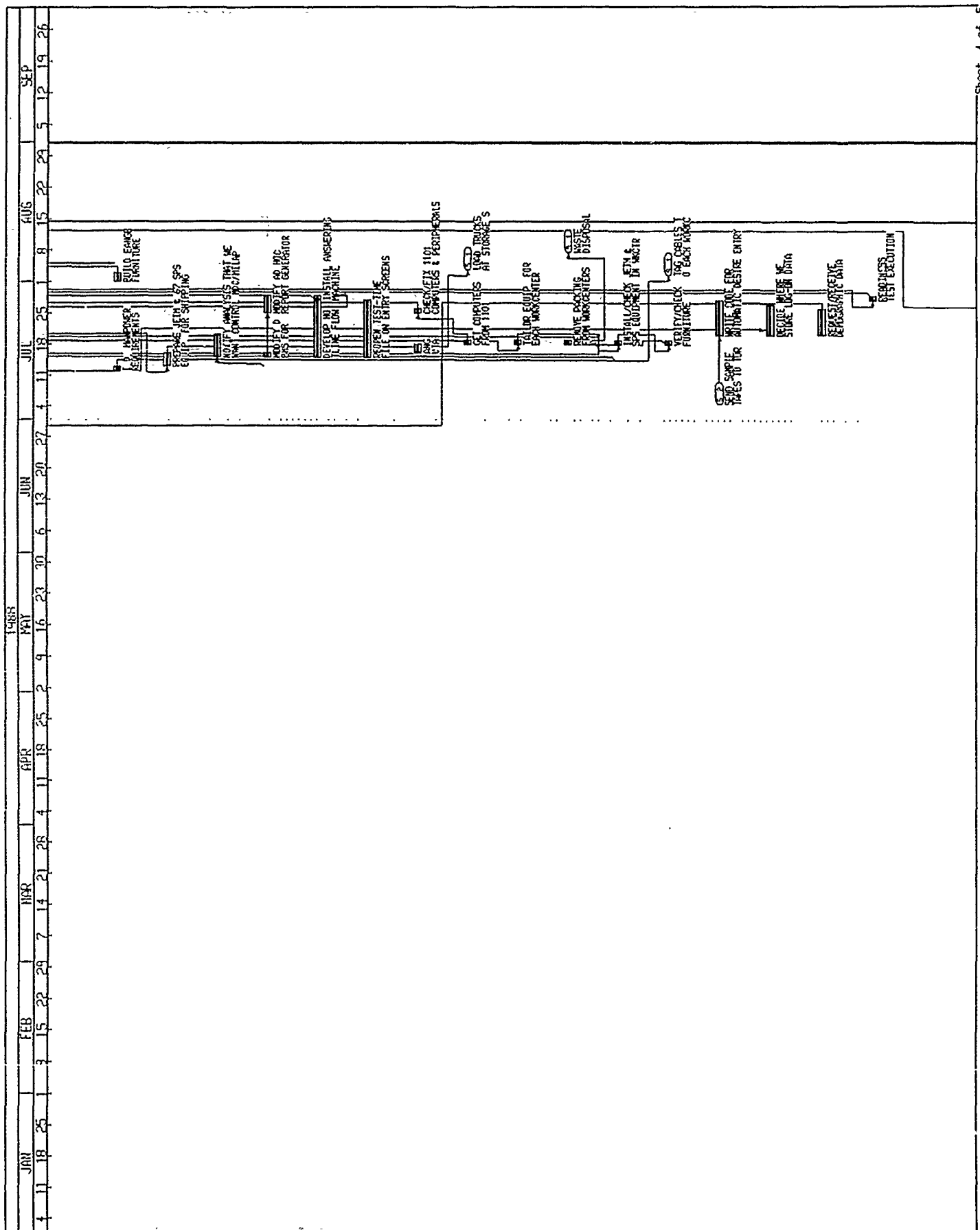
ACTIVITY DESCRIPTION	TOTAL FLY	EARLY START	EARLY FINISH	LATE START	LATE FINISH	1988											
						JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
TAKE COMPUTERS & FURNITURE TO ELLINGTON AFB		18/0888	30/0888														
START UP 67 SPS & JET (PLUS M1 & OPS TRNG MGR)		18/0888	18/0888														
INSTALL/CHECK ALL EQUIPMENT AT ISAGCS		18/0888	18/0888														
TRAIN JET/SP/PMI	-5	18/0888	25EP88		26/0888												
TRAIN SPS ON HANDBOOKS, ETC.	250	18/0888	15EP88		15EP88												
JET/SPS SUPERVISORS TRAIN THEIR WORKCENTERS	250	18/0888	15EP88		15EP88												
GET & LOAD GOVERNMENT VEHICLES	250	20/0888	15EP88		15EP88												
AFRES UTA		48/0888	10/0888														
AFRES UTA		128/0888	14/0888														
AFRES UTA		138/0888	14/0888														
RFM '88	-974	18/0888	19/0888	14/0888	15EP88												
TRAIN OTHER ACTIVES	-16	15EP88	65EP88	10/0888	12/0888												
TRAIN ANG	-6	15EP88	65EP88	24/0888	26/0888												
TRAIN AFRES	-6	15EP88	65EP88	24/0888	26/0888												
DEVELOP INDIVIDUAL PERFORMANCE MEASURES	146	15EP88	60CT88	6/0888	10/0888												
OCCTE MATCH TASKS TO EVALUATE RIR IDE	156	15EP88	15SEP88	20/0888	30/0888												
CREATE SUTEE DATA TABLES	166	15EP88	8SEP88	4/0888	10/0888												
I.D. IFE ISSUES	166	15EP88	15SEP88	4/0888	17/0888												
SCHEDULE IFE EVAL. WITH WORKCENTERS	171	15EP88	65EP88	11/0888	17/0888												
I.D. IFE EVALUATIONS	173	15EP88	65EP88	15/0888	17/0888												
I.D. ANALYSIS	175	15EP88	12SEP88	17/0888	25/0888												
MATCH ANALYSIS TO DATA	177	15EP88	15SEP88	19/0888	21/0888												
BEGIN COLLECTING CONTROL DATA	181	15EP88	8SEP88	23/0888	11/0888												
OCCTE WIRE, WIM, WEN, & OT MGT FOR ACCTPT 1	181	15EP88	8SEP88	23/0888	11/0888												
BEGIN EXTRACTING CONTROL OR DATA	182	15EP88	7SEP88	26/0888	11/0888												
QC DATABASE FOR TRANSFER ACCURACY	184	15EP88	25EP88	31/0888	11/0888												
GIVE SUTEE DEPLOYMENT SURVEYS & INTERVIEWS	196	15EP88	20SEP88	16/0888	14/0888												
ESTABLISH QUICK-LOOK GOALS	206	15EP88	8SEP88	30/0888	7/0888												
SEND SURVEYS TO AFRL/TS FOR PROCESSING	221	15EP88	20SEP88	24/0888	18/0888												
OCCTE FINAL FORMAT & ANALYSIS OF IFE DATA	224	15EP88	15SEP88	30/0888	16/0888												
REVISE TRAINING PLAN	242	15EP88	65EP88	22/0888	28/0888												
ACTIVE SUPERVISORS TRAIN THEIR WORKCENTERS	-16	75EP88	75EP88	15/0888	15/0888												
START UP REMAINING AFSCs AT BOSTON	-16	75EP88	15SEP88	15/0888	19/0888												
AFSC SUPERVISORS TRAIN THEIR WORKCENTERS	-6	75EP88	75EP88	24/0888	24/0888												
AFRES SUPERVISORS TRAIN THEIR WORKCENTERS	-6	75EP88	75EP88	24/0888	24/0888												
START UP ELLINGTON AFB	-6	75EP88	20SEP88	24/0888	12SEP88												
START UP ALL AFRES, BOSTON AFB	-6	75EP88	15SEP88	24/0888	25EP88												
REPRODUCE HANDBOOKS	244	75EP88	12SEP88	24/0888	15EP88												
ESTABLISH ROUTING OF END PRODUCTS	200	05EP88	12SEP88	20/0888	30/0888												
AFRES UTA	0	05EP88	12SEP88	05EP88	12SEP88												
WRITE SUTEE SURVEY AUTO ENTRY CODE	166	05EP88	15SEP88	11/0888	17/0888												
GIVE ACCEPTANCE SURVEYS # 1	181	05EP88	60CT88	21/0888	21/0888												

ACTIVITY DESCRIPTION	TOTAL FLT	EARLY START	EARLY FINISH	LATE START	LATE FINISH	1988											
						JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
GIVE SLIDE OPINION SURVEYS	191	9SEP88	6OCT88	16JUN89	14JUL89										1221100		
ESTABLISH QUICK-LOOK SCHEDULE	206	9SEP88	15SEP88	10JUL89	14JUL89										1222108		
DEVELOP TRAINING TRACKING PLAN	242	9SEP88	13SEP88	29AUG89	31AUG89										1222400		
ANALYSTS TRAIN ON SYSTEM	175	13SEP88	19SEP88	26AUG89	2JUN89										1222407		
SUPERVISING PLAN TO TRAIN THEIR MONITORS	242	11SEP88	11SEP88	13SEP89	15SEP89										1222410		
COMPL LINES FINISHED	241	15SEP88	15SEP88	15SEP89	15SEP89										1222405		
AWG VTA	0	16SEP88	19SEP88	16SEP88	19SEP88										1240000		
CREATE ITC CHECKLISTS & DATA RECORDING FORMS	156	16SEP88	29SEP88	4AUG89	17AUG89										1221153		
DEVELOP ITC PERFORMANCE EVAL. PROCEDURES	156	16SEP88	29SEP88	4AUG89	17AUG89										1221152		
FINALIZE ITC CHECKLISTS	229	16SEP88	29SEP88	17AUG89	30AUG89										1221156		
PROGRAM ANALYSIS SOFTWARE	175	20SEP88	11OCT88	5AUG89	23JUN89										1222106		

Sheet 5 of 5







APPENDIX H

BASELINE DATA COLLECTION PROCEDURES

This Appendix describes the detailed procedures to be followed in acquiring the data to define the present state of Air Force On-the-job Training (ie., the "baseline") within the test workcenters at Bergstrom AFB and Ellington ANGB. The step-by-step procedures to acquire baseline data in the following areas, as well as Appendix E references, are included in this Appendix, as follows:

H.1	Test Subject Demographic Data	2
H.2	OJT records (E-7A & B)	3
	-- AF Form 623 Folders	
	-- Job Qualification Standards (JQS)	
H.3	Quality Assurance Summaries (E-8A)	8
	-- 67 TRW Quality Assurance Quarterly Summary	
	-- 924 TFG Quality Assurance Quarterly Summary	
	-- Ellington ANGB Quality Assurance Data	
H.4	Security Police Quality Control Trend (E-8A)	25
	-- Quarterly Quality Control Trend Analysis	
H.5	Weekly Inventory of Time Spent (WITS) Sheets (E-11A, 15A, 23B)	28
H.6	Base Crime Statistics (E-10A)	39
	-- Base Crime Analysis Report	
H.7	Aircraft Maintenance Data (E-9A)	43
	-- MDC Report	
	-- MILAP 480 Report	
H.8	Baseline Surveys (E-20A)	55

H.1 TEST SUBJECT DEMOGRAPHIC DATA

H.1.1 Data To Be Collected. Test Subject Demographic Data consists of specific demographic data relating to each test subject and will be obtained from the AOTS PDS table.

H.1.2 Requirements For Data Collection Representative (DCR). The DCR who will collect the data via the AOTS PDS table should be an IST SME from the 732X0 AFSC.

H.1.3 Frequency Of Data Collection. Data collected via the AOTS PDS table will be collected once on each subject during the baseline data acquisition period.

H.1.4 Data Collection Procedure. In order to obtain demographic data, the DCR will extract the applicable data from the AOTS PDS table.

H.1.5 Time Required For Data Collection. Following are the time requirements for requesting and receiving the demographic data via the AOTS PDS table:

0.12 mo Data input

H.1.6 Disposition Of Data. When the DESIRE data is received, the DCR will deliver the product to the Data Input Representative (DIR). The DIR will have the data entered into the DESIRE data base.

H.2 OJT RECORD DATA

H.2.1 Data To Be Collected. Data relevant to trainees' progress and qualification on tasks that make up their duty positions will be collected as specified herein. These data are contained in Air Force Forms (AFFMS) 623, On-the-Job Training Records. AFFMS 623 are folders that contain various other documents, the most significant for our purposes being the Job Qualification Standard (JQS). The JQS is used to record training and qualification status. These records are maintained by trainees' immediate supervisors within operational workcenters. Related illustrations are as follows:

OJT Data Recording Form, Figure--H.2-1, p. 6
Specialty Training Standard (STS)--Figure H.2-2, p. 7

H.2.2 Requirements For DCR. The training record data collection will require the expertise of an OJT training specialist (751X1). The only additional training required for the DCR will be a familiarization with the specific procedures for the data collection.

H.2.3 Frequency of Data Collection. Data collection of the OJT record will be performed twice during Baseline: at the beginning and end of the Baseline period.

H.2.4 Data Collection Procedures. The DCR will generate a list of all trainees and their data base identification numbers by use of AOTS PDS table. The DCR will use this list and OJT record data sources to perform the data collection procedures described below.

H.2.4.1 Data Locations. The DCR will be provided access to the training records at each office by the point of contact (POC). Refer to Attachments 2, 3, and 4 at the end of Appendix H for POCs and addresses for obtaining training records.

H.2.4.2 Initial Collection. The procedures used to record OJT task information are the same for all Air Force components (i.e., Active, Reserve, and National Guard) and Air Force Specialties (i.e. 426XX, 431XX, 732XX, and 811XX). The DCR will:

- Obtain sufficient number of copies of OJT Data Recording Forms for trainees involved, plus extras for the purpose of adding new names as required.

- Coordinate access to the workcenter with the respective supervisor.
- Obtain from the workcenter supervisor the training folders (AF Form 623) for all OJT trainees in the workcenter.
- Fill out the name of the COLLECTOR and circle the COMPONENT on the OJT DATA RECORDING FORM.
- Referring to the training folder, fill out the NAME of the individual and his/her SSAN.
- Enter the date the individual was assigned to the duty position. (Obtain this information from the individual or from the supervisor.)
- Locate the individual's JQS in the AF Form 623. The JQS consists of the STS/AF Form 797. The JQS is usually the top document on the right-hand side of the training folder.
- Enter the number of tasks for the individual's duty position in the TOTAL # TASKS CIRCLED DURING INITIAL COLLECTION block on the Data Recording Form. Count the number of circled tasks on the STS/AF Form 797 to determine the number to list.
- Enter the TOTAL # TASKS OPEN in the appropriate block.
- If individual is position qualified, enter the date the last open task was closed in the DATE POSITION QUALIFIED block of the heading of the OJT Data Recording Form.

H.2.4.3 Final Collection. For the final data collection, the DCR will take with him/her the Data Recording Forms that were filled out during the initial collection.

- The DCR will take a supply of blank Data Recording forms to the workcenter so that forms can be filled out for any new personnel assigned to the workcenter.
- Refer to the information in the AF Form 623 to obtain necessary information for filling out the Data Recording Form. (For any new personnel, the DCR will follow the procedure listed above for initial collection).
- Count and record the total number of tasks circled for the FINAL COLLECTION in an individual's STS/AF Form 797.

- Count and record, by month, the TOTAL # TASKS OPEN as shown on the individual's STS/AF Form 797.
- Count and record, by month, the TOTAL # TASKS CLOSED as shown on the individual's STS/AF Form 797.
- If individual is position qualified, enter the date of qualification in the designated block of the heading of the OJT Data Recording Form.

H.2.5 Time Required for Data Collection. The estimated time requirements for the data collection differ for the initial collection and the final collection.

H.2.5.1 Initial Data Collection Time Requirements: (man hours per DCR).

OJT records collection (per work center)

0.25	Arrange data collection visits
0.25	Miscellaneous travel on-base
12.25 ave.	Initial extract of task data
1.00 ave.	Input data

H.2.5.2 Final Data Collection Time Requirements.

OJT records Collection (per work center)

0.25	Arrange data collection visits
0.25	Miscellaneous travel on-base
24.50 ave.	Extract data
1.00 ave.	Input data

H.2.6 Disposition of Data. The DCR will deliver the Data Recording Forms to the DIP; after the data has been input (except for the final time), the DCR will obtain, from the data input person, the forms for use in recording information during the next data collection procedure.

OJT DATA RECORDING FORM

NAME: _____

SSAN: _____

WORKCENTER: _____

DATE ASSIGNED TO WORKCENTER: _____

DATE POSITION QUALIFIED: _____

TOTAL # TASKS CIRCLED DURING INITIAL COLLECTION: _____

TOTAL # TASKS CIRCLED DURING MID COLLECTION: _____

TOTAL # TASKS CIRCLED DURING FINAL COLLECTION: _____

TOTAL # TASKS OPEN by month:

Oct 87 _____

Nov 87 _____

Dec 87 _____

Jan 88 _____

Feb 88 _____

Mar 88 _____

Apr 88 _____

May 88 _____

Jun 88 _____

Jul 88 _____

TOTAL # TASKS CLOSED by month:

Oct 87 _____

Nov 87 _____

Dec 87 _____

Jan 88 _____

Feb 88 _____

Mar 88 _____

Apr 88 _____

May 88 _____

Jun 88 _____

Jul 88 _____

COMPONENT: Active Reserve ANG

COLLECTOR: _____

PRIVACY ACT STATEMENT

AUTHORITY: 44 USC 3101; 10 USC 8012 and EO 0307

PRINCIPAL PURPOSE: The SSAN will be used to identify personnel participating in the Advanced On-The-Job Training System Prototype.

ROUTINE USES: 1. Determine effectiveness of the current OJT program. 2. Determine the effectiveness of the AOTS prototype.

DISCLOSURE IS MANDATORY: The SSAN is mandatory to make positive identification of individuals in relation to other personnel included in the AOTS prototype. Failure to provide this information will prevent monitoring of training related data, thereby jeopardizing the ability of AOTS to perform its mission.

STS 431X1

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CERTIFICATION FOR OJT				3. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
	A	B	C	D	4 Skill Level		5 Skill Level		7 Skill Level	
	Start Date	Completion Date	Certifying Official's Initials	Trainee's Initials	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
*13. UTILITY SYSTEMS (continued)										
(2) Drain					2b/-		-			
(3) Dehumidifiers										
(a) Inspect					2b/-		-			
(b) Remove					2b/-		-			
(c) Install					2b/-		-			
(f.) Remove LOX converters	1 JULY 87	10 JULY 87	JP JB		2b/1b		B			
(g.) Install LOX converters	11 JULY 87	21 JULY 87	JP JB		2b/1b		B			
h. Inspect										
(1) Overheat warning system					2b/1b		B			
(2) Fire detection system	6 AUG 87	10 AUG 87	JP JB		2b/1b		B			
(3) Fire extinguishing system					2b/-		B			
(4) Air conditioning system					b/-		B			
(5) Oxygen system	4 JUN 87	30 JUN 87	JP JB		2b/1b		-			
(6) Pressurization system					2b/-		-			
(7) Rain removal system					2b/-		-			
(8) Windshield wiper system					2b/-		-			
(9) Bleed air system	22 JULY 87	5 AUG 87	JP JB		2b/-		-			
(10) Anti-icing system					-		-			
1. Troubleshoot										
(1) Overheat warning system					-		-			
(2) Fire detection system					-		-			
(3) Fire extinguishing system					-		-			
(4) Air conditioning system					-		-			
(5) Oxygen system					-		-			
(6) Pressurization system					-		-			
(7) Rain removal system					-		-			
(8) Windshield wiper system					-		-			
(9) Bleed air system					-		-			
(10) Anti-icing system					-		-			
*14. FLIGHT CONTROL SYSTEMS										
IR: See Index for applicable TO covering specific aircraft										

Attachment 1

Figure H.2-2

H.3 67 TRW QUALITY ASSURANCE PROGRAM QUARTERLY SUMMARY, 924 TFG QUALITY ASSURANCE PROGRAM QUARTERLY SUMMARY, AND ELLINGTON QUALITY ASSURANCE DATA COLLECTION PROCEDURES

H.3.1 Quality Assurance Program Quarterly Summary.

H.3.1.1 Data to be Collected. The 67 TRW Quality Assurance (QA) Program Quarterly Summary will be sent directly to AFHRL. The active components use the summary to rate the quality of the aircraft maintenance, propulsion, and phase inspection workcenters. The DCR will be interested in three of the sections of the Quarterly Summary.

- Section II, 67th Aircraft Generation Squadron; the subsection of interest is titled "12 Aircraft Maintenance Unit."
- Section III, 67th Component Repair Squadron; the subsection of interest is the one titled "Propulsion Branch."
- Section IV, 67th Equipment Maintenance Squadron; the subsection of interest is the one titled "Maintenance Branch."

H.3.1.2 Requirements for DCR. The QA data collection personnel for Bergstrom AFB do not need a particular background experience but will require some training in the procedures for extracting data from the monthly summaries.

H.3.1.3 Frequency of Data Collection. Quarterly.

H.3.1.4 Data Collection Procedure. POC is MSgt Hendrickson, MAQ, building 1603. AFHRL will receive, quarterly, the

QA Quarterly Summary--Figure H.3-1, p. 13.

The DCR will turn to Section II - 67th Aircraft Generation Squadron, look under the subsection "12 AMU," and find the areas "Technical" and "Personnel."

(See Figure H.3-1a, p. 14.)

- Enter the totals from the technical inspections (E, S, U, TOTAL) onto the:

QUALITY ASSURANCE PROGRAM MONTHLY SUMMARY
Data Recording Form--Figure H.3-2, p. 17

along the row titled "AMU". Ensure totals are recorded under the corresponding column headings of the Data Recording Form.

- Enter the totals from the "Personnel" section of the QA Program Quarterly Summary onto the QA Recording Form along the row titled "AMU" under the corresponding column headings. The numbers from the QA Program Quarterly Summary (Figure H.3-1a, p. 14) are circled to demonstrate which numbers to extract for the Baseline data collection.
- Jet Engine Intermediate Maintenance (JEIM): Data for the JEIM shop is contained in the report entitled "Propulsion Branch."
- Enter the totals for the section as circled on the example in

Figure H.3-1b, p. 15.

- Write these sums on the "Propulsion" row of the Data Recording Form under the corresponding column.
- Enter the numbers along the "TOTAL" row of the

QA Program Quarterly Summary--Figure H.3-1c, p. 16

onto the Data Recording Form along the row titled "Maintenance." (Figure H.3-2, p. 17)

- Ensure totals are recorded under the corresponding column headings of the Data Recording Form.

H.3.1.5 Time Required for Data Collection.

QA Quarterly Summary Collection (Bergstrom AFB)

0.33	IST SME looks over summary
0.75	DCR extract data from summary
0.13	Input data (Includes Reserves)

H.3.2 924 TFG Quality Assurance Program Quarterly Summary.

H.3.2.1 Data to be Collected. The 924 TFG QA Quarterly Summary is used by the Reserve component to rate the quality of aircraft maintenance, propulsion, and inspection workcenters. This report

is significantly different from the 67 TRW QA Quarterly Summary (active duty).

H.3.2.2 Requirements for the DCR. The requirements are the same as for the QA Quarterly Summary in Paragraph H.3.1.2.

H.3.2.3 Frequency of Data Collection. Quarterly.

H.3.2.4 Data Collection Procedure. Included is an example of the 924th TFG

Reserve Unit QA Quarterly Report--Figure H.3-3, p. 18.

- Add the numbers for the following types of inspections: Pre Flight, Launch/EOR, 25 Hr Flight Line Inspection, Thru Flight/BPO, and Engine Bay Activities (boxed items).

(See Figure H.3-3a, p. 19.)

Record these sums on the Data Recording Form along the row titled "AMU" under the section of the form for the "Reserve" component (Figure H.3-2, p. 17).

- Enter the numbers from the engine installation line as before.

The Reserve Quality Assurance Office aggregates the data collected during personnel evaluations. Therefore, such data must be collected in aggregate form. The data collector must locate a chart in the Quarterly Report entitled:

PERSONNEL EVALUATION RATING--Figure H.3-3b, p. 20.

The information in the row labeled "TOTAL" is entered on the Data Recording Form on the row labeled "Reserves" in the "TOTAL, PASS, FAIL" boxes.

An example of the Quality Evaluation Inspection (QVI) for propulsion (see the quarterly charts labeled TYPE INSPECTION BY EQUIPMENT) is included in:

Figure H.3-3c p. 21.

H.3.2.5 Time Required for Data Collection.

QA Quarterly Summary Collection (Bergstrom Reserves)

0.33	IST SME looks over summary
1.00	Extract data from summary

H.3.3 Ellington ANGB Quality Assurance Data.

H.3.3.1 Data to be Collected. The DCR will collect QA data from the QA files at Ellington ANGB.

H.3.3.2 Requirements for DCR. The DCR for the Ellington QA data should be an IST SME (426X2, 431X1) or someone trained by an expert on the collection of this raw QA data.

H.3.3.3 Frequency of Data Collection. Monthly.

H.3.3.4 Data Collection Procedure. The quality assurance data from the Air National Guard are collected from:

Air Force Forms 2419--Figure H.3-4, p. 22.

These forms are located in the QA Office at Ellington ANGB. The office is located in Building 1382, and the points of contact are either CMSgt McCoubrey or Betty Holt. The data from the AF Forms 2419 is processed as follows:

H.3.3.4.1 Enter the QA data on the Data Recording Form (Figure H.3-2, p. 17).

- A 431X1 SME will determine which AF Forms 2419 will be analyzed.
- First, the workcenter being evaluated is identified. This is done by an examination of the (SHOP/BRANCH) identified in Block II of the AF Form 2419. For Baseline data collection purposes, the shops from which data will be collected are the Propulsion and the AMU.
- If the name appears in Section III, the AF 2419 was used in a personnel evaluation.
- If the AF Form 2419 was used for a personnel evaluation:

Figure H.3-5, p. 23 (Block III),
record the "rating" indicated in block III on the Data

Recording Form under the appropriate heading of either Satisfactory (SAT) or Unsatisfactory (UN).

- If there is no entry in block III, this is considered a technical evaluation; and an entry should appear in Block IV:

Figure H.3-6, p. 24.

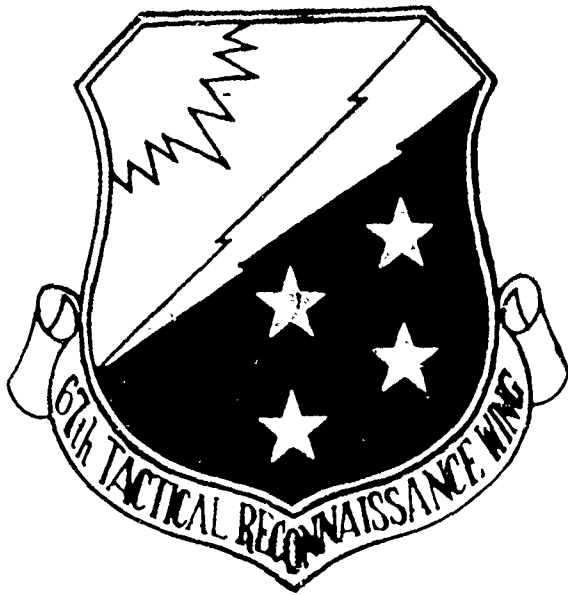
- Record all other evaluations on the Data Recording Form as follows:
 - Block V "RATING" provides the quality inspection rating. Indicate the rating on the Data Recording Form under the columns labeled "Technical Evaluations" (excellent, satisfactory, unsatisfactory).
 - When all the AF Forms 2419 prepared during the current month have been reviewed and the data has been recorded in the columns provided on the Data Recording Form, the DCR must sum each column on the Data Recording Form.

H.3.3.5 Time Required for Data Collection.

QA Data Collection (Ellington ANGB)

0.25	Arrange visit to workcenter
0.25	Miscellaneous on-base travel
5.00	Extract data from AF Form 2419
0.10	Input data

H.3.5 Disposition of Data. Once the Data Recording Forms have been completed and summed per the procedures above, the information is provided to the DIR. The DIR will have the totals contained on the Data Recording Form entered into the appropriate QA data table.



Quality Assurance Program

Bergstrom AFB Texas

Quarterly Summary

OCTOBER

DECEMBER

1987

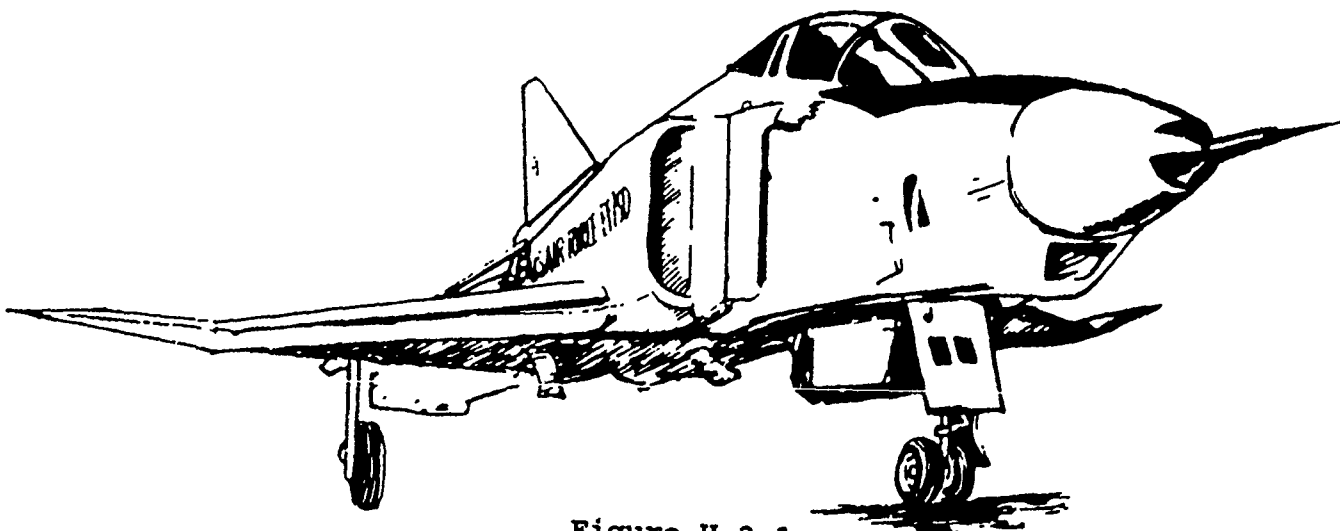


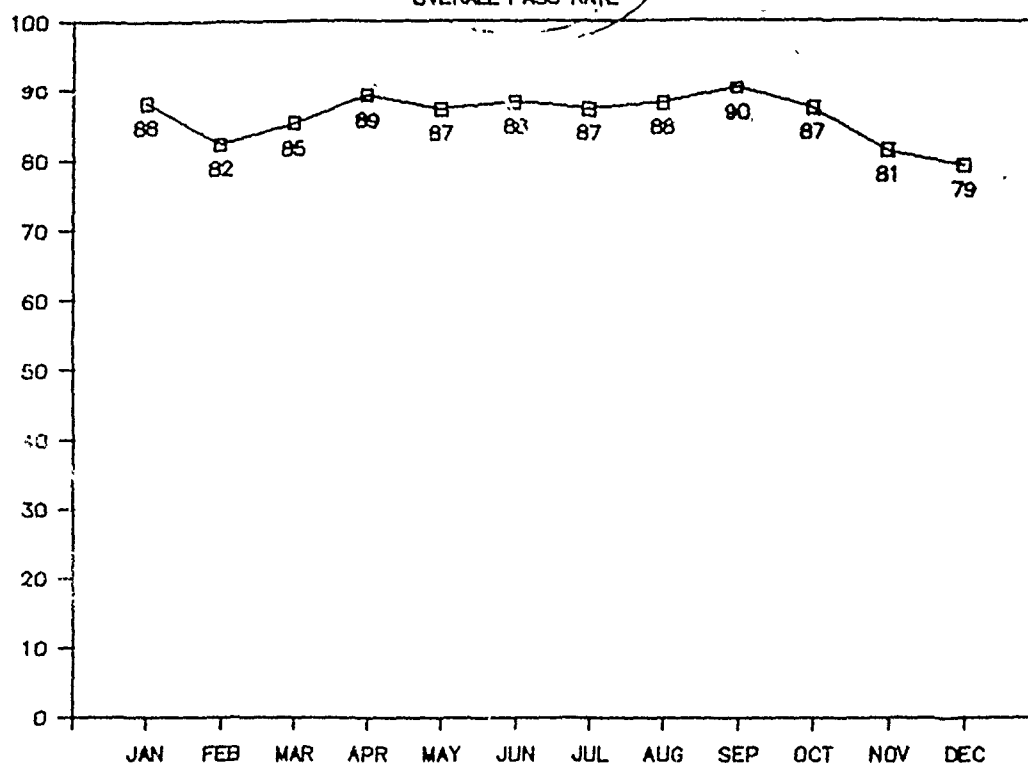
Figure H.3-1

H-13

William J. Lucas

WILLIAM J. LUCAS, Colonel, USAF
Deputy Commander for Maintenance

12th AMU OVERALL PASS RATE



12th AMU

THREE MONTH TOTALS

CATEGORY	E	S	U	NR	Total	Pass Rate
Technical						
QVI	51	19	20		90	78%
Personnel						
TE		90	2		92	
SE		0	0		0	
EPE		0	0		0	
CMA		15	0		15	
CMI		20	2		22	
CSI		2	1		3	
Total		127	5		132	96%
Special						
SPI		123	24	5	152	84%
Safety						
DSV			16		16	
TDV			6		6	
Non-Rated						
UCR				16	16	
Overall Total	51	269	71	21	412	82%

PROPULSION BRANCH

CATEGORY	E	S	U	NR	Total	Pass Rate
Technical						
QVI	19	1	5		31	84%
Personnel						
TE		8	0		8	
SE		0	0		0	
CMA		6	0		6	
CMI		1	0		1	
CSI		5	0		5	
Total		20	0		20	100%
Special						
SPI		53	7	2	62	88%
Safety						
DSV			1		1	
TDV			0		0	
Non-Rated						
UCR				0	0	
Overall						
Total	19	80	13	2	114	88%

ACCESSORY BRANCH

CATEGORY	E	S	U	NR	Total	Pass Rate
Technical						
QVI	29	0	2		31	94%
Personnel						
TE		8	0		8	
SE		0	0		0	
CMA		36	1		37	
CMI		3	2		5	
CSI		11	0		11	
Total		58	3		61	95%
Special						
SPI		61	3	0	64	95%
Safety						
DSV			2		2	
TDV			1		1	
Non-Rated						
UCR				0	0	
Overall						
Total	29	119	11	0	159	93%

AGE BRANCH

CATEGORY	E	S	U	NR	Total	Pass Rate
Technical						
QVI	40	8	5	0	51	90%
Personnel						
TE		1	0		1	
SE		0	0		0	
CMA		3	0		3	
CMI		6	1		6	
CSI		6	1		6	
Total		14	2		16	88%
Special						
SPI		77	9	2	88	90%
Safety						
DSV			0		0	
TDV			0		0	
Non-Rated						
UCR				3	3	
Overall						
Total	40	97	16	5	158	90%

MAINTENANCE BRANCH

CATEGORY	E	S	U	NR	Total	Pass Rate
Technical						
QVI	54	11	17		82	79%
Personnel						
TE		11	1		12	
SE		0	0		0	
CMA		20	2		22	
CMI		33	9		42	
CSI		13	0		13	
Total		77	12		89	87%
Special						
SPI		45	13	9	67	78%
Safety						
DSV			1		1	
TDV			1		1	
Non-Rated						
UCR				4	4	
Overall						
Total	54	133	44	13	244	81%

QUALITY ASSURANCE PROGRAM MONTHLY SUMMARY

Data Recording Form

Month:

Technical Inspections					Personnel Evaluations		
ACTIVE	E	S	U	TOT	SAT	UN	TOT
AMU							
Propulsion							
Maintenance							
Reserves	TOTAL	E	S	U	TOTAL	PASS	FAIL
AMU							
Propulsion							
ANG	TOTAL	SAT	UNSAT		TOTAL	SAT	UNSAT
AMU							
Propulsion							

Figure H.3-2

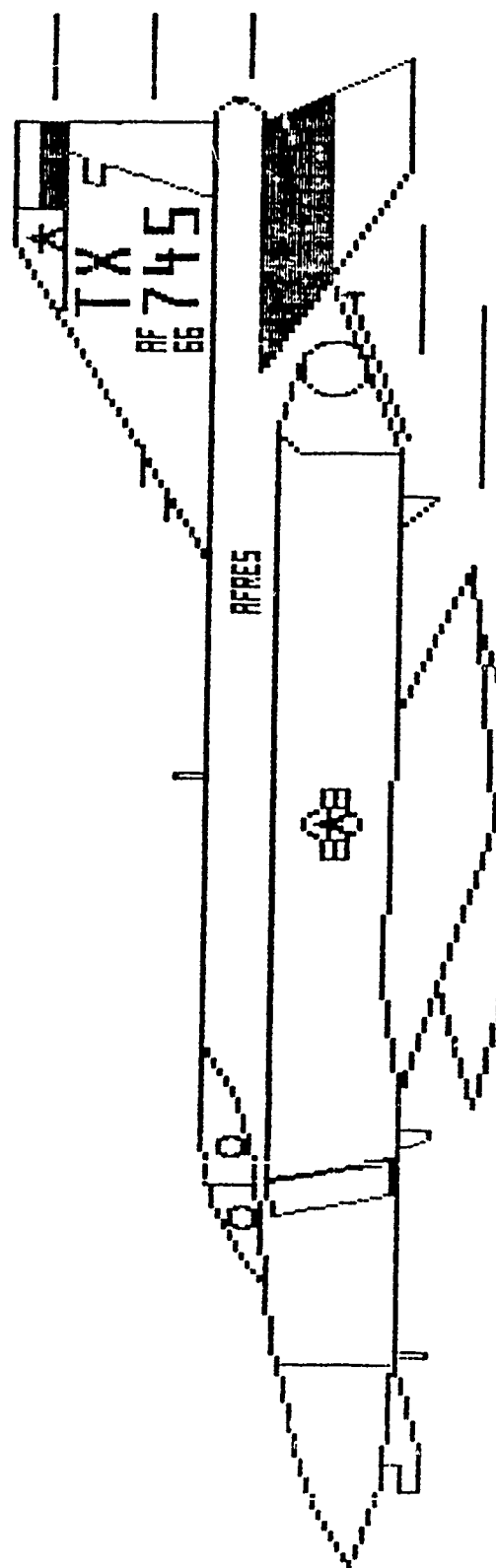
924 TFG

QUALITY ASSURANCE

QUARTERLY SUMMARY

3rd Quarter - July through September 1987

H-18



Daniel O. Foote
DANIEL O. FOOTE, SMSgt, USAFR
Quality Assurance Supervisor

Figure H.3-3

Figure H.3-3a

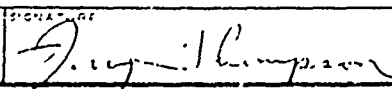
PERSONNEL EVALUATION RATING

JUL-SEP87

SECTION II (A)

TYPE EVALUATIONS	TOTAL PERSONNEL EVALS	EVALS PASSED	EVALS FAILED	PASSING PERCENTAGE
TASK EVALUATION (TE)	16	15	1	93.7%
COMPLETED MAINT. ACTION (CMA)	13	12	1	92.3%
COMPLETED MAINT. INSP. (CMI)	7	7	0	100%
COMPLETED SUPER. INSP. (CSI)	2	2	0	100%
SUPERVISORY EVALUATION (SE)	1	1	0	100%
EVALUATOR PROFICIENCY EVAL. (EPE)	2	2	0	100%
DETECTED SAFETY VIOLATION (DSV)	1	-	-	-
TOTAL	41	39	2	95.1%

Figure H.3-3c

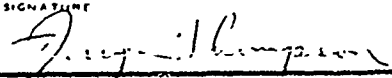
ROUTING AND REVIEW OF QUALITY CONTROL REPORTS													
I. REPORT ROUTING SEQUENCE													
	TO	INFO	ACTN	SUSPENSE	INITIALS		TO	INFO	ACTN	SUSPENSE	INITIALS		
1	MAAAC		☒	16 Aug 82		1							
2	MAAA		☒	18 Aug 82		2							
3	MAA		☒	19 Aug 82		3							
4	MAQ		☒	20 Aug 82		4							
5	MA		☒	23 Aug 82		5							
6	MAQ		☒	24 Aug 82		6							
II. GENERAL INFORMATION													
UNIT 1st AGS				SMOP/BRANCH 91 AMU		EQUIPMENT F-15C		SERIAL NUMBER 79-0091		DATE 15 Aug 82			
III. PERSONNEL EVALUATION RATING													
NAME (Last, First, Middle Initial)						GRADE		DAFSC		TYPE EVAL		RATING	
IV. TYPE EVALUATION INSPECTION PERFORMED						VI. PERSONNEL ERRORS							
BPO QVI						SAFETY RELIABILITY	TIME	TECHNICAL ORDER	SYSTEM KNOWLEDGE	EQUIPMENT	PREPARATION	OTHER	TOTAL
V. EQUIPMENT INSPECTION RATING													
CARD ITEMS EVALUATED		DISCREPANCY DEDUCTION		PERCENTAGE		BASELINE		RATING					
						6		UNSAT					
VII. DISCREPANCIES BY CATEGORY													
I		II		III		IV		V		VI		VII	
MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN
1	4	0	0	0	3	0	0	0	0	0	0	0	0
VIII. QUALITY CONTROL INSPECTION EVALUATION SUMMARY													
Overall condition of the aircraft was good, except for the 1 major discrepancy, F.O. in the cockpit. The last 5 BPO QVI reports for this AMU were reviewed and each inspection had 4-7 missed carded items. A trend appears to be developing in this type inspection. Available PR/BPO cards were checked and found satisfactory.													
DATE 15 Aug 82		PRINTED NAME AND GRADE OF INSPECTOR EVALUATOR J. THOMPSON MSGT						SIGNATURE 					

AF FORM 2419
AUG 79

PREVIOUS EDITION WILL BE USED

Sample AF Form 2419, Routing and Review of Quality Control Reports

Figure H.3-4

ROUTING AND REVIEW OF QUALITY CONTROL REPORTS													
I. REPORT ROUTING SEQUENCE													
	TO	INFO	ACTN	SUSPENSE	INITIALS		TO	INFO	ACTN	SUSPENSE	INITIALS		
1	MAAAC		☒	16 Aug 82									
2	MAAA		☒	18 Aug 82									
3	MAA		☒	19 Aug 82									
4	MAO		☒	20 Aug 82									
5	MA		☒	23 Aug 82									
6	MAO		☒	24 Aug 82									
II. GENERAL INFORMATION													
UNIT 1st AGS				SQUADRON/BRANCH 91 AMU		EQUIPMENT F-15C		SERIAL NUMBER 79-0091		DATE 15 Aug 82			
III. PERSONNEL EVALUATION RATING													
NAME (Last, First, Middle Initial)						GRADE		DAFSC		TYPE EVAL		RATING	
* Joe Johnson						SSgt		430XX		CMI		SAT	
Myrtle Beach						SSgt		731XX		TMM		SAT	
IV. TYPE EVALUATION/INSPECTION PERFORMED													
BPO QVI													
V. EQUIPMENT INSPECTION RATING													
CARD ITEMS EVALUATED		DISCREPANCY DEDUCTION		PERCENTAGE		BASELINE		RATING					
						6		UNSAT					
VII. DISCREPANCIES BY CATEGORY													
I		II		III		IV		V		VI		VII	
MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN
1	4	0	0	0	3	0	0	0	0	0	0	0	0
VIII. QUALITY CONTROL INSPECTION EVALUATION SUMMARY													
Overall condition of the aircraft was good, except for the 1 major discrepancy, F.O. in the cockpit. The last 5 BPO QVI reports for this AMU were reviewed and each inspection had 4-7 missed carded items. A trend appears to be developing in this type inspection. Available PR/BPO cards were checked and found satisfactory.													
DATE		PRINTED NAME AND GRADE OF INSPECTOR/EVALUATOR								SIGNATURE			
15 Aug 82		J. THOMPSON MSGT											

AF FORM 2419
AUG 79

PREVIOUS EDITION WILL BE USED.

Figure H.3-5

Sample AF Form 2419, Routing and Review of Quality Control Reports

AF FORM 2419
AUG 78

PREVIOUS EDITION WILL BE USED

Sample AF Form 2419, Routing and Review of Quality Control Reports

H.4 SECURITY POLICE QUALITY CONTROL TREND PROCEDURES

H.4.1 Data to be Collected. AFHRL will receive, each quarter the:

Security Police Quality Control Trend Analysis
(Figure H.4-1, p. 26)

Data collected will be the average quarterly QC Evaluation scores of SPA, SPO, SPOL-A, SPOL-B, SPOL-C, and SPOL-D.

H.4.2 Requirement for DCR. The DCRs for Security Police Quality Control Trend Analysis reports do not require specialized experience or training.

H.4.3 Frequency of Data Collection. Security Police Quality Control Analysis data will be collected quarterly.

H.4.4 Data Collection Procedure. AFHRL will receive the Security Police Quality Control Trend Analysis quarterly. The DCR will record information on the:

Security Police Quality Control Data Recording Form
(Figure H.4-2, p. 27)

The following information will be recorded on the Recording Form in the appropriate columns and blank, as labeled:

- 1) Quarter.
- 2) Date.
- 3) Average score of each flight.
- 4) DCR's name.

H.4.5 Time Requirements. Time requirements for the collection of Security Police Quality Control Trend Analysis data are as follows:

.07 hr. Record information on Data Recording Form
.07 hr. Input data

H.4.6 Disposition of Data. The DCR will deliver the completed Security Police Quality Control Data Recording Forms to the DIR. The DIR will then have the data entered in the Security Police Quality Control Data Table.



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 87TH TACTICAL RECONNAISSANCE WING (TAC)
BERGSTROM AIR FORCE BASE TX 78743

REPLY TO
ATTN OF: SPQ

1 OCT 1987

SUBJECT 3rd Quarter Quality Control Trend Analysis

TO SP *[Signature]*
SPO
SPA *[Signature]*
IN TURN

1. During this quarter the following job positions were noted as requiring attention or additional training.

a. ART/SRT- Handcuffing procedures (repeat), and combat formation.

b. Flight Chief - Detention Facility Operations, Custom Procedures.

c. L/E Patrol - Use of speed measuring devices (repeat) and prisoner custody and control.

2. The following statistical data indicates the number of QCE's conducted this quarter.

POSITIONS	JUL	AUG	SEP	TOTAL
a. Flt Chief	0	3	3	6
b. Art/Srt	1	2	2	5
c. Desk Sgt	0	1	2	3
d. LE Patrol	0	1	10	11
e. Armory	0	0	3	3
f. Gate Guard	0	2	1	3
g. Dual Cert.	0	2	4	6
IMAs				
a. Flt Chief	1	0	0	1
b. Art/Srt	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>
	3	11	25	39
Failures: 1				
Failure Rate: 2.5				

3. The following shows a ranking of sections and flights according to overall QCE scores.

SPA: 90.1%	SPOL-A: No Testing	SPOL-C: 86.8%
SPO: 89.0%	SPOL-B: 89.0%	SPOL-D: 85.3%

Readiness is our Profession

Security Police Quality Control

Trend Data Recording Form

DATE_____

QUARTER_____

DCR_____

Flight

Average Score

SPA	
SPO	
SPOL-A	
SPOL-B	
SPOL-C	
SPOL-D	

Figure H.4-2

H.5 WEEKLY INVENTORY OF TIME SPENT (WITS) SHEET COLLECTION PROCEDURES

H.5.1 Data To Be Collected. The WITS Sheets used for the baseline data collection are time sheets specifically designed by AFHRL for use in the AOTS baseline and SLT&E data gathering process. WITS sheets track the number of hours spent on a variety of specific training activities by various test subject personnel.

H.5.2 Requirements For DCR. It is not necessary for the DCR to have a particular experience background. The DCR must be capable of following instructions and answering questions in the workcenters regarding the proper method for filling out WITS sheets. The DCR will also be required to perform simple addition on the time sheet.

H.5.3 Frequency of Data Collection. WITS sheets will be filled out and collected biweekly for all Active Duty component workcenters at Bergstrom AFB. Test personnel in Active Duty workcenters will fill out a WITS sheet for every other week during the collection period. WITS sheets will be filled out and collected biweekly in the Reserve workcenters at Bergstrom AFB and the Air National Guard workcenters at Ellington ANGB. Reserve and Air National Guard personnel will fill out WITS sheets only on UTA weekends and annual tour.

H.5.4 Data Collection Procedure.

H.5.4.1 Initial Data Collection Procedure. In performing the required initial WITS sheet distribution and collection tasks, the following will be performed:

THE DCR WILL

- Obtain an appropriate number of WITS sheets, Instructions for filling them out, and Data Collection Coordination Worksheets to distribute to the field.
- Package WITS sheets, Instructions, and Data Collection Coordination Worksheets for distribution to POCs.
- Call a Briefing Meeting of all POCs for Actives and Reserves, to be held at Bergstrom.
- Conduct the Briefing Meeting, explaining data to be collected from workcenters, collection dates, details of

filling out WITS sheets, and responsibilities of POCs in WITS sheet collection--including accounting for all personnel who have not filled out a WITS sheet (TDY, transferred, etc). WITS sheet packages will be handed out to focal point personnel: DCR must be prepared to answer questions at this meeting.

- Travel to Ellington ANGB to hold another Briefing (same process as described above).

THE STAFF AGENCY FOCAL POINT AT THE UNIT WILL

- Distribute WITS sheets to the participants, collect them at the end of the appropriate week or time period, and fill out the Data Collection Coordination Worksheet to account for any WITS sheets that are missing.

THE DCR WILL

- Go to each staff agency focal point at Bergstrom to pick up completed WITS sheets and Coordination Worksheets at the end of the first week of WITS sheets' being filled out. Ellington WITS sheets and Coordination Worksheets will be mailed to DCR.
- Examine the Data Collection Coordination Worksheets to insure that all WITS have either been collected or have been listed with an acceptable reason for their absence. If there is a discrepancy, the DCR will check with the staff agency focal point to resolve the problem.
- Examine the face of the WITS sheets to insure that all blanks have been filled out, as appropriate.
- Perform a quick-look analysis to insure that figures are plausible.
- Deliver the WITS sheets to DIR for input to the appropriate data table.

H.5.4.2 Routine Data Collection Procedure. In performing the required routine WITS sheet distribution and collection responsibilities, the following activities will be accomplished:

THE DCR WILL

- Obtain a sufficient number of WITS sheets, instructions for filling them out, and Data Collection Coordination Worksheets to fulfill requirements and make distribution to each staff agency focal point.

STAFF AGENCY FOCAL POINTS WILL

- Distribute WITS sheets to the participants, collect them at the end of the appropriate week or time period, fill out the Data Collection Coordination Worksheet to account for all WITS sheets that were distributed, and return both the WITS sheets and the Coordination Worksheet to the DCR.

THE DCR WILL

- Examine the Data Collection Coordination Worksheets to insure that all WITS have either been collected or have been listed with an acceptable reason for their absence. If there is a discrepancy, the DCR will check with the staff agency focal point to resolve the problem.
- Examine the WITS sheets to insure that the data appears feasible by checking the following:
 - Duty day is no more than 18 hours.
 - Time allotments within a given category are not identical throughout the week.

H.5.4.3 General WITS Sheet Types And Delivery Instructions. There are three different types of test personnel who will fill out WITS sheets. In order to accommodate these three types of personnel, three types of WITS sheets have been developed. The types of WITS sheets and the Data Coordination Worksheet used in the data collection activity are:

- 1) Commander WITS Sheets--Instructions on reverse side
(Figure H.5-1, p. 34)
- 2) Unit Training Manager WITS Sheets--Instructions on reverse side
(Figure H.5-2, p. 35)

- 3) Supervisor, Evaluator, Trainer, and Trainee WITS Sheets

(Figure H.5-3, p. 36)

- 4) Instructions--Supervisor, Evaluator, Trainer WITS Sheets (Trainee instructions on reverse side)

(Figure H.5-4, p. 37)

- 5) Data Coordination Worksheet--Figure H.5-5, p. 38

Commander WITS sheets are given to Squadron Commanders; Unit Training Manager WITS sheets are given to the base OJT Training Manager and the Unit Training Managers of the various workcenters. The workcenter personnel will receive the Supervisor, Evaluator, Trainer, and Trainee WITS sheets and will fill out the sections which apply to them.

Following are specific procedural instructions to be given to test subjects for filling out the appropriate type of WITS sheet:

The WITS sheet is a time sheet used to measure the amount of time that you typically spend on training or related activities. It is understood that in many cases you may act in more than one of the capacities listed below (for example, supervisor and trainer). If this is the case, it will be necessary to fill in the time spent in each of the roles that you play in OJT. If you are acting in more than one role at a time, record on your WITS sheet the time spent doing tasks principally related to a particular OJT role. In order to fill out a WITS sheet, enter your name and the date of the last day of the applicable workweek or time period.

Trainees: For each day of the week fill out blocks for Numbers 1, 10, 11, and any others that might apply.

Supervisors, Evaluators, or Trainers: For each day of the week fill out the blocks for Numbers 1 through 14 as they apply.

Unit Training Manager: For each day of the week fill out the blocks for Numbers 1 through 8 as they apply.

Squadron Commanders: For each day of the week fill out numbers 1 through 9 as they apply.

For WITS Sheet POCs, refer to Attachments 1, 2, 3, and 4 at the end of Appendix H. For participants who will fill out WITS Sheets, refer to the Attachments 2, 3, and 4, except for ANG and Base OJT: for those, include Attachment 1.

The total number of WITS Sheets required for the Active Duty Component workcenters at Bergstrom AFB for each collection activity (every two weeks) are:

- 5 - Commander WITS Sheets
- 6 - Training Manager WITS Sheets
- 172 - Supervisor, Evaluator, Trainer, and Trainee WITS Sheets

The total number of WITS sheets required for the Reserve workcenters at Bergstrom AFB for each collection activity (once a month) are:

- 4 - Commander WITS Sheets
- 4 - Training Manager WITS Sheets
- 152 - Supervisor, Evaluator, Trainer, and Trainee WITS Sheets

The total number of WITS sheets required for Ellington ANGB for each collection activity (once a month) are:

- 3 - Commander WITS Sheets
- 4 - Training Manager WITS Sheets
- 4 - Additional Training Manager WITS Sheets during UTA weekends
- 175 - Supervisor, Evaluator, Trainer, and Trainee WITS Sheets

H.5.5 Time Required For Data collection.

Initial Weekly Inventory of Time Spent (WITS) Sheet Collection (For One Workcenter At Bergstrom)

0.25	Arrange meeting at workcenter
0.16	Copy and prepare WITS sheets for distribution
0.25	Miscellaneous travel on-base
0.75	Collect and distribute WITS sheets in workcenter

Weekly Inventory Of Time Spent (WITS sheet) Collection (For One Workcenter At Ellington)

0.25	Arrange meeting at workcenter
0.16	Copy and prepare WITS sheets for distribution

0.25	Miscellaneous travel on-base
0.50	Collect and distribute WITS sheets in workcenter

Routine Weekly Inventory of Time Spent (WITS) Sheet Collection
(For Any Workcenter)

0.16	Copy and prepare WITS sheets for mailing
0.16	Mail WITS sheets

Total Data Input Time, By Type WITS

2.67 mo	Commander WITS
4.57 mo	Unit Training Mgr. WITS
18.81 mo	Supervisor/Evaluator/Trainer/Trainee WITS

H.5.6 Disposition of Data. After the WITS sheets have been collected and the above actions performed, the DCR will deliver them to the DIR.

2. To determine the effectiveness of the AOTS prototype.

Weekly Inventory of Time Spent (WITS)
Unit Commander

INDIVIDUAL'S NAME _____
WORK CENTER _____
SSAN _____

1. Number of duty hours per day.
2. Number of hours spent indoctrinating personnel on the OJT program.
3. Number of hours spent ensuring that an aggressive OJT program is in effect and getting the desired results.
4. Number of hours spent conducting the evaluations referenced in AFR 50-23, Chap. 1.
5. Number of hours spent evaluating personnel in Training Status Codes "O" and "T".
6. Number of hours spent selecting task evaluators.
7. Number of hours spent evaluating trainee potential to progress after failing a CDC course examination.
8. Number of hours spent reviewing third party task evaluations completed prior to skill level upgrading or for position qualification.
9. Number of hours spent reviewing third party task evaluation conducted by outside agencies such as Quality Assurance.

[illegible]

UNIT COMMANDER WITS SHEET INSTRUCTIONS

The WITS (Weekly Inventory of Time Spent) sheet is a time sheet used to measure the amount of time that you typically spend on training or related activities during your duty day. Following are instructions for filling out the UNIT COMMANDER WITS sheet:

I. Enter information at the top and bottom of your WITS sheet.

1. Print your name--last, first, and middle initial.
2. Fill in your workcenter number, e.g., 67th CSG/PDMQ.
3. Fill in your SSAN.
4. Fill in the Week Ending date--the last day of the applicable work week or time period (might be UTA weekend).
5. DO NOT fill in Data Collector blank.

II. Record all time to the nearest quarter hour, e.g., 8.25 hours, 2.75 hours.

III. For each day of the week, fill out the blocks for Numbers 1 through 9 as they apply. Refer to the instructions below, as necessary.

Block 1: Record number of hours in your duty day, whether it is the normal 8 hours or some different amount of time.

Block 2: Actual time spent introducing and orienting the OJT program to supervisors, trainers, and trainees.

Block 3: This is the time actually spent reviewing and judging the status of training programs.

Block 4: Actual time spent evaluating progress of airmen in upgrade training who have reached evaluation points requiring the Commander's involvement.

Block 5: Actual time spent evaluating trainees who fail to progress (Training Status Code "T") or who are not recommended for further upgrade training (Training Status Code "O") for possible separation from the service.

Block 6: Actual time spent selecting unit personnel to perform third-party task evaluations.

Block 7: Actual time spent interviewing, evaluating, and judging the potential of those who failed mandatory career development courses.

Block 8: Actual time spent reviewing the documentation and judging the quality of third-party task evaluations.

Block 9: Actual time spent reviewing documented evaluations of unit personnel from outside agencies.

In order to supply accurate information, it is important that you fill out the WITS sheet DAILY for the applicable time period.

PRINCIPLE PURPOSE: The SSAM will be used to identify personnel participation in the Advanced On-the-Job Training System prototype.

ROUTINE USES: 1. To determine the effectiveness of the current ODT program.

2. To determine the effectiveness of the AOTS prototype.

Weekly Inventory of Time Spent (WITS)

Unit Training Managers

INDIVIDUAL'S NAME

WORK CENTER.

SSAN

1. Number of duty hours per day.
2. Number of hours managing/administering the Career Development Course (CDC) Program.
3. Number of hours conducting/reporting staff assistance visits (Formal or Informal).
4. Number of hours assisting/advising supervisors in the development/management of workcenter training programs.
5. Number of hours managing the upgrade training program
6. Number of hours spent coordinating with CBPO and other outside agency functions (FTD, Education Office, etc.)
7. Number of hours spent organizing or conducting meetings.
8. Number of hours spent performing other administrative activities.

[illegible]

AO 74 8302110

Week Number -----

Data Collector.

UNIT TRAINING MANAGER WITS SHEET INSTRUCTIONS

The WITS (Weekly Inventory of Time Spent) sheet is a time sheet used to measure the amount of time that you typically spend on training or related activities during your duty day. It is understood that in many cases you may act in more than one of the capacities listed on the WITS sheet (for example unit training manager and trainer). If this is the case, it will be necessary to fill in the time spent in each of the roles that you play in OJT. If you are acting in more than one role at a time, record on your WITS sheet the time spent doing tasks principally related to a particular OJT role.

Following are instructions for filling out the UNIT TRAINING MANAGER WITS sheet:

I. Enter information at the top and bottom of your WITS sheet.

1. Print your name--last, first, and middle initial.
2. Fill in your workcenter number, e.g., 67th CSG/PDMQ.
3. Fill in your SSAN.
4. Fill in the Week Ending date--the last day of the applicable work week or time period (might be UTA weekend).
5. DO NOT fill in Data Collector blank unless you have been assigned that duty.

II. Record all time to the nearest quarter hour, e.g. 8.25 hours, 2.75 hours.

III. For each day of the week, fill out the blocks for Numbers 1 through 8 as they apply. Refer to the instructions below, as necessary.

Block 1. Record number of hours in your duty day, whether it is the normal 8 hours or some different amount of time.

Block 2. These activities could include providing orientations to supervisors and trainees, overseeing completions of volume review exercises, issuing course materials, counseling trainees on their progress, and monitoring the overall progress of trainees in the CDC program.

Block 3. These activities may include unscheduled evaluation visits to workcenters, formal evaluation of training effectiveness, and preparation of reports or memoranda for record.

Block 4: Activities may include helping supervisors determine task performance requirements, overall workcenter requirements, or development of controls. These may also include teaching principles of training and advising on means to solve training difficulties.

Block 5: Actual time spent working directly with the management of the upgrade training program as opposed to qualification training or other programs such as ancillary training. These activities may include documenting and fulfilling the administrative requirements of AFR50-23.

Block 6: Any time spent with these agencies resolving training issues, scheduling training, arranging testing and evaluation, etc.

Block 7: Actual time spent preparing agendas, conducting meetings, or composing/documenting minutes.

Block 8: Time spent performing additional duties or details, either formally or informally assigned.

In order to supply accurate information, it is important that you fill out the WITS sheet DAILY for the applicable time period.

DISCLOSURE IS MANDATORY: The SSN is mandatory to make positive identification of individuals in relation to other personnel involved the AOTS prototype. Failure to provide this information will prevent required monitoring of training related items which will jeopardize the ability of the AOTS program to perform its mission.

Weekly Inventory of Time Spent (WITS)

INDIVIDUAL'S NAME _____ WORK CENTER _____ SSAN _____

1. Number of duty hours per day.
2. Number of hours spent scheduling task proficiency training.
3. Number of hours spent scheduling career knowledge training.
4. Number of hours spent documenting task proficiency training.
5. Number of hours spent documenting career knowledge training.
6. Number of hours spent conducting task proficiency training.
7. Number of hours spent conducting career knowledge training.
8. Number of hours spent evaluating task proficiency training.
9. Number of hours spent evaluating career knowledge training.
10. Number of hours spent receiving career knowledge training.
11. Number of hours spent receiving task proficiency training.

[illegible]

001104000 01000

Week Ending-----

Data Collector-----

Figure H.5-3

Weekly Inventory of Time Spent (WITS)

Page 2

INDIVIDUAL'S NAME _____ WORK CENTER _____ SSAN _____

SSAN

[illegible]

12. Number of hours spent selecting trainers
13. Number of hours spent developing training program
14. Number of hours spent coordinating with CJT managers
15. Number of hours spent counselling trainees

PRIVACY ACT STATEMENTS

PROPERTY: 44 USC 3101, 10 USC 6012 and 10 USC 6107

PRINCIPAL PURPOSE: The SSN will be used to identify personnel participating in the Advanced Communications System program.

ROUTINE USED: 1. To determine the effectiveness of the current OAT program.
2. To determine the effectiveness of the NUTS prototype.

SECURITY IS MANDATORY: The SSAN is mandatory to all positive identification of individuals in relation to other personnel included the AGTS prototype. In order to provide this information will prevent required monitoring of all training related items which will jeopardize the ability of the AGTS program to perform its mission.

Figure 46-1

Week Ending -----

Data Collector-----

SUPERVISOR, EVALUATOR, TRAINER WITS SHEET INSTRUCTIONS

The WITS (Weekly Inventory of Time Spent) sheet is a time sheet used to measure the amount of time that you typically spend on training or related activities during your duty day. It is understood that in many cases you may act in more than one of the capacities listed on the WITS sheet (for example, supervisor and trainer). If this is the case, it will be necessary to fill in the time spent in each of the roles that you play in OJT. If you are acting in more than one role at a time, record on your WITS sheet the time spent doing tasks principally related to a particular OJT role.

Following are instructions for filling out the SUPERVISOR, EVALUATOR, TRAINER WITS sheet:

I. Enter information at the top and bottom of your WITS sheet.

1. Print your name--last, first, and middle initial.
2. Fill in your workcenter number, e.g., 67th CSG/PDMQ.
3. Fill in your SSAN.
4. Fill in the Week Ending date--the last day of the applicable work week or time period (might be UTA weekend).
5. DO NOT fill in Data Collector blank unless you have been assigned that duty.

II. Record all time to the nearest quarter hour, e.g., 8.25 hours, 2.75 hours.

III. For each day of the week, fill out the blocks for Numbers 1 through 15 as they apply. Refer to the instructions below, as necessary.

Block 1: Record number of hours in your duty day, whether it is the normal 8 hours or some different amount of time.

Block 2: These activities might include planning, coordinating, and setting the date, time, and place for doing OJT on a task.

Block 3: These activities might include planning, coordinating, and setting the date, time, and place for studying CDCs or other publications supporting OJT.

Block 4: The actual time spent reviewing and recording task training.

Block 5: The actual time spent reviewing and recording knowledge training.

Block 6: These activities include the actual conduct of task training as a trainer.

Block 7: These activities include the actual conduct of knowledge training as a trainer, classroom teacher,

Block 8: Actual time spent evaluating trainee performance.

Block 9: Actual time spent testing or reviewing knowledge training, e.g., volume review exercises, quizzes, etc..

Block 10: Actual time spent as a trainee receiving career knowledge training through classroom, self-study, or CDC activity.

Block 11: Actual time spent as a trainee receiving task-oriented instruction, practice, and evaluation.

Block 12: Actual time spent as a supervisor selecting personnel to conduct training.

Block 13: Actual time spent as a supervisor setting up the OJT for an individual or group. These activities may include determining task requirements, reviewing competence of a newly-assigned trainee, or revising the direction of the individual or group's OJT program.

Block 14: Actual time spent receiving guidance from or providing information to the OJT managers.

Block 15: Actual time spent counseling trainees when difficulties arise or when trainee progress is inadequate.

In order to supply accurate information, it is important that you fill out the WITS sheet DAILY for the applicable time period.

Figure H.5-4

TRAINEE WITS SHEET INSTRUCTIONS

The WITS (Weekly Inventory of Time Spent) sheet is a time sheet used to measure the amount of time that you typically spend on training or related activities during your duty day. It is understood that in many cases you may act in more than one of the capacities listed on the WITS sheet (for example, supervisor and trainee). If this is the case, it will be necessary to fill in the time spent in each of the roles that you play in OJT. If you are acting in more than one role at a time, record on your WITS sheet the time spent doing tasks principally related to a particular OJT role.

Following are instructions for filling out the TRAINEE WITS sheet:

- I. Enter information at the top and bottom of your WITS sheet.
 1. Print your name--last, first, and middle initial.
 2. Fill in your workcenter number, e.g., 67th CSG/PDMQ.
 3. Fill in your SSAN.
 4. Fill in the Week Ending date--the last day of the applicable work week or time period (might be UTA weekend).
 5. DO NOT fill in Data Collector blank unless you have been assigned that duty.
- II. Record all time to the nearest quarter hour, e.g., 8.25 hours, 2.75 hours.
- III. For each day of the week, fill out blocks for Numbers 1, 10, 11, and any others that might apply. Refer to the instructions below, as necessary.

Block 1: Record number of hours in your duty day, whether it is the normal 8 hours or some different amount of time.

Block 10: Actual time spent as a trainee receiving career knowledge training through classroom, self-study, or CDC activity.

Block 11: Actual time spent as a trainee receiving task-oriented instruction, practice and evaluation.

In order to supply accurate information, it is important that you fill out the WITS sheet DAILY for the applicable time period.

Active Duty: _____
Reserves: _____
Guard: _____[illegible]

H.6 BASE CRIME STATISTICS

H.6.1 Data To Be Collected. The 67 SPS will send AFHRL the

Base Crime Analysis Report
(Figure H.6-1, p. 41)

each quarter. This analysis will include the number of incidents in the following categories: Crimes Against Persons, Crimes Against Property, Theft of Government Property, Theft Of Private Property, and Drug Incidents.

H.6.2 Requirements For DCR. The DCR needs no special background or skills.

H.6.3 Frequency Of Data Collection. Quarterly.

H.6.4 Data Collection Procedure.

- POC is the superintendent of the 67 SPS Reports and Analysis Branch.
- IST support will come from TSgt Rick Booth, x3070.
- After receiving the crime analysis reports, the DCR will obtain a

Security Police Crime Analysis Data Collection Form
(Figure H.6-2, p. 42).

- If the crime analysis reports are not received by the 7th of the month following their issuance, or the data appears incomplete or inaccurate, the DCR shall coordinate a personal visit with the Security Police Squadron to obtain the missing information.
- The DCR will look at each category of crime separately and count the number of times Security Police response was made to that specific category.
- DCR will put his name and the date in the appropriate blank.

H.6.5 Time Requirements For Data Collection. Time requirements for the collection of Base Crime Statistics data areas follows:

0.25	Obtain Data Recording Forms and Crime Analysis Reports
0.50	Record data onto Data Recording Form
0.50	Follow up actions to remedy deficient data
0.07	Data input

H.6.6 Disposition Of Data. After checking addition for accuracy, the DCR will deliver the data recording form to the DIR, who will have the data entered into the Base Crime Statistics data table.



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 67TH COMBAT SUPPORT GROUP (TAC)
BERGSTROM AIR FORCE BASE TX 76743-5000

REPLY TO
ATTN OF

SPAR (TSgt Calderon, 4038)

01 AUG 86

SUBJECT

Crime Analysis for the Second Quarter of 1986 (APR-JUN)

TO Distribution "A"

1. The following is an analysis of crime and incident activities on Bergstrom AFB for the second quarter of 1986. Data contained in this report indicates crimes against persons or property, drug offenses, lost or stolen property and other security police responses.
2. CRIME AGAINST PERSONS: Security Police responded to 2 aggravated assaults, 3 simple assaults, 2 domestic disturbances, 1 obscene phone call, 2 false official statements and 2 child neglect cases.
3. CRIMES AGAINST PROPERTY: Security Police responded to 2 housebreakings, 1 auto theft and 17 cases of vandalism. Vandalism increased from 13 cases last quarter to 17 this quarter. Six involved government property and 11 involved private property. The following buildings and their parking lots were the targets of vandalism incidents: Dorms 2002, 2311, 2103, 2104, 2403, BLDG 1643, 2226, 3514, 4865, parking lots of 2104, 2401, 2410, 2700, and 239 Anderson Lane, 759-B Robin Lane, 5125 McWhirk in the housing area.
4. THEFT OF GOVERNMENT PROPERTY: There were 12 thefts this quarter. For time and dates of each occurrence refer to attachment 1. The total amount of government property reported stolen is \$1,549.72 with \$1,297.32 recovered.
5. THEFT OF PRIVATE PROPERTY: There were 46 reported thefts this quarter, of these, 11 were shoplifting cases. The total amount of private property stolen is \$19,641.08 with \$10,130.69 recovered.
6. DRUGS: There were 15 drug related incidents this quarter. Six were at the main gate, 7 were at the commercial gate, 1 at the visitors reception center parking lot, and 1 at the commissary parking lot.

Robert M. Collins

ROBERT M. COLLINS, Major, USAF
Chief of Security Police

5 Attachment

1. Larceny of Gov't Property
2. Larceny of Private Property
3. Shoplifting Cases
4. Gov't/Private Property Thefts by Week
5. Bar Graph on Drug Abuse Incidents

Readiness is our Profession

FOR OFFICIAL USE ONLY

Figure H.6-1

**Security Police
Crime Analysis Data Collection**

**Crimes Against
PERSONS**

**Crimes Against
PROPERTY**

**Theft of
GOVERNMENT
PROPERTY**

**Theft of
PRIVATE
PROPERTY**

**Drug
Incidents**

Date_____ Data Collector_____

Figure H.6-2

H.7 MDC/MILAP 480 REPORT COLLECTION PROCEDURES

H.7.1 Data To Be Collected. The MDC and MILAP 480 Reports are generated by the 67th TRW DCM/MASA office. These reports provide a detailed tracking of maintenance activities performed by the various workcenters at Bergstrom AFB. These reports are only generated for the Active component.

H.7.2 Requirements For DCR. Both a DCR and a subject matter expert (SME) are required. The data collector will not require any specific experience background. The SME will require background in either 426X2 or 431X1 AFSSs.

H.7.3 Frequency Of Data Collection. Data from the MDC and MILAP 480 reports will be collected monthly.

H.7.4 Data Collection Procedure

H.7.4.1 Data Locations. The MDC and MILAP 480 reports are sent by the 67th TRW DCM/MASA office to AFHRL/OL-AK in Trailer T-1.

H.7.4.2 MDC Potential Repeat Action Identification. The MDC and MILAP 480 reports will be provided by DCM/MASA upon the request of the DCR. The POC and document location are:

Building: 1603
Room: 18
POC: MSgt Winkleman
Ext: 3348/9

The DCR will request and obtain five MDC and one MILAP 480 Report from the location listed above. It takes approximately two to three days for MASA to generate the reports once they have been requested. The reports will cover the following areas:

- 1) 431X1 within the 12th AMU for A flight
- 2) 431X1 within the 12th AMU for B flight
- 3) 426X2 within the 12th AMU for Specialist Flight Propulsion
- 4) 426X2 within 67th CRS Jet Engine Intermediate Maintenance
- 5) 431X1 within the 67th EMS Phase shop Inspection

Once he has the reports, DCR will review each report to identify potential repeat maintenance actions. The potential repeat maintenance actions may be determined in the following manner

(See Figure H.7-1, p. 48):

- Determine the workcenter to which each report applies.
- Locate the PWC column. Use the following table to identify which report is associated with which workcenter.

PWC	WORKCENTER
DG111	12th AMU A FLIGHT (431X1)
DG112	12th AMU B FLIGHT (431X1)
DG501	12th AMU SPECIALIST FLIGHT (426X2)
DE210	67th EMS MAINTENANCE/PHASE (431X1)
DR210	67th CRS JEIM (426X2)

- Write the workcenter name on the front of the MDC computer report. It is necessary to identify the workcenter with the reports. The purpose is to track how many maintenance repeat actions occur for the five shops:

- 1) 12th AMU (431X1), A Flight
- 2) 12th AMU (431X1), B Flight
- 3) 12th AMU (431X1), Specialist Flight
- 4) 67th CRS JEIM (426X2)
- 5) 67th EMS MAINTENANCE/PHASE (431X1)

- To accomplish this, the DCR will review the contents of the columns labeled:

- 1) WUC (work unit code)
- 2) JCN (job control number)
- 3) ID (engine serial or aircraft tail number)
- 4) HM
- 5) UNITS

- The DCR will review these columns and highlight those records which meet the following criteria:

- a) ID = Same
- b) WUC = Same, unless first digit = 0
- c) JCN = Different
- d) HM = Same
- e) UNITS = Consecutive 1s
- f) DAY = TBD by SME

If these conditions are met

(See Figure H.7-2, p. 49),

then highlight that record (row). Proceed through each

of the documents looking for records to meet these test conditions. Another example of possible repeat maintenance actions is shown in

Figure H.7-3, p. 50.

An example of a situation that would not qualify is shown in

Figure H.7-4, p. 51.

The situation would not qualify because even though both actions have the same WUC and different JCNS, they were accomplished on different engines (IDs).

Once the repeat maintenance actions have been highlighted, the data collector will give the reports to the SME.

H.7.4.3 Identification Of Actual Repeat Maintenance Actions On The MDC. The SME will review the highlighted actions and indicate those items he/she believes are repeat actions by placing an asterisk in the right-hand margin. When the SME is finished, the DCR will obtain the reports and count the number of asterisks in each report. The total number of repeat actions for the five specific shops:

- 1) 12th AMU A and B Flights (431X1): two MDC reports added together
- 2) 12th AMU (431X1), Specialist Flight (426X2)
- 3) 67th CRS JEIM (426X2)
- 4) 67th EMS Maintenance shop (431X1) PWC=DE210 added together

These totals will be recorded using the

MDC/MILAP Data Collection Form--Figure H.7-5, p. 52.

H.7.4.4 MDC Data Disposition. The DCR will provide the summary data collection memo to the DIR.

The DIR will record the number of repeat maintenance actions for the month for each workcenter in the appropriate data table.

H.7.4.5 MILAP 480 Potential Repeat Action Identification. The MILAP 480 reports will be provided by DCM/MASA upon request of the DCR. THE POC and document location is:

Building: 1603
Room: 18

POC: MSgt Winkleman
Ext: x3348/9

The DCR will obtain a monthly MILAP 480 Report from the location listed above. It takes approximately two to three days for MASA to generate the report once it has been requested.

The MILAP 480 Report, Figure H.7-6, p. 53, is used as an additional measure for obtaining an accounting of repeat maintenance actions. In this respect, it is similar to the MDC reports.

The major differences between the MILAP 480 and the MDC reports are:

- 1) MILAP 480 pertains only to AMU (431X1 or specialist flight) actions
- 2) The formats are different
- 3) MILAP 480 identifies actions at the aircraft level per pilot reports.

After the report is obtained, the DCR will highlight those items which may indicate repeat maintenance actions.

In order to highlight repeat maintenance actions, the DCR must look at two columns of information on the report. The two columns are:

- 1) Sortie Seq-NBR
- 2) Rep-Rec

The Sortie-Seq-NBR column identified which maintenance unit services the aircraft. This study is concerned with those Sortie-Seq-NBRs that begin with a two (2). The two (2) identifies the 12th AMU.

The Rep-Rec identifies the type of occurrence. This study is only concerned with those incidents coded:

- 1) C, which is recurring discrepancy
- 2) R, which is repeat discrepancy
- 3) A, which is repeat plus abort
- 4) B, which is recurring plus abort

Thus, the two criteria the DCR uses to highlight a record are:

- a) that the Sortie-Seq-NBR begins with a 2 or a 4, and

b) that the Rep-Rec code be a C, R, A, or B.

Once the DCR has highlighted the MILAP 480 Report, the SME will examine the report and identify actual repeat maintenance actions.

H.7.4.6 Identification Of Actual Repeat Maintenance Actions On The MILAP 480 Report. The SME will provide expertise in making a final assessment determining whether highlighted actions are in fact repeat maintenance actions. If the SME decides that the actions are repeat maintenance actions, he will place an asterisk (*) in the right-hand column.

The DCR will then count up the number of asterisks for the 12th AMU and write that total in the Repeat Maintenance Count block on the Data Collection Form.

Examples of correct and incorrect highlighted repeat actions are shown in

Figure H.7-7, p. 54.

The first highlighted event is correct, i.e. Sort-Seq-NBR is 217 and the Rep-Rec code is B. The second event highlighted is incorrect because the Sort-Seq-NBR is 721, even though the Rep-Rec is an R. Figure H.7-6 (p. 53) presents another example of a correctly highlighted page.

H.7.5 Time Requirements. The DCR will ask for, receive, and review this data on a monthly basis. The time requirement for the collection, evaluation and recording of data is as follows:

MDC/MILAP 480 Report Monthly Collection

0.25	Arrange report generation/pick-up
0.25	Miscellaneous travel on-base
0.16	Pick-up reports
1.50	Data collector highlights report
0.75	IST SME reviews highlighted items
0.50	Extract data from report
0.12	Input data

H.7.6 MDC/MILAP 480 Data Disposition. When the MILAP 480 Report has been completed and the asterisk count included in the MDC/MILAP 480 Report Data Recording Form, the form will be provided to the DIR.

The DIR will enter the MILAP 480 repeat incident count into the data table.

UD3-01485 NDCN
PAGE 3
AF 20

H-50

MDC/MILAP Data Collection Form

PWC	NUMBER OF REPEATS	WORKCENTER
DG111	_____	12 AMU A FLIGHT
DG112	_____	B FLIGHT
TOTAL		
DG501	_____	SPECIALIST FLIGHT
DE210	_____	PHASE
DR210	_____	JEIM
MILAP Repeat Maintenance Count		
	A Flight	B Flight

Date: _____

SME _____

Data Collector: _____

Figure H.7-5

ID-HBR	DATE	SORT-SEQ	CAP-REC	BASE: BJHZ	ORGE 0067TRMWS	OPR - 006	RGP: DA2	SRD: AFM	PILOT REPORTED DISCREPENCY	SORT-IE	JCM
DA7444	870319	210	22	REP--					UNF RCP VOLUME KNOB WOULD NOT TURN DOWN	2	0762190
DA7444	870320	210	22	REC					HF RADIO HAD A TONE WHEN XMITTING	1	0792105
DA7444	870321	210	22						UNF FCP CONTROL HEAD INOP	1	0862219
DA7444	870321	210	22						UNF HAD WEAK RECEIVER	1	1112260
DA7444	870321	210	22						UNF 50 WIRE INTERFERES WITH ALTITUDE SEL S	1	0962207
DA7444	870321	210	22						UNF SUPER ANTENNA BAD	1	0992182
DA7444	870321	210	22						FCP RADIO WEAK RECEPTION	1	1482177
DA7444	870321	210	22						HAVE QUICK BROKEN TRANS OR RECEIVE PRIOR	1	1332186
DA7444	870321	210	22						UNF SQUELCH INOP	1	0652228
DA7444	870321	210	22						UNF RADIO INOP	1	0712160
DA7444	870321	210	22						ADDITIONAL UNLOC STATIC OM PRI UNF CH	1	0862222
DA7444	870321	210	22						FCP UNF RADIO CONTROL HEAD LOUD SQUEAL	1	0992183
DA7444	870321	210	22						UNF LOWERED ANTENNA CRACKED	1	1082179
DA7444	870321	210	22						UNF RADIO WOULD TRANSMIT OR RECIEVE	1	1272222
DA7444	870321	210	22						UNF RADIO INOP	1	1412201
DA7444	870321	210	22						UNF RADIO INOP	1	0602101
DA7444	870321	210	22						UNF RADIO INOP	1	0752164
DA7444	870321	210	22						UNF WEAK STATIC IN HOUSTAR	1	0852205
DA7444	870321	210	22						FCP UNF PRESETS INOP	1	0852213
DA7444	870321	210	22						UNF RADIO BOTH COCKPIT INTERMITTANT	1	0892237
DA7444	870321	210	22						UNF BOTH COCKPITS INTERMITTANT	1	0962231
DA7444	870321	210	22						UNF RADIO IN BOTH COCKPITS INTERMITTANT	1	1102231
DA7444	870321	210	22						HAVE QUICK RADIO DONT TRANSMIT	1	1132299
DA7444	870321	210	22						HALF QUICK DUMPED INFLY	1	1192214
DA7444	870321	210	22						HAVE QUICK CHANNELS NO RCV UNLESS SQUELCH OFF	1	0622119
DA7444	870321	210	22						UPPER UNF ANTENNA BAD	1	0642185
DA7444	870321	210	22						UNF INOP UPPER AND LOWER ANTENNA	1	0642198
DA7444	870321	210	22						ADDITIONAL UNLOC STATIC OM PRI UNF CH	1	0652225
DA7444	870321	210	22						FCP WIRE INOP	1	1002192
DA7444	870321	210	22						UNF INTERMITTANT	1	1042164
DA7444	870321	210	22						UNF RADIO WOULD NOT ALLOW XMIT NO SOME FR	1	1202207
DA7444	870321	210	22						UNF RADIO WOULD THE PRESET	1	1202207
DA7444	870321	210	22						UNF RADIO WOULD TRANSMIT AFTER 10 MIN	1	1312225
DA7444	870321	210	22						UNF RADIO WOULD TRANSMIT AFTER 10 MIN	1	1312225
DA7444	870321	210	22						UNF APPROACH TO BSM RADIOS WENT DEAD FOR 3	1	1332199
DA7444	870321	210	22						UNF WOULD NOT TRANSMIT	1	1392158
DA7444	870321	210	22						LOW TRANS ON UNF FOR 2 MIN OUR FLT	1	0682159
DA7444	870321	210	22						UNF RCP TONE BUTTON INOP	1	0712158
DA7444	870321	210	22						AUX RECEIVER INOP	1	0712158
DA7444	870321	210	22						UNF BCPS ABNORMAL SCREING IM EITHER COM	1	0712158
DA7444	870321	210	22						UNF RCP INTERMITTANT	1	0712158
DA7444	870321	210	22						FCP COMM SYS BARELY USEBLE	1	1252205

Figure H.7-7

H.8 BASELINE SURVEYS

H.8.1 Data To Be Collected. The Prototype AOTS Baseline Surveys are survey instruments that are distributed to all workcenter personnel prior to the start of SLT&E. The surveys are designed to measure the current OJT environment concerning the level of computer experience, views and opinions regarding training and OJT, and the availability of operational equipment for use in the OJT process. There are three types of Baseline Surveys, each tailored to a particular audience:

- 1) Commanders--Figure H.8-1, p. 57
- 2) Training Managers--Figure H.8-2, p. 61
- 3) Supervisors, Evaluators, Trainers, and Trainees
Figure H.8-3, p. 69

H.8.2 Requirements For DCR. The DCR who administers the Baseline Surveys does not require a specific experience background.

H.8.3 Frequency Of Data Collection. Baseline Surveys will be administered once near the end of the baseline data acquisition period, at all AOTS and control workcenters.

H.8.4 Data Collection Procedure. For POCs, participants, and locations for the administration of Baseline Surveys, refer to Attachments 3 and 4 at the end of Appendix H and (for control workcenters) Attachments at the end of Appendix J.

The following steps must be followed in order to administer the Baseline Survey:

- Brief all OJT and unit training managers on the purposes and uses of the Baseline Surveys and the administration and collection procedures.
- Identify workcenter commanders; training managers; and supervisors, evaluators, trainers, and trainees.
- Photocopy sufficient copies of the survey for the intended workcenter.
- Assemble surveys and answer sheets for each person.

- Attach appropriate name labels to each survey.
- Group them according to component and workcenter.
- Give survey packets to the appropriate OJT manager who will give them to each unit training manager for distribution, completion, and return to the OJT manager.

H.8.5 Time Required For Data Collection. The time requirement for the administration and collection of Baseline Surveys is as follows:

Baseline Survey administration and collection (One workcenter at Bergstrom)

1 00	Brief training managers
1.25	Copy and prepare surveys for distribution
0.25	Miscellaneous travel on-base

Baseline Survey administration and collection (One workcenter at Ellington)

1.00	Brief training managers
0.50	Review survey questions
0.25	Copy and prepare surveys for distribution
0.25	Miscellaneous travel on-base

H.8.6 Disposition Of Data. After the Baseline Surveys have been administered, the DCR will deliver the completed surveys to the DTM, who will have the results scanned by AFHRL/TS and entered into the Baseline Survey data tables.

PROTOTYPE AOTS BASELINE SURVEY

UNIT COMMANDERS

PRIVACY ACT STATEMENT

AUTHORITY: 44 USC 3101; 10 USC 8012 AND EO 0307
PRINCIPAL PURPOSE: The SSAN will be used to identify personnel participating in the Advanced On-the-job Training System Prototype.
ROUTINE USES: 1. To determine the effectiveness of the current OJT program.
2. To determine the effectiveness of the AOTS prototype.
DISCLOSURE IS MANDATORY: The SSAN is mandatory to make positive identification of individuals in relation to other personnel included in the AOTS prototype. Failure to provide this information will prevent required monitoring of training related items which will jeopardize the ability of the AOTS program to perform its mission.

DIRECTIONS: On the accompanying answer sheet, please enter your name (in the "Name Grid" block) and SSAN (in the "Numeric Grid" block, columns 1 through 9). Indicate your response to each question by filling in the corresponding oval for each question.

Note: Computer use does not include the use of a hand calculator.

1. Have you ever used a computer?
a - Yes b - No

IF YOU ANSWERED NO, GO TO QUESTION NUMBER 7.

2. Do you use a computer in your job?
a - Yes b - No
3. Have you ever owned a computer?
a - Yes b - No
4. How comfortable do you feel using a computer?
a - Very comfortable
b - Comfortable
c - Neither comfortable nor uncomfortable
d - Uncomfortable
e - Very uncomfortable
5. Have you ever received instruction where the information was presented on a computer?
a - Yes b - No
6. How would you rate your computer-based learning experience?
a - N/A, haven't received any instruction through a computer
b - Outstanding
c - Excellent
d - Satisfactory
e - Marginal
f - Unsatisfactory

7. Have you ever taken any computer classes?
 - a - Yes
 - b - No
8. How often do you play video games?
 - a - Daily
 - b - Weekly
 - c - Monthly
 - d - Yearly
 - e - Never
9. What is your rank?
 - a. 2d - 1st Lt
 - b. Captain
 - c. Major
 - d. Lt Colonel
 - e. Colonel
10. To what type of unit are you assigned?
 - a. Maintenance
 - b. Security Police
 - c. Personnel
 - d. Other
11. How long have you been commander for your present unit?

a. Less than 3 months	e. 12 but less than 18 months
b. 3 but less than 6 months	f. 18 but less than 24 months
c. 6 but less than 12 months	g. 24 but less than 36 months
d. 9 but less than 12 months	h. 36 months or more

Using the following scale, indicate how important you feel training is (in general, not to you particularly) to each of the areas given below.

NOT IMPORTANT
AT ALL

MODERATELY
IMPORTANT

EXTREMELY
IMPORTANT

a-----b-----c-----d-----e-----f-----g

12. Retention beyond the first term
13. Initial decision to enter the Air Force

14. Job satisfaction
15. Safety
16. Morale/Motivation
17. Accomplishment of the mission
18. How do you feel about automating the OJT system? (Use the following scale.)

DON'T FAVOR
IT AT ALL

NEUTRAL

FAVOR
IT A LOT

a-----b-----c-----d-----e-----f-----g

19. How satisfied are you with the current OJT program?

- a. very satisfied
- b. satisfied
- c. somewhat satisfied
- d. neither satisfied nor dissatisfied
- e. somewhat dissatisfied
- f. dissatisfied
- g. very dissatisfied

20. Are you experiencing any problems with your OJT program?

- a. no

If yes, in the following areas: (Mark each that applies.)

- b. OJT administration
- c. quality of trainers
- d. training materials
- e. evaluation materials
- f. quality of evaluators
- g. training managers

Use the following scale for questions 21-33.

STRONGLY
DISAGREE

NEUTRAL

STRONGLY
AGREE

a-----b-----c-----d-----e-----f-----g

21. Air Force policies governing the OJT program provide me with the flexibility I need as a commander to operate my OJT program.
22. On-the-job training has a major impact on unit effectiveness.
23. My unit has the necessary training and evaluation materials needed to support my mission.
24. My unit has the necessary operational training equipment to perform my OJT mission.
25. My unit training requirements are accurately defined.
26. I can quickly extract training information from my unit training records to assess unit training status.
27. My unit training records accurately reflect my unit's qualifications.
28. My unit training records allow me to accurately assess trainees' accomplishments.
29. I have the necessary training management indicators to effectively manage my OJT program.
30. My unit has the necessary training development tools and expertise to develop training materials.
31. I am very confident the current OJT program qualifies my airmen in the proper tasks for my mission.
32. My OJT trainers are well qualified.
33. I am satisfied with the time it takes to qualify a trainer in a position.
34. What problems are you experiencing with your OJT program?
35. How would you improve your OJT program?

Figure H.8-1

PROTOTYPE AOTS BASELINE SURVEY

OJT MANAGERS

PRIVACY ACT STATEMENT

AUTHORITY: 44 USC 3101; 10 USC 8012 AND EO 0307
PRINCIPAL PURPOSE: The SSAN will be used to identify personnel participating in the Advanced On-the-job Training System Prototype.
ROUTINE USES: 1. To determine the effectiveness of the current OJT program.
2. To determine the effectiveness of the AOTS prototype.
DISCLOSURE IS MANDATORY: The SSAN is mandatory to make positive identification of individuals in relation to other personnel included in the AOTS prototype. Failure to provide this information will prevent required monitoring of training related items which will jeopardize the ability of the AOTS program to perform its mission.

DIRECTIONS: On the accompanying answer sheet, please enter your name (in the "Name Grid" block) and SSAN (in the "Numeric Grid" block, columns 1 through 9). Indicate your response to each question by filling in the corresponding oval for each question.

Note: Computer use does not include the use of a hand calculator.

1. Have you ever used a computer?
a - Yes b - No

IF YOU ANSWERED NO, GO TO QUESTION NUMBER 7.

2. Do you use a computer in your job?
a - Yes b - No
3. Have you ever owned a computer?
a - Yes b - No
4. How comfortable do you feel using a computer?
a - Very comfortable
b - Comfortable
c - Neither comfortable nor uncomfortable
d - Uncomfortable
e - Very uncomfortable
5. Have you ever received instruction where the information was presented on a computer?
a - Yes b - No
6. How would you rate your computer-based learning experience?
a - N/A, haven't received any instruction through a computer
b - Outstanding
c - Excellent
d - Satisfactory
e - Marginal
f - Unsatisfactory

7. Have you ever taken any computer classes?
a - Yes
b - No
8. How often do you play video games?
a - Daily
b - Weekly
c - Monthly
d - Yearly
e - Never

**PLEASE USE THE FOLLOWING DEFINITIONS TO
ANSWER QUESTIONS ON THE FOLLOWING PAGES:**

MANAGING UPGRADE TRAINING PROGRAM: Work directly associated with the status of personnel in upgrade training. Examples are maintaining the Monthly OJT Roster, entering personnel into training, adjusting training dates, processing skill level upgrades and withdraws from training, and performing upgrade trainee orientations.

CONDUCTING/REPORTING STAFF ASSISTANCE VISITS: All activities supporting planning for, actually conducting, and documenting both informal and formal staff assistance visits, when required.

MANAGING THE CDC PROGRAM: Ensuring proper CDCs are ordered for upgrade trainees, processing reenrollments and enrollment extensions, and ensuring other administrative CDC requirements are met, as required.

COORDINATING WITH CBPO AND OUTSIDE AGENCY FUNCTIONS: Working with CBPO concerning on-the-job training matters effecting promotions, classification, retraining, discharges/separations, etc. Coordinating (scheduling people and places) with FTD, Base Education, etc.

ASSISTING SUPERVISORS/COMMANDERS: Providing assistance to develop and use training plans, identify training requirements, understand and use the ISD process, select task evaluators, and provide advice on other OJT matters.

ORGANIZING/CONDUCTING MEETINGS: Preparation for, conducting, and documenting required OJT meetings.

DAILY SUPERVISORY ACTIVITIES: Normal supervision and management of workcenter personnel.

ADMINISTRATIVE ACTIVITIES: Routine processing of computer system transactions and normal paperwork flow through the workcenter such as read files, memos for record, forms preparation, answering telephones and taking messages, etc.

9. What is your rank?

a. Amn-SrA	e. MSgt
b. Sgt	f. SMSgt
c. SSgt	g. CMSgt
d. TSgt	

10. What is your total time in service?

a. Less than 2 years	g. 12 but less than 14 years
b. 2 but less than 4 years	h. 14 but less than 16 years
c. 4 but less than 6 years	i. 16 but less than 18 years
d. 6 but less than 8 years	j. 18 but less than 20 years
e. 8 but less than 10 years	k. 20 years or more
f. 10 but less than 12 years	

11. How long have you been an OJT Manager?

a. Less than 6 months	e. 6-7 years
b. 6 months-1 year	f. 8-9 years
c. 2-3 years	g. 10 years or more
d. 4-5 years	

12. Which of the following best describes your OJT Management duties?

a. Additional duty	d. Full-time, Maintenance Training
b. Full-time, Base OJT	e. Other
c. Full-time, Unit OJT	

13. What do you feel is the most important function of an OJT Manager?

- a. Managing upgrade training program
- b. Conducting/Reporting staff assistance visits
- c. Managing the CDC program
- d. Coordinating with CBPO and outside agency functions
- e. Assisting supervisors/commanders
- f. Organizing/Conducting meetings
- g. Daily supervisory activities
- h. Administrative activities
- i. Other

14. What do you feel is the least important function of an OJT manager?

- a. Managing upgrade training program
- b. Conducting/Reporting staff assistance visits
- c. Managing the CDC program
- d. Coordinating with CBPO and outside agency functions
- e. Assisting supervisors/commanders
- f. Organizing/Conducting meetings
- h. Daily supervisory activities
- i. Administrative activities
- j. Other

15. If you had more time to spend on one aspect of your job, what would it be?

- a. Managing upgrade training program
- b. Conducting/Reporting staff assistance visits
- c. Managing the CDC program
- d. Coordinating with CBPO and outside agency functions
- e. Assisting supervisors/commanders
- f. Organizing/Conducting meetings
- g. Daily supervisory activities
- h. Administrative activities
- i. Other

16. What do you see as the area within the scope of OJT needing the most attention or resources?

- a. Managing upgrade training program
- b. Conducting/Reporting staff assistance visits
- c. Managing the CDC program
- d. Coordinating with CBPO and outside agency functions
- e. Assisting supervisors/commanders
- f. Organizing/Conducting meetings
- g. Daily supervisory activities
- h. Administrative activities
- i. Other

USE THE PERCENTAGE SCALE BELOW TO ANSWER QUESTIONS 17-25.

a. zero	h. 35	o. 70
b. 5	i. 40	p. 75
c. 10	j. 45	q. 80
d. 15	k. 50	r. 90
e. 20	l. 55	s. 100
f. 25	m. 60	
g. 30	n. 65	

17. On the average, what percent of your on-the-job time do you spend in training-related activities?

Consider your answer to question 17 as a block of time. Now indicate how this time is distributed among each activity listed below. Your answers will be the relative percent of your training time you spend on each activity. The total of questions 18-25 should equal 100%. It may be helpful to first write in your numerical percentages directly on the survey in the spaces provided. Then, using the scale above, enter the appropriate letter response on your answer sheet. Be sure your responses equal 100% Refer to the previous page for definitions of each activity.

18. Managing upgrade training program	_____
19. Conducting/Reporting staff assistance visits	_____
20. Managing the CDC program	_____
21. Coordinating with CBPO and outside agency functions	_____
22. Assisting supervisors/commanders	_____
23. Organizing/Conducting meetings	_____
24. Daily supervisory activities	_____
25. Administrative activities	_____

THIS IS A DESCRIPTION OF AN AUTOMATED TRAINING SYSTEM. Consider the system to be fully operational. No knowledge of computer programming or computer languages are necessary to use the system. Delivery is over existing computer terminals. This system is used with other computer systems in the Air Force, like those within personnel or maintenance.

POSITION-LEVEL TASK INFORMATION: The focus of the training system is on the specific tasks performed in each position in a workcenter or shop. Along with a description of each task are given the knowledges and skills needed to perform the task, the standard for successful performance, a suggested training method, and a recommended order for training the tasks. In addition, other types of training requirements are identified. For example, ancillary training, CDCs, or training for additional duties.

COMPUTERIZED TRAINING RECORD: A training record on each airman is kept on file in the computer and contains a list of what the airman has been trained on, the training method used, the date the training was completed, and the scores for any tests or performance checks. Supervisors, commanders and OJT managers can review these training records at any time. They use the up-to-date information from both the airman's training record, and the position task requirements to identify where additional training may be needed.

AUTOMATIC SCHEDULING AND UPDATING: Once an airman's training requirements are identified, a training plan is automatically generated and he/she is scheduled for the training. Portions of the training are available to be conducted "on line", that is the trainee follows lessons and takes tests directly on the computer. Computer programs exist within the system to assist supervisors in developing more localized training lessons and evaluation materials should they be necessary. When a lesson is completed, the date and test results are automatically recorded in the airman's computerized training record. Other tasks are trained "off-line", or away from the computer. In this case, supervisors record their evaluations of trainee performance on special computer-read forms so the information can be automatically entered into the airman's record.

THIRD-PARTY EVALUATIONS: Sometimes an airman's performance on tasks is evaluated by persons other than his/her trainer. These "third party" evaluations are scheduled automatically, depending on several things, like the importance or difficulty of the task. The dates and results of these performance checks are automatically entered into the individual training record using computer-read forms like those for other "off-line" evaluations.

STANDARDIZED TRAINING PRACTICES: This automated training system standardizes many aspects of the training process. Whenever tasks are the same (on one base or between bases) the methods used to train individuals, evaluate their proficiency, and document the results should be the same. The "third party" evaluations also help insure trainees are performing tasks appropriately.

OTHER USES OF THE TRAINING INFORMATION: The training information stored in the computer system is used in several additional ways. For example, managers can identify the tasks for a specific position and then identify all the persons who are currently qualified to perform the tasks. This information can be used to help select the best person for a job or TDY, select persons for specialized training or to attend PME courses, and for reporting

unit readiness. In addition, this information can help uncover areas where many people need training leading to a new training program or changes to the current one.

Below are several aspects of the automated OJT system as described on the previous page. For each, indicate what you feel its value would be to you as an OJT manager. Use the following scale for questions 26-33:

NO VALUE				MODERATE VALUE				EXTREME VALUE				
a	-----	b	-----	c	-----	d	-----	e	-----	f	-----	g

26. Training histories on individual airmen
27. The more task-level information than provided in current STS
28. The standardized training practices
29. The standardized evaluation procedures
30. The automatic documentation of training
31. Providing training on some tasks via the computer
32. Providing evaluation on some tasks via the computer
33. The automatic scheduling of training

After carefully considering how the system described on the previous page could affect what you do as an OJT manager, indicate how you might change the time you spend on each training activity. If, for example, you believe you would spend a little more time "managing the CDC program" than you do now, then you could select option g, "increase 20%."

a. no change	g. increase 20%
b. decrease 100% (no longer done)	h. increase 40%
c. decrease 80%	i. increase 60%
d. decrease 60%	j. increase 80%
e. decrease 40%	k. increase 100% (double)
f. decrease 20%	l. more than doubled

34. Managing upgrade training program

- 35. Conducting/Reporting staff assistance visits _____
- 36. Managing the CDC program _____
- 37. Coordinating with CBPO and outside agency functions _____
- 38. Assisting supervisors/commanders _____
- 39. Organizing/Conducting meetings _____
- 40. Daily supervisory activities _____
- 41. Administrative activities _____

Figure H.8-2

PROTOTYPE AOTS BASELINE SURVEY
SUPERVISORS, EVALUATORS, TRAINERS, AND TRAINEES

PRIVACY ACT STATEMENT

AUTHORITY: 44 USC 3101; 10 USC 8012 AND EO 0307
PRINCIPAL PURPOSE: The SSAN will be used to identify personnel participating in the Advanced On-the-job Training System Prototype.
ROUTINE USES: 1. To determine the effectiveness of the current OJT program.
2. To determine the effectiveness of the AOTS prototype.
DISCLOSURE IS MANDATORY: The SSAN is mandatory to make positive identification of individuals in relation to other personnel included in the AOTS prototype. Failure to provide this information will prevent required monitoring of training related items which will jeopardize the ability of the AOTS program to perform its mission.

DIRECTIONS: On the accompanying answer sheet, please enter your name (in the "Name Grid" block) and SSAN (in the "Numeric Grid" block, columns 1 through 9). Indicate your response to each question by filling in the corresponding oval for each question.

Note: Computer use does not include the use of a hand calculator.

1. Have you ever used a computer?
a - Yes b - No

IF YOU ANSWERED NO, GO TO QUESTION NUMBER 7.

2. Do you use a computer in your job?
a - Yes b - No
3. Have you ever owned a computer?
a - Yes b - No
4. How comfortable do you feel using a computer?
a - Very comfortable
b - Comfortable
c - Neither comfortable nor uncomfortable
d - Uncomfortable
e - Very uncomfortable
5. Have you ever received instruction where the information was presented on a computer?
a - Yes
b - No
6. How would you rate your computer-based learning experience?
a - N/A, haven't received any instruction through a computer
b - Outstanding
c - Excellent
d - Satisfactory
e - Marginal
f - Unsatisfactory

7. Have you ever taken any computer classes?
 - a - Yes
 - b - No
8. How often do you play video games?
 - a - Daily
 - b - Weekly
 - c - Monthly
 - d - Yearly
 - e - Never
9. What is your rank?

a. AB	d. SrA
b. Amn	e. Sgt
c. AlC	f. SSgt or above
10. How long have you been in the service?

a. Less than 3 months	e. 12 but less than 18 months
b. 3 but less than 6 months	f. 18 but less than 24 months
c. 6 but less than 9 months	g. 24 but less than 36 months
d. 9 but less than 12 months	h. 36 months or more
11. How long have you been at your duty station?

a. Less than 3 months	e. 12 but less than 18 months
b. 3 but less than 6 months	f. 18 but less than 24 months
c. 6 but less than 9 months	g. 24 but less than 36 months
d. 9 but less than 12 months	h. 36 months or more
12. What is your current training status?
 - a. Not in training (already upgraded/position qualified)
 - b. Am certified in my job, but have not completed CDCs
 - c. Have completed CDCs, but not certified in my job
 - d. In training for both my job and CDCs
13. What is/was the rank of your trainer?

a. Amn-AlC	e. MSgt
b. SrA-Sgt	f. SMSgt
c. SSgt	g. CMSgt
d. TSgt	h. Civilian

14. Which of the following best describes the OJT you most recently received?
- a. Active one-on-one instruction by a trainer
 - b. Learning by doing (no trainer involved)
 - c. Classroom instruction
 - d. Reading printed materials
 - e. Computer based instruction
 - f. Other
15. What is/was your primary source of information for learning your job?
- a. OJT trainer
 - b. Co-workers
 - c. Other persons
 - d. Regulations and technical orders
 - e. Historical documents and records (files)
 - f. In-shop training materials
 - g. Trial and error
 - h. Other
16. How are/were you principally evaluated on tasks prior to being certified (signed off) on them in your OJT record? (Choose one.)
- a. Trainer asks/asked if I did the task
 - b. Detailed questioning by trainer (verbal quiz)
 - c. Written tests
 - d. Over-the-shoulder observation by trainer during entire task performance
 - e. Over-the-shoulder observation by trainer at points in task performance
 - f. Trainer review of completed work
 - g. Do not know
 - h. Other
17. From the time you entered OJT, how long was it before you were certified (signed-off in your OJT record) on the tasks you perform in your job?
- | | |
|------------------------|----------------------|
| a. N/A, still training | g. 8 months |
| b. 3 months or less | h. 9 months |
| c. 4 months | i. 10 months |
| d. 5 months | j. 11 months |
| e. 6 months | k. 12 months |
| f. 7 months | l. 13 months or more |

18. From the time you entered OJT, how long did it take you to complete your CDCs?

a. N/A, still studying	g. 8 months
b. 3 months or less	h. 9 months
c. 4 months	i. 10 months
d. 5 months	j. 11 months
e. 6 months	k. 12 months
f. 7 months	l. 13 months or more

19. When was the last time your supervisor reviewed your training record with you?

- a. Within the last 7 days
- b. Within the last month
- c. Within the last 3 months
- d. Within the last 6 months
- e. Within the last year
- f. Within the last year and a half
- g. Within the last 2 years
- h. My supervisor has never reviewed my record with me
- i. Not applicable

20. About how often does your supervisor review your training record with you?

- a. Daily
- b. Weekly
- c. Monthly
- d. Quarterly
- e. Semi-annually
- f. Annually
- g. Never
- h. Not applicable

21. How would you rate the overall quality of OJT you have received?

- a. Outstanding
- b. Excellent
- c. Satisfactory
- d. Marginal
- e. Unsatisfactory

Use the scale below to indicate whether you agree or disagree with the statements that follow.

STRONGLY DISAGREE		NEITHER AGREE NOR DISAGREE		STRONGLY AGREE
a-----	b-----	c-----	d-----	e-----f-----g

- ___ 22. My OJT program is/was well planned and organized.
- ___ 23. My supervisor is/was concerned that I receive good OJT.
- ___ 24. My OJT made me better able to accomplish my job.
- ___ 25. My OJT trainer does/did a good job of training me.
- ___ 26. I am certified on tasks that I cannot really perform.
- ___ 27. More time should have been devoted to my OJT.
- ___ 28. OJT is considered important in my unit.

29. Please indicate which of the following jobs in the OJT process you have performed within the past year: (answer all that apply)

- a. Supervisor
- b. Evaluator
- c. Trainer
- d. Trainee
- e. All of the above
- f. None of the above

=====

IF YOU HAVE BEEN A SUPERVISOR, EVALUATOR, OR TRAINER WITHIN THE PAST YEAR, CONTINUE WITH QUESTIONS 30 THROUGH 45. IF NOT, STOP HERE!

=====

30. Restrictions on deliberately introducing problems on operational equipment (i.e., breaking, tearing down, etc.) for training purposes has the following effect on my ability to provide OJT:

Adverse Effect	No Effect	Positive Effect
a-----b-----c-----d-----e-----f-----g		

31. If alternative equipment (simulators, trainers, etc.) were available for use in training, the effect on OJT would be:

Adverse Effect	No Effect	Positive Effect
a-----b-----c-----d-----e-----f-----g		

32. When operational equipment is not readily available for training, the effect on OJT is:

Adverse Effect	No Effect	Positive Effect
a-----	b-----c-----	d-----e-----f-----g

33. Estimate the number of times in the past month that you would have conducted an OJT session, but did not do so because operational equipment was not available.

a. 0-2 b. 3-5 c. 6-8 d. 9 or more

34. What is your rank?

a. Amn	f. TSgt
b. AlC	g. MSgt
c. SrA	h. SMSgt
d. Sgt	i. CMSgt
e. SSgt	

35. What is your total time in service?

a. Less than 2 years	g. 12 but less than 14 years
b. 2 but less than 4 years	h. 14 but less than 16 years
c. 4 but less than 6 years	i. 16 but less than 18 years
d. 6 but less than 8 years	j. 18 but less than 20 years
e. 8 but less than 10 years	k. 20 years or more
f. 10 but less than 12 years	

36. In the last year, how many persons have you trained or provided training to, i.e., as their direct supervisor and/or trainer?

a. None	e. 4
b. 1	f. 5
c. 2	g. 6
d. 3	h. 7 or more

37. How many of the persons that you directly supervise and/or train are currently in upgrade or position qualification training?

a. None	e. 4
b. 1	f. 5
c. 2	g. 6
d. 3	h. 7 or more

38. How many tasks do you typically require trainees to perform proficiently before being certified as duty position qualified?

a. 1-5	f. 26-30
b. 6-10	g. 31-35
c. 11-15	h. 36-40
d. 16-20	i. 41-45
e. 21-25	j. 46 or more

39. On an average, how long does it take one of your trainees to become duty position qualified?

a. Less than 3 months	e. 12 but less than 18 months
b. 3 but less than 6 months	f. 18 but less than 24 months
c. 6 but less than 9 months	g. 24 months or more
d. 9 but less than 12 months	

40. Generally, how do you evaluate an airman's performance prior to certifying the task in the training record? (Choose the ONE method you USE most often.)

- a. Ask the airman if he/she has performed the task
- b. Review the final outcome of the task
- c. Ask the airman to explain what he/she did in performing the task
- d. Observe the airman perform the task in the normal course of duty
- e. Check the airman's progress at points throughout the task
- f. Wait long enough to insure the airman has done the task at least once
- g. Ask others who work more closely with the airman to evaluate his/her performance
- h. Set aside a time for the airman to perform the task other than in the normal course of duty
- i. Other

41. Do you document OJT for those persons in job qualification training?

- a. Yes
- b. No
- c. N/A, supervise no one in job qualification training

42. What is the primary method you use to identify individual training needs? (Choose the ONE method you use MOST often.)

- a. Review the airman's training record
- b. Interview the airman and ask him/her what he/she has done before
- c. Ask the airman to describe how he/she would perform particular tasks
- d. Have the airman actually perform particular tasks
- e. Ask peers or other supervisors what they think
- f. Other

Using the following scale, indicate how important you feel training is (in general, not to you particularly) to each of the areas given below.

NOT IMPORTANT
AT ALL

MODERATELY
IMPORTANT

EXTREMELY
IMPORTANT

a-----b-----c-----d-----e-----f-----g

- 43. Retention beyond the first term
- 44. Initial decision to enter the Air Force
- 45. Job satisfaction
- 46. Safety
- 47. Morale/Motivation
- 48. Accomplishment of the mission

Below are several specific training-related functions or activities you may engage in as a supervisor or trainer. Review the definitions for each function before completing questions 49-56.

PROVIDE TRAINING/SELECT TRAINERS: Activities associated with directly providing task knowledge and/or task proficiency training for both upgrade and qualification trainees. Also include time spent selecting qualified trainers to provide training on your behalf.

EVALUATE TRAINING: Evaluating task knowledge and/or task proficiency for certification or recertification purposes for both upgrade and qualification trainees. This can be for your subordinate personnel or as a third party evaluator of other personnel.

MANAGING CAREER DEVELOPMENT COURSES (CDCs): Ensuring timely progression and completion of CDC volumes including Volume Review Exercises and Course Examinations and the review training required for each.

DEVELOP TRAINING PROGRAM Developing Master Training Plans, task breakdowns, checklists, training schedules, determining training methods, advising trainers of correct training procedures, etc.

COORDINATE WITH UNIT OJT MANAGER: Activities conducted with or through the Unit OJT Manager concerning OJT program procedures, documentation assistance, initiation of upgrade or other training/personnel actions, scheduling of training events, participation in formal or informal OJT visits, etc.

COUNSEL TRAINEES Counseling personnel experiencing training problems.

DOCUMENT TRAINING Documentation of AF Forms 623 and all related documents for upgrade or qualification trainees and fully qualified personnel, maintenance/updating of MMICS/CAMS/AICARS or other automated training system products, completing Training Quality Reports (AF Form 1284), and miscellaneous training documents and forms.

USE THE PERCENTAGE SCALE BELOW TO ANSWER QUESTIONS 49-56.

a. zero	f. 25g. 30	k. 60
b. 5	g. 35h. 35	l. 70
c. 10	h. 35i. 40	m. 80
d. 15	i. 40j. 50	n. 90
e. 20	j. 50k. 60	o. 100

49. On the average, what percent of your on-the-job time do you spend in training-related activities?

Consider your answer to question 49 as a block of time. Now indicate how this time is distributed among each activity listed below. Your answers will be the relative percent of your training time you spend on each activity. The total of questions 50-56 should equal 100%. It may be helpful to first write in your

numerical percentages directly on the survey in the spaces provided. Then, using the scale above, enter the appropriate letter response on your answer sheet. Be sure your responses equal 100% Refer to the previous page for definitions of each activity.

- 50. Providing training or selecting trainers _____
- 51. Evaluating performance _____
- 52. Managing CDCs _____
- 53. Developing training programs _____
- 54. Coordinating with OJT Managers _____
- 55. Counseling trainees _____
- 56. Documenting training _____

THIS IS A DESCRIPTION OF AN AUTOMATED TRAINING SYSTEM. Consider the system to be fully operational. No knowledge of computer programming or computer languages are necessary to use the system. Delivery is over existing computer terminals. This system is used with other computer systems in the Air Force, like those within personnel or maintenance.

POSITION-LEVEL TASK INFORMATION: The focus of the training system is on the specific tasks performed in each position in a workcenter or shop. Along with a description of each task are given the knowledges and skills needed to perform the task, the standard for successful performance, a suggested training method, and a recommended order for training the tasks. In addition, other types of training requirements are identified. For example, ancillary training, CDCs, or training for additional duties.

COMPUTERIZED TRAINING RECORD: A training record on each airman is kept on file in the computer and contains a list of what the airman has been trained on, the training method used, the date the training was completed, and the scores for any tests or performance checks. Supervisors, commanders and OJT managers can review these training records at any time. They use the up-to-date information from both the airman's training record, and the position task requirements to identify where additional training may be needed.

AUTOMATIC SCHEDULING AND UPDATING: Once an airman's training requirements are identified, a training plan is automatically generated and he/she is scheduled for the training. Portions of the training are available to be conducted "on line", that is the trainee follows lessons and takes tests directly on the computer. Computer programs exist within the system to assist supervisors in developing more localized training lessons and evaluation materials should they be necessary. When a lesson is completed, the date and test results are automatically recorded in the airman's computerized training record. Other tasks are trained "off-line", or away from the computer. In this case, supervisors record their evaluations of trainee performance on special computer-read forms so the information can be automatically entered into the airman's record.

THIRD-PARTY EVALUATIONS: Sometimes an airman's performance on tasks is evaluated by persons other than his/her trainer. These "third party" evaluations are scheduled automatically, depending on several things, like the importance or difficulty of the task. The dates and results of these performance checks are automatically entered into the individual training record using computer-read forms like those for other "off-line" evaluations.

STANDARDIZED TRAINING PRACTICES: This automated training system standardizes many aspects of the training process. Whenever tasks are the same (on one base or between bases) the methods used to train individuals, evaluate their proficiency, and document the results should be the same. The "third party" evaluations also help insure trainees are performing tasks appropriately.

OTHER USES OF THE TRAINING INFORMATION: The training information stored in the computer system is used in several additional ways. For example, managers can identify the tasks for a specific position and then identify all the persons who are currently qualified to perform the tasks. This information can be used to help select the best person for a job or TDY, select persons for specialized training or to attend PME courses, and for reporting unit readiness. In addition, this information can help uncover areas where many people need training leading to a new training program or changes to the current one.

Below are several aspects of the automated OJT system as described on the previous page. For each, indicate what you feel its value would be to you as a Supervisor. Use the following scale:

NO VALUE				MODERATE VALUE				EXTREME VALUE				
a	-----	b	-----	c	-----	d	-----	e	-----	f	-----	g

- 57. Training histories on individual airmen
- 58. The more task-level information than provided in current STS
- 59. The standardized training practices
- 60. The standardized evaluation procedures
- 61. The automatic documentation of training
- 62. Providing training on some tasks via the computer
- 63. Providing evaluation on some tasks via the computer
- 64. The automatic scheduling of training

After carefully considering how the system described on the previous page could affect what you do as a Supervisor, indicate how you might change the time you spend on each training activity. If, for example, you believe you would spend a little more time "managing the CDC program" than you do now, then you could select option g, "increase 20%."

a. no change	g. increase 20%
b. decrease 100% (no longer done)	h. increase 40%
c. decrease 80%	i. increase 60%
d. decrease 60%	j. increase 80%
e. decrease 40%	k. increase 100% (double)
f. decrease 20%	l. more than doubled

- 65. Providing training or selecting trainers
- 66. Evaluating performance
- 67. Managing CDCs
- 68. Developing training programs
- 69. Coordinating with OJT Managers
- 70. Counseling trainees
- 71. Documenting training

Figure H.8-3

APPENDIX I

DATA BASE MANAGEMENT SYSTEM (DBMS)

This Appendix describes the structure of the DBMS for baseline data that can be expanded to store System Level Test and Evaluation (SLT&E) data. These data structures will be used to develop the appropriate code within the ORACLE data base development environment.

I.1 DATA BASE ADMINISTRATION

A tightly administered DBMS will protect the data base from mishandling and data loss. In order to maintain the integrity and validity of the data collected during the baseline acquisition period, the following data base administration plan is recommended.

I.1.1 Data Base Manager. The DAC Test Manager (DTM) will act as the data base manager of the Baseline Data Base Management System. To insure the integrity of the system, the DTM will have final responsibility for the loading and physical safety of the system (hardware, software, and data). The number of personnel involved in data entry tasks should be kept to a minimum. This will allow for less user entry error and provide the DTM with a tighter accounting of the source of data entry errors.

I.1.2 Data Base Administrator (DBA). Ball Systems Engineering will provide a DBA. The DBA will be responsible for maintaining the data base system. The DBMS is designed in ORACLE commercial data base management software. ORACLE data base maintenance requires an individual familiar with the intricate workings of ORACLE and Structured Query Language programming. The maintenance will include allocating data storage and memory to data tables, modifying code structures as required, and designing any new table systems.

I.1.3 Data Base Backup System. The backup system for the data base management system will be a tape backup system. The tape backup system to be procured should allow the DTM to run a daily backup of entered data. This tape backup procedure will take approximately 2-3 minutes. The backup technique includes a rotation system such that three backup tapes are used sequentially. If there is ever a problem with a tape, the next tape behind in the sequence will contain all but the data backed up the previous day.

I.1.4 Quality Control System. The DTM is responsible for setting up a quality control system including steps for validating data in the computerized data bases. The data base screens will be designed to be near replications of the data recording forms from which data is entered. Following are examples of activities that the DTM can institute in the data base quality control program:

- Check each data recording form with the data entry screen after data from each data recording form has been entered into the system.
- Retrieve 3% of the records in each data base each quarter and compare them to their original data recording forms.

I.2 DATA BASE MANAGEMENT SYSTEM REPORTS

The DBMS is designed with the capability to produce user generated ad hoc reports. The ad hoc reporting system will allow system users to query the data base for information based on any conditions. This capability will be primarily used by the DAC Test Manager in performing "Quick-Look Analysis" on the data. At its inception, the DBMS will not provide any standard reports. As needs are defined, the Data Base Administrator will design into the system any standard reports desired by the DAC Test Manager.

I.3 DATA BASE MANAGEMENT SYSTEM COMPONENTS

The overall design of the DBMS includes five data table systems. Below are the following systems and the specific tables included within those systems.

- 1) DESIRE Listing Data Table System
 - DESIRE ID Table
 - DESIRE Demographic Table
- 2) Weekly Inventory of Time Spent (WITS) Sheets Data Table System
 - Unit Commander WITS Table
 - Unit Training Manager WITS Table
 - Supervisor/Evaluator/Trainer/Trainee WITS Table
- 3) Air Force Training Records Data Table System
 - Security Police Training Records Table

- Jet Engine Training Records Table
 - Aircraft Maintenance Training Records Table
 - Personnel Training Records Table
- 4) Quality Assurance Data Table System
- BAFB Active Quality Assurance Summary Table
 - BAFB Reserve Quality Assurance Summary Table
 - EANGB Quality Assurance Summary Table
 - Security Police Quality Control Summary Table
- 5) Repeat Maintenance Action Data Table System
- MDC/MILAP 480 Table
- 6) Base Crime Statistics Data Table System
- Base Crime Analysis Report Table
- 7) Survey Data Table System
- Commander Baseline Survey Table
 - OJT Manager Baseline Survey Table
 - Supervisor, Evaluator, Trainee, and Trainee Baseline Survey Table

I.4 DATA BASE MANAGEMENT SYSTEM STRUCTURAL DESIGN

The Baseline DBMS is designed using ORACLE commercial data base design software. ORACLE's design capabilities are based on the IBM standard Structured Query Language (SQL). Data bases designed using SQL are organized into data storage tables. The logical design of the SQL table is in rows and columns. The columns of the table represent the data fields; the rows of the table represent the records in the table. The overall DBMS design is broken into table systems that store data of a particular type.

I.4.1 DESIRE Listing Data. DESIRE listing data will be stored in two SQL tables. The first table will store data from the DESIRE listing relative to the specific identification of a particular individual. Data from this first table will be utilized in linking records on specific individuals in other data tables. The second table will store some additional identification data and a great deal of demographic data relative to that individual. The two tables relating to an individual subject will be linked using the Social Security Number field. The detailed table designs follow.

DESIRE ID TABLE (Table Personnel)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHAR NOT NULL	Subject's Social Sec. No.
RANK	2	CHARACTER	Subject's Rank
WORK_CTR	8	CHARACTER	Subject's Workcenter
Highest Total Bytes/Record			19
Total Estimated Number of Records			525
Highest Total Overall Bytes			9,975

DESIRE DEMOGRAPHIC TABLE (TABLE DESIRE)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHAR NOT NULL	Subject's Social Sec. No.
LNAME	27	CHARACTER	Subject's Last Name
RECSTAT	2	CHARACTER	Record Status & Condition
FAC	6	CHARACTER	Functional Account Code
DPN	7	CHARACTER	Duty Position Number
ASVAB_ELD	2	CHARACTER	ELD ASVAB Score
ASVAB_ELE	2	CHARACTER	ELE ASVAB Score
ASVAB_ELF	2	CHARACTER	ELF ASVAB Score
ASVAB_ELG	2	CHARACTER	ELG ASVAB Score
PAFSC	7	CHARACTER	Primary AFSC
AFSC2	7	CHARACTER	Secondary AFSC
AFSC3	7	CHARACTER	Tertiary AFSC
AFSC4	7	CHARACTER	Fourth AFSC
CAFSC	7	CHARACTER	Control AFSC
DAFSC	7	CHARACTER	Duty AFSC
TSTA1	1	CHARACTER	Training Status Code
DTENT_C_W	6	CHARACTER	Date Entered Training
DTENTRT	6	CHARACTER	Date Entered Retraining
EDLEVEL	10	CHARACTER	Education Level
RGL_EKM	3	CHARACTER	EKM Reading Grade Level
RGL_EKN	4	CHARACTER	EKN Reading Grade Level
RGL_EKP	3	CHARACTER	EKP Reading Grade Level
RGL_EKQ	4	CHARACTER	EKQ Reading Grade Level
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			139
Total Estimated Number of Records			525
Highest Total Overall Bytes			72,975

The DESIRE system (both linked tables) will be used to link all other tables in the DBMS that store data relative to a specific identifiable individual. The Social Security field will

be used to provide this link. This will allow for storing only the Social Security Number of an individual in any records relative to that individual and providing additional personal information from the DESIRE system. Details on the specific linked systems and the mechanics of the particular links will be provided in the discussions relative to those systems.

I.4.2 Weekly Inventory Of Time Spent (WITS) Sheet Data. Weekly Inventory Of Time Spent (WITS) Sheet data will be stored in three different SQL tables. There are three different types of WITS sheets that will be administered. There is a table for storing each type of existing WITS sheet. The detailed designs of those WITS data tables follow.

UNIT COMMANDER WITS TABLE (TABLE CMDR_WITS)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHARACTER	Subject's Social Sec. No.
WK_ENDING	9	DATE	Last Day of Test Week
CATEG_ONE	5	NUMBER	Total of Category #1
CATEG_TWO	5	NUMBER	Total of Category #2
CAT_THREE	5	NUMBER	Total of Category #3
CATEG_FOUR	5	NUMBER	Total of Category #4
CATEG_FIVE	5	NUMBER	Total of Category #5
CATEG_SIX	5	NUMBER	Total of Category #6
CATEG_SEVEN	5	NUMBER	Total of Category #7
CATEG_EIGHT	5	NUMBER	Total of Category #8
CATEG_NINE	5	NUMBER	Total of Category #9
TEST_TIME	1	CHARACTER	Test Group

Highest Total Bytes/Record	64
Total Estimated Number of Records	170
Highest Total Overall Bytes	10,800

UNIT TRAINING MANAGER WITS TABLE (TABLE TNG_MGR_WITS)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHARACTER	Subject's Social Sec. No.
WK_ENDING	9	DATE	Last Day of Test Week
CATEG_ONE	5	NUMBER	Total of Category #1
CATEG_TWO	5	NUMBER	Total of Category #2
CATEG_THREE	5	NUMBER	Total of Category #3
CATEG_FOUR	5	NUMBER	Total of Category #4
CATEG_FIVE	5	NUMBER	Total of Category #5
CATEG_SIX	5	NUMBER	Total of Category #6
CATEG_SEVEN	5	NUMBER	Total of Category #7

CATEG_EIGHT	5	NUMBER	Total of Category #8
TEST_TIME	1	CHARACTER	Test Group

Highest Total Bytes/Record	59
Total Estimated Number of Records	216
Highest Total Overall Bytes	12,744

SUPERVISOR/EVALUATOR/TRAINER/TRAINEE WITS TABLE (TABLE SUP_EVAL_TRAINEE_WITS)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHARACTER	Subject's Social Sec. No.
WK_ENDING	9	DATE	Last Day of Test Week
CATEG_ONE	5	NUMBER	Total of Category #1
CATEG_TWO	5	NUMBER	Total of Category #2
CATEG_THREE	5	NUMBER	Total of Category #3
CATEG_FOUR	5	NUMBER	Total of Category #4
CATEG_FIVE	5	NUMBER	Total of Category #5
CATEG_SIX	5	NUMBER	Total of Category #6
CATEG_SEVEN	5	NUMBER	Total of Category #7
CATEG_EIGHT	5	NUMBER	Total of Category #8
CATEG_NINE	5	NUMBER	Total of Category #9
CATEG_TEN	5	NUMBER	Total of Category #10
CATEG_ELEVEN	5	NUMBER	Total of Category #11
CATEG_TWELVE	5	NUMBER	Total of Category #12
CATEG_THIRTEEN	5	NUMBER	Total of Category #13
CATEG_FOURTEEN	5	NUMBER	Total of Category #14
CATEG_FIFTEEN	5	NUMBER	Total of Category #15
TEST_TIME	1	CHARACTER	Test Group

Highest Total Bytes/Record	94
Total Estimated Number of Records	6,710
Highest Total Overall Bytes	630,740

I.4.3 Air Force Training Records Data. Air Force training records are collected for all test AFSS and each of the three Air Force components. The Air Force Training Records system will consist of four SQL data tables. The design of the table system provides one table for each test AFS. Each table will store data relative to the individual test subject's training record. The detailed table definitions for the AF Training Records system follow.

SECURITY POLICE TRAINING RECORDS TABLE (Table: SP_TRAINING_REC)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHAR NOT NULL	Subject's Social Sec. No.
START_DATE	9	DATE	Date Assigned Workcenter
QUAL_DATE	9	DATE	Date Position Qualified
TSK_INI	3	NUMBER	Tasks during initial collection
TSK_MID	3	NUMBER	Tasks during mid coll.
TSK_FNL	3	NUMBER	Tasks during final coll.
OP_OCT87	3	NUMBER	Total no. of tasks opened by Oct/87
CL_OCT87	3	NUMBER	Total no. of tasks closed by Oct/87
OP_NOV87	3	NUMBER	Total no. of tasks opened by Nov/87
CL_NOV87	3	NUMBER	Total no. of tasks closed by Nov/87
OP_DEC87	3	NUMBER	Total no. of tasks opened by Dec/87
CL_DEC87	3	NUMBER	Total no. of tasks closed by Dec/87
OP_JAN88	3	NUMBER	Total no. of tasks opened by Jan/88
CL_JAN88	3	NUMBER	Total no. of tasks closed by Jan/88
OP_FEB88	3	NUMBER	Total no. of tasks opened by Feb/88
CL_FEB88	3	NUMBER	Total no. of tasks closed by Feb/88
OP_MAR88	3	NUMBER	Total no. of tasks opened by Mar/88
CL_MAR88	3	NUMBER	Total no. of tasks closed by Mar/88
OP_APR88	3	NUMBER	Total no. of tasks opened by Apr/88
CL_APR88	3	NUMBER	Total no. of tasks closed by Apr/88
OP_MAY88	3	NUMBER	Total no. of tasks opened by May/88
CL_MAY88	3	NUMBER	Total no. of tasks closed by May/88
OP_JUN88	3	NUMBER	Total no. of tasks opened by Jun/88
CL_JUN88	3	NUMBER	Total no. of tasks closed by Jun/88
OP_JUL88	3	NUMBER	Total no. of tasks opened by Jul/88

CL_JUL88	3	NUMBER	Total no. of tasks closed by Jul/88
COMPONENT	3	NUMBER	Active, Reserve, or ANG identifier
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			100
Total Estimated Number of Records			45
Highest Total Overall Bytes			4,500

JET ENGINE TRAINING RECORDS TABLE (Table: JET_TRAING_REC)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHAR NOT NULL	Subject's Social Sec. No.
START_DATE	9	DATE	Date Assigned Workcenter
QUAL_DATE	9	DATE	Date Position Qualified
TSK_INI	3	NUMBER	Tasks during initial collection
TSK_MID	3	NUMBER	Tasks during mid coll.
TSK_FNL	3	NUMBER	Tasks during final coll.
OP_OCT87	3	NUMBER	Total no. of tasks opened by Oct/87
CL_OCT87	3	NUMBER	Total no. of tasks closed by Oct/87
OP_NOV87	3	NUMBER	Total no. of tasks opened by Nov/87
CL_NOV87	3	NUMBER	Total no. of tasks closed by Nov/87
OP_DEC87	3	NUMBER	Total no. of tasks opened by Dec/87
CL_DEC87	3	NUMBER	Total no. of tasks closed by Dec/87
OP_JAN88	3	NUMBER	Total no. of tasks opened by Jan/88
CL_JAN88	3	NUMBER	Total no. of tasks closed by Jan/88
OP_FEB88	3	NUMBER	Total no. of tasks opened by Feb/88
CL_FEB88	3	NUMBER	Total no. of tasks closed by Feb/88
OP_MAR88	3	NUMBER	Total no. of tasks opened by Mar/88
CL_MAR88	3	NUMBER	Total no. of tasks closed by Mar/88
OP_APR88	3	NUMBER	Total no. of tasks opened by Apr/88
CL_APR88	3	NUMBER	Total no. of tasks closed by Apr/88

OP_MAY88	3	NUMBER	Total no. of tasks opened by May/88
CL_MAY88	3	NUMBER	Total no. of tasks closed by May/88
OP_JUN88	3	NUMBER	Total no. of tasks opened by Jun/88
CL_JUN88	3	NUMBER	Total no. of tasks closed by Jun/88
OP_JUL88	3	NUMBER	Total no. of tasks opened by Jul/88
CL_JUL88	3	NUMBER	Total no. of tasks closed by Jul/88
COMPONENT	3	NUMBER	Active, Reserve, or ANG identifier
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			100
Total Estimated Number of Records			116
Highest Total Overall Bytes			11,600

AIRCRAFT MAINTENANCE TRAINING RECORDS TABLE (Table:
AC_MAINT_TRAINING_REC)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHAR NOT NULL	Subject's Social Sec. No.
START_DATE	9	DATE	Date Assigned Workcenter
QUAL_DATE	9	DATE	Date Position Qualified
TSK_INI	3	NUMBER	Tasks during initial collection
TSK_MID	3	NUMBER	Tasks during mid coll.
TSK_FNL	3	NUMBER	Tasks during final coll.
OP_OCT87	3	NUMBER	Total no. of tasks opened by Oct/87
CL_OCT87	3	NUMBER	Total no. of tasks closed by Oct/87
OP_NOV87	3	NUMBER	Total no. of tasks opened by Nov/87
CL_NOV87	3	NUMBER	Total no. of tasks closed by Nov/87
OP_DEC87	3	NUMBER	Total no. of tasks opened by Dec/87
CL_DEC87	3	NUMBER	Total no. of tasks closed by Dec/87
OP_JAN88	3	NUMBER	Total no. of tasks opened by Jan/88
CL_JAN88	3	NUMBER	Total no. of tasks closed by Jan/88

OP_FEB88	3	NUMBER	Total no. of tasks opened by Feb/88
CL_FEB88	3	NUMBER	Total no. of tasks closed by Feb/88
OP_MAR88	3	NUMBER	Total no. of tasks opened by Mar/88
CL_MAR88	3	NUMBER	Total no. of tasks closed by Mar/88
OP_APR88	3	NUMBER	Total no. of tasks opened by Apr/88
CL_APR88	3	NUMBER	Total no. of tasks closed by Apr/88
OP_MAY88	3	NUMBER	Total no. of tasks opened by May/88
CL_MAY88	3	NUMBER	Total no. of tasks closed by May/88
OP_JUN88	3	NUMBER	Total no. of tasks opened by Jun/88
CL_JUN88	3	NUMBER	Total no. of tasks closed by Jun/88
OP_JUL88	3	NUMBER	Total no. of tasks opened by Jul/88
CL_JUL88	3	NUMBER	Total no. of tasks closed by Jul/88
COMPONENT	3	NUMBER	Active, Reserve, or ANG identifier
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			100
Total Estimated Number of Records			191
Highest Total Overall Bytes			19,100

PERSONNEL TRAINING RECORDS TABLE (Table: PERS_TRAINING_REC)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SSAN	9	CHAR NOT NULL	Subject's Social Sec. No.
START_DATE	9	DATE	Date Assigned Workcenter
QUAL_DATE	9	DATE	Date Position Qualified
TSK_INI	3	NUMBER	Tasks during initial collection
TSK_MID	3	NUMBER	Tasks during mid coll.
TSK_FNL	3	NUMBER	Tasks during final coll.
OP_OCT87	3	NUMBER	Total no. of tasks opened by Oct/87
CL_OCT87	3	NUMBER	Total no. of tasks closed by Oct/87
OP_NOV87	3	NUMBER	Total no. of tasks opened by Nov/87

CL_NOV87	3	NUMBER	Total no. of tasks closed by Nov/87
OP_DEC87	3	NUMBER	Total no. of tasks opened by Dec/87
CL_DEC87	3	NUMBER	Total no. of tasks closed by Dec/87
OP_JAN88	3	NUMBER	Total no. of tasks opened by Jan/88
CL_JAN88	3	NUMBER	Total no. of tasks closed by Jan/88
OP_FEB88	3	NUMBER	Total no. of tasks opened by Feb/88
CL_FEB88	3	NUMBER	Total no. of tasks closed by Feb/88
OP_MAR88	3	NUMBER	Total no. of tasks opened by Mar/88
CL_MAR88	3	NUMBER	Total no. of tasks closed by Mar/88
OP_APR88	3	NUMBER	Total no. of tasks opened by Apr/88
CL_APR88	3	NUMBER	Total no. of tasks closed by Apr/88
OP_MAY88	3	NUMBER	Total no. of tasks opened by May/88
CL_MAY88	3	NUMBER	Total no. of tasks closed by May/88
OP_JUN88	3	NUMBER	Total no. of tasks opened by Jun/88
CL_JUN88	3	NUMBER	Total no. of tasks closed by Jun/88
OP_JUL88	3	NUMBER	Total no. of tasks opened by Jul/88
CL_JUL88	3	NUMBER	Total no. of tasks closed by Jul/88
COMPONENT	3	NUMBER	Active, Reserve, or ANG identifier
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			100
Total Estimated Number of Records			30
Highest Total Overall Bytes			3,000

I.4.4 Quality Assurance Data. Quality Assurance reports will be collected from all components at Bergstrom Air Force Base and Ellington Air National Guard Base. The Quality Assurance Data System will consist of four SQL data tables. The first data table will contain the data collected from the Active QA Monthly Summaries.

QUALITY ASSURANCE ACTIVE SUMMARY TABLE (Table: QA_ACTIVE_ SUM)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
QUARTER	1	NUMBER	Quarter of report (1, 2, 3, or 4)
AMU_E	3	NUMBER	AMU Excellent Technical Inspections (TIs)
AMU_S	3	NUMBER	AMU Satisfactory TIs
AMU_U	3	NUMBER	AMU Unsatisfactory TIs
AMU_TOT	3	NUMBER	AMU Total TIs
AMU_SAT_PE	3	NUMBER	AMU Satisfactory Personnel Evaluations
AMU_UN_PE	3	NUMBER	AMU Unsatisfactory Personnel Evaluations
AMU_TOT_PE	3	NUMBER	AMU Total Personnel Evaluations
PROP_E	3	NUMBER	Propulsion Excellent TIs
PROP_S	3	NUMBER	Propulsion Satisfactory TIs
PROP_U	3	NUMBER	Propulsion Unsatisfactory TIs
PROP_TOT	3	NUMBER	Propulsion Total TIs
PROP_SAT_PE	3	NUMBER	Propulsion Satisfactory Personnel Evaluations
PROP_UN_PE	3	NUMBER	Propulsion Unsatisfactory Personnel Evaluations
PROP_TOT_PE	3	NUMBER	Propulsion Total Personnel Evaluations
PM_E	3	NUMBER	Phase Maint. Excellent TIs
PM_S	3	NUMBER	Phase Maint. Satisfactory TIs
PM_U	3	NUMBER	Phase Maintenance Unsatisfactory TIs
PM_TOT	3	NUMBER	Phase Maint. Total TIs
PM_SAT_PE	3	NUMBER	Phase Maint. Satisfactory Personnel Evaluations
PM_TOT_PE	3	NUMBER	Phase Maint. Unsatisfactory Personnel Evaluations
PM_TOT_PE	3	NUMBER	Phase Maint. Total Personnel Evaluations
TEST_TIME	1	CHARACTER	Test Group

Highest Total Bytes/Record	65
Total Estimated Number of Records	10
Highest Total Overall Bytes	650

QUALITY ASSURANCE RESERVE SUMMARY TABLE (Table: QA_RESERVE_SUM)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
QUARTER	1	NUMBER	Quarter of report (1, 2, 3, or 4)
AMB_TOT	3	NUMBER	AMB Total Technical Inspections (TIs)
AMB_E	3	NUMBER	AMB Excellent TIs
AMB_S	3	NUMBER	AMB Satisfactory TIs
AMB_U	3	NUMBER	AMB Unsatisfactory TIs
PROP_TOT	3	NUMBER	Propulsion Total TIs
PROP_E	3	NUMBER	Propulsion Excellent TIs
PROP_S	3	NUMBER	Propulsion Satisfactory TIs
PROP_U	3	NUMBER	Propulsion Unsatis. TIs
PE_TOT	3	NUMBER	Total Personnel Evalua.
PE_PASS	3	NUMBER	Passed Personnel Evalua.
PE_FAIL	3	NUMBER	Failed Personnel Evalua.
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			35
Total Estimated Number of Records			10
Highest Total Overall Bytes			350

QUALITY ASSURANCE AIR NATIONAL GUARD SUMMARY TABLE
(Table: QA_RESERVE_SUM)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
QUARTER	1	NUMBER	Quarter of report (1, 2, 3, or 4)
AMU_TOT	3	NUMBER	AMU Total Technical Inspections (TIs)
AMU_SAT	3	NUMBER	AMU Satisfactory TIs
AMU_UNSAT	3	NUMBER	AMU Unsatis. TIs
AMU_TOT_PE	3	NUMBER	AMU Total Personnel Evaluations
AMU_SAT_PE	3	NUMBER	AMU Satisfactory Personnel Evaluations
AMU_UNSAT_PE	3	NUMBER	AMU Unsatisfactory Personnel Evaluations
PROP_TOT	3	NUMBER	Propulsion Total TIs
PROP_SAT	3	NUMBER	Propulsion Satis. TIs
PROP_UNSAT	3	NUMBER	Propulsion Unsatisfactory TIs
PROP_TOT_PE	3	NUMBER	Propulsion Total Personnel Evaluations

PROP_SAT_PE	3	NUMBER	Propulsion Satisfactory Personnel Evaluations
PROP_UNSAT_PE	3	NUMBER	Propulsion Unsatisfactory Personnel Evaluations
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			38
Total Estimated Number of Records			10
Highest Total Overall Bytes			380

SECURITY POLICE QUALITY CONTROL DATA TABLE (Table: SP_QC_LETTER)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
QUARTER	1	NUMBER	Quarter of report (1, 2, 3, or 4)
SPA	3	NUMBER	Average score, Flight SPA
SPO	3	NUMBER	Average score, Flight SPO
SPOL_A	3	NUMBER	Average score, Flight SPOL-A
SPOL_B	3	NUMBER	Average score, Flight SPOL-B
SPOL_C	3	NUMBER	Average score, Flight SPOL-C
SPOL_D	3	NUMBER	Average score, Flight SPOL-D
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			20
Total Estimated Number of Records			4
Highest Total Overall Bytes			80

I.4.5 Repeat Maintenance Action Data. Data relative to the number of repeat maintenance actions occurring on aircraft assigned to the maintenance test workcenters is collected from the MDC and MILAP 480 reports. The MDC and MILAP 480 data will be stored in one SQL data table. The detailed table definitions for the Repeat Maintenance Action Data system follow.

MDC/MILAP 480 REPORT TABLE (Table: MDC_MILAP_RPT)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
MDC_DATE	9	DATE	Date of Report
PROPRPTS	2	NUMBER	Propulsion Repeat Actions
SP_FLIGHT-RPTS	3	NUMBER	Specialist Flight Repeats
ACMNRPTS	3	NUMBER	Aircraft MX Repeat Actions

PHASERPTS	2	NUMBER	Phase Repeat Actions
MILAP_A	3	NUMBER	Repeat Actions on MILAP A Flight
MILAP_B	3	NUMBER	Repeat Actions on MILAP B Flight
SME	15	CHARACTER	SME Reviewing Report
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			41
Total Estimated Number of Records			10
Highest Total Overall Bytes			410

I.4.6 Base Crime Statistics Data. Base crime statistics will be collected at BAFB from the Monthly Crime Analysis Report. information from this report will be stored in one SQL data storage table. The detailed design of the table follows.

BASE CRIME ANALYSIS REPORT (Table: SP_CRIME_ANALYSIS)

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
SURVEY_DATE	9	DATE	Report Date
CR_PERS	3	NUMBER	# Crimes Against Persons
CR_PROP	3	NUMBER	# Crimes Against Property
CR_GOV_PROP	3	NUMBER	# Crimes Against Gov't. Property
CR_PRIV_PROP	3	NUMBER	# Crimes Against Private Property
CR_DRUG_INC	3	NUMBER	# of Drug Incidents
ADMIN_ERROR	3	NUMBER	# Administrative Errors
TEST_TIME	1	CHARACTER	Test Group
Highest Total Bytes/Record			28
Total Estimated Number of Records			4
Highest Total Overall Bytes			112

I.4.7 Survey Data. The results of all surveys administered during the baseline data acquisition period will be stored in the Survey Data System. There will be three types of surveys administered. The data collected from these surveys will be stored in three data tables corresponding to each type of survey.

I.4.7.1 Baseline Commander Survey Data. The results of the Baseline Commander Surveys will be stored in the Baseline Commander Survey Table. This single table will store all of the identifying data and responses taken from the surveys. The Baseline Commander Survey table will be linked to the DESIRE sys-

tem through the Social Security Number field. This will allow detailed information regarding the individual survey respondent to be accessed. The detailed design of the table follows.

BASELINE COMMANDER SURVEY TABLE (Table:

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
NAME	27	CHARACTER	Name of Respondent
SSAN	9	CHARACTER	Subject's Social Sec. No.
QUEST_1	1	CHARACTER	Answer to Question #1
QUEST_2	1	CHARACTER	Answer to Question #2
QUEST_3	1	CHARACTER	Answer to Question #3
QUEST_4	1	CHARACTER	Answer to Question #4
QUEST_5	1	CHARACTER	Answer to Question #5
QUEST_6	1	CHARACTER	Answer to Question #6
QUEST_7	1	CHARACTER	Answer to Question #7
QUEST_8	1	CHARACTER	Answer to Question #8
QUEST_9	1	CHARACTER	Answer to Question #9
QUEST_10	1	CHARACTER	Answer to Question #10
QUEST_11	1	CHARACTER	Answer to Question #11
QUEST_12	1	CHARACTER	Answer to Question #12
QUEST_13	1	CHARACTER	Answer to Question #13
QUEST_14	1	CHARACTER	Answer to Question #14
QUEST_15	1	CHARACTER	Answer to Question #15
QUEST_16	1	CHARACTER	Answer to Question #16
QUEST_17	1	CHARACTER	Answer to Question #17
QUEST_18	1	CHARACTER	Answer to Question #18
QUEST_19	1	CHARACTER	Answer to Question #19
QUEST_20	7	CHARACTER	Answer to Question #20
QUEST_21	1	CHARACTER	Answer to Question #21
QUEST_22	1	CHARACTER	Answer to Question #22
QUEST_23	1	CHARACTER	Answer to Question #23
QUEST_24	1	CHARACTER	Answer to Question #24
QUEST_25	1	CHARACTER	Answer to Question #25
QUEST_26	1	CHARACTER	Answer to Question #26
QUEST_27	1	CHARACTER	Answer to Question #27
QUEST_28	1	CHARACTER	Answer to Question #28
QUEST_29	1	CHARACTER	Answer to Question #29
QUEST_30	1	CHARACTER	Answer to Question #30
QUEST_31	1	CHARACTER	Answer to Question #31
QUEST_32	1	CHARACTER	Answer to Question #32
QUEST_33	1	CHARACTER	Answer to Question #33
QUEST_34	240	CHARACTER	Answer to Question #34
QUEST_35	240	CHARACTER	Answer to Question #35
TEST_TIME	1	CHARACTER	Test Group

Highest Total Bytes/Record	556
Total Estimated Number of Records	525
Highest Total Overall Bytes	291,900

I.4.7.2 Baseline OJT Manager Survey Data. A Baseline OJT Manager Survey will be administered to all OJT and Unit Training Managers in the test workcenters. The data collected from these surveys will be stored in one SQL data table. The detailed design of this table follows.

BASLINE OJT MANAGER SURVEY TABLE (Table:

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
NAME	27	CHARACTER	Name of Respondent
SSAN	9	CHARACTER	Subject's Social Sec. No.
QUEST_1	1	CHARACTER	Answer to Question #1
QUEST_2	1	CHARACTER	Answer to Question #2
QUEST_3	1	CHARACTER	Answer to Question #3
QUEST_4	1	CHARACTER	Answer to Question #4
QUEST_5	1	CHARACTER	Answer to Question #5
QUEST_6	1	CHARACTER	Answer to Question #6
QUEST_7	1	CHARACTER	Answer to Question #7
QUEST_8	1	CHARACTER	Answer to Question #8
QUEST_9	1	CHARACTER	Answer to Question #9
QUEST_10	1	CHARACTER	Answer to Question #10
QUEST_11	1	CHARACTER	Answer to Question #11
QUEST_12	1	CHARACTER	Answer to Question #12
QUEST_13	1	CHARACTER	Answer to Question #13
QUEST_14	1	CHARACTER	Answer to Question #14
QUEST_15	1	CHARACTER	Answer to Question #15
QUEST_16	1	CHARACTER	Answer to Question #16
QUEST_17	1	CHARACTER	Answer to Question #17
QUEST_18	1	CHARACTER	Answer to Question #18
QUEST_19	1	CHARACTER	Answer to Question #19
QUEST_20	7	CHARACTER	Answer to Question #20
QUEST_21	1	CHARACTER	Answer to Question #21
QUEST_22	1	CHARACTER	Answer to Question #22
QUEST_23	1	CHARACTER	Answer to Question #23
QUEST_24	1	CHARACTER	Answer to Question #24
QUEST_25	1	CHARACTER	Answer to Question #25
QUEST_26	1	CHARACTER	Answer to Question #26
QUEST_27	1	CHARACTER	Answer to Question #27
QUEST_28	1	CHARACTER	Answer to Question #28
QUEST_29	1	CHARACTER	Answer to Question #29
QUEST_30	1	CHARACTER	Answer to Question #30
QUEST_31	1	CHARACTER	Answer to Question #31
QUEST_32	1	CHARACTER	Answer to Question #32
QUEST_33	1	CHARACTER	Answer to Question #33
QUEST_34	240	CHARACTER	Answer to Question #34
QUEST_35	240	CHARACTER	Answer to Question #35
QUEST_36	1	CHARACTER	Answer to Question #26
QUEST_37	1	CHARACTER	Answer to Question #27
QUEST_38	1	CHARACTER	Answer to Question #28

QUEST_39	1	CHARACTER	Answer to Question #29
QUEST_40	1	CHARACTER	Answer to Question #30
QUEST_41	1	CHARACTER	Answer to Question #31
TEST_TIME	1	CHARACTER	Test Group

Highest Total Bytes/Record	552
Total Estimated Number of Records	227
Highest Total Overall Bytes	125,304

I.4.7.3 Supervisor, Evaluator, Trainer, and Trainee Baseline Survey Data. Supervisor, Evaluator, and Trainer Baseline Surveys will be administered to all of the subjects in all of the test workcenters. The data collected from these surveys will be stored in one data table. The detailed design of this table follows.

SUPERVISOR, EVALUATOR, TRAINER, AND TRAINEE BASELINE SURVEY TABLE

<u>Field Name</u>	<u>Width</u>	<u>Type</u>	<u>Description</u>
NAME	27	CHARACTER	Name of Respondent
SSAN	9	CHARACTER	Subject's Social Sec. No.
QUEST_1	1	CHARACTER	Answer to Question #1
QUEST_2	1	CHARACTER	Answer to Question #2
QUEST_3	1	CHARACTER	Answer to Question #3
QUEST_4	1	CHARACTER	Answer to Question #4
QUEST_5	1	CHARACTER	Answer to Question #5
QUEST_6	1	CHARACTER	Answer to Question #6
QUEST_7	1	CHARACTER	Answer to Question #7
QUEST_8	1	CHARACTER	Answer to Question #8
QUEST_9	1	CHARACTER	Answer to Question #9
QUEST_10	1	CHARACTER	Answer to Question #10
QUEST_11	1	CHARACTER	Answer to Question #11
QUEST_12	1	CHARACTER	Answer to Question #12
QUEST_13	1	CHARACTER	Answer to Question #13
QUEST_14	1	CHARACTER	Answer to Question #14
QUEST_15	1	CHARACTER	Answer to Question #15
QUEST_16	1	CHARACTER	Answer to Question #16
QUEST_17	1	CHARACTER	Answer to Question #17
QUEST_18	1	CHARACTER	Answer to Question #18
QUEST_19	1	CHARACTER	Answer to Question #19
QUEST_20	7	CHARACTER	Answer to Question #20
QUEST_21	1	CHARACTER	Answer to Question #21
QUEST_22	1	CHARACTER	Answer to Question #22
QUEST_23	1	CHARACTER	Answer to Question #23
QUEST_24	1	CHARACTER	Answer to Question #24
QUEST_25	1	CHARACTER	Answer to Question #25
QUEST_26	1	CHARACTER	Answer to Question #26
QUEST_27	1	CHARACTER	Answer to Question #27

QUEST_28	1	CHARACTER	Answer to Question #28
QUEST_29	1	CHARACTER	Answer to Question #29
QUEST_30	1	CHARACTER	Answer to Question #30
QUEST_31	1	CHARACTER	Answer to Question #31
QUEST_32	1	CHARACTER	Answer to Question #32
QUEST_33	1	CHARACTER	Answer to Question #33
QUEST_34	240	CHARACTER	Answer to Question #34
QUEST_35	240	CHARACTER	Answer to Question #35
QUEST_36	1	CHARACTER	Answer to Question #36
QUEST_37	1	CHARACTER	Answer to Question #37
QUEST_38	1	CHARACTER	Answer to Question #38
QUEST_39	1	CHARACTER	Answer to Question #39
QUEST_40	1	CHARACTER	Answer to Question #40
QUEST_41	1	CHARACTER	Answer to Question #41
QUEST_42	1	CHARACTER	Answer to Question #42
QUEST_43	1	CHARACTER	Answer to Question #43
QUEST_44	1	CHARACTER	Answer to Question #44
QUEST_45	1	CHARACTER	Answer to Question #45
QUEST_46	1	CHARACTER	Answer to Question #46
QUEST_47	1	CHARACTER	Answer to Question #47
QUEST_48	1	CHARACTER	Answer to Question #48
QUEST_49	1	CHARACTER	Answer to Question #49
QUEST_50	1	CHARACTER	Answer to Question #50
QUEST_51	1	CHARACTER	Answer to Question #51
QUEST_52	1	CHARACTER	Answer to Question #52
QUEST_53	1	CHARACTER	Answer to Question #53
QUEST_54	1	CHARACTER	Answer to Question #54
QUEST_55	1	CHARACTER	Answer to Question #55
QUEST_56	1	CHARACTER	Answer to Question #56
QUEST_57	1	CHARACTER	Answer to Question #57
QUEST_58	1	CHARACTER	Answer to Question #58
QUEST_59	1	CHARACTER	Answer to Question #59
QUEST_60	1	CHARACTER	Answer to Question #60
QUEST_61	1	CHARACTER	Answer to Question #61
QUEST_62	1	CHARACTER	Answer to Question #62
QUEST_63	1	CHARACTER	Answer to Question #63
QUEST_64	1	CHARACTER	Answer to Question #64
QUEST_65	1	CHARACTER	Answer to Question #65
QUEST_66	1	CHARACTER	Answer to Question #66
QUEST_67	1	CHARACTER	Answer to Question #67
QUEST_68	1	CHARACTER	Answer to Question #68
QUEST_69	1	CHARACTER	Answer to Question #69
QUEST_70	1	CHARACTER	Answer to Question #70
QUEST_71	1	CHARACTER	Answer to Question #71
TEST_TIME	1	CHARACTER	Test Group

Highest Total Bytes/Record	592
Total Estimated Number of Records	12
Highest Total Overall Bytes	7,104

I.5 DATA BASE LOGICAL STRUCTURE

The logical structure of the AOTS Baseline Data Base Management System is divided into two table sets:

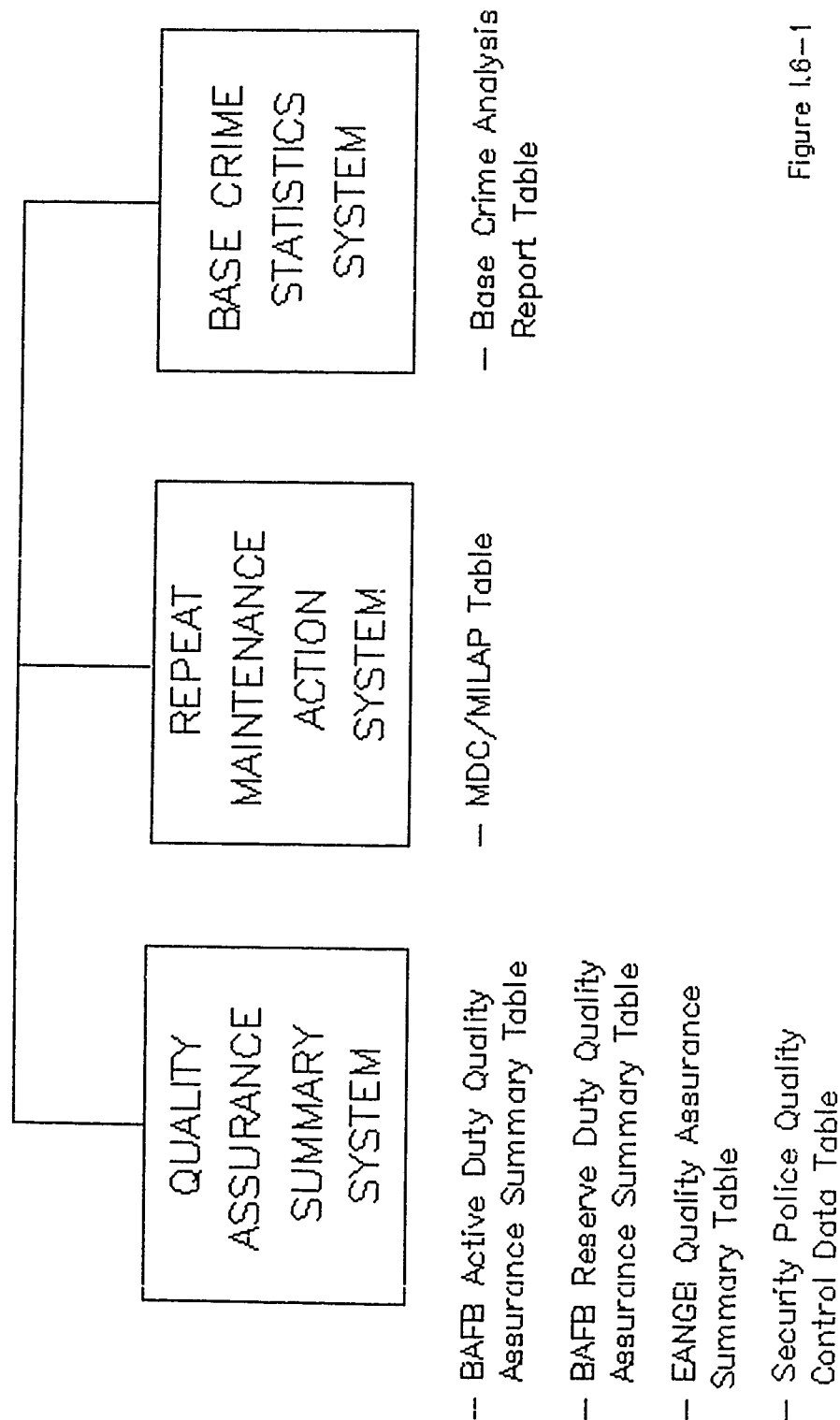
Workcenter Data Table Set--Figure I.6-1, p. 21

Test Subject Data Table Set-- Figure I.6-2, p. 22

The Test Subject set contains tables specifically related to individual test subjects. In the context of this system, each record in the Test Subject set relates to one individual (i.e. WITS sheets are filled out by specific individuals, training record data is collected on specific individuals). Each subject in the baseline data collection will have a DESIRE Listing record. The DESIRE Listing record will include all of the necessary identifying information on the individual. The DESIRE Listing record contains, among other data elements, the individual's Social Security Number. All of the files in the Test Subject set have the Social Security Number as a data element. This allows all of the records relative to an individual to be linked together and to be linked back to the DESIRE Listing record. This allows demographic information (including the individual's first and last name, workcenter, etc.) to be entered into the system only once.

The Workcenter Test set contains data tables that store data relative to the workcenters. These table records cannot be tracked to a specific individual, only to a particular workcenter.

WORKCENTER DATA TABLE SET LOGICAL TABLE STRUCTURE



TEST SUBJECT DATA TABLE SET LOGICAL TABLE STRUCTURE

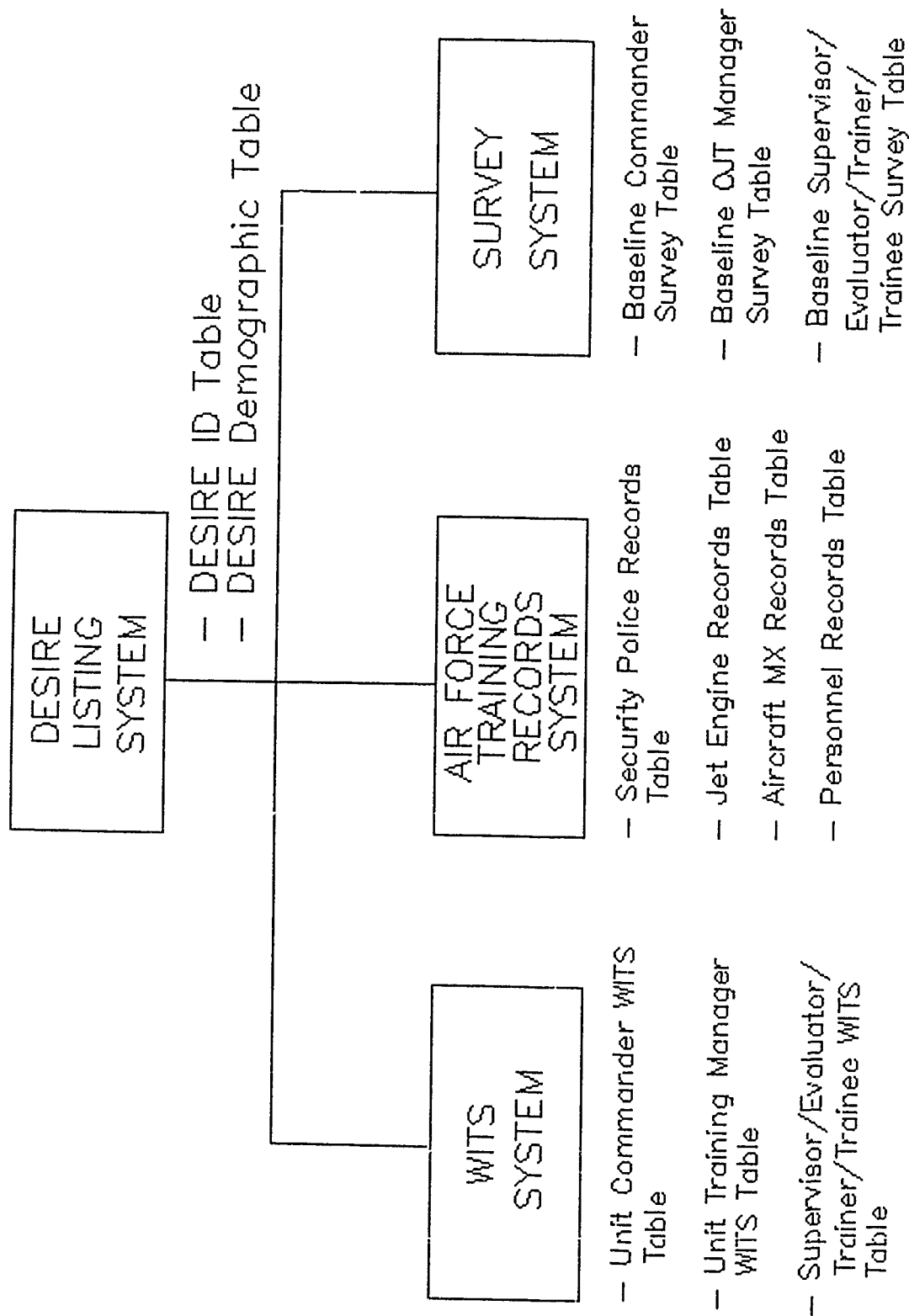


Figure I.6-2

APPENDIX J

SYSTEM LEVEL TEST AND EVALUATION (SLT&E)

DATA COLLECTION PROCEDURES

This appendix describes methodologies to be used during Phase III SLT&E to collect data from the AOTS experimental and control groups at Bergstrom AFB and Ellington ANGB and from non-participant observers from representative MAJCOMS. The methodologies include the administration of several surveys and the continued collection of the Baseline data, excluding the administration of the Prototype AOTS Baseline Survey.

The surveys to be administered during SLT&E include:

- Opinion Surveys to be administered to Supervisors, Training Managers, Trainers and Evaluator
- Acceptance Surveys to be administered to Commanders, Supervisors, Training Managers, Trainees, Trainers and Evaluators
- Deployment Surveys to be administered to Commanders, Supervisors, Training Managers, Evaluators, and Trainers
- Observer Surveys to be administered to visitors attending a two day AOTS demonstration

The Baseline data collections extended during SLT&E include:

- Test Subject Demographic Data
- OJT Records Data
- Quality Controls Data
- Aircraft Maintenance Data
- Base Crime Statistics Data
- WITS Sheets Data

A cross reference to the critical issues and subquestion(s) in Appendix E and pages for step-by-step procedures to obtain SLT&E data are as follows:

SECTION I: SLT&E SURVEYS

- J.1 SLT&E OPINION SURVEYS 4
 - Mission Readiness (E-10B)
 - Trainee Performance (E-12)
 - Training & Evaluation Requirements (E-16A)
 - Trainee Qualifications (E-17A)
 - Use of AOTS Products for Trainee Qualifications (E-17B)
 - Evaluation Methods for Workcenters (E-18A)
 - Management of Availability of Qualified Trainers

	(E-21A)	
	--Enhancement of Trainer Effectiveness (E-22A)	
	--Management of Training (E-23A)	
	--Instructional Technology (E-24A)	
J.2	ACCEPTANCE SURVEYS	20
	--Management of Training in Workcenters (E-32A)	
	--Management of Products (E-32B)	
	--Training on Management Programs & Management Data (E-32C)	
	--Functions of Training Delivery Programs (E-33B)	
	--Capabilities for Evaluating Training (E-34A)	
	--Functions of Evaluation Programs (E-34B)	
	--Training on Evaluation Programs (E-34C)	
	--Training on Operation of Training Delivery Programs (E-33C)	
	--Capabilities for Authoring Training Materials (E33A)	
J.3	AOTS DEPLOYMENT INTERVIEW/SURVEY (E-25A)	40
J.4	OBSERVERS SURVEY	53
	--Functions of Training Delivery Programs (E-33B)	
	--Management of Training in Workcenters (E-32A)	
	--Capabilities for Evaluating Training (E-34A)	
	--Functions of Evaluation Programs (E-34B)	
	--Training & Evaluation Documents Comparison (E-16B)	
	--Evaluation Instruments & Procedures (E-18B)	
	--Operational Equipment Alternatives (E-20B)	
	--Products & Processes For Trainer Effectiveness (E-22B)	

SECTION II: SLT&E PROCEDURES CONTINUED FROM BASELINE

J. 5	TEST SUBJECT DEMOGRAPHIC DATA	61
J. 6	OJT RECORDS (E-7A, E-7B)	62
J. 7	QUALITY ASSURANCE SUMMARIES (E-8A)	65
J. 8	SECURITY POLICE QUALITY CONTROL TREND (E-8A)	66
J. 9	AIRCRAFT MAINTENANCE DATA (E-9A)	67
J.10	BASE CRIME STATISTICS (E-10A)	68
J.11	WITS SHEETS (E-11A, E-15A, E-23B)	69

SECTION III: SLT&E COMPLIANCE PROCEDURES

J.12	EXTERNAL ENTITIES INTERFACES (E-5A)	70
J.13	RESPONSE PERFORMANCE (E-5B)	76
J.14	HARDWARE RELIABILITY (E-5C)	78
J.15	HARDWARE MAINTAINABILITY (E-5D)	82
J.16	SYSTEM AVAILABILITY (E-5E)	89

Section I: SURVEYS

J.1 SLT&E OPINION SURVEYS

J.1.1 Data To Be Collected. The Opinion Surveys are designed to collect opinions from AOTS participants on whether AOTS is better, worse, or no different from conventional OJT. SLT&E Opinion Surveys consist of data collected from three sources as follows:

Supervisors--Figure J.1-1, p. 8
Training Managers--Figure J.1-2, p. 14
Trainers/Evaluators--Figure J.1-3, p. 16

If a person acts as both a Supervisor and an Evaluator or as both a Supervisor and a Trainer, he/she should be categorized as a Supervisor.

Using a response scale ranging from A to G, the respondents are asked to indicate how strongly they oppose or favor the effects of AOTS. Areas covered, with Appendix E references, are as follows:

Mission Readiness (E-10B)
Trainee Performance (E-12A)
Training & Evaluation Requirements (E-16A)
Trainee Qualifications (E-17A)
Use of AOTS Products for Trainee Qualifications (E-17B)
Evaluation Methods for Workcenters (E-18A)
Management of Operational Equipment (E-19A)
Management of Availability of Qualified Trainers (E-21A)
Enhancement of Trainer Effectiveness (E-22A)
Management of Training (E-23A)
Instructional Technology (E-24A)

J.1.2 Requirements for DCR. The DCR must have the ability to administer surveys individually or in a group administration.

J.1.3 Frequency of Data Collection. The Opinion Surveys will be administered one time during the third quarter of SLT&E (May 1989)

J.1.4 Letters of Request. Prior to administering the surveys, the DCR will submit a letter to the Squadron Commander requesting all AOTS participants attend the Opinion Survey administration event. Squadron Commanders and location are found in Attachment 1 to Appendix J.

J.1.5 Administration of Surveys. The DCR will administer the surveys. The DCR will:

- Obtain a sufficient number of # 2 pencils, Optical Mark Reader (OMR) sheets and Opinion Surveys (Supervisor, Training Manager, and Trainer/Evaluator) for distribution to the scheduled AOTS participants.
- Attend and supervise the administration event.
 - Administer the surveys in a room free from distractions
 - Distribute the surveys and OMR sheets to each participant
 - Provide instructions for completing the surveys (see sample instructions below)
 - Allow the respondents to leave and return to the administration area **without** the surveys. (Surveys should remain with the DCR while respondents are absent from the survey administration area)
 - Answer any questions pertaining to the completion of the forms
 - Review ALL OMR sheets before the respondents leave the administration area and ensure that:
 - The correct SSAN is entered
 - The correct Answer Sheet number is entered
 - All question and statement responses are entered
 - Collect all pencils, surveys and OMR sheets after the surveys have been completed

SUGGESTIONS FOR ADMINISTERING SURVEYS

- Administer more than one type (Opinion, Acceptance, Deployment) of surveys at the same administration event when appropriate
- Allow for errors (bring extra copies of surveys and OMR sheets)
- Administer the surveys in a classroom, conference room or theatre
- Apply a ratio of one DCR to approximately 15 respondents
- Administer surveys to personnel from multiple workcenters at a central location when possible
- Read the following SAMPLE INSTRUCTIONS to the respondents

THE PURPOSE OF THIS SURVEY IS TO DETERMINE HOW PERSONNEL IN THE WORKCENTERS, WHO HAVE OPERATED THE AOTS, FEEL ABOUT THE SYSTEM. USING THE ACCOMPANYING OMR SHEET, INDEPENDENTLY RESPOND TO ALL QUESTIONS AND STATEMENTS. NOTE THAT SOME STATEMENTS MAY APPEAR TO BE IDENTICAL TO OTHERS BUT AFTER CLOSER EXAMINATION YOU WILL SEE THAT EACH STATEMENT REFERS TO A DIFFERENT TOPIC. READ EACH STATEMENT CAREFULLY BECAUSE SOME STATEMENTS FAVOR AOTS AND SOME FAVOR CONVENTIONAL OJT. AFTER YOU HAVE RESPONDED TO ALL OF THE STRUCTURED STATEMENTS, USE THE BACK OF THE SURVEY TO REPORT ANY COMMENTS OR SUGGESTIONS THAT YOU HAVE ABOUT AOTS. BE HONEST AND TAKE AS LONG AS YOU WANT TO RESPOND TO THE SURVEY.

SAMPLE LETTER FOR SCHEDULING PERSONNEL FOR SLT&E SURVEYS

REPLY TO
ATTN OF: AFHRL/OL-AK

SUBJECT: AOTS Survey Administration

TO: 67 AGS/CC

1. Request the following personnel be scheduled to report to Building T-1 (across from Bldg 1604) at 1300 hrs on 29 Feb 1988. The individuals will be asked to respond to surveys regarding their involvement with the prototype Advanced OJT System (AOTS). These appointments should take approximately 1 hour.

Captain Hays, Jeffrey D.	FR000923847	12th AMU, B Flight
CMSgt Singleton, Joseph	FR555223671	12th AMU, A Flight
SMSgt Dreher, Steven L.	FR843920199	12th AMU, B Flight
SMSgt Gosc, Robert L.	FR321664335	12th AMU, A Flight
SMSgt D'Amico, James	FR631226734	12th AMU, B Flight
MSgt Elliott, Thomas D.	FR773400812	12th AMU, B Flight
TSgt Brooks, David W.	FR543889201	12th AMU, A Flight
SSgt Hand, Betsy	FR211211211	12th AMU, A Flight
AlC Leger, Lynn	FR231987885	12th AMU, B Flight
Amn West, James J.	FR012994999	12th AMU, A Flight
AB Sturdevant, Wayne A.	FR460403233	12th AMU, B Flight

JACK L. BLACKHURST, Major, USAF
Commander, AFHRL/OL-AK

J.1.6 Time Required for Data Collection.

- 1.5 hrs. per workcenter--AFHRL distribute/collect surveys
- 1.0 hrs. per workcenter--Input data into AOTS data table
- 1.0 hr. per individual--Complete surveys

J.1.7 Disposition of Data. After the surveys have been collected, DCR will conduct a quick-look analysis of the results to insure the integrity of the data entered by the respondents. The following plan will be followed:

- Verify that all SSANs are entered and that the SSANs correspond with the names and SSANs on the list of incumbents.
- Verify that all response marks on each OMR sheet are within the tolerance limits for the optical scanner.
- Verify that each form's demographic data meets the standards set on the sample OMR sheet for the same survey.

If records are found to be out of tolerance or with error, the DCR will return the OMRs to the respondent for immediate correction.

ACCURATE records will be given to the Data Input Representative (DIR) for data input.

SUPERVISOR SLT&E OPINION SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter:
your **NAME** in the "**NAME GRID**" block,
your **SSAN** in columns 1-9 of the "**NUMERIC GRID**" block,
number **04** in columns 24/25 of the "**NUMERIC GRID**" block.

Indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your answer or opinion.

Read every statement **VERY** carefully before selecting the response option that matches your opinion.

1. AS A SUPERVISOR, WHAT CATEGORY OF TRAINEES HAVE YOU BEEN OBSERVING DURING THE DEPLOYMENT OF THE AOTS PROTOTYPE?

A. ONLY TRAINEES TRAINED UNDER AOTS

B. TRAINEES TRAINED UNDER AOTS AND TRAINEES TRAINED UNDER CONVENTIONAL OJT

Unless otherwise instructed, use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

2. TRAINEES ARE BETTER ABLE TO PERFORM TASKS WHEN TRAINED UNDER AOTS THAN WHEN TRAINED UNDER CONVENTIONAL OJT.

3. TRAINEES ADAPT MORE QUICKLY TO CHANGING MISSION DEMANDS WHEN TRAINED UNDER AOTS THAN WHEN TRAINED UNDER CONVENTIONAL OJT.

4. PEOPLE IN MY WORKCENTER MAKE MORE MISTAKES PERFORMING TASKS AFTER BEING TRAINED UNDER AOTS THAN AFTER BEING TRAINED UNDER CONVENTIONAL OJT.

5. TRAINEES ARE BETTER ABLE TO MEET MISSION READINESS REQUIREMENTS AFTER BEING TRAINED UNDER AOTS THAN AFTER BEING TRAINED UNDER CONVENTIONAL OJT.

SUPERVISOR SLT&E OPINION SURVEY

Unless otherwise instructed, use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

6. TASK TRAINING IS MORE THOROUGH UNDER AOTS THAN UNDER CONVENTIONAL OJT.

7. TRAINEES HAVE A BETTER UNDERSTANDING OF TASK PERFORMANCE REQUIREMENTS UNDER AOTS THAN UNDER CONVENTIONAL OJT.

8. THE USE OF TRAINING MATERIALS DELIVERED VIA THE AOTS HAS INCREASED THE TRAINEES' ABILITY TO PERFORM TASKS.

9. TRAINEES REQUIRE LESS SUPERVISION WHEN PERFORMING TASKS AFTER BEING TRAINED UNDER AOTS THAN AFTER BEING TRAINED UNDER CONVENTIONAL OJT.

10. TRAINEES RETAIN KNOWLEDGE AND SKILLS LONGER WHEN TRAINED UNDER AOTS THAN WHEN TRAINED UNDER CONVENTIONAL OJT.

11. AOTS BEHAVIORAL OBJECTIVES ENABLE ME TO DETERMINE TRAINING REQUIREMENTS BETTER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

12. AOTS BEHAVIORAL OBJECTIVES ENABLE ME TO IDENTIFY TASK EVALUATION STANDARDS BETTER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

13. REMEDIAL TRAINING REQUIREMENTS FOR TASKS ARE MORE EASILY IDENTIFIED UNDER AOTS THAN UNDER CONVENTIONAL OJT.

14. I AM LESS ABLE TO IDENTIFY SPECIFIC TRAINING NEEDS WHEN I USE THE RESULTS FROM THE AOTS TASK PERFORMANCE EVALUATIONS THAN WHEN I USE THE RESULTS FROM CONVENTIONAL OJT EVALUATIONS.

15. I CAN KEEP TRACK OF A TRAINEE'S PROGRESS TOWARD TASK PROFICIENCY BETTER USING AOTS PROCEDURES THAN USING CONVENTIONAL OJT METHODS.

16. AOTS BEHAVIORAL OBJECTIVES CLEARLY INDICATE THE REQUIRED STANDARD OF TASK PERFORMANCE.

SUPERVISOR SLT&E OPINION SURVEY

Unless otherwise instructed, use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

17. I AM BETTER ABLE TO DETERMINE A TRAINEE'S QUALIFICATIONS USING TASK STATEMENTS WRITTEN UNDER AOTS THAN STATEMENTS WRITTEN UNDER CONVENTIONAL OJT.

18. AOTS PRODUCTS, SUCH AS AIRMAN TRAINING RECORDS (ATRs), ARE MORE HELPFUL THAN CONVENTIONAL OJT PRODUCTS IN DETERMINING TRAINEE QUALIFICATIONS.

19. AOTS EVALUATION STANDARDS ARE TOO HIGH FOR THE TASKS PERFORMED IN MY WORKCENTER.

20. AOTS EVALUATION INSTRUCTIONS ARE CLEAR AND EXPLICIT.

21. AOTS TESTS CONTAIN ENOUGH DETAIL TO ADEQUATELY DETERMINE TRAINEE QUALIFICATIONS:

22. AOTS TESTS COVER STEPS AND PROCEDURES THAT DO NOT REQUIRE EVALUATION.

23. QUALIFIED TRAINERS ARE MORE EASILY IDENTIFIED UNDER AOTS THAN UNDER CONVENTIONAL OJT.

24. TRAINERS ARE ABLE TO MANAGE MORE TRAINEES UNDER AOTS THAN UNDER CONVENTIONAL OJT.

25. TRAINERS ARE ABLE TO IDENTIFY AVAILABLE TRAINING MATERIALS MORE READILY UNDER AOTS THAN UNDER CONVENTIONAL OJT.

26. TRAINERS APPEAR TO BE MORE CONFIDENT IN THEIR TRAINING ABILITIES UNDER AOTS THAN UNDER CONVENTIONAL OJT.

27. TRAINING IS MORE RELIABLE UNDER AOTS THAN UNDER CONVENTIONAL OJT.

28. MANAGING THE DESIGNATION OF QUALIFIED TRAINERS IS EASIER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

SUPERVISOR SLT&E OPINION SURVEY

Unless otherwise instructed, use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

29. TRAINERS ARE ABLE TO DO A BETTER JOB OF TRAINING UNDER AOTS THAN UNDER CONVENTIONAL OJT.

30. TRAINERS ARE ABLE TO GIVE TRAINEES MORE INDIVIDUALIZED TRAINING UNDER AOTS THAN UNDER CONVENTIONAL OJT.

31. TRAINERS HAVE MORE DIFFICULTY JUDGING INDIVIDUAL PROGRESS UNDER AOTS THAN UNDER CONVENTIONAL OJT.

32. TRAINERS ARE BETTER ABLE TO JUDGE TRAINEES' TASK PROFICIENCY UNDER AOTS THAN UNDER CONVENTIONAL OJT.

33. TRAINERS ARE ABLE TO GET TRAINEES POSITION QUALIFIED FASTER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

34. AOTS REDUCES THE TIME SPENT MAINTAINING TRAINING RECORDS.

35. SCHEDULING TRAINING IS MORE DIFFICULT UNDER AOTS THAN UNDER CONVENTIONAL OJT.

36. TRACKING TRAINEES' PROGRESS IN THE WORKCENTER IS EASIER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

37. AOTS ASSISTS ME IN KEEPING RECORDS FOR TRACKING TRAINEES' PROGRESS TOWARDS POSITION QUALIFICATION.

38. UPDATING AOTS TRAINING RECORDS (e.g., ATRs, ITRs) IS LESS TIME CONSUMING THAN COMPLETING THE PAPER WORK NEEDED TO MANAGE TRAINING UNDER CONVENTIONAL OJT.

39. AOTS PRODUCES REPORTS THAT CAN BE USED TO EVALUATE TRAINERS' COMPETENCE IN TRAINING WORKCENTER TASKS.

40. I SPEND LESS TIME COORDINATING TRAINING UNDER AOTS THAN UNDER CONVENTIONAL OJT.

SUPERVISOR SLT&E OPINION SURVEY

Unless otherwise instructed, use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

41. THE AVAILABILITY OF COMPUTER ASSISTED INSTRUCTION (CAI) IN THE WORKCENTER IS GREATER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

42. THE CAPABILITY FOR COMPUTER MANAGEMENT OF TRAINING IS GREATER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

43. THE CAPABILITY FOR IDENTIFYING TRAINING REQUIREMENTS IS GREATER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

44. THE CAPABILITY FOR IDENTIFYING TRAINING DEFICIENCIES IS GREATER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

45. DOING THE JOB IN THE OPERATIONAL ENVIRONMENT IS MORE DIFFICULT AFTER BEING TRAINED WITH AOTS CAI THAN WHEN BEING TRAINED UNDER CONVENTIONAL OJT.

46. OVERALL, TRAINING TIME DECREASED AFTER PERSONNEL BECAME FAMILIAR WITH THE ON-LINE COMPUTER-ASSISTED TRAINING AND EVALUATION FEATURES OF THE AOTS.

SUPERVISOR SLT&E OPINION SURVEY

USE THE FOLLOWING RESPONSE OPTION SCALE TO RESPOND TO STATEMENTS 47-51.

A	B	C	D	E	F	G
NONE OF THE TIME.			SOMETIMES.			ALL OF THE TIME.

47. I USE AOTS GENERIC POSITION TASK REQUIREMENTS (GPTRs) TO DETERMINE THE TRAINEE'S POSITION TRAINING REQUIREMENTS.

48. I USE THE AOTS QUALIFICATION ASSESSMENT CAPABILITIES TO DETERMINE TRAINEE QUALIFICATIONS

49. I USE AOTS GENERATED REPORTS TO DETERMINE HOW WELL TRAINEES ARE PROGRESSING IN TRAINING

50. I USE AOTS PERFORMANCE TESTS (PERFORMANCE EVALUATION CHECKLISTS) TO DETERMINE TRAINEE QUALIFICATIONS

51. I USE AOTS TESTS TO DETERMINE IF TRAINEES POSSESS THE KNOWLEDGE REQUIRED TO PERFORM TASKS

COMMENTS:

Figure J.1-1

TRAINING MANAGER SLT&E OPINION SURVEY

DIRECTIONS. On the accompanying answer sheet, please enter:
your **NAME** in the "NAME GRID" block,
your **SSAN** in columns 1-9 of the "NUMERIC GRID" block,
number **06** in columns 24/25 of the "NUMERIC GRID" block.

Indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your answer or opinion.

Read every statement **VERY** carefully before selecting the response option that matches your opinion.

Use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

1. AOTS BEHAVIORAL OBJECTIVES ENABLE ME TO DETERMINE TRAINING REQUIREMENTS BETTER UNDER AOTS THAN UNDER CONVENTIONAL OJT.
2. AOTS BEHAVIORAL OBJECTIVES ENABLE ME TO IDENTIFY TASK EVALUATION STANDARDS BETTER UNDER AOTS THAN UNDER CONVENTIONAL OJT.
3. REMEDIAL TRAINING REQUIREMENTS FOR TASKS ARE MORE EASILY IDENTIFIED UNDER AOTS THAN UNDER CONVENTIONAL OJT.
4. I AM LESS ABLE TO IDENTIFY SPECIFIC TRAINING NEEDS WHEN I USE THE RESULTS FROM THE AOTS TASK EVALUATIONS THAN WHEN I USE THE RESULTS FROM CONVENTIONAL OJT EVALUATIONS.
5. I CAN KEEP TRACK OF A TRAINEE'S PROGRESS TOWARD TASK PROFICIENCY BETTER USING AOTS PROCEDURES THAN USING CONVENTIONAL OJT METHODS.
6. BY REVIEWING AOTS INDIVIDUAL TRAINING REQUIREMENTS (ITRs), I AM BETTER ABLE TO FOCUS MY ATTENTION ON POSITION QUALIFICATION AS OPPOSED TO JUST UPGRADE TRAINING.

TRAINING MANAGER SLT&E OPINION SURVEY

Use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

7. I AM BETTER ABLE TO DETERMINE THE STATUS OF UPGRADE TRAINING IN THE WORKCENTERS BY REVIEWING THE AOTS WORKCENTER UPGRADE TRAINING REPORTS THAN BY REVIEWING CONVENTIONAL TRAINING STATUS REPORTS.

8. TRAINING NECESSARY TO ACHIEVE TASK PROFICIENCY IS MORE EASILY IDENTIFIED USING THE EVALUATION MATERIALS (e.g., KNOWLEDGE TESTS, PERFORMANCE TESTS) DEVELOPED UNDER AOTS THAN EVALUATION MATERIALS DEVELOPED UNDER CONVENTIONAL OJT.

9. MANAGING THE DATA REQUIRED IN MY OJT PROGRAM IS MORE DIFFICULT UNDER AOTS THAN UNDER CONVENTIONAL OJT.

10. BECAUSE OF THE QUALITY OF DATA CONTAINED IN THE AOTS REPORTS, I AM BETTER ABLE TO ADVISE ON TRAINING NEEDS AND DEFICIENCIES UNDER AOTS THAN UNDER CONVENTIONAL OJT.

11. OVERALL, TRAINING TIME DECREASED AFTER TRAINEES BECAME FAMILIAR WITH THE ON-LINE COMPUTER-ASSISTED TRAINING AND EVALUATION FEATURES OF THE AOTS.

COMMENTS:

Figure J.1-2

TRAINER/EVALUATOR SLT&E OPINION SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter:
your **NAME** in the "**NAME GRID**" block,
your **SSAN** in columns 1-9 of the "**NUMERIC GRID**" block,
number **05** in columns 24/25 of the "**NUMERIC GRID**" block.

Using the following set of response options, indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your answer or opinion.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

Read every statement VERY carefully before selecting the response option that matches your opinion.

1. TRAINEES HAVE A BETTER UNDERSTANDING OF TASK PERFORMANCE REQUIREMENTS UNDER AOTS THAN UNDER CONVENTIONAL OJT.
2. THE USE OF TRAINING MATERIALS DELIVERED VIA THE AOTS HAS INCREASED THE TRAINEES' ABILITY TO PERFORM RELATED TASKS.
3. TRAINEES REQUIRE LESS SUPERVISION WHEN PERFORMING TASKS AFTER BEING TRAINED UNDER AOTS THAN AFTER BEING TRAINED UNDER CONVENTIONAL OJT.
4. TRAINEES RETAIN KNOWLEDGE AND SKILLS LONGER WHEN TRAINED UNDER AOTS THAN WHEN TRAINED UNDER CONVENTIONAL OJT.
5. TRAINEES PERFORM THEIR TASKS WITH FEWER ERRORS WHEN TRAINED UNDER AOTS THAN WHEN TRAINED UNDER CONVENTIONAL OJT.
6. AOTS BEHAVIORAL OBJECTIVES ENABLE ME TO DETERMINE TRAINING REQUIREMENTS BETTER UNDER AOTS THAN UNDER CONVENTIONAL OJT.
7. AOTS BEHAVIORAL OBJECTIVES ENABLE ME TO IDENTIFY TASK EVALUATION STANDARDS BETTER UNDER AOTS THAN UNDER CONVENTIONAL OJT.
8. REMEDIAL TRAINING REQUIREMENTS FOR TASKS ARE MORE EASILY IDENTIFIED UNDER AOTS THAN UNDER CONVENTIONAL OJT.

TRAINER/EVALUATOR SLT&E OPINION SURVEY

Use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

9. I AM LESS ABLE TO IDENTIFY SPECIFIC TRAINING NEEDS WHEN I USE THE RESULTS FROM THE AOTS TASK PERFORMANCE EVALUATIONS THAN WHEN I USE THE RESULTS FROM CONVENTIONAL OJT EVALUATIONS.

10. I CAN KEEP TRACK OF A TRAINEE'S PROGRESS TOWARD TASK PROFICIENCY BETTER USING AOTS PROCEDURES THAN USING CONVENTIONAL OJT METHODS.

11. AOTS EVALUATION STANDARDS ARE TOO HIGH FOR THE TASKS PERFORMED IN MY WORKCENTER.

12. AOTS EVALUATION INSTRUCTIONS ARE CLEAR AND EXPLICIT.

13. AOTS TESTS CONTAIN ENOUGH DETAIL TO ADEQUATELY DETERMINE TRAINEE QUALIFICATIONS.

14. AOTS TESTS COVER STEPS AND PROCEDURES THAT DO NOT REQUIRE EVALUATION.

15. QUALIFIED TRAINERS ARE MORE EASILY IDENTIFIED UNDER AOTS THAN UNDER CONVENTIONAL OJT.

16. TRAINERS ARE ABLE TO MANAGE MORE TRAINEES UNDER CONVENTIONAL OJT THAN UNDER AOTS.

17. TRAINERS ARE ABLE TO IDENTIFY AVAILABLE TRAINING MATERIALS MORE READILY UNDER AOTS THAN UNDER CONVENTIONAL OJT.

18. TRAINERS APPEAR TO BE MORE CONFIDENT IN THEIR TRAINING ABILITIES UNDER AOTS THAN UNDER CONVENTIONAL OJT.

19. TRAINING IS MORE RELIABLE UNDER AOTS THAN UNDER CONVENTIONAL OJT.

20. MANAGING THE DESIGNATION OF QUALIFIED TRAINERS IS EASIER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

TRAINER/EVALUATOR SLT&E OPINION SURVEY

Use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

21. TRAINERS ARE ABLE TO DO A BETTER JOB OF TRAINING UNDER AOTS THAN UNDER CONVENTIONAL OJT.
22. TRAINERS ARE ABLE TO GIVE TRAINEES MORE INDIVIDUALIZED TRAINING UNDER AOTS THAN UNDER CONVENTIONAL OJT.
23. TRAINERS HAVE MORE DIFFICULTY JUDGING INDIVIDUAL PROGRESS UNDER AOTS THAN UNDER CONVENTIONAL OJT.
24. TRAINERS ARE BETTER ABLE TO JUDGE TRAINEES' TASK PROFICIENCY UNDER AOTS THAN UNDER CONVENTIONAL OJT.
25. TRAINERS ARE ABLE TO GET TRAINEES POSITION QUALIFIED FASTER UNDER AOTS THAN UNDER CONVENTIONAL OJT.
26. AOTS REDUCES THE TIME SPENT MAINTAINING TRAINING MANAGEMENT RECORDS.
27. SCHEDULING TRAINING IS MORE DIFFICULT UNDER AOTS THAN UNDER CONVENTIONAL OJT.
28. TRACKING TRAINEES' PROGRESS IN THE WORKCENTER IS EASIER UNDER AOTS THAN UNDER CONVENTIONAL OJT.
29. AOTS ASSISTS ME IN KEEPING RECORDS FOR TRACKING TRAINEES' PROGRESS TOWARDS POSITION QUALIFICATION.
30. UPDATING AOTS TRAINING RECORDS (e.g., ATRs, ITRs) IS LESS TIME CONSUMING THAN COMPLETING THE PAPER WORK NEEDED TO MANAGE TRAINING UNDER CONVENTIONAL OJT.
31. AOTS PRODUCES REPORTS THAT CAN BE USED TO EVALUATE TRAINERS' COMPETENCE IN TRAINING WORKCENTER TASKS.
32. I SPEND LESS TIME COORDINATING TRAINING UNDER AOTS THAN UNDER CONVENTIONAL OJT.

TRAINER/EVALUATOR SLT&E OPINION SURVEY

Use the following set of response options to indicate your opinions:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

33. THE AVAILABILITY OF COMPUTER ASSISTED INSTRUCTION (CAI) IN THE WORKCENTER IS GREATER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

34. THE CAPABILITY FOR COMPUTER MANAGEMENT OF TRAINING IS GREATER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

35. THE CAPABILITY OF IDENTIFYING TRAINING REQUIREMENTS IS GREATER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

36. THE CAPABILITY OF IDENTIFYING TRAINING DEFICIENCIES IS GREATER UNDER AOTS THAN UNDER CONVENTIONAL OJT.

37. DOING THE JOB IN THE WORKCENTER IS MORE DIFFICULT AFTER BEING TRAINED WITH AOTS CAI THAN WHEN BEING TRAINED UNDER CONVENTIONAL OJT.

38. OVERALL, TRAINING TIME DECREASED AFTER PERSONNEL BECAME FAMILIAR WITH THE ON-LINE COMPUTER-ASSISTED TRAINING AND EVALUATION FEATURES OF THE AOTS.

COMMENTS:

Figure J.1-3

J.2 ACCEPTANCE SURVEYS

J.2.1 Data To Be Collected. The Acceptance Surveys are designed to collect views from AOTS participants on whether AOTS is easy to operate and user friendly. Acceptance Surveys consist of data collected from six sources as follows:

- Supervisors--Figure J.2-1, p. 25
- Training Managers--Figure J.2-2, p. 29
- Trainers/Evaluators--Figure J.2-3, p. 33
- Trainees--Figure J.2-4, p. 34
- Commanders--Figure J.2-5, p. 36
- Training Developers--Figure J.2-6, p. 38

Individuals who perform the function of more than one category should be considered to be in the first of those categories listed above. For example, if a person acts as both a Supervisor and an Evaluator or as both a Supervisor and a Trainer, he/she should be categorized as a Supervisor.

Using a response scale ranging from A to G, the respondents are asked to indicate how acceptable they believe the AOTS to be. Areas covered, with Appendix E references, are as follows:

- Management of Training in Workcenters (E-32A)
- Management of Products (E-32B)
- Training on Management Programs & Management Data (E-32C)
- Functions of Training Delivery Programs (E-33B)
- Capabilities for Evaluating Training (E-34A)
- Functions of Evaluation Programs (E-34B)
- Training on Evaluation Programs (E-34C)
- Training on Operation of Training Delivery Programs (E-33C)
- Capabilities for Authoring Training Materials (E-33A)

J.2.2 Requirements for DCR. The DCR should have the ability to administer surveys individually or in a group administration.

J.2.3 Frequency of Data Collection. Data collected via Acceptance Surveys will be collected once during SLT&E from the training developers and twice from all other participants. Data from training developers will be collected in September 1988; data from other participant will be collected in January and May 1989--using the same set of acceptance survey statements both times. The purpose of repeating the acceptance survey administration is to capture any opinion changes that might occur during the interval.

Four open ended questions will be included one time on all acceptance surveys. The four items to be included on the developers one time administered acceptance survey and on the second administration of all other acceptance surveys are as follows.

WHAT DO YOU BELIEVE ARE THE STRENGTHS OF AOTS?
WHAT DO YOU BELIEVE ARE THE WEAKNESSES OF AOTS?
HOW WOULD YOU IMPROVE AOTS?
WHAT CAPABILITIES WOULD YOU LIKE ADDED TO AOTS?

J.2.4 Letters of Request. Prior to administering the surveys, the DCR will submit a letter to the Squadron Commander requesting all AOTS participants attend the Survey administration event. Squadron Commanders and locations are found in Attachment 1 to Appendix J.

A Memo for Record will be sent to Major Blackhurst, advising him that the IST will be responding to the Developers Survey. The following letter may be used as a model for the letter to Squadron Commanders:

SAMPLE LETTER FOR SCHEDULING PERSONNEL FOR SLT&E SURVEYS

REPLY TO

ATTN OF: AFHRL/OL-AK

SUBJECT: AOTS Survey Administration

TO: 67 AGS/CC

1. Request the following personnel be scheduled to report to the Base Theater at 1300 hrs on 29 Feb 1988. The individuals will be asked to respond to surveys regarding their involvement with the prototype Advanced OJT System (AOTS). These appointments should take approximately 1 hour.

Captain Hays, Jeffrey D.	FR000923847	12th AMU, B Flight
CMSgt Singleton, Joseph	FR555223671	12th AMU, A Flight
SMSgt Dreher, Steven L.	FR843920199	12th AMU, B Flight
SMSgt Gosc, Robert L.	FR321664335	12th AMU, A Flight
SMSgt D'Amico, James	FR631226734	12th AMU, B Flight
MSgt Elliott, Thomas D.	FR773400812	12th AMU, B Flight
TSgt Brooks, David W.	FR543889201	12th AMU, A Flight
SSgt Hand, Betsy	FR211211211	12th AMU, A Flight
A1C Leger, Lynn	FR231987885	12th AMU, B Flight
Amn West, James J.	FR012994999	12th AMU, A Flight
AB Sturdevant, Wayne A.	FR460403233	12th AMU, B Flight

JACK L. BLACKHURST, Major, USAF
Commander, AFHRL/OL-AK

J.2.5 Administration of Surveys. The DCR will administer the surveys. The DCR will:

- Obtain a sufficient number of # 2 pencils, OMR sheets and Acceptance Surveys (Supervisor, Training Manager, Trainee, and Trainer/Evaluator), for distribution to the scheduled AOTS participants. (The Commander Surveys will PROBABLY be administered separately)
- Attend and supervise the administration event.
 - Administer the surveys in a room free from distractions
 - Distribute the surveys and OMR sheets to each participant
 - Provide instructions for completing the surveys (see sample instructions below)
 - Allow the respondents to leave and return to the administration area **without** the surveys (Surveys should remain with the DCR while respondents are absent from the survey administration area)
 - Answer any questions pertaining to the completion of the forms
 - Review ALL OMR sheets before the respondents leave the administration area and ensure that:
 - The correct SSAN was entered
 - The correct administration time was entered (1 for Jan, 2 for May)
 - The correct survey number was entered
 - All question and statement responses were entered
 - Collect all pencils, surveys and OMR sheets after the surveys have been completed

SUGGESTIONS FOR ADMINISTERING SURVEYS

- Allow for errors (bring extra copies of surveys and OMR sheets)
- Administer the surveys in a classroom, conference room or theatre
- Apply a ratio of one DCR to approximately 15 respondents
- Administer surveys to personnel from multiple workcenters at a central location when possible
- Read the following SAMPLE INSTRUCTIONS to the respondents

THE PURPOSE OF THIS SURVEY IS TO DETERMINE HOW WELL PERSONNEL IN THE WORKCENTERS, WHO HAVE OPERATED THE AOTS, ACCEPT THE SYSTEM. USE THE ACCOMPANYING OMR SHEET AND INDEPENDENTLY RESPOND TO ALL QUESTIONS AND STATEMENTS. NOTE THAT SOME STATEMENTS MAY APPEAR TO BE IDENTICAL TO OTHERS BUT AFTER CLOSER EXAMINATION YOU WILL SEE THAT EACH STATEMENT REFERS TO A DIFFERENT TOPIC. READ EACH STATEMENT CAREFULLY BECAUSE SOME STATEMENTS FAVOR AOTS AND SOME FAVOR CONVENTIONAL OJT. AFTER YOU HAVE RESPONDED TO ALL OF THE STRUCTURED STATEMENTS, USE THE BACK OF THE SURVEY TO REPORT ANY COMMENTS OR SUGGESTIONS THAT YOU HAVE ABOUT AOTS. BE HONEST

AND TAKE AS LONG AS YOU WANT TO RESPOND TO THE SURVEY.

J.2.6 Time Required for Data Collection. Approximate times for each administration of the surveys are as follows.

- 1.5 hr. per workcenter--AFHRL distribute/collect surveys
- 1.0 hr. per workcenter--Input data into AOTS data table
- 1.0 hr. per individual--Complete surveys

J.2.7 Disposition of Data. After the surveys have been collected, DCR will conduct a quick-look analysis of the OMR sheets to insure the integrity of the data entered by the respondents. The following plan will be followed:

- Verify that all SSANs are entered and that the SSANs correspond with the names and SSANs on the list of incumbents.
- Verify that all response marks on each OMR sheet are within the tolerance limits for the optical scanner.
- Verify that each form's demographic data meets the standards set on the sample OMR sheet for the same survey.

If records are found to be out of tolerance or with error, the DCR will return the OMR sheets to the respondent for immediate correction.

Accurate records will be given to the Data Input Representative (DIR) for data input.

SUPERVISOR ACCEPTANCE SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter;
your **NAME** in the "NAME GRID" block
your **SSAN** in columns 1-9 of the "NUMERIC GRID" block
number 08 in columns 24/25 of the "NUMERIC GRID" block

Using the following set of response options indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your opinion.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
1. HAVING THE TASK ELEMENTS (SUBTASKS, ACTIVITIES, SUPPORTING SKILLS AND KNOWLEDGE, SUPPORT EQUIPMENT, ETC.) LISTED ON THE AOTS MASTER TASK LIST HELPS ME MAKE DECISIONS WHEN PLANNING TRAINING AND EVALUATION EVENTS.						
2. HAVING THE TASK ELEMENTS (SUBTASKS, ACTIVITIES, SUPPORTING SKILLS AND KNOWLEDGE, SUPPORT EQUIPMENT, ETC.) LISTED ON THE AOTS MASTER TASK LIST HELPS ME WHEN I AM CONDUCTING TRAINING.						
3. OTHER TRAINING REQUIREMENTS (FOR EXAMPLE, CONTINGENCY TASK TRAINING, ANCILLARY TRAINING, ADDITIONAL DUTY TRAINING, AND CAREER DEVELOPMENT COURSES) ARE EASILY IDENTIFIED USING THE AOTS.						
4. THE AOTS MAKES IT EASY FOR ME TO IDENTIFY AIRMEN TRAINING AND EVALUATION REQUIREMENTS.						
5. THE SEQUENCE FOR TRAINING, DELIVERED VIA THE AOTS, CAN BE EASILY CHANGED TO ACCOMMODATE UNSCHEDULED TRAINING OPPORTUNITIES OR HIGHER PRIORITIES FOR TRAINING.						
6. USING GENERIC POSITION TASK REQUIREMENTS (GPTR) LISTS AS A BASELINE TO DEVELOP OPERATIONAL POSITION TASK REQUIREMENTS (OPTR) LISTS <u>COMPLICATES</u> THE PROCESS OF IDENTIFYING PERFORMANCE REQUIREMENTS FOR AIRMEN.						
7. TASKS ON OPERATIONAL POSITION TASK REQUIREMENTS (OPTR) LISTS ARE EASILY RANK-ORDERED WHEN IT IS NECESSARY TO OVERRIDE THE AUTOMATIC RANK-ORDERING FUNCTION.						

SUPERVISOR ACCEPTANCE SURVEY

Use the following set of response options indicate your response to each statement.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
8. TRAINING REQUIREMENTS ON THE INDIVIDUAL TRAINING REQUIREMENTS (ITR) LISTS ARE EASILY RANK-ORDERED WHEN IT IS NECESSARY TO OVERRIDE THE AUTOMATIC RANK-ORDERING FUNCTION.						
9. TASKS CONTAINED ON THE AOTS MASTER TASK LIST ARE WELL DEFINED.						
10. THE MASTER TASK LIST CONTAINS A COMPLETE LISTING OF ALL TASKS PERFORMED IN MY WORK CENTER.						
11. THE MASTER TASK LIST EDITOR IS EASY TO USE.						
12. THE AOTS PUBLICATION REFERENCE DATA PINPOINT EXACTLY WHERE A PERSON CAN FIND INFORMATION RELATED TO A PARTICULAR TASK.						
13. WHEN TASKS ON GPTR LISTS ARE RANK-ORDERED AUTOMATICALLY, THE TASKS ARE ARRANGED IN THE APPROXIMATE ORDER IN WHICH THE TASKS WOULD NORMALLY BE TRAINED IN THE WORKCENTER.						
14. WHEN TASKS ON OPTR LISTS ARE RANK-ORDERED AUTOMATICALLY, THE TASKS ARE ARRANGED IN THE APPROXIMATE ORDER IN WHICH THE TASKS WOULD NORMALLY BE TRAINED.						
15. THE AOTS AIRMAN TRAINING RECORD CONTAINS ALL DATA REQUIRED TO DETERMINE THE POSITION QUALIFICATION REQUIREMENTS FOR AN AIRMAN.						
16. THE AOTS MAKES IT EASY TO COMPARE AIRMEN TRAINING COMPLETIONS TO POSITION TRAINING REQUIREMENTS.						
17. THE AOTS QUALIFICATION ASSESSMENT PROCESS PROVIDES AN <u>INACCURATE</u> LIST OF INDIVIDUAL TRAINING REQUIREMENTS (ITRs).						
18. WHEN TRAINING REQUIREMENTS LISTED ON AN ITR ARE RANK-ORDERED AUTOMATICALLY, THE REQUIREMENTS ARE ARRANGED IN THE APPROXIMATE ORDER IN WHICH THE REQUIREMENTS WOULD NORMALLY BE TRAINED.						

SUPERVISOR ACCEPTANCE SURVEY

Use the following set of response options indicate your response to each statement.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
19. THE AOTS ACCRUATELY IDENTIFIES COMMON TRAINING REQUIREMENTS FOR GROUPS OF AIRMEN.						
20. THE AOTS ACCURATELY IDENTIFIES MULTIPLE TRAINING REQUIREMENTS FOR A SINGLE AIRMAN.						
21. WITH AOTS, IT IS EASY TO OVERRIDE THE AUTOMATED TRAINING AND EVALUATION ASSIGNMENT FUNCTION.						
22. THE AOTS AIRMAN TRAINING RECORD (ATR) EDITOR ACCURATELY TRACKS AN AIRMAN'S TRAINING PROGRESS.						
23. THE AOTS GENERATES EASILY UNDERSTOOD NOTICES TO INDICATE WHEN AIRMEN HAVE BEEN SCHEDULED TO ATTEND TRAINING CONDUCTED OUTSIDE OF THE WORKCENTER.						
24. TRAINEE PROGRESS REPORTS GENERATED BY AOTS PROVIDE ALL DATA NECESSARY TO DETERMINE TRAINING STATUS.						
25. THE AOTS GENERATES ACCURATE SCHEDULES FOR PENDING TRAINING AND EVALUATION EVENTS.						
26. THE "USER" TRAINING PROVIDED PRIOR TO THE AOTS BEING IMPLEMENTED WITHIN MY WORKCENTER ADEQUATELY PREPARED ME TO OPERATE THE AOTS MANAGEMENT FUNCTIONS.						
27. THE "USER" TRAINING PROVIDED PRIOR TO THE IMPLEMENTATION OF AOTS ADEQUATELY PREPARED ME TO MAINTAIN MANAGEMENT DATA.						
28. THE "USER" TRAINING PROVIDED PRIOR TO THE IMPLEMENTATION OF AOTS ADEQUATELY PREPARED ME TO OBTAIN INFORMATION FROM THE MANAGEMENT DATA FILES.						
29. THE AOTS IS <u>DIFFICULT</u> TO OPERATE WHEN REVIEWING COMPUTER-DELIVERED TRAINING MATERIALS (i.e. CAI) ON-LINE.						
30. THE TRAINING MATERIALS DELIVERED VIA THE AOTS ARE DISPLAYED IN A LOGICAL, EASY-TO-UNDERSTAND ORDER.						

SUPERVISOR ACCEPTANCE SURVEY

Use the following set of response options indicate your response to each statement.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

31. THE TRAINING MATERIALS DELIVERED VIA THE AOTS CONTAIN INAC-CURATE INFORMATION.

32. THE TRAINING MATERIALS DELIVERED VIA THE AOTS CONTAIN CUR-RENT INFORMATION.

33. THE COMPUTER EQUIPMENT AVAILABLE TO MY WORKCENTER FOR THE DELIVERY OF TRAINING IS SUFFICIENT TO SUPPORT THE NEEDS OF THE PERSONNEL ASSIGNED TO MY WORKCENTER.

34. THE CONTROLS ESTABLISHED WITHIN THE AOTS PREVENT UN-AUTHORIZED PERSONS FROM GAINING ACCESS TO EVALUATION MATERIALS.

35. THE USE OF THE AOTS EVALUATION PROCEDURES IN MY WORKCENTER HELPS TO ENSURE THAT AIRMEN ARE POSITION QUALIFIED.

36. ADMINISTERING PRE-TRAINING EVALUATIONS ON THE TASKS THE TRAINEES MUST PERFORM HELPS TO IDENTIFY TRAINING NEEDS.

37. THE USE OF AOTS EVALUATIONS INCREASES THE PRODUCTIVITY OF PERSONNEL ASSIGNED TO MY WORKCENTER.

38. EVALUATION MATERIALS REQUIRED FOR OFF-LINE USE ARE EASILY OBTAINED FROM THE AOTS FOR AUTHORIZED PERSONNEL.

39. THE USE OF AOTS PROCEDURES FOR EVALUATING PERSONNEL WITHIN WORKCENTERS HELPS TO DETERMINE TRAINING PROGRAM EFFECTIVENESS.

40. THE AOTS PROCEDURES FOR SCORING TESTS THAT ARE ADMINISTERED ON-LINE PROVIDE IMMEDIATE FEEDBACK (TEST SCORE) TO THE TRAINEE.

41. THE "USER" TRAINING PROVIDED PRIOR TO THE AOTS BEING IM-PLEMENTED WITHIN WORKCENTERS DID NOT ADEQUATELY PREPARE PERSONNEL TO OPERATE THE TESTING FUNCTIONS.

Figure J.2-1

TRAINING MANAGER ACCEPTANCE SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter;
your **NAME** in the "NAME GRID" block
your **SSAN** in columns 1-9 of the "NUMERIC GRID" block
number 10 in columns 24/25 of the "NUMERIC FRID" block

Using the following set of response options, indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your opinion.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

1. HAVING THE TASK ELEMENTS (SUBTASKS, ACTIVITIES, SUPPORTING SKILLS AND KNOWLEDGE, SUPPORT EQUIPMENT, ETC.) LISTED ON THE AOTS MASTER TASK LIST HELPS ME TO MAKE DECISIONS WHEN PLANNING TRAINING AND EVALUATION EVENTS.
2. HAVING THE TASK ELEMENTS (SUBTASKS, ACTIVITIES, SUPPORTING SKILLS AND KNOWLEDGE, SUPPORT EQUIPMENT, ETC.) LISTED ON THE AOTS MASTER TASK LIST HELPS ME WHEN I AM CONDUCTING TRAINING.
3. OTHER TRAINING REQUIREMENTS (FOR EXAMPLE, CONTINGENCY TASK TRAINING, ANCILLARY TRAINING, ADDITIONAL DUTY TRAINING, AND CAREER DEVELOPMENT COURSES) ARE EASILY IDENTIFIED USING THE AOTS.
4. THE AOTS MAKES IT EASY FOR ME TO IDENTIFY AIRMEN TRAINING AND EVALUATION REQUIREMENTS.
5. THE SEQUENCE FOR TRAINING, DELIVERED VIA THE AOTS, CAN BE EASILY CHANGED TO ACCOMMODATE UNSCHEDULED TRAINING OPPORTUNITIES OR HIGHER PRIORITIES.
6. USING GENERIC POSITION TASK REQUIREMENTS (GPTR) LISTS AS A BASELINE TO DEVELOP OPERATIONAL POSITION TASK REQUIREMENTS (OPTR) LISTS COMPLICATES THE PROCESS OF IDENTIFYING PERFORMANCE REQUIREMENTS FOR AIRMEN.
7. TASKS ON OPERATIONAL POSITION TASK REQUIREMENTS (OPTR) LISTS ARE EASILY RANK-ORDERED WHEN IT IS NECESSARY TO OVERRIDE THE AUTOMATIC RANK-ORDERING FUNCTION.

TRAINING MANAGER ACCEPTANCE SURVEY

Use the following set of response options, indicate your response to each statement.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
8. TRAINING REQUIREMENTS ON THE INDIVIDUAL TRAINING REQUIREMENTS (ITR) LISTS ARE EASILY RANK-ORDERED WHEN IT IS NECESSARY TO OVERRIDE THE AUTOMATIC RANK-ORDERING FUNCTION.						
9. TASKS CONTAINED ON THE AOTS MASTER TASK LIST ARE WELL DEFINED.						
10. THE AOTS PUBLICATION REFERENCE DATA PINPOINT EXACTLY WHERE A PERSON CAN FIND INFORMATION RELATED TO A PARTICULAR TASK.						
11. WHEN TASKS ON GPTR LISTS ARE RANK-ORDERED AUTOMATICALLY, THE TASKS ARE ARRANGED IN THE APPROXIMATE ORDER IN WHICH THE TASKS WOULD NORMALLY BE TRAINED.						
12. WHEN TASKS ON OPTR LISTS ARE RANK-ORDERED AUTOMATICALLY, THE TASKS ARE ARRANGED IN THE APPROXIMATE ORDER IN WHICH THE TASKS WOULD NORMALLY BE TRAINED.						
13. THE AOTS AIRMAN TRAINING RECORD CONTAINS ALL DATA REQUIRED TO DETERMINE THE POSITION QUALIFICATION REQUIREMENTS FOR AN AIRMAN.						
14. THE AOTS AIRMAN TRAINING RECORDS MAKE IT EASY TO COMPARE AIRMEN TRAINING COMPLETIONS TO POSITION TRAINING REQUIREMENTS.						
15. THE AOTS QUALIFICATION ASSESSMENT PROCESS PROVIDES AN <u>INACCURATE</u> LIST OF INDIVIDUAL TRAINING REQUIREMENTS.						
16. WHEN TRAINING REQUIREMENTS LISTED ON AN ITR ARE RANK-ORDERED AUTOMATICALLY, THE REQUIREMENTS ARE ARRANGED IN THE APPROXIMATE ORDER IN WHICH THE REQUIREMENTS WOULD NORMALLY BE TRAINED.						
17. THE AOTS ACCURATELY IDENTIFIES COMMON TRAINING REQUIREMENTS FOR GROUPS OF AIRMEN.						
18. THE AOTS ACCURATELY IDENTIFIES MULTIPLE TRAINING REQUIREMENTS NEEDED FOR A SINGLE AIRMAN.						

TRAINING MANAGER ACCEPTANCE SURVEY

Use the following set of response options, indicate your response to each statement.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
19. WITH AOTS, IT IS EASY TO OVERRIDE THE AUTOMATED TRAINING AND EVALUATION ASSIGNMENT FUNCTION.						
20. THE AOTS AIRMAN TRAINING RECORD (ATR) EDITOR ACCURATELY TRACKS AN AIRMAN'S TRAINING PROGRESS.						
21. THE AOTS GENERATES EASILY UNDERSTOOD NOTICES TO INDICATE WHEN AIRMEN HAVE BEEN SCHEDULED TO ATTEND TRAINING CONDUCTED OUTSIDE OF THE WORKCENTER.						
22. TRAINEE PROGRESS REPORTS GENERATED BY AOTS PROVIDE ALL DATA NECESSARY TO DETERMINE TRAINING STATUS.						
23. THE AOTS GENERATES ACCURATE SCHEDULES FOR PENDING TRAINING AND EVALUATION EVENTS.						
24. THE "USER" TRAINING PROVIDED PRIOR TO THE AOTS BEING IMPLEMENTED WITHIN WORKCENTERS ADEQUATELY PREPARED PERSONNEL TO OPERATE THE AOTS MANAGEMENT FUNCTIONS.						
25. THE "USER" TRAINING PROVIDED PRIOR TO THE IMPLEMENTATION OF AOTS PREPARED PERSONNEL TO MAINTAIN MANAGEMENT DATA.						
26. THE "USER" TRAINING PROVIDED PRIOR TO THE IMPLEMENTATION OF AOTS PREPARED PERSONNEL TO OBTAIN INFORMATION FROM THE MANAGEMENT DATA FILES.						
27. THE CONTROLS ESTABLISHED WITHIN THE AOTS PREVENT UNAUTHORIZED PERSONS FROM GAINING ACCESS TO EVALUATION MATERIALS.						
28. THE USE OF THE AOTS EVALUATION PROCEDURES IN THE WORKCENTERS HELPS TO ENSURE THAT AIRMEN ARE POSITION QUALIFIED.						
29. THE USE OF AOTS EVALUATION PROCEDURES INCREASES THE PRODUCTIVITY OF PERSONNEL ASSIGNED TO WORKCENTERS:						
30. EVALUATION MATERIALS REQUIRED FOR OFF-LINE USE ARE EASILY OBTAINED FROM THE AOTS FOR AUTHORIZED PERSONNEL.						

TRAINING MANAGER ACCEPTANCE SURVEY

Use the following set of response options, indicate your response to each statement.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
31. THE USE OF AOTS PROCEDURES FOR EVALUATING PERSONNEL WITHIN WORKCENTERS HELPS TO DETERMINE TRAINING PROGRAM EFFECTIVENESS.						
32. THE AOTS PROCEDURES FOR SCORING TESTS THAT ARE ADMINISTERED ON-LINE PROVIDES IMMEDIATE FEEDBACK (TEST SCORE) TO THE TRAINEE.						
33. THE "USER" TRAINING PROVIDED PRIOR TO THE AOTS BEING IMPLEMENTED WITHIN WORKCENTERS <u>DID NOT</u> ADEQUATELY PREPARE PERSONNEL TO OPERATE THE TESTING FUNCTIONS.						

Figure J.2-2

TRAINER/EVALUATOR ACCEPTANCE SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter;
your **NAME** in the "NAME GRID" block
your **SSAN** in columns 1-9 of the "NUMERIC GRID" block
number 09 in columns 24/25 of the "NUMERIC GRID" block

Using the following set of response options, indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your opinion.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
1. THE AOTS IS <u>DIFFICULT</u> TO OPERATE WHEN REVIEWING COMPUTER- DELIVERED TRAINING MATERIALS (i.e. CAI) ON-LINE.						
2. TRAINING MATERIALS DELIVERED VIA THE AOTS ARE DISPLAYED IN A LOGICAL, EASY-TO-UNDERSTAND ORDER.						
3. THE TRAINING MATERIALS DELIVERED VIA THE AOTS CONTAIN <u>INAC- CURATE</u> INFORMATION.						
4. THE TRAINING MATERIALS DELIVERED VIA THE AOTS CONTAIN <u>CURRENT</u> INFORMATION.						
5. THE COMPUTER EQUIPMENT AVAILABLE TO MY WORKCENTER FOR THE DELIVERY OF TRAINING IS SUFFICIENT TO SUPPORT THE NEEDS OF THE PERSONNEL ASSIGNED TO MY WORKCENTER.						
6. EVALUATION MATERIALS REQUIRED FOR OFF-LINE USE ARE EASILY OB- TAINED FROM THE AOTS FOR AUTHORIZED PERSONNEL.						
7. THE USE OF AOTS PROCEDURES FOR EVALUATING PERSONNEL WITHIN MY WORKCENTER HELPS TO DETERMINE TRAINING PROGRAM EFFECTIVENESS.						
8. THE AOTS PROCEDURES FOR SCORING TESTS THAT ARE ADMINISTERED ON-LINE PROVIDE IMMEDIATE FEEDBACK (TEST SCORES) TO THE TRAINEE.						
9. THE USER TRAINING PROVIDED PRIOR TO THE AOTS BEING IMPE- MENTED WITHIN MY WORKCENTER <u>DID NOT</u> ADEQUATELY PREPARE PERSONNEL TO OPERATE THE TESTING FUNCTIONS.						

Figure J.2-3

TRAINEE ACCEPTANCE SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter;
your **NAME** in the "**NAME GRID**" block
your **SSAN** in columns 1-9 of the "**NUMERIC GRID**" block
number 11 in columns 24/25 of the "**NUMERIC GRID**" block

Using the following set of response options, indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your opinion.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
1. THE AOTS IS <u>DIFFICULT</u> TO OPERATE WHEN REVIEWING COMPUTER DELIVERED TRAINING MATERIALS (i.e. CAI) ON-LINE.						
2. TRAINING MATERIALS DELIVERED VIA THE AOTS ARE DISPLAYED IN A LOGICAL, EASY-TO-UNDERSTAND ORDER.						
3. THE TRAINING MATERIALS DELIVERED VIA THE AOTS CONTAIN <u>INAC- CURATE</u> INFORMATION.						
4. THE TRAINING MATERIALS DELIVERED VIA THE AOTS CONTAIN CURRENT INFORMATION.						
5. THE USE OF TRAINING MATERIALS DELIVERED VIA THE AOTS HAS IN- CREASED MY ABILITY TO PERFORM RELATED TASKS.						
6. THE COMPUTER EQUIPMENT AVAILABLE TO MY WORKCENTER FOR THE DELIVERY OF TRAINING IS SUFFICIENT TO SUPPORT THE NEEDS OF THE PERSONNEL ASSIGNED TO MY WORKCENTER.						
7. THE "USER" TRAINING PROVIDED PRIOR TO THE AOTS BEING IMPL- MENTED WITHIN MY WORKCENTER <u>DID NOT</u> ADEQUATELY PREPARE ME TO OPERATE THE ON-LINE TESTING FUNCTIONS.						
8. THE "USER" TRAINING PROVIDED PRIOR TO THE AOTS BEING IMPL- MENTED WITHIN MY WORKCENTER ADEQUATELY PREPARED ME TO OPERATE THE TRAINING DELIVERY FUNCTIONS.						
9. I WAS GIVEN ADEQUATE INSTRUCTIONS ON THE OPERATION OF AOTS TO BE ABLE TO PROCEED SMOOTHLY THROUGH THE COMPUTER ASSISTED IN- STRUCTION (CAI) LESSON(S).						

TRAINEE ACCEPTANCE SURVEY

Use the following set of response options, indicate your response to each statement.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

10. I WAS GIVEN ADEQUATE INSTRUCTIONS TO UNDERSTAND AND INTERACT WITH THE COMPUTER PROMPTS.

11. I WAS GIVEN ADEQUATE INSTRUCTION TO BE ABLE TO COMPLETE THE CAI KNOWLEDGE TEST QUESTIONS PRESENTED ON THE SCREEN.

Figure J.2-4

COMMANDER ACCEPTANCE SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter;
your **NAME** in the "Name Grid" block
your **SSAN** in columns 1-9 of the "NUMERIC GRID" block
number 07 in columns 24/25 of the "NUMERIC GRID" block.

Using the following set of response options, indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your opinion.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

1. THE AOTS GENERATED REPORTS PROVIDE ALL THE DATA REQUIRED TO DETERMINE THE CURRENT TRAINING STATUS OF INDIVIDUAL AIRMEN.
2. THE AOTS GENERATED REPORTS PROVIDE ALL THE DATA REQUIRED TO DETERMINE THE CURRENT TRAINING STATUS OF INDIVIDUAL WORKCENTERS.
3. THE AOTS GENERATED REPORTS PROVIDE ALL THE DATA REQUIRED TO DETERMINE TRAINING EFFECTIVENESS.
4. THE AOTS GENERATED REPORTS PROVIDE ALL THE DATA REQUIRED TO DETERMINE TRAINING EFFICIENCY.
5. THE AOTS GENERATED REPORTS ARE PRESENTED IN AN ACCEPTABLE FORMAT.
6. THE DATA BEING COLLECTED ARE SUFFICIENT TO DETERMINE WHETHER AOTS IS IMPROVING THE QUALITY OF TRAINING.
7. AIRMEN ARE MORE CAPABLE OF MEETING MISSION REQUIREMENTS WHEN TRAINED UNDER AOTS THAN WHEN TRAINED UNDER CONVENTIONAL OJT.

Figure J.2-5

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TO BE USED

IF ADDITIONAL ITEMS ARE ADDED TO THE COMMANDER SURVEY

TRAINING DEVELOPER ACCEPTANCE SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter;
your **NAME** in the "**NAME GRID**" block
your **SSAN** in columns **1-9** of the "**NUMERIC GRID**" block
number **12** in columns **24/25** of the "**NUMERIC GRID**" block

Using the following set of response options, indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your opinion.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

1. I DID NOT REQUIRE A COMPUTER BACKGROUND TO UNDERSTAND THE INFORMATION DISPLAYED ON THE AOTS SCREENS.
2. AFTER I SELECTED A MENU OPTION, THE AOTS SYSTEM DISPLAYED THE SCREEN THAT I EXPECTED TO SEE.
3. THE AOTS SCREEN DISPLAYS WERE UNCLUTTERED.
4. THE AOTS SCREEN DISPLAYS GAVE ME ENOUGH INFORMATION (i.e., TASK ID, WORKCENTER ID, TEST ITEM ID) TO DO MY WORK ACCURATELY.
5. THE PROMPTS SUCH AS (Q)uit, (A)dd, and (E)dit AT THE BOTTOM OF THE SCREEN WERE UNDERSTANDABLE.
6. AFTER I SELECTED A PROMPT OPTION SUCH AS (Q)uit, (A)dd, OR (E)dit, THE AOTS SYSTEM PERFORMED THE FUNCTION THAT I EXPECTED TO BE PERFORMED.
7. OVERALL, THE ERROR MESSAGES WERE DESCRIPTIVE AND HELPFUL.
8. THE AOTS EDITING CAPABILITY (BEING ABLE TO CORRECT OR CHANGE ENTRIES) WAS DIFFICULT TO USE.
9. I COULD NOT CONTROL THE AOTS SYSTEM AS MUCH AS I NEEDED.

TRAINING DEVELOPER ACCEPTANCE SURVEY

Use the following set of response options, indicate your response to each statement.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE
10. THE AOTS TASK PUBLICATIONS (TP) EDITOR ALLOWED FOR AN EXACT LINKAGE BETWEEN THE TASK REFERENCE AND THE TASK ELEMENTS (e.g., TERMINAL TASK, SUBTASK, BEHAVIORAL OBJECTIVE, TEST ITEM).						
11. THE AOTS IDENTIFIED TASK AND TEST ELEMENTS (e.g. TERMINAL TASK, SUBTASK, BEHAVIORAL OBJECTIVE, AND TEST ITEMS) THAT MIGHT BE AFFECTED BY A PUBLICATION CHANGE.						
12. THE AOTS BEHAVIORAL OBJECTIVE EDITOR WAS EASY TO USE IN THE NOVICE MODE.						
13. THE AOTS BEHAVIORAL OBJECTIVE EDITOR WAS EASY TO USE IN THE EXPERT MODE.						
14. THE AOTS TEST ITEM BANK EDITOR WAS EASY TO USE.						
15. THE AOTS TEST ITEM BANK (TIB) EDITOR EFFECTIVELY STORED THE TEST ITEMS (e.g., KNOWLEDGE TEST ITEMS, PERFORMANCE EVALUATION CHECK LISTS, AND ORAL TEST GUIDES).						
16. GRAPHICS WERE EASILY ADDED TO THE AOTS TEST ITEMS.						
17. THE AOTS TEST EDITOR WAS EASY TO USE.						
18. THE AOTS TEST EDITOR PERMITTED THE CREATION OF PERFORMANCE TESTS.						
19. THE AOTS TEST EDITOR PERMITTED THE CREATION OF KNOWLEDGE TESTS.						
20. TEST PARAMETERS (i.e., ITEM ANALYSIS, ITEM SCRAMBLING, INSTRUCTIONS) WERE EASILY ESTABLISHED USING THE AOTS TEST EDITOR.						

Figure J.2-6

J.3 SLT&E DEPLOYMENT SURVEY

J.3.1 Data To Be Collected. The Deployment Surveys are designed to collect opinions from AOTS participants on whether the AOTS prototype should be deployed to the Air Force operational workcenters. A sample survey can be found on page 44 (Figure J.3-1). SLT&E Deployment Surveys consist of data collected from four sources as follows:

- Commanders
- Training Managers
- Supervisors
- Trainers/Evaluators

If a person acts as both a Supervisor and an Evaluator or as both a Supervisor and a Trainer, he/she should be categorized as a Supervisor.

Using a response scale ranging from A to G, all of the respondents are asked to indicate how strongly they oppose or favor the deployment of the AOTS prototype to Air Force operational work centers (E-25A). After the Deployment Surveys are administered, structured interview responses are obtained from all commanders, training managers, and fifty percent of the supervisors, trainers and evaluators. The supervisors, trainers and evaluators are randomly identified by coding every other answer sheet, to be used by this group of Deployment Survey respondents, BEFORE the administration event begins.

J.3.2 Requirements for DCR. The DCR must have the ability to administer surveys individually or in a group administration and be able to conduct a one-on-one interview. The DCRs must be able to ask questions and simultaneously record accurate interviewee responses. Any DCRs who do not possess the skills required to conduct a one-on-one interview session must be trained to do so.

J.3.3 Frequency of Data Collection. The deployment surveys will be administered one time towards the end of SLT&E (May 1989)

J.3.4 Letters of Request. Prior to administering the surveys, the DCR will submit a letter to the Commander requesting all AOTS participants attend the Deployment Survey administration event. Squadron Commanders and locations are found in Attachment 1 to Appendix J.

J.3.5 Data Collection. The DCR will administer the Deployment Survey and conduct one-on-one interviews. The interviews may be conducted immediately after the administration of the surveys, or at a later date as appropriate. Interviewees should NOT

be asked to wait at the administration site longer than 15 minutes after the completion of the deployment survey administration before being interviewed. Any interviewee who can not be scheduled to be interviewed within 15 minutes after the survey completion should be scheduled for another time.

J.3.5.1 Survey Administration. The DCR will:

- Obtain a sufficient number of # 2 pencils, Interview Response Sheets; OMR sheets, and Surveys (Supervisor, Training Manager, and Trainer/Evaluator) for distribution to the scheduled AOTS participants. (Surveys will probably be administered separately to commanders)
- Attend and supervise the administration event,
 - Administer the surveys in a room free from distractions
 - Distribute the surveys and OMR sheets to each participant
 - Provide instructions for completing the surveys (see sample instructions below)
 - Allow the respondents to leave and return to the administration area **without** the surveys (Surveys should remain with the DCR while respondents are absent from the survey administration area)
 - Answer any questions pertaining to the completion of the survey forms
 - Review ALL OMR sheets before the respondents leave the administration area and ensure that:
 - The correct SSAN was entered
 - The correct Survey number was entered
 - All question and statement responses were entered
 - Collect all pencils, surveys and OMR sheets after the surveys have been completed

SUGGESTIONS FOR ADMINISTERING SURVEYS AND CONDUCTING INTERVIEWS

- Allow for errors (bring extra copies of surveys, OMR sheets, and Interview Response Sheets)
- Administer the surveys in a classroom, conference room or theatre
- Apply a ratio of one DCR to approximately 5 respondents
- Administer surveys to personnel from multiple workcenters at a central location if possible
- Read the following SAMPLE INSTRUCTIONS to the respondents

THE PURPOSE OF THIS SURVEY IS TO DETERMINE WHETHER PERSONNEL IN THE WORKCENTERS, WHO HAVE OPERATED THE AOTS, BELIEVE THE AOTS SHOULD BE DEPLOYED TO ALL WORKCENTERS. USING THE ACCOMPANYING OMR SHEET, INDEPENDENTLY RESPOND TO ALL QUESTIONS AND STATEMENTS. NOTE THAT SOME STATEMENTS MAY APPEAR TO BE IDENTICAL TO OTHERS BUT AFTER CLOSER EXAMINATION YOU WILL SEE THAT EACH STATEMENT REFERS TO A DIFFERENT TOPIC. READ EACH STATEMENT CAREFULLY BECAUSE SOME STATEMENTS FAVOR AOTS AND SOME FAVOR CON-

VENTIONAL OJT. AFTER YOU HAVE RESPONDED TO ALL OF THE STRUCTURED STATEMENTS, USE THE BACK OF THE SURVEY TO REPORT ANY COMMENTS OR SUGGESTIONS THAT YOU HAVE ABOUT AOTS. BE HONEST AND TAKE AS LONG AS YOU WANT TO RESPOND TO THE SURVEY.

J.3.5.2 Interview Administration. The DCR will conduct one-on-one interviews with previously selected respondents. The DCR will review the interviewee's Deployment Survey OMR sheet, and using a copy of the Deployment Survey, obtain additional information for any items that are NOT answered with a neutral (D) response.

If a response falls in the **NEGATIVE** category, the interviewer will substitute the words between the parenthesis with the appropriate terminology from each item and ask the following questions:

- a. WHY DO YOU BELIEVE THE (OPTR EDITOR IS NOT CAPABLE OF BEING USED IN AN OPERATIONAL ENVIRONMENT)?
- b. HOW COULD THE (OPTR EDITOR BE IMPROVED TO MAKE IT MORE FUNCTIONAL IN THE WORKCENTERS)?

If a response falls in the **POSITIVE** category, the interviewer will substitute the words between the parenthesis with the appropriate terminology from each item and ask the following questions:

- a. WHY DO YOU BELIEVE THE (OPTR EDITOR WILL BE A SUCCESS IN THE OPERATIONAL ENVIRONMENT)?
- b. WHAT DO YOU BELIEVE IS THE BEST FEATURE OF THE (OPTR EDITOR)?

If more than three lines are needed for a response, the interviewers will use the back side of the respective sheet ensuring that all continued response statements are numbered correctly.

If several individuals are interviewed simultaneously in the same room, the DCRs will conduct the interviews in separate parts of the room to provide as much privacy as possible to the interviewees.

Each DCR will interview one participant at a time. If groups are mixed, Commanders will be interviewed first, followed by Training Managers, Supervisors and Trainers/Evaluators.

The DCRs will take **accurate** notes of participants' comments

during the interview. As soon as possible after the interview has been concluded the DCRs will expand on the notes to ensure comprehensive data are collected and recorded.

J.3.6 Time Required for Deployment Data Collection.

- 1 hr. per AFHRL DCR to administer survey (each administration)
- 1 hr. per AFHRL DCR to conduct each interview
- 1 hr. per AFHRL DCR to write narrative from notes on Interview Response Sheet
- 1 hr. Input of data into AOTS data table (per interview)
- 1 hr. per survey participant to complete survey
- 1 hr. per interview participant to respond to interview

J.3.7 Disposition of Data. After the surveys have been collected, the DCR will conduct a quick-look analysis of the OMR sheet to insure the integrity of the data entered by the respondents. The following plan will be followed:

- Verify that all SSANs are entered and that the SSANs correspond with the names and SSANs on the list of incumbents.
- Verify that all response marks on each OMR sheet are within the tolerance limits for the optical scanner.
- Verify that each form's demographic data meets the standards set on the sample OMR sheet for the same survey.

If records are found to be out of tolerance or with error, the DCR will return the OMR sheet to the respondent for immediate correction.

If the respondent is interviewed, the DCR will perform the quick look analysis, described above, **before** recording the respondents' SSAN and verbal responses on the Interview Response Sheet. ACCURATE records **must** be given to the Data Input Representative (DIR) for data input.

PROTOTYPE AOTS DEPLOYMENT SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter:

YOUR NAME in the "NAME GRID" block
TODAY'S DATE in the "DATE OF BIRTH" block
YOUR SSAN in columns 1-9 of the "NUMERIC GRID" block
NUMBER 14 in columns 24/25 of the "NUMERIC GRID" block

Indicate your response to each statement by filling in the oval, on the answer sheet, that corresponds to the letter that represents your opinion.

Read every statement carefully and use the following set of response options to indicate your opinion.

A	B	C	D	E	F	G
STRONGLY			NEUTRAL			STRONGLY
DISAGREE						AGREE

-
1. THE AOTS MASTER TASK LIST (MTL) EDITOR IS SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.
 2. THE AOTS GENERIC POSITION TASK REQUIREMENTS (GPTR) EDITOR IS SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.
 3. THE AOTS OPERATIONAL POSITION TASK REQUIREMENTS (OPTR) EDITOR IS SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.
 4. THE AOTS AIRMAN TRAINING RECORDS ARE AN IMPROVEMENT OVER THE AF FORM 623.
 5. THE AOTS INDIVIDUAL TRAINING REQUIREMENTS (ITRs) EDITOR IS SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.
 6. THE AOTS PROGRESS REPORTS PROVIDE USEFUL INFORMATION IN THE OPERATIONAL WORKCENTERS.
 7. THE AOTS SCHEDULING FUNCTION IS SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.
 8. THE AOTS PERFORMANCE TESTS (ORAL TEST GUIDES & EVALUATION CHECKLISTS) ARE SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.
 9. THE AOTS KNOWLEDGE TESTS ARE SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.

PROTOTYPE AOTS DEPLOYMENT SURVEY Cont.

Use the following set of response options to indicate your opinion.

A	B	C	D	E	F	G
STRONGLY			NEUTRAL			STRONGLY
DISAGREE						AGREE

10. THE AOTS BEHAVIORAL OBJECTIVES ARE SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.

11. THE AOTS EQUIPMENT AND COMPUTER PROGRAMS CAN BE USED IN OTHER OPERATIONAL WORKCENTERS.

12. THE AOTS IS EASY FOR THE TRAINEE TO USE.

13. THE AOTS PROVIDES REALISTIC TRAINING ALTERNATIVES (CAI, IVD) FOR WHEN OPERATIONAL EQUIPMENT IS UNAVAILABLE.

14. MORE TIME IS AVAILABLE FOR TRAINING UNDER AOTS THAN UNDER CONVENTIONAL OJT.

15. THE CONDITIONS FOR TASK PROFICIENCY ARE MORE CLEARLY STATED UNDER AOTS THAN UNDER CONVENTIONAL OJT.

16. THE STANDARDS FOR TASK PROFICIENCY ARE MORE CLEARLY STATED UNDER AOTS THAN UNDER CONVENTIONAL OJT.

17. THE PROTOTYPE AOTS encompasses ALL PHASES OF AIR FORCE OJT REQUIREMENTS.

18. THE PROTOTYPE ADVANCED ON-THE-JOB TRAINING SYSTEM (AOTS) IS SUITABLE FOR USE IN THE OPERATIONAL WORKCENTERS.

Figure J.3-1

PROTOTYPE AOTS DEPLOYMENT INTERVIEW RESPONSE PACKET

RESPONDENT'S NAME & SSAN DATE

INTERVIEWER'S NAME & SSAN DATE

DIRECTIONS Before beginning the interview, review the respondent's Deployment Survey OMR sheet. Using the following key, determine the category in which each response fits then circle the appropriate response category for each corresponding item on this answer packet.

A, B, C = NEGATIVE
D = NEUTRAL
E, F, G = POSITIVE

Next, using a copy of the Deployment Survey as a guide, verbally obtain additional information for any items that the respondent answered with a NEGATIVE or POSITIVE response.

If a response falls in the **NEGATIVE** category, substitute the words between the parenthesis with the appropriate terminology from each item on the survey and ask the follow questions:

- a. WHY DO YOU BELIEVE THE (OPTR EDITOR IS NOT CAPABLE OF BEING USED IN AN OPERATIONAL ENVIRONMENT)?
- b. HOW COULD THE (OPTR EDITOR BE IMPROVED TO MAKE IT MORE FUNCTIONAL IN THE WORKCENTERS)?

If a response falls in the **POSITIVE** category, substitute the words between the parenthesis with the appropriate terminology from each item on the survey and ask the follow questions:

- a. WHY DO YOU BELIEVE THE (OPTR EDITOR WILL BE A SUCCESS IN THE OPERATIONAL ENVIRONMENT)?
- b. WHAT DO YOU BELIEVE IS THE BEST FEATURE OF THE (OPTR EDITOR)?

Record the responses directly on this interview response packet. If more than three lines are needed for a response, use the back side of the respective sheet ensuring that all continued response statements are numbered correctly.

RESPONDENT'S SSAN

1. The response to item 1 was NEGATIVE / NEUTRAL / POSITIVE.

1a. _____

1b. _____

2. The response to item 2 was NEGATIVE / NEUTRAL / POSITIVE.

2a. _____

2b. _____

3. The response to item 3 was NEGATIVE / NEUTRAL / POSITIVE.

3a. _____

3b. _____

RESPONDENT'S SSAN

4. The response to item 4 was NEGATIVE / NEUTRAL / POSITIVE.

4a. _____

4b. _____

5. The response to item 5 was NEGATIVE / NEUTRAL / POSITIVE.

5a. _____

5b. _____

6. The response to item 6 was NEGATIVE / NEUTRAL / POSITIVE.

6a. _____

6b. _____

RESPONDENT'S SSAN _____

7. The response to item 7 was NEGATIVE / NEUTRAL / POSITIVE.

7a. _____

7b. _____

8. The response to item 8 was NEGATIVE / NEUTRAL / POSITIVE.

8a. _____

8b. _____

9. The response to item 9 was NEGATIVE / NEUTRAL / POSITIVE.

9a. _____

9b. _____

RESPONDENT'S SSAN

10. The response to item 10 was NEGATIVE / NEUTRAL / POSITIVE.

10a. _____

10b. _____

11. The response to item 11 was NEGATIVE / NEUTRAL / POSITIVE.

11a. _____

11b. _____

12. The response to item 12 was NEGATIVE / NEUTRAL / POSITIVE.

12a. _____

12b. _____

RESPONDENT'S SSAN

13. The response to item 13 was NEGATIVE / NEUTRAL / POSITIVE.

13a. _____

13b. _____

14. The response to item 14 was NEGATIVE / NEUTRAL / POSITIVE.

14a. _____

14b. _____

15. The response to item 15 was NEGATIVE / NEUTRAL / POSITIVE.

15a. _____

15b. _____

RESPONDENT'S SSAN

16. The response to item 16 was NEGATIVE / NEUTRAL / POSITIVE.

16a. _____

16b. _____

17. The response to item 17 was NEGATIVE / NEUTRAL / POSITIVE.

17a. _____

17b. _____

18. The response to item 18 was NEGATIVE / NEUTRAL / POSITIVE.

18a. _____

18b. _____

Figure J.3-2

J.4 OBSERVER SURVEY

J.4.1 Data To Be Collected. The Observer Survey is designed to obtain opinions from non-AOTS participants on the usefulness of various AOTS documents and functions that are used to determine training and evaluation requirements. The observers are asked to evaluate several AOTS materials/products/procedures and in some instances, make a comparisons between AOTS and conventional OJT materials/products.

Using a response scale ranging from A to G the respondents are asked to indicate how strongly they disagree or agree with the Statements listed on the Observer Survey (Figure J.4, p.57). Areas covered, with Appendix E references, are as follows:

- Functions of Training Delivery Programs (E-33B)
- Management of Training in Workcenters (E-32A)
- Capabilities for Evaluating Training (E-34A)
- Functions of Evaluation Programs (E-34B)
- Training & Evaluation Documents Comparison (E-16B)
- Evaluation Instruments & Procedures (E-18B)
- Operational Equipment Alternatives (E-20B)
- Products & Processes For Trainer Effectiveness (E-22B)

J.4.2 Requirements for DCR. The DCR must be able to repeatedly:

1. Plan, coordinate and conduct a two-day AOTS tour for non-AOTS participants representing various MAJCOMS,
2. Administer Observer Surveys.

J.4.3 Frequency of Data Collection. Data will be collected one time from each MAJCOM representative some time between January and April 1989.

J.4.4 Data Collection Procedure.

J.4.4.1 Coordinate a two-day MAJCOM observer tour. The DCR will:

1. Establish/schedule/arrange/conduct the following events:
 - a. AOTS Briefing
 - b. AOTS Workcenter demonstration and hands-on exploration
 - c. Observer Survey Administration
2. Using the records of a single imaginary Airman (to enable the observers to follow an airman through the AOTS procedures) assemble the following products for the Observer Survey Administration event:

- a. AOTS Airman Training Record (ATR)
 - History
 - Individual Training Requirements (ITR)
- b. Form 623 (Conventional OJT record)
- c. AOTS Master Task List (MTL)
- d. AOTS Generic Position Task Requirements (GPTR)
- e. AOTS Operational Position Task Requirements (OPTR)
- f. Job Qualification Standard (JQS) (Conventional OJT)
- g. AOTS Behavioral Objective
- h. AOTS Off-line Knowledge Test
- i. AOTS Off-line Performance Test
- j. AOTS Individual Position Qualification Status Summary
- l. AOTS Unit Effectiveness Report
- m. AOTS Observer Surveys and Answer Sheets

J.4.4.2 Conduct two-day MAJCOM Observer Tour. The DCR will perform the following tasks during the two day time interval:

- 1. Conduct an AOTS briefing (AM of day one)
- 2. Escort the observers to the workcenter demonstrations (day one)
- 3. Escort the observers to the on-line, hands-on exploration session in the workcenters or where ever there are available terminals (remainder of day one and AM of day two)
- 4. Administer Observer Survey (PM of day two)

J.4.5 Administration of Surveys. The DCR will administer the surveys. The DCR will:

- Reserve T-1 conference room or any class room with a long table.
- Obtain from DAC the appropriate AOTS documents listed in J.4.4.1 # 2
- Obtain a sufficient number of # 2 pencils, OMR sheets and Observer Surveys for distribution to the scheduled non-AOTS participants.
- Attend and supervise the administration event.
 - Administer the surveys in a room free from distractions
 - Distribute the surveys, OMR sheets and appropriate AOTS and conventional OJT documents to each participant
 - Provide instructions for completing the surveys (see sample instructions below)
 - Allow the respondents to leave and return to the administration area **without** the surveys (Surveys should remain with the DCR while respondents are absent from the survey administration area)
 - Answer any questions pertaining to the completion of the forms
 - Review ALL OMR sheets before the respondents leave the administration area and ensure that:
 - The correct SSN was entered
 - The correct survey number was entered
 - All question and statement responses were entered
 - Collect all pencils, surveys, OMR sheets and documents after the surveys have been completed

SUGGESTIONS FOR ADMINISTERING SURVEYS

- Allow for errors (bring extra copies of surveys and OMR sheets)
- Administer the surveys in a conference room or classroom
- Apply a ratio of one DCR to no more than 5 respondents
- Read the following SAMPLE INSTRUCTIONS to the respondents

THE PURPOSE OF THIS SURVEY IS TO DETERMINE HOW WELL NON-AOTS PERSONNEL, WHO HAVE BEEN INTRODUCED TO AOTS BUT HAVE NOT OPERATED THE AOTS IN THEIR OWN WORKCENTERS, ACCEPT THE SYSTEM. USE THE ACCOMPANYING OMR SHEET AND INDEPENDENTLY RESPOND TO ALL QUESTIONS AND STATEMENTS. READ EACH STATEMENT CAREFULLY BECAUSE SOME STATEMENTS FAVOR AOTS AND SOME FAVOR CONVENTIONAL OJT. AFTER YOU HAVE RESPONDED TO ALL OF THE STRUCTURED STATEMENTS, USE THE BACK OF THE SURVEY TO REPORT ANY COMMENTS OR SUGGESTIONS THAT YOU HAVE ABOUT AOTS. BE HONEST AND TAKE AS LONG AS YOU WANT TO RESPOND TO THE SURVEY.

J.4.6 Time Required for Data Collection. Time required for each tour and survey administration session is as follows:

- 16 hrs. AFHRL plan/coordinate tour
- 16 hrs. Escort Observers and administer survey
- 1 hr. Input data into AOTS data table
- 16 hrs. Per observer, plus travel time

J.4.7 Disposition of Data. After the surveys have been collected, the DCR will conduct a quick-look analysis of the OMR sheet to insure the integrity of the data entered by the respondents. The following plan will be followed:

- Verify that all SSANs are entered and that the SSANs correspond with the names and SSANs on the list of incumbents.
- Verify that all response marks on each OMR sheet are within the tolerance limits for the optical scanner.
- Verify that each form's demographic data meets the standards set on the sample OMR sheet for the same survey.

If records are found to be out of tolerance or with error, the DCR will return the OMR sheet to the respondent for immediate correction.

OBSERVER SURVEY

DIRECTIONS: On the accompanying answer sheet, please enter;
your **NAME** in the "**NAME GRID**" block,
your **SSAN** in columns 1-9 of the "**NUMERIC GRID**" block.
number 13 in columns 24/25 of the "**NUMERIC GRID**" block.

Indicate your response to each statement by filling in the oval,
on the answer sheet, that corresponds to the letter that
represents your answer or opinion.

1. WHAT MAJCOM/SOA ARE YOU REPRESENTING?

A. MAC	F. ANG	K. USAFE	P. OTHER
B. SAC	G. AFCC	L. AFLC	
C. TAC	H. AFSC	M. SPACECMD	
D. ATC	I. AAC	N. ESC	
E. AFRES	J. PACAF	O. AFMPC	

2. WHAT IS YOUR CURRENT RANK?

A. Ab	I. CMSgt
B. Amn	J. CIVILIAN
C. SrA	K. 2nd Lt
D. Sgt	L. 1st Lt
E. SSgt	M. CAPT
F. TSgt	N. MAJ
G. MSgt	O. LTC
H. SMSgt	P. COL

OBSERVER SURVEY Cont.

Use the following set of response options to indicate your opinions towards the statements written below and on the next two pages:

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

3. THE AOTS IS EASY TO ACCESS.
4. THE AOTS IS EASY TO USE.
5. AOTS PROVIDES THE CAPABILITY TO DISPLAY AN AIRMAN'S CURRENT TRAINING STATUS.
6. THE AOTS SECURITY SYSTEM PREVENTS TRAINEES FROM ACCESSING UNAUTHORIZED MENUS, OPTIONS, AND PROCESSES.
7. THE AOTS SECURITY SYSTEM PREVENTS UNAUTHORIZED INDIVIDUALS FROM ACCESSING AN AIRMAN'S OJT RECORDS.
8. THE AOTS SECURITY SYSTEM PREVENTS UNAUTHORIZED INDIVIDUALS FROM ACCESSING AOTS EVALUATION MATERIALS.
9. AOTS EVALUATION INSTRUMENTS (e.g., KNOWLEDGE TEST, PERFORMANCE TEST) CAN HELP SUPERVISORS IDENTIFY TASK TRAINING DEFICIENCIES.
10. AOTS EVALUATION INSTRUMENTS CAN HELP SUPERVISORS IDENTIFY TRAINEES' TASK KNOWLEDGE DEFICIENCIES.
11. AOTS EVALUATION INSTRUMENTS CAN HELP SUPERVISORS IDENTIFY TRAINEES' TASK PERFORMANCE DEFICIENCIES.
11. SUPERVISORS HAVE MORE FLEXIBILITY FOR EVALUATING AIRMEN'S TASK PROFICIENCY UNDER AOTS THAN UNDER CONVENTIONAL OJT.
12. AIRMEN RECEIVE MORE SPECIFIC TEST FEEDBACK UNDER AOTS THAN UNDER CONVENTIONAL OJT.
13. SUPERVISORS CAN DO A BETTER JOB OF DETERMINING TASK TRAINING REQUIREMENTS USING THE AOTS OPERATIONAL POSITION TASK REQUIREMENTS (OPTR) PRINTOUTS THAN WHEN USING THE TRAINEE'S JOB QUALIFICATION STANDARD (JQS).

OBSERVER SURVEY Cont.

Use the following set of response options to indicate your opinions.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

14. SUPERVISORS CAN DO A BETTER JOB OF DETERMINING AN AIRMAN'S TRAINING REQUIREMENTS USING THE AOTS AIRMAN TRAINING RECORDS (ATR) WHICH INCLUDES TRAINING HISTORY AND THE INDIVIDUAL TRAINING REQUIREMENTS (ITR) THAN USING AN AF FORM 623 (OJT RECORD).

15. AIRMAN TRAINING RECORDS ARE EASIER TO MAINTAIN UNDER AOTS THAN UNDER CONVENTIONAL OJT.

16. THE AOTS INDIVIDUAL TRAINING REQUIREMENTS (ITR) ARE AIRMAN SPECIFIC.

17. THE AOTS ITR ACCURATELY IDENTIFIES AN AIRMAN'S CURRENT TRAINING NEEDS.

18. AOTS PROVIDES STANDARDIZED PROCEDURES FOR EVALUATING TASK PERFORMANCE IN AN OPERATIONAL SETTING.

19. AOTS PERFORMANCE TESTS, WHICH CONSIST OF AN ORAL TEST GUIDE AND A PERFORMANCE EVALUATION CHECKLIST, ARE VALID ASSESSMENTS OF TASK PROFICIENCY.

20. COMPUTER ASSISTED INSTRUCTION (CAI) LESSONS DEVELOPED UNDER AOTS ARE EASY TO USE.

21. A CAI LESSONS DEVELOPED UNDER AOTS IS A SUITABLE TRAINING ALTERNATIVE WHEN OPERATIONAL EQUIPMENT IS UNAVAILABLE.

22. THE PATH TO A CAI LESSON THROUGH THE AOTS LOGON IS EASY TO FOLLOW.

23. INTERACTIVE VIDEO DISKS (IVDs) DEVELOPED UNDER AOTS ARE EASY TO USE.

24. AN IVD DEVELOPED UNDER AOTS IS A SUITABLE TRAINING ALTERNATIVE WHEN OPERATIONAL EQUIPMENT IS UNAVAILABLE.

OBSERVER SURVEY Cont.

Use the following set of response options to indicate your opinions.

A	B	C	D	E	F	G
STRONGLY DISAGREE			NEUTRAL			STRONGLY AGREE

25. MORE PEOPLE ARE ABLE TO COMPLETE TRAINING ON A GIVEN TASK WITHIN THE SAME TIME PERIOD USING IVDs THAN WHEN USING CONVENTIONAL OJT.

26. TRAINERS ARE ABLE TO ASSESS INDIVIDUAL TRAINING PROGRESS MORE EFFECTIVELY UNDER AOTS THAN UNDER CONVENTIONAL OJT.

Figure J.4

J.5 TEST SUBJECT DEMOGRAPHIC DATA

J.5.1 Data Collection Procedure. Demographic Data will be collected for the Control Groups as outlined in Appendix H.1. The Control Groups for which Demographic Data will be collected are as follows:

AFS 431X1	67 AGS--91st AMU--Flight Line
	67 EMS--45th & 91st AMUs--Phase Dock
AFS 732X0	MAE CAMS Orderly Room
	67 CSG/DE--Orderly Room

J.5.2 Letters of Request. Request for DESIRE Output Products, using the letter shown in H.1.4.1 as a model, will be sent to the following POC:

67 CSG/DPM

J.5.3 Completion of Procedure. Follow the completion of procedure found in Appendix H.1.

J.6 OJT RECORDS

J.6.1 Data Collection Procedure.

J.6.1.1 For AOTS workcenters, derive data from AOTS prototype data table by extracting Airman Training Record data. (OJT data will now be computerized rather than being on the Forms 623.)

DAC will prepare a request to extract the data required for this analysis. These data include: name, SSAN, rank, organization, OPTR duty position, duty title, time to position qualification, total number tasks required, percentage of tasks completed, by month.

J.6.1.2 Comply with procedures found in Appendix H.2 for the following Control Groups:

AFS 431X1	67 AGS--91st AMU--Flight Line
	67 EMS--45th & 91st AMUs--Phase Dock
AFS 732X0	MAE CAMS Orderly Room
	67 CSG/DE--Orderly Room

J.6.2 Letters of Request. Letters of request, indicating personnel to be included in the Control Groups will be sent to the following POCs:

67 AGS/MAAAA
67 CSG/DEA
67 EMS/MAE

The letter on the next page may be used as a model:

SAMPLE LETTER NOTIFYING POCS OF CONTROL GROUPS
AND DATA TO BE COLLECTED

REPLY TO

ATTN OF: AFHRL/OL-AK

SUBJECT: AOTS Control Group and Data Requirements

TO: 67 AGS/MAAA

1. The 91st AMU/Flightline duty section within your organization have been selected as part of the control group for the test and evaluation of the Advanced On-the-Job Training System (AOTS). During this time, members of AFHRL will need to do the following:

a. Review and extract data from AF Forms 623 to compare with the data coming from the experimental group.

b. Collect and review data from the MDC/Milap reports.

c. Distribute and collect Weekly Inventory of Time Spent (WITS).

2. We will work hand in hand with you to make these arrangements and will do all that we can to be as unobtrusive as possible. Please feel free to call me at Ext. 2669 if I can be of assistance.

JACK L. BLACKHURST, Major, USAF
Commander, AFHRL/OL-AK

J.6.3 Completion of Procedure. Continue through the completion of procedure as 'four' in Appendix H.2 for Control Groups.

J.7 QUALITY CONTROL ASSURANCE SUMMARIES

J.7.1 Data Collection Procedure. Continue Procedure found in Appendix H.3, adding Control Groups, as follows:

AFS 431X1	67 AGS--91st AMU--Flight Line
	67 EMS--45th & 91st AMUs--Phase Dock

J.7.2 Letters of Request. Letters of request, indicating personnel to be included in the Control Groups will be sent to the following POCs:

67 AGS/MAAAA
67 EMS/MAE

The letter on page 75 may be used as a model.

J.7.3 Completion of Procedure. Continue procedure found in Appendix H.3.

J.8 SECURITY POLICE QUALITY CONTROL TREND

J.8.1 Data Collection Procedure. Continue Procedure found in
Appendix H.4.

J.9 AIRCRAFT MAINTENANCE DATA

J.9.1 Data Collection Procedure. Continue Procedure found in Appendix H.7, adding Control Groups, as follows:

AFS 431X1	67 AGS--91st AMU--Flight Line
	67 EMS--45th AMU--Phase Dock

J.10 BASE CRIME STATISTICS

J.10.1 Data Collection Procedure. Continue Procedure found in
Appendix H.6.

J.11 WITS SHEETS

J.11.1 Data Collection Procedure. Continue Procedure found in Appendix H.5, adding Control Groups, as follows:

AFS 431X1	67 AGS--91st AMU--Flight Line
	67 EMS--45th & 91st AMUs--Phase Dock
AFS 732X0	MAE CAMS Orderly Room
	67 CSG/DE--Orderly Room

J.11.2 Frequency of Data Collection. Data will be collected in accordance with H.5.3 except for Active Duty component workcenters at Bergstrom AFB. These data will now be filled out and collected monthly instead of biweekly.

J.11.3 Letters of Request. Letters of request, indicating personnel to be included in the Control Groups will be sent to the following POCs:

67 AGS/MAAAA
67 CSG/DEA
67 EMS/MAE

J.11.3 Completion of Procedure. Continue through the completion of procedure as found in Appendix H.5.

SECTION III: SLT&E COMPLIANCE PROCEDURES

J.12 EXTERNAL ENTITIES INTERFACES

J.12.1 Data To Be Collected. Checklists of requirements for interfaces (bonds) between AOTS and external entities (Air Force Operational Measurement Center, Publications Management, Personnel Center, SPAS, CAMS, HRL, Personnel Data System, Base Supply System, CBPO OJT, FTD, Driver's School) to comply with the following paragraphs in the System Specification: 3.1.5.1.1-2 (pp. 37-38), 3.1.5.1.4-6 (pp. 39-41), and 3.1.5.1.8-10 (pp. 42-44). These checklists will be completed by AFHRL and DAC, using:

- 426X2 System Interface Checklist--Figure J.12-1, p. 72
- 431X1 System Interface Checklist--Figure J.12-2, p. 73
- 732X0 System Interface Checklist--Figure J.12-3, p. 74
- 811XX System Interface Checklist--Figure J.12-4, p. 75

The participants will be one member from the IST and one member of the DAC instructional technology team.

J.12.2 Requirements for DCR. There are no special requirements for the DCR. He/she needs only to distribute the checklists to the participants and answer procedural questions (In each case where a System Specification has been met, a check mark will be placed in the blank preceding the item).

J.12.3 Frequency of Data Collection. Data will be collected one time at the end of the first quarter of SLT&E (early November 1988) unless there are changes to the interfaces after the completion of the checklists. Any such change will necessitate a re-inspection accompanied by completion of the checklist again.

J.12.4 Administration of Check Lists. In performing the required procedures for administration of the checklists, the DCR will:

- Obtain copies of the following AOTS products: Master Task List (MTL) for the AFSCs; Airman Training Record (ATR) for one person, at random, from each AFS.
- Obtain copies of the following Air Force documents: USAFOMC Occupational Survey Data for each AFSC; Policy Changes from AFS Functional Manager at AFMPC, printouts and/or rosters of Course, Training, & Evaluation Requirements from CAMS, CBPO, SPAS and Units of Assignment.
- Obtain an appropriate number of copies of the System Checklists.

- Reserve T-1 Conference Room for administering the checklists. (All participants will meet at the same time, although separate iterations may be held, if desired.)
- Notify participants of the time and place to meet.
- Oversee the completion of the checklists.

J.12.5 Time Required for Data Collection.

1 wk.	Set up inspection procedure
1 hr.	DCR oversee/correlate inspection
1 hr.	per individual--Complete checklist

J.12.7 Disposition of Data. After the checklists have been collected, they will be turned over to DAC; DAC will review the checklist responses to insure that the interfaces are, in fact, present.

426X2 SYSTEM INTERFACE CHECKLIST

DIRECTIONS. Inspect the pertinent AOTS and non AOTS documents to determine if an interface (bond) exists between AOTS and the component identified in each item below. Write a T on the line to the left of each numbered item if you believe the statement is true. Write an F if you believe the statement is false. Write a U if you are unable to determine if the statement is true or false.

- _____ 1. OCCUPATIONAL SURVEY DATA HAVE BEEN SECURED FROM THE UNITED STATES AIR FORCE OCCUPATIONAL MEASUREMENT CENTER (USAFOMC) FOR AFS 426X2.
- _____ 2. THE AOTS AFS 426X2 MASTER TASK LIST (MTL) CONTAINS TASKS THAT HAVE BEEN TRANSFERRED DIRECTLY FROM THE USAFOMC MTL (AOTS ALPHA 00001 THROUGH 10000).
- _____ 3. THE AOTS AFS 426X2 MTL CONTAINS TASKS (NUMBERS ALPHA 10001 THROUGH 60000) THAT ARE MODIFICATIONS OF THE USAFOMC MTL.
- _____ 4. THE AOTS AFS 426X2 MTL CONTAINS TASKS (NUMBERS ALPHA 60001 AND HIGHER, IF APPROPRIATE) THAT HAVE NOT BEEN INCLUDED IN THE 426X2 OCCUPATIONAL SURVEY INSTRUMENT.
- _____ 5. FOR THE PROTOTYPE AOTS AFS 426X2, INTERFACES WERE ESTABLISHED TO ACQUIRE PRESCRIBED TRAINING REQUIREMENTS PUBLICATIONS.
- _____ 6. AFMPC POLICY CHANGES IN AFS 426X2, IF ANY, ARE INTEGRATED INTO AOTS.
- _____ 7. AFS 426X2 PERSONNEL CHANGES FROM PERSONNEL DATA SYSTEM (PDS) FOR AIRMEN IN AOTS ARE UPDATED IN THE AOTS SYSTEM WEEKLY FOR ACTIVE DUTY AND MONTHLY FOR RESERVES & ANG.
- _____ 8. AFS 426X2 COURSE DATA IDENTIFIED BY THE CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ARE UPDATED WITHIN 24 HOURS OF RECEIPT.
- _____ 9. AFS 426X2 INTERFACES HAVE BEEN ESTABLISHED TO ENABLE AOTS TO MANUALLY RECEIVE OFF-LINE TRAINING ACTIVITIES SCHEDULING DATA FROM NON-AOTS TRAINING AGENCIES.

Figure J.12-1

431X1 SYSTEM INTERFACE CHECKLIST

DIRECTIONS. Inspect the pertinent AOTS and non AOTS documents to determine if an interface (bond) exists between AOTS and the component identified in each item below. Write a T on the line to the left of each numbered item if you believe the statement is true. Write an F if you believe the statement is false. Write a U if you are unable to determine if the statement is true or false.

- _____ 1. OCCUPATIONAL SURVEY DATA HAS BEEN SECURED FROM THE UNITED STATES AIR FORCE OCCUPATIONAL MEASUREMENT CENTER (USAFOMC) FOR AFS 431X1.
- _____ 2. THE AOTS AFS 431X1 MASTER TASK LIST (MTL) CONTAINS TASKS (NUMBERS ALPHA 00001 THROUGH 10000) THAT HAVE BEEN TRANSFERRED DIRECTLY FROM THE USAFOMC MTL.
- _____ 3. THE AOTS AFS 431X1 MTL CONTAINS TASKS (NUMBERS ALPHA 10001 THROUGH 60000) THAT ARE MODIFICATIONS OF THE USAFOMC MTL .
- _____ 4. THE AOTS AFS 431X1 MTL CONTAINS TASKS (NUMBERS ALPHA 60001 AND HIGHER IF APPROPRIATE) THAT HAVE NOT BEEN INCLUDED IN THE 431X1 OCCUPATIONAL SURVEY INSTRUMENT .
- _____ 5. FOR THE PROTOTYPE AOTS AFS 431X1, INTERFACES WERE ESTABLISHED TO ACQUIRE PRESCRIBED TRAINING REQUIREMENTS PUBLICATIONS.
- _____ 6. AFMPC POLICY CHANGES IN AFS 431X1, IF ANY, ARE INTEGRATED INTO AOTS.
- _____ 7. AFS 431X1 PERSONNEL CHANGES FROM PERSONNEL DATA SYSTEM (PDS) FOR AIRMEN IN AOTS ARE UPDATED IN THE AOTS SYSTEM WEEKLY FOR ACTIVE DUTY AND MONTHLY FOR RESERVES & ANG.
- _____ 8. AFS 431X1 COURSE DATA IDENTIFIED BY THE CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ARE UPDATED WITHIN 24 HOURS OF RECEIPT.
- _____ 9. AFS 431X1 INTERFACES HAVE BEEN ESTABLISHED TO ENABLE AOTS TO MANUALLY RECEIVE OFF-LINE TRAINING ACTIVITIES SCHEDULING DATA FROM NON-AOTS TRAINING AGENCIES.

Figure J.12-2

732X0 SYSTEM INTERFACE CHECKLIST

DIRECTIONS. Inspect the pertinent AOTS and non AOTS documents to determine if an interface (bond) exists between AOTS and the component identified in each item below. Write a T on the line to the left of each numbered item if you believe the statement is true. Write an F if you believe the statement is false. Write a U if you are unable to determine if the statement is true or false.

- _____ 1. OCCUPATIONAL SURVEY DATA HAS BEEN SECURED FROM THE UNITED STATES AIR FORCE OCCUPATIONAL MEASUREMENT CENTER (USAFOMC) FOR AFS 732X0.
- _____ 2. THE AOTS AFS 732X0 MASTER TASK LIST (MTL) CONTAINS TASKS (NUMBERS ALPHA 00001 THROUGH 10000) THAT HAVE BEEN TRANSFERRED DIRECTLY FROM THE USAFOMC MTL.
- _____ 3. THE AOTS AFS 732X0 MTL CONTAINS TASKS (NUMBERS ALPHA 10001 THROUGH 60000) THAT ARE MODIFICATIONS OF THE USAFOMC MTL.
- _____ 4. THE AOTS AFS 732X0 MTL CONTAINS TASKS (NUMBERS ALPHA 60001 AND HIGHER, IF APPROPRIATE) THAT HAVE NOT BEEN INCLUDED IN THE 732X0 OCCUPATIONAL SURVEY INSTRUMENT.
- _____ 5. FOR THE PROTOTYPE AOTS AFS 732X0, INTERFACES WERE ESTABLISHED TO ACQUIRE PRESCRIBED TRAINING REQUIREMENTS PUBLICATIONS.
- _____ 6. AFMPC POLICY CHANGES IN AFS 732X0, IF ANY, ARE INTEGRATED INTO AOTS.
- _____ 7. AFS 732X0 PERSONNEL CHANGES FROM PERSONNEL DATA SYSTEM (PDS) FOR AIRMEN IN AOTS ARE UPDATED IN THE AOTS SYSTEM WEEKLY FOR ACTIVE DUTY AND MONTHLY FOR RESERVES & ANG.
- _____ 8. AFS 732X0 COURSE DATA FOR PERSONNEL ASSIGNED TO MAINTENANCE IDENTIFIED BY THE CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ARE UPDATED WITHIN 24 HOURS OF RECEIPT.
- _____ 9. AFS 732X0 INTERFACES HAVE BEEN ESTABLISHED TO ENABLE AOTS TO MANUALLY RECEIVE OFF-LINE TRAINING ACTIVITIES SCHEDULING DATA FROM NON-AOTS TRAINING AGENCIES.

Figure J.12-3

811XX SYSTEM INTERFACE CHECKLIST

DIRECTIONS. Inspect the pertinent AOTS and non AOTS documents to determine if an interface (bond) exists between AOTS and the component identified in each item below. Write a T on the line to the left of each numbered item if you believe the statement is true. Write an F if you believe the statement is false. Write a U if you are unable to determine if the statement is true or false.

- _____ 1. OCCUPATIONAL SURVEY DATA HAS BEEN SECURED FROM THE UNITED STATES AIR FORCE OCCUPATIONAL MEASUREMENT CENTER (USAFOMC) FOR AFS 811XX.
- _____ 2. THE AOTS AFS 811XX MASTER TASK LIST (MTL) CONTAINS TASKS (NUMBERS ALPHA 00001 THROUGH 10000) THAT HAVE BEEN TRANSFERRED DIRECTLY FROM THE USAFOMC MTL.
- _____ 3. THE AOTS AFS 811XX MTL CONTAINS TASKS (NUMBERS ALPHA 10001 THROUGH 60000) THAT ARE MODIFICATIONS OF THE USAFOMC MTL.
- _____ 4. THE AOTS AFS 811XX MTL CONTAINS TASKS (NUMBERS ALPHA 60001 AND HIGHER, IF APPROPRIATE) THAT HAVE NOT BEEN INCLUDED IN THE 811XX OCCUPATIONAL SURVEY INSTRUMENT.
- _____ 5. FOR THE PROTOTYPE AOTS AFS 811XX, INTERFACES WERE ESTABLISHED TO ACQUIRE PRESCRIBED TRAINING REQUIREMENTS PUBLICATIONS.
- _____ 6. AFMPC POLICY CHANGES IN AFS 811XX, IF ANY, ARE INTEGRATED INTO AOTS.
- _____ 7. AFS 811XX PERSONNEL CHANGES FROM PERSONNEL DATA SYSTEM (PDS) FOR AIRMEN IN AOTS ARE UPDATED IN THE AOTS SYSTEM WEEKLY FOR ACTIVE DUTY AND MONTHLY FOR RESERVES & ANG.
- _____ 8. AFS 811XX COURSE DATA IDENTIFIED BY SECURITY POLICE AUTOMATED SYSTEM (SPAS) ARE UPDATED WITHIN 24 HOURS OF RECEIPT.
- _____ 9. AFS 811xx INTERFACES HAVE BEEN ESTABLISHED TO ENABLE AOTS TO RECEIVE OFF-LINE TRAINING ACTIVITIES SCHEDULING DATA FROM NON-AOTS TRAINING AGENCIES.

Figure J.12-4

J.13 RESPONSE PERFORMANCE

J.13.1 Data To Be Collected. Terminal response times and Master Task List search time to determine if response performance goals are met as listed in the System Specification, Section 3.2.1.1, p. 63.

J.13.2 Requirements for DCR. DCRs must be able to use a stop watch correctly and have a working knowledge of computer use and AOTS.

J.13.2 Frequency of Data Collection. Tests will be conducted one time during the second month of SLT&E (September 1988).

J.13.4 Administration of Tests. DAC and AFHRL will conduct the tests in AFHRL locations in Buildings T-1, 1808, and 428 at Bergstrom AFB. Requirements for the tests will be:

- Stop watch
- Operating PC(s)

J.13.4.1 Operation for Tests. Tests will be conducted as follows:

- AOTS will be operating under normal load. "Normal load" will be whatever number of users are on line at the time the response performance test occurs, providing that said test shall occur during the daytime shift on a regular work day (Monday through Friday that is not a holiday).
- "Terminal Response Time" will be the amount of time required from keyboard key press to display on screen.
- For each test (Terminal Response and Master Task List search), five responses/searches will be conducted and an average taken for time to complete. The average time per test will be no greater than listed below.

Terminal Response Time 2.5 seconds
Master Task List Search 1.0 minute

- Completion times will be listed on a plain piece of paper labeled: "Terminal Response Time" or "Master Task List Search Time."

J.13.5 Time Required for Data Collection.

1 hr. per tester

J.13.6 Disposition of Data. DAC will average the times listed for the tests and verify the average against the given standard to verify compliance with the Response Performance Goals in the System Specification.

J.14 HARDWARE RELIABILITY

J.14.1 Data To Be Collected. Reliability of the hardware IAW System Specification Section 3.2.3.1, p. 71. Data about the workcenter equipment will be collected during its daytime operation. Reliability will be calculated by determining the failures per hour and the time between failures for the following pieces of equipment: printer, terminal, monitor, and computer system. Data will be collected from the following logs, with their accompanying procedures for use:

AOTS Maintenance Action Report Log--Figure J.14-1, p. 80
AOTS Procedure: Maintenance Log--Figure J.14-2, p. 81

Reliability is essentially concerned with the Mean Time Between Failures (MTBF) that reflects, in hours, the average time a component or system will operate without a failure or error. Reliability excludes any failure caused by operator error, natural disasters, or sabotage.

J.14.2 Requirements for DCR. There are no special requirements for the DCR. The DCR will distribute/collect the reports and submit them to DAC for analysis.

J.14.3 Frequency of Data Collection. Data gathering will be an on-going process. Failure Reporting Forms will be collected quarterly during the reporting period of SLT&E (Aug 88--May 89).

J.14.4 Collection of Reliability Data. In performing the required procedures for collection of reliability data of the hardware/software, the DCR will:

- Obtain/distribute an appropriate number of copies of the logs and procedures for distribution to the field.
- Distribute the logs and procedures to the AOTS workcenter librarian.
- Collect a copy of each completed log at the end of each month of the reporting period.
- Turn completed logs over to the DTM

J.14.5 Reliability Criteria.

J.14.5.1 Equipment Reliability Goals. Following are reliability goals during SLT&E:

PARAMETER	THRESHOLD	ESTIMATE
MTBF	250 Hours	400 Hours
MTBDE (Mean Time Between Downing Event)s	400 Hours	TBD
Mission Reliability	99.5%	96.5%
Mct	0.5 Hours	0.4 Hours
M max	2.0 Hours	2.0 Hours
Mptmax	32.0 Hours	24.0 Hours
Ai	99.5%	99.7%
Aa	99.4%	TBD
Ao	99.8%	TBD
Service Life	10 Years	+10 Years
Operational Life		
Operating	25,000 Hours	50,000 Hours
On/Off Cycles	5,000 Hours	5,000 Hours
Time Base (for calculations)	24 Hours	N/A

J.14.6 Time Required for Data Collection.

.25 hr. per individual filling out log
1.00 hr. per month--log collection by DCR

J.14.7 Disposition of Data. DCR will forward the completed forms to the DTM for analysis at the end of each collection period (quarter).

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Page Number

AOTS 0100-2

0.

(Rev. 8-25-1986)

Location of log:

Figure J.14-1

AOTS PROCEDURES MAINTENANCE LOG

Date: Sept. 2, 1986
Ref: AOTS 0100-2 (Rev. __) Aug. 25, 1986

Purpose: The maintenance log will provide a means of knowing how many items are awaiting maintenance. The maintenance log is used in conjunction with the AOTS MAINTENANCE ACTION REPORT FORM (AOTS 0100-1). The maintenance log will provide log numbers for each of the AOTS MAINTENANCE ACTION REPORT FORMS for tracking.

When to use: The maintenance log is used to record all equipment (hardware) failures. The single point contact person at each site (buildings 428, 1808, and T2) will complete this form.

HOW TO USE THE FORM:

1. A log number is used to track all maintenance action report **forms**. This number will be started at each site as follows:

Log # A000001 for building 428

Log # B000001 for building 1808

Log # C000001 for building T2

2. The Date, Time, ID# (normally the serial number), Item Description (PC, printer, etc.), and M/Org (maintenance organization) is **taken from** the AOTS MAINTENANCE ACTION REPORT FORM.

3. When maintenance is complete and the item is **accepted as** operational, the Date Fixed, Time and Action are recorded **from the AOTS MAINTENANCE ACTION REPORT FORM**. This constitutes **closing out the log** entry for this failure. (Action indicates hard or **soft failures and any** other information).

4. Page number is recorded on the bottom for the log. **Also location** of the log is recorded (building 428, 1808 or T2).
-

ROUTING:

1. The maintenance log is maintained by the single point contact at each site.
2. On a periodic bases, the log is sent to MDAC in building 428.

J.15 HARDWARE MAINTAINABILITY

J.15.1 Data To Be Collected. Determine if AOTS meets the hardware maintainability goals as outlined in System Specification Section 3.2.4.2, p. 78. Maintainability of the equipment during its normal operation will be assessed from reports of amount of time to repair equipment, both On-site and Off-site, using the:

AOTS Maintenance Action Report Form--Figure J.15-1, p. 85

AOTS Procedure: AOTS Maintenance Action Report Form
(Figure J.15-2, p. 86).

ClayDesta Problem Log--Example, J.15-3, p. 87

Vax Downtime Log--Example, J.15-4, p. 88

Maintainability of hardware is, essentially, the Mean-Time-To-Repair (MTTR) a component or system; MTTR is the average number of hours it takes to repair a component or system to full operating condition.

J.15.2 Requirements for DCR. There are no special requirements for the DCR. The DCR will distribute/collect the reports and submit them to DAC for analysis.

J.15.3 Frequency of Data Collection. Data gathering will be an on-going process. Report Forms will be collected quarterly during the reporting period of SLT&E (Aug 88--May 89).

J.15.4 Administration of Maintainability Measurement. In performing the required procedures for administration of maintainability measurement of the hardware, the DCR will:

- Insure that each workcenter single point contact person has copies of the forms.
- Collect copies of completed Maintenance Action Report Forms, ClayDesta Problem Logs, and Vax Downtime Logs at the end of each month of the reporting period.

J.15.5 Maintainability Criteria.

J.15.5.1 Maintainability Goals for Hardware. The following table indicates the maintainability goals for hardware:

Parameter	Threshold
Mean-Time-To-Repair (MTTR) on the System	1.5 Manhours
90% upper limit to repair	2.5 Manhours
Mean-Time-To-Restore the System	0.5 Manhours
90% upper limit to restore	1.0 Manhours
Mean-Time-To-Remove and Replace	0.4 Manhours
90% upper limit to remove and replace	1.25 Manhours
Direct maintenance manhours per equipment operating hour	0.05 Hours
Response time to site of failure	4.0 Hours
Principal Period of Maintenance	16 Hours/day 7 Days per Week
Off line maintenance average MTTR	1.5 Manhours
90% upper limit to repair	6.0 Manhours
Mean Preventive Maintenance Time	3.0 Hours
Mean Maintenance Time	3.4 Hours
Logistic Delay Time	4.0 Hours (90%ile)
Maximum Corrective Maintenance Time	8.0 Hours
Administrative Delay Time	2.0 Hours
Maintenance Downtime	7.4 Hours
Maintenance Manhours/month	6.0 hr/mo
Frequency of Preventive Maintenance	1 time per month per workcenter

J.15.6 Time Required for Data Collection.

.25 hr. per individual filling out form/report
1.00 hr. per month--DCR form/report collection

J.15.7 Disposition of Data. DCR will forward the completed forms to THE DTM for analysis at the end of each collection period (quarter).

AOTS MAINTENANCE ACTION REPORT FORM

LOG NUMBER: _____ DATE: ____/____/____ LOCATION: _____

NAME: _____ TIME: _____

TYPE OF EQUIPMENT: ☐ Zenith Z-248 PC ☐ Dot Matrix Printer
☐ HP Laserjet+ ☐ Color printer ☐ Data Tablet 11 X 11"
☐ IBM PC AT XT ☐ Infotron Comm ☐ Data Tablet 20 X 20"
☐ DEC VAX 8600 ☐ Other: _____

Serial Number: _____ Other ID#: _____

Description of failure: _____

Problem reported to (responsible for maintenance): _____

Date: ____/____/____ Time: _____ ID: _____

REPAIR ACTION: Date maintenance started: ____/____/____ Time: _____

Date finished: ____/____/____ Time: _____

☐ On-Site ☐ Off-Site Name: _____

Organization: _____

Corrective Action: _____

Time Taken to repair: _____ Time awaiting parts: _____

Is the configuration of the item changed during maintenance? ☐ Yes ☐ No
If yes, describe and document revision level changes and effected items.

Acceptance of repaired item name and signature: _____

Certified by (name and signature): _____

AOTS 0100-1 (Rev. __) Aug. 25, 1986 Figure J.15-1

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AOTS PROCED. RES AOTS MAINTENANCE ACTION REPORT FORM

Date: Sept. 2, 1986
Ref: AOTS for 0100-1 (Rev. __) Aug. 25, 1986

Purpose: Provide a procedure in using the AOTS MAINTENANCE ACTION REPORT FORM. Procedure for handling the form is also included. The form is also used to record corrective actions taken. The form is also used to input data to the reliability/maintainability models.

When to use: The AOTS MAINTENANCE ACTION REPORT FORM is to be used anytime problems are encountered with AOTS equipment (hardware) items. This includes failures of equipment or uncertain operation of the equipment.

HOW TO USE THE FORM:

1. When a problem is encountered with any AOTS equipment (hardware such as a Zenith 2-248 PC, printer, communications, etc.), the AOTS MAINTENANCE ACTION REPORT FORM is used to report the problem.

The originator fills in the following parts: NAME, DATE, LOCATION, TIME, TYPE OF EQUIPMENT, Serial Number, Other ID# (if any), and a description of the failure.

2. The originator places their name in the top part labeled: NAME ____.

3. The report is dated and time is also indicated (standard military time to be used). The date is entered month, day, year. (___/___/___).

4. The location where the equipment is to be entered in the area marked "LOCATION: ____".

5. The TYPE OF EQUIPMENT can be checked if described or written in under OTHER. The serial number must be filled in and if any other type of identification number is also used, that to be filled in under "Other ID#": ____.

6. A description of failure is required. If there is a printout or other physical evidence of the failure, that should be attached to the form.

The following to be filled out by the single point contact at each site (building 428, 1808, and T2):

7. "Problem report to:" section is filled out by the single point contact at each site. This refers to who will actually perform the maintenance on the failed item. (Example could be Infotron for the communication equipment or Hewlett Packard for the laserjet printers.)

8. The date and time the action is reported to maintenance organization is also filled out at this time. (Date and Time spots.)

9. The "ID:" indicates any special numbers. Example could be a return authorization number or a name of an individual who will handle this action.

The next section is filled out by the person who performs the actual maintenance. If the maintenance action is accomplished by a swap of component(s), the single point contact person continues to fill out this section.

10. When the date and time of the maintenance is started is recorded in the date and time parts.

11. Date and time the maintenance is finished is recorded in the appropriate spots.

12. Organization responsible for the maintenance is entered next (Organization: ____).

13. Corrective action is a description of what was required to return the failed item back to serviceable condition. Any parts that failed will be identified as well as new parts used to repair the item. The back of the form can be used for additional space to write in. If an assembly, subassembly, or traceable component is changed and the revision level of the new parts is different from the original, the new revision levels is to be recorded for this item.

14. Time take to repair is to be filled out as an estimate by the maintenance person after maintenance is complete. Time awaiting parts is required if any delays are encountered in getting parts. The time delay is to be expressed in hours.

The next section is required only if a change to configuration occurs.

15. If the configuration of the item is changed, revision level and affected CI is to be recorded by the single point contact person.

Acceptance section is to be completed by the single point contact person.

16. Acceptance of the equipment as operational and ready for use is required to close out the maintenance action.

17. Certification of configuration is only required is a change to the configuration occurs. Certification indicates that the item is fully operational and meets all specifications for AOTS.

ROUTING:

1. The person having trouble with a hardware item fills out the upper level of information. Date, time name, and location followed by failed item and description of the problem.

2. The form is then taken to the single point contact person at each site. The single point contact person logs the form. A log number (next in order) is also placed at the top of the maintenance action

form.

3. The single point contact person then determines the correct maintenance group to repair the failed item. This information is written into the form.
4. Maintenance person fills out the next repair section except when the maintenance on the item is accomplished by a swap or similar method. In the latter case, the single point contact person fills out the repair action section.
5. When repair efforts have been finished, the form is given back to the single point contact person. The log is closed out and a determination of configuration change is made. If no change has occurred then the remaining action is determination if the unit is operational again.
6. If the item is fully operational, the single point contact person at each site accepts the unit back into full operation.
7. Only if a configuration change has occurred will the operation of the unit require certification as fully meeting operational requirements and specifications. This is done by an authorized person from the configuration control system.
8. The single point contact person will file the finished form.
9. On a regular schedule, all forms will be collected by MDAC and used in the reliability and maintainability programs. The logs will also be collected on a regular schedule.

Figure J.15-2

CLAYDESTA PROBLEM LOG

WE CALLED	CALL RETURNED	BY	RESULTS
2:00 6 Nov 86		Philip Lawrence	We reported Line Hits to ClayDesta.
	2:30 6 Nov 86	Joann Cruz (ClayDesta)	The line problems were intermittant, and they could not duplicate the problem.
3:30 7 Nov 86		Philip Lawrence	We reported line hits to ClayDesta.
	4:00 7 Nov 86	Joann Cruz (ClayDesta)	ClayDesta isolated the problem to SouthWestern Bell, and they called to report it. SouthWestern Bell gave them a ticket number of #50518, and said that they will need 1 - 2 hours to fix the line.
4:00 17 Nov 86		Philip Lawrence	We reported Line Hits to ClayDesta
	8:50 18 Nov 86	Joann Cruz	They tested the line last night, and isolated the problem to the Austin Southwestern Bell office. The problem has not been signed off yet. They will test again at 11:30 today.
1:00 18 Nov 86		Philip Lawrence	I contacted Jerry Farias (ClayDesta) who is dealing with SW Bell. He said that the line would be up in 1 1/2 hrs.
3:30 18 Nov 86		Philip Lawrence	I called Jerry who said that they had bumped the priority to the 4th level at SW Bell.
4:00 18 Nov 86		Philip Lawrence	I called Joann Cruz, who said that they had bumped the priority to the division level at SW Bell.
4:10 18 Nov 86	Joann Cruz		Joann Cruz said SW Bell was replacing their low power repeaters to solve the problem. She got an estimated time of completion of 5:00 from SW Bell.
7:17 19 Nov 86		Glenn McBride	Called ClayDesta customer service because the line was still down. They had no record of any transactions after 11:30 17 Nov 86. They did not know the current status of the line.

Figure J.15-3

VAX DOWN TIME LOG

WE CALLED	PROBLEM	RESULTS
14 Jan 87	Change to Vax\VMS 4.5 with no warning.	This cost 1 hour(8 - 9) of down time for a software change. The down time would have been avoided if we had any warning about the change
19 Jan 87	Memory upgrade to 36 Meg.	This cost 4 hours(8 - 12) of down time. If we had any warning of the upgrade, we could have downloaded our work to the IBM-PC's and kept working.
20 Jan 87	Logins disabled on the Vax. Lupe was working with an Ether Net upgrade.	Again we had no warning. This only cost some early morning time(7 - 8)
20 Jan 87	Vax down for EtherNet Installation at about 12.	We had some warning, and it did not cause us problems. The system was down for 1 hour.
21 Jan 87	Vax down for EtherNet repairs at 10:04. We had no advance warning.	Again we had no warning. We could continue working on the IBM-PC's if we had even 10 minutes warning. system down for 3 hours.
22 Jan 87	Vax down for repairs at 8:00. Up again at 1:50.	We were given a warning banner before the system went down, but nobody had time to download their work since they were just getting here when it went down.
26 Jan 87	Vax down for PM at 10:30.	They gave us adequate warning this time.
26 Jan 87	Vax back up at 2:45.	No message indicating that the system was up has appeared.
26 Jan 87	Vax down again with no warning at 3:00.	Several people were caught in the middle of editing files.
9 Feb 87	One of the links from the Mux to the Vax is not working after the links were swapped. Lupe Yzaguirre and Lt Imsand are not there this week.	After switching the lines on Sat., Lupe and Lt. Imsand are both unavailable.
13 Feb 87	problem with port TXE7 or associated mux hardware on the Brooks end. Lupe has been notified. He suggested that I change all ports associated with the bad port on that DMZ and see if problems continue.	
17 Feb	problem with port TXF7 or associated mux hardware on the Brooks end. Lupe has been notified. The line was switched to another line that was unassigned.	
20 Feb 87	power outage at Brook's from 7:00 to 8:30.	
11 Mar 87	Vax down approx. 20 min. for unknown reasons.	

J.16 SYSTEM AVAILABILITY

J.16.1 Data To Be Collected. Data collected in procedures J.14 and J.15 will be used to calculate the measures of availability of the following: System, Computer System Component, Terminal Component, Printer Components, and Digitizer Pad Component, as found in System Specification Section 3.2.5, p. 83.

Availability is essentially concerned with the percentage of the time equipment is available for use as opposed to down time.

Requirements for passing the availability specifications are as follows:

Parameter	Threshold
System Wide Availability	95%
Computer System Component Availability	96.5%
Terminal Component Availability	98%
Printer Components Availability	98%
Digitizer Pad Component Availability	99%

J.16.2 Requirements for DCR. There are no special requirements for the DCR. He/she will turn over reports collected quarterly in procedures J.14 and J.15 to the DTM.

J.16.3 Time Required for Data Collection. No additional time will be required for data collection.

J.16.4 Disposition of Data. Upon receipt of forms for procedures indicated, DAC will analyze the information relative to availability of equipment as opposed to downtime.