Audit Report

OFFICE OF THE INSPECTOR GENERAL

HUMAN SYSTEMS INTEGRATION REQUIREMENTS FOR AIR FORCE ACQUISITION PROGRAMS

Report No. 94-124 June 8, 1994

Department of Defense

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Acronyms

ACAT	Acquisition Category
AWACS	Airborne Warning and Control System
DSS	Decision Support System
HSI	Human Systems Integration
IMPACTS	Integrated Manpower, Personnel, and Comprehensive Training and Safety
IPP	IMPACTS Program Plan
MOA	Memorandum of Agreement
PM	Program Manager

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884

June 8, 1994

MEMORANDUM FOR ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)

SUBJECT: Audit Report on Human Systems Integration Requirements for Air Force Acquisition Programs (Report No. 94-124)

We are providing this report for your review and comments. The report addresses the Air Force's process for evaluating the impact of new weapon system operating and training requirements on personnel and training resources. We received informal comments from the Under Secretary of Defense (Personnel and Readiness). The Air Force did not comment on the draft by the date of this report.

DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. Therefore, we request that the Air Force provide comments on the finding and recommendations by August 8, 1994. The Directive also requires that your comments indicate concurrence or nonconcurrence with the finding and each recommendation addressed to you. If you concur, describe the corrective actions taken or planned, the completion dates for actions already taken, and the estimated dates for completion of planned actions. If you nonconcur, state your specific reasons for each nonconcurrence. If appropriate, you may propose alternative methods to carry out the desired improvements.

Recommendations are subject to resolution in accordance with DoD Directive 7650.3 if you nonconcur or fail to comment. We also ask that your comments indicate concurrence or nonconcurrence with the internal control weakness highlighted in Part I.

We appreciate the courtesies extended to the staff. If you have questions on this audit, please contact Mr. James L. Koloshey, Program Director, at (703) 614-6225 (DSN 224-6225) or Mr. Charles E. Sanders III, Project Manager, at (703) 614-6219 (DSN 224-6219). The distribution of this report is listed in Appendix D.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 94-124 **June 8, 1994**
(Project No. 3AG-0048)

HUMAN SYSTEMS INTEGRATION REQUIREMENTS FOR AIR FORCE ACQUISITION PROGRAMS

EXECUTIVE SUMMARY

Introduction. DoD policy requires that critical human factors such as personnel and training be addressed throughout the acquisition process to influence system designs and to identify resource constraints. Costs and operational effectiveness of new systems associated with resource constraints should be a major consideration at each acquisition milestone decision. Resources in support of new systems should be committed and programmed by Milestone II and Milestone III decisions, respectively. This report is our second and final report on human systems integration.

Objectives. The overall objective was to determine whether the Air Force's internal controls and procedures are adequate to ensure that manpower, personnel, and training requirements are planned effectively for operation and maintenance of new weapon systems. We also determined whether resources were committed or programmed for new personnel and training requirements. To accomplish the audit objectives, we focused on system acquisition programs that were in phases II and III.

Audit Results. Program managers did not adequately address human systems integration during the acquisition process. Consequently, the Air Force may field mission-essential weapon systems without enough properly trained personnel for sustained operations in wartime.

Internal Controls. Internal controls were not established or effective to ensure that Air Force human systems integration was considered in the weapon system acquisition process. Part I discusses this material internal control weakness.

Potential Benefits of Audit. The audit did not identify quantifiable monetary benefits. However, implementation of recommendations should improve the acquisition process and the readiness of fielded systems. The potential benefits are summarized in Appendix B.

Summary of Recommendations. We recommended that the Assistant Secretary of the Air Force (Acquisition) clarify procedures and strengthen internal controls for addressing human systems integration in the acquisition process and provide training and resources for implementing human systems integration.

Management Comments. Representatives in the Office of the Under Secretary of Defense (Personnel and Readiness) provided additional data that clarified DoD's role regarding oversight of human systems integration; accordingly, we removed discussion on DoD involvement in the process and deleted a draft recommendation to the Under Secretary. The Air Force did not respond to the draft report. The Air Force is requested to provide comments on the final report by August 8, 1994.

Table of Contents

Executive Summary i

Part I - Introduction 1

Background 2
Objectives 2
Scope and Methodology 2
Internal Controls 3
Prior Audit 3

Part II - Finding and Recommendations 5

Human Systems Integration 6

Part III - Additional Information 13

Appendix A. Schedule of System Acquisition Programs Reviewed 14
Appendix B. Summary of Potential Benefits Resulting from Audit 19
Appendix C. Organizations Visited or Contacted 20
Appendix D. Report Distribution 21

This report was prepared by the Acquisition Management Directorate, Office of the Inspector General for Auditing, DoD.

Part I - Introduction

Background

Human Systems Integration (HSI) is the process for addressing critical human factors such as manning, training, health hazards, and safety during system acquisitions. Congress mandates early assessment of manpower in title 10, United States Code, section 2434. DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991, requires that HSI be executed for each planned system acquisition. HSI objectives should be established at Milestone I and be subsequently refined and updated at successive milestone decision points. HSI should address critical human factors that have a significant impact on system performance, maintainability, readiness, and training requirements. HSI should focus on personnel constraints and equipment deficiencies with existing systems and the impact of new system's support requirements on available personnel resources. HSI should also provide for analyses, tests, and evaluations to determine supportability of new systems with available personnel resources before production and deployment. Test and evaluation requirements should include performance of critical operating tasks by typical users in Test and Evaluation Master Plans. Adequate numbers of personnel to support an acquisition program should be programmed or committed to be programmed by Milestone II. Personnel resources should be programmed by Milestone III.

Objectives

The overall objective was to determine whether the Air Force's internal controls and procedures were adequate to ensure that HSI considerations are planned effectively for operation and maintenance of new weapon systems. We also determined whether resources were committed or programmed for new personnel and training requirements.

Scope and Methodology

This economy and efficiency audit was conducted from May 1993 through December 1993. The audit was performed in accordance with the auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD, and included necessary tests of internal controls. We reviewed Air Force policies and initiatives and randomly selected 113 of 199 acquisition programs for implementing DoD Instruction 5000.2 guidelines for HSI. Selected programs represented approximately 57 percent of Air Force Acquisition Category (ACAT) I, II, and III/IV systems in phases II and III. In evaluating HSI implementation, we reviewed program documentation to determine whether the impact of systems' operating, maintenance, and training concepts on available resources (personnel and funds)

was adequately evaluated and whether sufficient resources have been committed or programmed for those systems. We did not rely on computer-generated data for our audit. Also, we reviewed Air Force plans to develop a decision support system for HSI analyses. Organizations visited and contacted during the audit are listed in Appendix C.

Internal Controls

We reviewed internal controls applicable to acquisition of new and modified Air Force weapon systems. In assessing internal controls, we evaluated implementation and oversight of the Air Force HSI program: Integrated Manpower, Personnel, and Comprehensive Training and Safety (IMPACTS). Our review disclosed a material Air Force internal control weakness in that proper plans had not been implemented to ensure that pertinent HSI issues were addressed and resolved early in the acquisition process. The recommendations in this report, if implemented, will assist in correcting this weakness. No readily quantifiable monetary savings will be realized from implementing the recommendations. We did not review implementation of DoD Directive 5010.38, "Internal Management Control Program," April 14, 1987, due to the high number of organizations involved in the acquisition process for the 113 programs reviewed. Copies of the final report will be provided to the senior level officials responsible for internal controls within Office of the Secretary of Defense and the Air Force.

Prior Audit

Inspector General, DoD, Audit Report No. 93-171, "Manpower, Personnel, and Training Requirements for Army Tactical Command and Control System," September 20, 1993, disclosed that system program managers did not adequately conduct HSI for the Army Tactical Command and Control System. The report recommended that proper HSI assessments be made a condition of Milestone III approval for the System and the Assistant Secretary of the Army (Manpower and Reserve Affairs) take a more active role in review and oversight of HSI. Management generally concurred.

Part II - Finding and Recommendations

Human Systems Integration

Air Force Program Managers did not evaluate the impact of Human Systems Integration (HSI) requirements on available resources during the acquisition process. The Air Force did not adequately emphasize the importance of HSI on system supportability. Consequently, the Air Force risks fielding mission-essential systems without enough properly trained personnel for sustainment of system operations in wartime.

Background

Air Force Acquisition Policy. Air Force Regulation 800-2, "Acquisition Program Management," June 9, 1986, prescribes that Air Force Program Executive Officers and Program Managers (PM) are responsible for planning and executing acquisition programs for new and modified systems. Program Executive Officers are responsible for direction, review, and oversight of PMs and provide logistics support for system acquisition programs. PMs are Air Force managers who execute acquisition programs including determining and resourcing of HSI requirements.

Plans for Implementing HSI. Memorandums of Agreement (MOA) executed in 1986 and 1989 are the most recent efforts to implement HSI.

1986 MOA. The Air Staff, Air Force Systems Command (replaced by Air Force Materiel Command on July 1, 1992), and Air Training Command (renamed Air Education and Training Command on July 1, 1993) agreed to increase efforts in accomplishing HSI. The Air Staff was to:

- o develop implementing procedures,
- o conduct the necessary oversight of system acquisition programs to ensure compliance with the new procedures, and
- o provide training and additional resources.

Also, a model organization for HSI was to be established at the Aeronautical Systems Division (renamed Aeronautical Systems Center on July 1, 1992).

1989 MOA. This MOA expanded HSI implementation to include all major commands that were involved in the system acquisition process. The MOA required that the Integrated Manpower, Personnel, and Comprehensive Training and Safety Program Plan (IPP) be the primary source document for incorporating HSI factors into the system acquisition process. Those factors should be specifically addressed in key program documents such as the Mission Need Statement and Operational Requirements Document. Further, the MOA provided that the Air Staff review those program documents to determine whether IMPACTS considerations were adequately addressed. Air Force Regulation 26-1, Volume 5, "Integrated Manpower, Personnel, and

Comprehensive Training and Safety (IMPACTS) Program," October 16, 1992, resulted from the MOA. Finally, the MOA provided that IMPACTS Planning Teams be established at all System Centers.

Implementation of Human Systems Integration

We reviewed 113 (57 percent) of 199 Air Force system acquisition programs at three Systems Centers and three Air Logistics Centers.

	Acquisition Category			
Organizations	I	II	III/IV	Total
Aeronautical Systems Center	7	5	20	32
Electronic Systems Center	4	9	16	29
Human Systems Center	0	0	6	6
Air Logistics Centers				
Ogden	1	0	2	3
San Antonio	0	1	9	10
Warner-Robins	1	2	30	33
Totals	13	17	83	113

Appendix A identifies system acquisition programs audited and results of review.

Our analysis showed that IPPs or appropriate waivers were not prepared for 110 of the 113 acquisition programs reviewed. Adequate IPPs were prepared for the three programs because the responsible PMs had participated in planning for implementing HSI. For the F-22 Advanced Tactical Fighter, which was to be a HSI model program, the PM had prepared a draft IPP before the Milestone II review. However, it was not completed and approved. To determine whether an IPP should have been prepared, we randomly selected 83 of the 110 programs that did not have an IPP.

Need for IPP. An IPP should have been prepared for 33 (40 percent) system acquisition programs reviewed because key program documents indicated that new system requirements would significantly impact available HSI resources. Program documents further indicated that system requirements would be accommodated by existing resources. However, detailed analyses were not made to verify that new system requirements could be satisfied with available resources. To ensure that adequate analyses were made, IPPs should have been prepared for each of the 33 programs to evaluate whether additional resources were required and the impact of potential resource shortages.

Need for Wavier. Waivers for preparation of IPPs should have been prepared for 50 (60 percent) of the 83 system acquisitions because our analyses showed that HSI factors were not a significant issue. Forty-three of the 50 programs were ACAT III/IV and entailed modifications of existing systems that would not significantly impact existing resources commitments.

Air Staff Emphasis

The Air Staff has not adequately emphasized HSI during the acquisition process: written procedures were neither timely nor sufficiently comprehensive, envisioned oversight was not performed, and required training and resources were not provided.

Policy and Procedures. Air Force Regulation 26-1, Volume 5 was not published until 6 years after the 1986 MOA was signed; further, the Regulation did not adequately define how HSI should be accomplished. Specifically, the Regulation does not require that:

o tasking of responsibilities for HSI be defined in program management directives to PMs;

o IPPs define precise HSI issues to be assessed and the tasking for the analysis of those issues;

o IPPs be approved and submitted to program decision authorities for their consideration at each system acquisition milestone; and

o IPPs be prepared for Milestones II and III for programs that were initiated before the Regulation.

Further, PMs were not held accountable in their performance appraisals for preparing IPPs.

Air Staff Review and Oversight. The Air Staff did not conduct reviews of program documents to determine whether HSI was effectively accomplished. We believe that the Air Staff should review IPPs and pertinent program documents for at least ACAT I system acquisitions for compliance with Air Force policy and procedures at Milestones II and III. Program Executive Officers should evaluate non-major system acquisitions for compliance with Air Force policy and procedures.

Need for Training. Required training for PMs did not address IMPACTS. Most PMs were unaware of Air Force Regulation 26-1, Volume 5. Further, PMs erroneously believed that operating commands should be entirely responsible for determining the impact of systems' requirements on available HSI resources and resourcing the requirements. We agree that operating commands may be better able to conduct analyses; however, PMs are not relieved of the responsibility to ensure that appropriate analyses were made.

Resources. Program management offices had not received manpower resources for implementation of HSI; moreover, the Air Force may discontinue development of a Decision Support System (DSS) needed to accomplish HSI analysis.

Manpower. Except for the Aeronautical Systems Center, IMPACTS Planning Teams had not been established at the program management offices

visited. The manpower authorization for this Center was originally 38 and had been reduced to 17. A draft IMPACTS implementation plan, prepared in June 1992, cited a total manpower requirement of 52 for the four Systems Centers.

Decision Support System. The Air Staff had not committed to complete development of the DSS at the Armstrong Laboratory at Brooks Air Force Base, Texas. The DSS will provide the Air Force with the capability to retrieve data from automated systems to conduct HSI and trade-off analysis to influence early system design and determine supportability of systems with available resources. The Air Force programmed $4 million for DSS research from FYs 1992 through 1996; $2 million of the $4 million was expended by the end of FY 1993. Due to anticipated manpower cuts at the Armstrong Laboratory and the low priority assigned the program, research and development of the DSS may cease after FY 1994. Without the DSS, the Air Force may not realize potential cost savings in manpower, personnel, and training costs (40 to 66 percent of system life-cycle costs) associated with system acquisitions. Also, the DSS would allow the Air Force to avoid the cost of tasking contractors to locate and organize DoD data.

Fielding New Systems

The Air Force risks fielding weapon systems without enough properly trained personnel for sustainment of system operations in wartime. This risk is illustrated by the following examples from the programs reviewed.

Airborne Warning and Control System Modification. This ACAT II program, in phase III, will equip five Airborne Warning and Control System (AWACS) aircraft with improved electronic support measures, data processing capability, and Global Positioning System. Estimated acquisition cost exceeds $1 billion. The initial operational capability of the AWACS aircraft is scheduled for FY 1997.

The program management office identified a potential need for 172 new manpower authorizations to support those requirements. The operating command responded in May 1992 that the new manpower requirements are valid; however, no additional manpower would be provided AWACS aircraft. Program documentation indicated that job descriptions for the authorized manpower positions would be redefined to accomplish the new workload. The program management office did not conduct an analysis to determine the impact of this decision on readiness of the AWACS aircraft. Further, this issue was not in the Integrated Program Summary or other program documents for consideration at Milestone III.

Cheyenne Mountain Complex. This ACAT IC program, in phase III, will upgrade air defense systems at Cheyenne Mountain, Colorado, and establish an Alternate Processing Correlation Center, a backup capability at Offutt Air Force Base, Nebraska. Estimated acquisition cost is $1.6 billion. Full operational

capability was scheduled for December 1995. The new systems are twice as complex as the systems being replaced. Current staffing levels for the new systems are 157 and 49 for Cheyenne Mountain and Offutt Air Force Base, respectively. Maintenance and other support requirements for those facilities were not yet determined. An additional 10 personnel will be required for dual operations of present and upgraded systems at Cheyenne Mountain in testing the new systems.

The Air Force Space Command and the Air Combat Command planned to use current manpower authorizations to support manpower requirements at Cheyenne Mountain. Neither an IPP was prepared nor were analyses conducted to determine how those manpower requirements would be satisfied. Further, the Air Force planned to use equipment at Peterson Air Force Base, Colorado, for most combat crew training because the two air defense systems would not be available due to continuous mission requirements. However, combat crew training at Peterson had a low priority. No analysis had been made to determine the feasibility of relying on this location for training. In addition, the manpower and training issues were not in the Integrated Program Summary or other program documents for consideration at Milestone III.

Recommendations, Management Comments, and Audit Response

We recommend that the Assistant Secretary of the Air Force (Acquisition):

1. Revise Air Force Regulation 26-1, Volume 5, to require that:

a. Tasking of responsibility for human systems integration be defined in each program management directive.

b. Integrated Manpower, Personnel, and Comprehensive Training and Safety Program Plans define human systems integration issues and tasking for analysis of those issues.

c. Human systems integration plans for all acquisition programs be approved and submitted to milestone decision authorities.

2. Establish human systems integration as an element in determining performance ratings of system program managers.

3. Provide training to system program managers on human systems integration.

4. Provide adequate resources for implementation of human systems integration in the acquisition process including continued development of the Decision Support System.

Management Comments. Representatives of the Office of the Under Secretary of Defense (Personnel and Readiness) provided additional documentation and made informal comments to the draft report. The Under Secretarty did not plan to respond to this report. The Assistant Secretary of the Air Force (Acquisition) did not respond.

Audit Response. Based on discussions with the Office of the Under Secretary, we deleted the draft recommendation to the Under Secretary and omitted the section in the draft report covering DoD's role in the HSI process. Of the seven Air Force Acquisition Category ID systems, five were exempted from HSI review at the then-current milestone due to the "grandfather clause" in DoD Instruction 5000.2. (This exemption also applied to the Army system discussed in the draft report.) For the remaining two Air Force systems, the Office of the Under Secretary provided HSI plans that were not made available to us by the applicable Air Force program offices. We request that the Assistant Secretary of the Air Force (Acquisition) respond to the final report by August 8, 1994.

Part III - Additional Information

Appendix A. Schedule of System Acquisition Programs Reviewed

	IPP Needed	IPP Waiver Needed	IPP Need Not Evaluated
Aeronautical Systems Center			
C-17 Program	X		
Low Altitude Navigation and Targeting Infrared System for Night	X		
C-20H Program			X
Simulator for Electronic Combat Training		X	
Enhanced Flight Screener			X
T-1A Training System*			
B-2	X		
F-16 Weapon System Trainer			X
Ground Power Generator System			X
MC-130H Combat Talon II	X		
Development of Improved Air Force SOF Peculiar Munitions		X	
Compass/Altitude Heading and Reference System			X
Standard Flight Data Recorder			X
C-141 Aircrew Training System			X
NATO Joint Pilot Training Procedural Trainers Modernization		X	
B-1B Weapon System Trainers Program			X
Standoff Attack Weapon System		X	
Sensor Fuzed Weapon (SFW)*			
KC-135 Aircrew Training System		X	
F-16	X		
AC-130 Gunship Replacement		X	
EC-18D Cruise Missile Mission Control Aircraft			X

* Adequate IPP

	IPP Needed	IPP Waiver Needed	IPP Need Not Evaluated
Aeronautical Systems Center (Continued)			
Advanced Medium Range Air-to-Air Missile	X		
F-22	X		
Improved Technical Data System			X
Special Operations Forces Aircrew Training System		X	
Advanced X-Ray System			X
Aerial Targets		X	
Hardened Target Munitions		X	
On Board Electronic Warfare Simulator (OBEWS)	X		
AN/ALE-47 Countermeasure Dispenser System			X
HAVE NAP Missile Acquisition		X	
Electronic Systems Command			
Contingency TACS Automated Planning System			X
Mission Support System II			X
Automated Weather Distribution System			X
AWDS/Pre-Planned Product Improvement			X
Tactical Air Control System Improvements			X
Radar System Improvement Program			X
Integrated Contract	X		
Rapid Execution and Combat Targeting		X	
HAVE STARE (Formerly Creek Chart)			X
Base and Installation Security System	X		
HAVE QUICK			X
North Atlantic Defense System			X
Microwave Landing System			X
AMC Command and Control Information Processing System	X		

	IPP Needed	IPP Waiver Needed	IPP Need Not Evaluated
Electronic Systems Center (Continued)			
Joint Tactical Information Distribution System	X		
Worldwide Military Command and Control Systems			X
FAA/AF Radar Replacement			X
Airborne Battlefield Command and Control Center	X		
Joint Surveillance Target Attack Radar System*			
Caribbean Basin Radar Network		X	
North Warning System		X	
Ballistic Missile Early Warning System		X	
Air Force Mission Support System			X
COBRA DANE		X	
SCOPE SHIELD			X
Tactical Fusion	X		
Cheyenne Mountain Upgrade	X		
Nuclear Mission Planning and Production System			X
Constant Source	X		
Human Systems Center			
Maintenance Skills Tutor (MST)	X		
Base Training System (BTS)		X	
Pilot Candidate Selection Method	X		
Threat Related Attrition	X		
Wartime Medical Planning System	X		
Advanced Training System (ATS)		X	

* Adequate IPP

	IPP Needed	IPP Waiver Needed	IPP Need Not Evaluated
Ogden Air Logistics Center			
AGM-65 Maverick IWSM	X		
Permanent MOD RF-4C Electro-Optical Long Range Oblique	X		
Class IV MOD to Decrease Engine Mount Backup Structure Fatigue F-4		X	
San Antonio Air Logistics Center			
Permanent Safety Mod of F-100-PW-100/200 Engines	X		
Replacement of Automatic Test System on F/B-111 AIS	X		
Overhaul and Refurbishment of the Aerial Bulk Delivery Systems		X	
AN/ASM-695 Program Loader Verifier		X	
Class IVA Mod to Install Aluminum Flight Controls on T-38		X	
Class IV MOD to C-5A Main Landing Gear Door Actuating System		X	
Class IV MOD C-5A Malfunction Detection, Analysis Record System		X	
Class IV MOD to C-5A Expanded Fan Speed NI Indicator		X	
Class IVA MOD for T-37B Service Life Extention Program		X	
Class IV MOD C-5A/B Aircraft Pylon Fire Safety		X	
Warner Robins Air Logistics Center			
Class IV MOD of MAU-12/40/50 Bomb Ejector Racks		X	
Permanent MOD to C-5A/B to Install Automatic Communication Processor		X	
Class V MOD of C-130B/E/H Aircraft to Install Automatic Communication Processor		X	
Permanent MOD C-141 to Install Automatic Communication Processors		X	
Permanent MOD KC-10A to Install Automatic Communication Processors		X	
ALQ-184 ECM POD Program		X	
Air Base Defense		X	
Mobile Base Bare Equipment		X	
F-15 Consolidated Acquisition Program	X		

	IPP Needed	IPP Waiver Needed	IPP Need Not Evaluated
Warner Robins Air Logistics Center (Continued)			
High Frequency Radio Automatic Communications Processor		X	
Class V MOD to Install Comm Microware Landing System Avionics (CMSLA)	X		
Class IV MOD to AN/ALR-69 Radar Warning Receiver Multi-Aircraft		X	
C-130H Procurement for the Active Force	X		
C-130H Procurement for the ARC	X		
Permanent MOD for Electrical System Upgrade for C-130 Aircraft		X	
Class IV MOD of C-130 Autopilot Replacement/GCAS		X	
Permanent MOD of ALQ-172 ECM System and Installation on AC-130H		X	
Class V MOD to Provide Self Contained Navigation System C-130 Photo System	X		
Class IVB MOD to Upper Wing Surface of C-141B		X	
Electronic Warfare Avionics Integration Support Program		X	
Permanent Modification of H-53 Aircraft to Upgrade to MH-53J Pave Low III "Enhanced," and Upgrade CH-53A Aircraft to the TH-53A Configuration (Pave Low)	X		
Class V MOD to Upgrade Selected Aircraft w/Night Vision Imaging System		X	
MH/HH-60G Pave Hawk Procurement/ Conversion Phase II	X		
Class IV MOD to Upgrade AN/ASQ-145A Low Light TV for AC-130H		X	
Aerial Targets: BQM-34 Target Drone		X	
Class IV MOD of AN/AAQ-10 on MH-53H, MH-53J, and MC-130E		X	
Class IV MOD of AN/APQ-150 Radar Set on AC-130A/H Aircraft		X	
Class V MOD to Upgrade Selected AF SOF Aircraft with LARS		X	
Class V MOD to Install Flare/Chaff Dispenser on C-130 E/H	X		
Class IV MOD of C-141A/B All Weather Flight Control/Ground Collision		X	
60K Truck Loader, Transporter, and Aircraft Cargo Loader		X	
Airlift Defensive System	X		
Class IV MOD of ASD-5 Direction Finder Set and AAQ-17 FLIR on AC-130		X	

Appendix B. Summary of Potential Benefits Resulting From Audit

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
1.a.	Economy and Efficiency. Improves emphasis for HSI.	Nonmonetary.
1.b.	Economy and Efficiency. Would ensure that HSI was adequately addressed in acquisition process.	Nonmonetary.
1.c.	Internal Control. Improves oversight of HSI.	Nonmonetary.
2.	Internal Control. Would ensure that HSI was adequately addressed in acquisition process.	Nonmonetary.
3.	Economy and Efficiency. Would ensure that program managers can effectively accomplish HSI.	Nonmonetary.
4.	Economy and Efficiency. Would provide program managers with the capability to accomplish HSI.	Nonmonetary.

All of the recommendations will improve HSI planning, resulting in increased readiness for fielded Air Force systems.

Appendix C. Organizations Visited or Contacted

Office of the Secretary of Defense

Assistant Secretary of Defense (Personnel and Readiness), Washington, DC

Department of the Air Force

Assistant Secretary of the Air Force (Acquisition), Washington, DC
Headquarters, Air Combat Command, Langley Air Force Base, VA
Headquarters, Air Education and Training Command, Randolph Air Force Base, TX
Headquarters, Air Force Materiel Command, Wright-Patterson Air Force Base, OH
- Aeronautical Systems Center, Wright-Patterson Air Force Base, OH
- Air Force Test and Development Center, Eglin Air Force Base, FL
- Electronics Systems Center, Hanscom Field, MA
- Human Systems Center, Brooks Air Force Base, TX
- Ogden Air Logistics Center, Hill Air Force Base, UT
- San Antonio Air Logistics Center, Kelly Air Force Base, TX
- Warner-Robins Air Logistics Center, Robins Air Force Base, GA

Air Force Military Personnel Center, Randolph Air Force Base, TX
Directorate of Programs and Evaluations, Washington, DC
Program Executive Office for Acquisition Career Management, Washington, DC
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Appendix D. Report Distribution

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- House Committee on Appropriations
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