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**Systems Development
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Active Assignments

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Foreword

This report was prepared primarily to inform Congressional members and key staff of ongoing assignments in the General Accounting Office's Systems Development and Production issue area. This report contains assignments that were ongoing as of October 2, 1995, and presents a brief background statement and a list of key questions to be answered on each assignment. The report will be issued quarterly.

This report was compiled from information available in GAO's internal management information systems. Because the information was downloaded from computerized data bases intended for internal use, some information may appear in abbreviated form.

If you have questions or would like additional information about assignments listed, please contact Louis Rodrigues, Director; Brad Hathaway, Associate Director; or Thomas Schulz, Associate Director, on (202) 512-4841.

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Systems Development & Production

WEAPON SYSTEMS JUSTIFICATION

TITLE: STATUS OF NAVY TACTICAL AIRCRAFT MODERNIZATION EFFORTS (707072)

BACKGROUND : The Navy plans to replace the E/A-18C/D fleet with an E/E version of the aircraft. The F/A-18E/F, currently under development, is projected to have a total program cost of \$89 billion. At the same time, the Joint Advanced Strike Technology (JAST) program is expected to develop an aircraft which is intended to cost less to produce and have more capability than the F/A-18E/F.

KEY QUESTIONS : (1) Does F/A-18E/F cost, schedule, and performance status warrant continuation of the program, and is the JAST program a viable alternative? (2) Is the JAST program properly structured, or should it be managed under normal DOD acquisition regulations and the DAB process?

TITLE: SHALLOW WATER ANTISUBMARINE WARFARE LIGHTWEIGHT TORPEDO (707082)

BACKGROUND : The Mk-46 torpedo, the oldest torpedo in the fleet, and the Mk-50 are experiencing performance deficiencies against a diesel submarine in shallow, littoral water. As a result, the Navy plans to expend over \$600 million upgrading these torpedoes and developing a new lightweight hybrid torpedo.

KEY QUESTIONS : (1) In times of budgetary constraints, should the Navy be conducting these three efforts and if not, which program will be of greater benefit to the fleet? (2) To what extent will the improvements increase torpedo performance (probability of kill), at what cost, and will performance be demonstrated prior to a commitment to production?

TITLE: ACQUISITION OF THE ENHANCED FIBER OPTIC-GUIDED MISSILE (EFOG-M) SYSTEM (707090)

BACKGROUND : The Enhanced Fiber Optic Guided Missile (EFOG-M) is being designed to engage armored vehicles, helicopters, and other high value targets beyond line of sight at ranges up to 15 kilometers. The Army is spending \$280 million for 300 missiles, 12 fire units, and associated equipment for use in assessing its military utility and may procure large quantities based on the evaluation results.

KEY QUESTIONS : 1. Have data collection methods and definitive measures of success been established to evaluate EFOG-M's performance during planned demonstrations and evaluations? 2. Has the developer reached agreements with testers and evaluators to minimize the need and costs to retest and reevaluate EFOG-M's performance in the event of a larger procurement?

Systems Development & Production

WEAPON SYSTEMS JUSTIFICATION

TITLE: REVIEW OF AV-8B REMANUFACTURE PROGRAM (707096)

BACKGROUND : The Navy has initiated a modification program to remanufacture the Marine Corps AV-8B aircraft. The program converts 72 of its day attack models to night attack radar equipped aircraft. This requires disassembly; modification of some components; and reassembly of selected original, modified, and new component parts. The program is estimated to cost \$2.2 billion.

KEY QUESTIONS : (1) Is disassembling the day attack AV-8B and reusing its assemblies and parts to produce a night attack radar capable aircraft the most efficient and effective use of scarce resources?

TITLE: COMBAT AIR POWER ASSESSMENT--SURVEILLANCE AND RECONNAISSANCE (707098)

BACKGROUND : The services and other agencies collect, relay, process, and disseminate surveillance and reconnaissance data to support national intelligence requirements and the warfighter in the conduct of military operations. Due to threat changes, force reductions, and declining budgets, there may be a need to realign and consolidate intelligence gathering responsibilities.

KEY QUESTIONS : (1) What assets and capabilities are available to conduct surveillance and reconnaissance, and what are the plans for modernization? (2) To what extent do the services and agencies intelligence roles, assets, and capabilities overlap? (3) Are there opportunities to improve collection and timely dissemination of information to the warfighter?

TITLE: THE NAVY'S EFFORTS TO DEVELOP A COMBAT SYSTEM FOR THE NSSN (707112)

BACKGROUND : The Navy plans to develop a new combat system for its' new attack submarine (NSSN). The system is a major cost driver, therefore, affordability through use of commercial off the shelf (COTS) equipment is planned. We have previously reported that combat system design concurrent with sub construction has caused delays and raised costs (BSY1

KEY QUESTIONS : (1) What options were considered in choosing the planned acquisition strategy and do less costly alternatives exist? (2) What is the cost to design and build the system? (3) How will the combat system differ from the BSY1 and BSY2? (4) How will the Navy avoid repeating prior mistakes?

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WEAPON SYSTEMS JUSTIFICATION

TITLE: DEPLOYMENT OF THAAD PROTOTYPE UNIT FOR CONTINGENCIES PRIOR TO AVAILABILITY OF OPERATIONAL SYSTEM (707114)

BACKGROUND : Deployment of a fully-operational THAAD system will begin in FY 2002. In FY 1997, however, the Ballistic Missile Defense Organization (BMDO) plans to deploy a small prototype battery consisting of 2 radars, 2 launchers, and 40 interceptors. The Army plans to award a contract early in FY 1996 costing \$231 million to build 40 prototype interceptors.

KEY QUESTIONS : (1) What is the capability and cost of the prototype battery? (2) Will the prototype possess the capabilities claimed for it when proposed to Congress? (3) What are pros and cons of deploying the prototype? (4) Are there ABM Treaty issues for deploying the prototype that need to be resolved?

TITLE: EVALUATION OF THE ARMY'S LAND WARRIOR PROGRAMS INCLUDING THE 21ST CENTURY LAND WARRIOR (707116)

BACKGROUND : The Army's "Next Century Soldier" (NCS) concept seeks to make a quantum leap in individual soldier capabilities. The Army plans to research, develop, and equip soldiers with (1) individual computers/ radios, (2) integrated headgear and (3) weapons interface software. NCS will likely cost billions of dollars to field because one brigade will cost about \$300 million.

KEY QUESTIONS : (1) What are the requirements for NCS and the costs/benefits of those requirements? (2) What is the potential system's cost, affordability, and end-item density? (3) How will the system be integrated with other battlefield C4 systems?

TITLE: EVALUATION OF THE ARMY'S DEVELOPMENT AND ACQUISITION OF JOINT STARS GROUND STATION MODULES (707119)

BACKGROUND : Joint STARS is a joint Air Force/Army radar system designed to detect, track, classify, and support the attack of ground targets. It consists of air and ground segments. The Army is developing and acquiring the ground components at a cost of more than \$950 million. A preliminary review of test results indicates that development of the ground systems may be in trouble.

KEY QUESTIONS : (1) Are the Army's development, testing, and acquisition plans for the ground components, i.e. the Light Ground Station Module (LGSM) and Common Ground Station (CGS), of Joint STARS appropriate? (2) Have the LGSM and the CGS satisfied DOD-set LRIP exit criteria and demonstrated their maturity to enter production?

Systems Development & Production

WEAPON SYSTEMS JUSTIFICATION

TITLE: SURVEY OF B-1B CONVENTIONAL MISSION UPGRADE PROGRAM (707120)

BACKGROUND : The Air Force plans to spend almost \$3 billion to upgrade the B-1B bomber's conventional capabilities, primarily by adding a new defensive avionics system and precision guided munitions to the aircraft. Staff on the authorization and appropriations committees have expressed interest in this work.

KEY QUESTIONS : (1) What is the status of the upgrade program? (2) Should the program proceed as planned or should it be modified to a less costly strategy for giving the B-1B the conventional capabilities that the aircraft will need in the future? (3) Is the upgrade program schedule in sync with the development programs for the precision guided munitions planned for the B-1B?

TITLE: SURVEY OF THE ARMY'S INTELLIGENCE AND ELECTRONIC WARFARE COMMON SENSOR (IEWCS) (707129)

BACKGROUND : The Army's Intelligence and Electronic Warfare Common Sensor (IEWCS) is intended to provide a common suite of direction-finding and jamming equipment for light and heavy combatants, and an airborne package carried aboard an EH-60 helicopter. The Army is producing parts of the system before operational testing and without the jamming component.

KEY QUESTIONS : (1) Does demonstrated performance of the IEWCS justify proceeding with production? (2) Will the IEWCS be effective without its countermeasures component? (3) How will the Army assure that the countermeasures component will ever perform as intended and be satisfactorily integrated into the system?

WEAPON SYSTEMS ACQUISITION PROCESS

TITLE: EVALUATION OF ARMY EFFORTS TO DIGITIZE THE BATTLEFIELD (707078)

BACKGROUND : The Army ATCCS has spent \$10 billion to digitize corps and divisions. \$2.1 billion more is needed to complete the digital battlefield by providing brigades and below with a separate system and tying the network together by enhancing existing communications systems. Both the HNSC and HAC require the Army to report to them on their plan of action and system architecture.

KEY QUESTIONS : (1) Does the Army have an effective plan to digitize the battlefield? (2) What is the cost? (3) Is the implementation schedule appropriate? (4) Are the Army's test plans adequate?

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WEAPON SYSTEMS ACQUISITION PROCESS

TITLE: THE ARMY'S FAMILY OF MEDIUM TACTICAL VEHICLES TESTING (707089)

BACKGROUND : Reliability problems with the Family of Medium Tactical Vehicles (FMTV) identified during production quality and operational testing resulted in the suspension of both tests. Rather than delay the full-scale production decision, the Army modified its testing procedures to allow the FMTV to demonstrate its reliability.

KEY QUESTIONS : (1) What is the current status of FMTV testing? (2) How were the problems that resulted in the test suspension corrected? (3) Has the FMTV demonstrated sufficient improvement for the FMTV program to enter full-scale production?

TITLE: IS DOD OBTAINING COST-EFFECTIVE WARRANTIES ON MAJOR WEAPON SYSTEMS? (707099)

BACKGROUND : Due to concerns about the reliability of U.S. weapon systems, Congress passed laws in 1984 and 1985 that require DOD to obtain warranties on major weapon systems. In 1989, GAO reported that DOD had little assurance that warranty benefits were being fully realized. We also found that the services had difficulty in obtaining accurate information concerning warranty claims.

KEY QUESTIONS : (1) Does DOD's warranty administration process have weaknesses that may lead program offices to procure non-cost-effective warranties? (2) Is DOD's warranty waiver process effective? (3) Are essential performance requirement warranties beneficial for all contracts?

TITLE: REVIEW OF DOD'S ACQUISITION OF THE ALR-67(V)3 ADVANCED SPECIAL RECEIVER (707104)

BACKGROUND : The ALR-67(V)3 ASR is to be the Navy's next generation radar warning device for the F/A-18 E/F fighter. It will be the most expensive radar warning receiver (RWR) ever built with a unit cost of about \$1m and a program cost of \$1b. Senator Roth's letter raises concerns about the Navy's acquisition strategy, particularly the absence of operational testing prior to LRIP.

KEY QUESTIONS : (1) Is the planned LRIP acquisition justified? (2) Is the LRIP consistent with operational test and evaluation statutes? (3) Is the acquisition strategy consistent with the recommendations made in our LRIP report, NSIAD-95-18?

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WEAPON SYSTEMS ACQUISITION PROCESS

TITLE: C-17 COST REDUCTION EFFORTS AND AFFORDABILITY (707109)

BACKGROUND : In December 1993, the Secretary of Defense announced that the C-17 program would be stopped at 40 aircraft unless McDonnell Douglas could produce the aircraft at a reasonable cost. Although C-17 unit cost is decreasing, the rate of decrease has not been as rapid as planned by the Air Force. As a result, total program cost has increased \$4 billion.

KEY QUESTIONS : (1) Will current funding allow for an NDAA acquisition program? (2) What criteria will the DAB use to determine the number of C-17's to be acquired? (3) How effective are initiatives to reduce program cost? (4) How will MRS BURU assumptions be used in the Strategic Airlift Force Mix Analysis to determine the number of C-17's to acquire?

TITLE: C-17 RELIABILITY, MAINTAINABILITY AND AVAILABILITY EVALUATION (707111)

BACKGROUND : The C-17 development contract requires the Air Force to conduct a 30-day reliability, maintainability and availability evaluation (RM&AE) of the C-17 to (1) assess RM&A compliance and (2) determine if the contractor qualifies to receive a \$12 million RM&A incentive fee. The RM&AE results will be used by the Defense Acquisition Board to support the upcoming C-17 milestone IIIB.

KEY QUESTIONS : (1) Does the RM&AE reflect how the C-17 will be used in war and peace? (2) Are controls adequate to assure the validity of evaluation data and collection procedures? (3) Is the C-17 utilization rate model based on reasonable assumptions? (4) How will RM&AE data be used in the C-17 utilization rate model to establish a utilization rate and how will this information be used?

TITLE: REVIEW OF B-2 COST AND TECHNICAL PERFORMANCE (707125)

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WEAPON SYSTEMS ACQUISITION PROCESS

TITLE: REVIEW OF DOD'S EFFICIENT PRODUCTION RATE DECISIONS (707126)

BACKGROUND : In light of DOD's declining budgets, the services are buying fewer units of systems and producing them over longer periods of time resulting in higher unit cost. Items being produced at inefficient rates cause increased systems acquisition cost and require longer maintenance and support cost for systems being phased out.

KEY QUESTIONS : (1) To what extent is DOD producing systems at inefficient rates ? (2) Why does this inefficiency exist? (3) How can DOD produce its systems more efficiently? (4) Are there systems that could more easily accommodate a delayed production strategy to fund the more efficient production of others? (5) What would be the budget and cost impact of buying systems more efficiently?

TITLE: EVALUATION OF PRODUCTION AND IMPROVEMENT PLANS FOR THE ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM) (707127)

BACKGROUND : Air Force plans to spend over \$700 million to improve AMRAAM's performance against current threats and countermeasures. In 1992, we reported that about 43 percent of the missiles all would have improvements. Air Force's Air Combat Command would like the improvements in as many missiles as possible. Congressional committees have expressed concern about the need for some improvements.

KEY QUESTIONS : (1) What are the estimated costs, schedules, and technical status of the improvement programs? (2) Has Air Force justified the need for improvements based on the current threat? (3) What are Air Force plans for retrofitting improvements? (4) Have the services compared benefits of the improvements with other methods of providing the capability to reduce cost and risks?

TITLE: ASSESSMENT OF NAVY'S DEVELOPMENT OF LOWER TIER THEATER MISSILE DEFENSE SYSTEM (707128)

BACKGROUND : For FY93, Congress earmarked \$90 million to begin investigating ship-based systems for destroying theater ballistic missiles. In 1994, DOD reported to Congress that the acquisition cost of the Navy's lower-tier system would be approximately \$4.8 billion. Plans submitted to Congress for FY96 show a big increase in spending from \$154 million to \$254 million.

KEY QUESTIONS : (1) Has Navy demonstrated the system will meet effectiveness requirements? (2) How many AEGIS ships should get new system? (3) Is the system ready to enter production? (4) Is there need to deploy the User Operational Evaluation System (UOES) on 1 or more ships 2 years before deployment of a fully operational system?

Systems Development & Production

BUDGET ANALYSIS

TITLE: TERMINATION OF AND ALTERNATIVES TO THE TRI-SERVICE STANDOFF ATTACK MISSILE (TSSAM) PROGRAM (707107)

BACKGROUND : The \$13.7 billion stealth Tri-Service Standoff Attack Missile (TSSAM) program is being terminated because of significant development problems and unit cost growth. Congress has rescinded \$281.8 million in unobligated appropriations. Part of nearly \$280 million in unliquidated obligations may also be available for rescission after the program is terminated.

KEY QUESTIONS : (1) Are excess prior-year funds for TSSAM available for rescission? (2) Are the services plans for a follow-on program realistic in terms of cost, performance, and schedule? (3) Have the services fully considered using existing systems or modifications to existing systems to meet their stated requirements?

OTHER ISSUE AREA WORK - SD&P

TITLE: REVIEW OF MISSILE APPROACH WARNING SYSTEMS (707004)

BACKGROUND : The services are now trying to acquire Missile Approach Warning Systems (MAWS) for their tactical fighters. DOD designated the Navy to be lead agency for this common effort because it has contracted for more than 1800 AAR-47 MAWS for helicopter and transport aircraft. We have reported to the Congress in the past that AAR-47s experience false alarm problems.

KEY QUESTIONS : (1) Has the Navy resolved the AAR-47 false alarm problem? (2) Why doesn't the Navy own the data rights to the new software intended to solve the AAR-47 problems? (3) Does the new software work?

TITLE: NAVY'S DEPLOYMENT OF THE AIRBORNE SELF-PROTECTION JAMMER (ASPJ) ON F-14D AIRCRAFT (707048)

BACKGROUND : The Navy terminated the F-14D program after 56 aircraft were produced and the Airborne Self-Protection Jammer (ASPJ) program after 95 units were produced. The ASPJ program was terminated because tests revealed that it could not meet its operational requirements. The Navy now plans to test and possibly deploy the ASPJ on the F-14D aircraft.

KEY QUESTIONS : How has DOD revised its F-14D Test and Evaluation Master Plan to: (1) account for testing of the Airborne Self-Protection Jammer (ASPJ), (2) demonstrate that the F-14D will operate more effectively with rather than without the ASPJ, and (3) reflect ASPJ reliability, supportability, and suitability relative to the F-14D?

Systems Development & Production

OTHER ISSUE AREA WORK - SD&P

TITLE: FISCAL YEAR 1996 DOD SPACE PROGRAMS AND ACTIVITIES (707093)

BACKGROUND : DOD plans to spend about \$83 billion on defense and intelligence space programs and activities during fiscal years 1996 through 2001. The House Appropriations National Security Subcommittee is concerned about DOD's management in this area and the best use of available space resources.

KEY QUESTIONS : (1) How can the agencies more efficiently use their space dollars in support of the warfighting forces? (2) What actions are being taken to consolidate space management and functions? (3) Are practical, technical, and affordability questions associated with new and evolving space acquisitions being adequately addressed?

TITLE: SURVEY OF THE INTERCOOLED RECUPERATED ENGINE TESTING PROGRAM (707113)

BACKGROUND : The Navy is developing an Intercooled Recuperated (ICR) Engine. The Navy originally planned to do concurrent developmental engine testing at its own facility, but cancelled that plan citing budget constraints. This engine is planned for the DDG-51 and other combatants.

KEY QUESTIONS : (1) Will the Navy have sufficient and credible information for program decisions? (2) How does the Navy intend to test the ICR engine? (3) When and on what basis will the decision be made for using the ICR engine on the DDG-51? (4) Will funding be sufficient for ICR development and DDG-51 ship integration?

TITLE: REVIEW OF DOD'S ACQUISITION OF THE JOINT-TACTICAL UAV (707117)

BACKGROUND : In Spring 1994, DOD merged the Close-Range (Maneuver) and Short-Range (Hunter) UAV programs into the Joint-Tactical UAV (JTUAV) program. DOD completed an independent review of the JTUAV program in April 1995 that will result in a complete restructuring of the program schedule. DOD plans a user demonstration for fall of 1996 which could result in DOD replacing Hunter.

KEY QUESTIONS : (1) Has the Hunter system demonstrated that it is ready for full-rate production? (2) Does the Maneuver system acquisition plan ensure adequate testing prior to production?

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OTHER ISSUE AREA WORK - SD&P

TITLE: REVIEW OF ADVANCED INFRARED COUNTERMEASURE SYSTEM (707122)

BACKGROUND : OSD recently directed that the missile warning component of the Army's Advanced Threat Infrared Countermeasures (ATIRCM) system be a common system for all services. Although the services have agreed to DOD's direction, they have not yet stopped competing programs.

KEY QUESTIONS : (1) Are the Air Force and Navy complying with DOD direction? Have separate acquisition efforts been phased out in a timely manner? (2) Are both ATIRCM and DIRCM (the system being acquired by Special Operations Forces) necessary? (3) Did DOD adequately coordinate the ATIRCM and DIRCM Programs to avoid duplication?

TITLE: REVIEW OF THE ARMY'S PLANS TO SATISFY UTILITY, MEDICAL EVACUATION, AND CARGO HELICOPTER REQUIREMENTS (707123)



