OFFICE OF THE INSPECTOR GENERAL

WAIVERS AND DEVIATIONS TO PRODUCTION CONTRACTS FOR THE AIRBORNE SELF-PROTECTION JAMMER PROGRAM

Report Number 91-125

September 30, 1991

Department of Defense

CONTRACTOR SENSITIVE DATA HAS BEEN REMOVED FROM THIS REPORT
AND
PROTECTIVE MARKINGS HAVE BEEN REMOVED

The following acronyms are used in this report.

ASPJ.....Airborne Self-Protection Jammer
CAIG.....Cost Analysis Improvement Group
COR.....Contractor Operational Review
DAB.....Defense Acquisition Board
DT&E.....Developmental Test and Evaluation
ESS.....Environmental Stress Screening
FAR.....Federal Acquisition Regulation
FRP.....Full-Rate Production
FSD.....Full-Scale Development
GAO.....General Accounting Office
ITT.....International Telephone and Telegraph Corporation
JCCB.....Joint Configuration Control Board
LRIP.....Low-Rate Initial Production
MILSPEC.....Military Specification
MILSTD.....Military Standard
MTBF(I).....Instantaneous Mean Time Between Failure
NAVAIR.....Naval Air Systems Command
OT&E.....Operational Test and Evaluation
PCO.....Procurement Contracting Officer
PV.....Production Verification
RGT.....Reliability Growth Test
SRA.....System Replaceable Assembly
WEC.....Westinghouse Electric Corporation
WRA.....Weapon Replaceable Assembly

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

September 30, 1991

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION
ASSISTANT SECRETARY OF THE NAVY (FINANCIAL MANAGEMENT)

SUBJECT: Audit Report on Waivers and Deviations to Production Contracts for the Airborne Self-Protection Jammer Program (Report No. 91-125)

We are providing this final report for your information and use. Comments on a draft of this report were considered in preparing this final report. We performed the audit from August 1990 through April 1991 in response to a request from Chairman David Pryor, Senate Governmental Affairs Subcommittee on Federal Services, Post Office, and Civil Service.

DoD Directive 7650.3 requires that all audit recommendations and potential monetary benefits be resolved promptly. Therefore, we request the Under Secretary of Defense for Acquisition to provide comments regarding the estimated benefits in Finding B, and the Assistant Secretary of the Navy (Financial Management) to provide final comments on the unresolved recommendations in Finding A. Comments are required by November 30, 1991.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Mr. Russell A. Rau, Program Director, at (703) 693-0186 (DSN 223-0186) or Mr. Harry L. Followell, Project Manager, at (703) 693-0563 (DSN 223-0563). Copies of this report are being provided to the activities listed in Appendix E.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Enclosures

cc:
Secretary of the Navy
Secretary of the Air Force

Office of the Inspector General

AUDIT REPORT NO. 91-125 September 30, 1991
(Project No. 0AE-5018)

WAIVERS AND DEVIATIONS TO PRODUCTION CONTRACTS FOR THE AIRBORNE SELF-PROTECTION JAMMER PROGRAM

EXECUTIVE SUMMARY

Introduction. The AN/ALQ-165(V) Airborne Self-Protection Jammer (ASPJ) program was established to provide a common defensive electronic countermeasures system for tactical aircraft. The ASPJ is a radio frequency jammer that gives the enemy a false location of U.S. aircraft. The ASPJ program was initiated in 1975 as a joint Navy and Air Force program to develop jammers. By the end of FY 1989, a requirement for about 2,300 jammers had been documented. In FY 1990, the Air Force terminated its participation in the program, and the Navy subsequently reduced its requirement for jammers to about 400 systems. The estimated ASPJ program acquisition cost is $1.3 billion, and the life-cycle cost is $3 billion (then year dollars). The ASPJ was developed, and is being produced, by a joint venture consisting of the International Telephone and Telegraph Corporation and the Westinghouse Electric Corporation.

Objectives. The audit objectives were to review the actions taken by the contractors, program office, and procurement officials in determining the impact of individual waivers and deviations on contract costs and to review the impact that waivers and deviations had on the contractor preproduction qualification tests required by the ASPJ Production Verification (PV) contract. In addition, we assessed the status of reliability and effectiveness testing and determined if sufficient testing would be completed before the second Defense Acquisition Board (DAB) Milestone IIIA review.

Audit Results. We concluded that four waivers and deviations issued against the ASPJ PV contract did have a cost impact for which the Navy did not receive adequate consideration. Also, the waivers and deviations did not affect the preproduction qualification tests required by the ASPJ PV contract. However, the Navy acquisition strategy needs to be revised to account for significant quantity reductions in the ASPJ Program and the lack of operational test and evaluation on production representative ASPJ systems.

o Adequate consideration was not obtained for waivers and deviations that reduced contract specifications and requirements. As a result, the Government did not receive consideration for waivers and deviations that saved the contractor $1.9 million on the PV contract (Finding A).

o The Navy acquisition strategy of awarding additional low-rate initial production contracts for 46 ASPJ units in FY 1991, split equally between the 2 joint venture contractors, was outdated and was no longer in the Government's best interest. The estimated contract cost is $113 million (Finding B).

Internal Controls. The audit identified material internal control weaknesses. Controls were not effective for evaluating the cost impact of waivers and deviations, obtaining consideration for waivers and deviations, and pricing contract modifications that implemented approved waivers and deviations (Finding A). See Part I for a discussion of the controls assessed.

Potential Benefits of Audit. Monetary benefits resulting from management actions taken as a result of this report will be about $25 million. For further information, please see Appendix C.

Summary of Recommendations. We recommended that consideration be addressed, cost estimates and independent cost analyses be obtained, no further ASPJ contracts be awarded until completion of operational test and evaluation, and the Government proceed directly to a competitive down-select decision.

Management Comments. Comments received from the Under Secretary of Defense for Acquisition and the Commander, Naval Air Systems Command, indicated general concurrence with the recommendations. However, the Under Secretary, after a DAB meeting on June 24, 1991, determined that one additional low-rate production award was necessary to maintain the mobilization base. We accepted the Under Secretary's alternative to our original recommendation. However, because the potential monetary benefits were changed as a result of the award, we requested that the Under Secretary provide additional comments regarding the monetary benefits achieved by altering the acquisition strategy. In addition, we requested additional comments from the Navy on Recommendations 2.a. and 2.e. of Finding A by November 30, 1991. A discussion of management's comments is contained in Part II of this report, and the complete text of management's comments is in Part IV.

TABLE OF CONTENTS

	Page
TRANSMITTAL MEMORANDUM	1
EXECUTIVE SUMMARY	i
PART I - INTRODUCTION	
Background	1
Objectives	2
Scope	3
Internal Controls	4
Prior Audit Coverage	4
PART II - FINDINGS AND RECOMMENDATIONS	
A. Waivers and Deviations	5
B. Production Decisions	17
PART III - ADDITIONAL INFORMATION	
Appendix A - Prior Audits and Other Reviews	33
Appendix B - Synopsis of Congressional Guidance Relating to the ASPJ Program	37
Appendix C - Summary of Potential Monetary and Other Benefits Resulting from Audit	39
Appendix D - Activities Visited or Contacted	41
Appendix E - Report Distribution	43
PART IV - MANAGEMENT COMMENTS	
Under Secretary of Defense for Acquisition	47
Department of the Navy	53
ASPJ Acquisition Decision Memorandum, July 1, 1991	61

This report was prepared by the Acquisition Management Directorate, Office of the Assistant Inspector General for Auditing, DoD. Copies of the report can be obtained from the Information Officer, Audit Planning and Technical Support Directorate, (703) 693-0340 (DSN 223-0340).

PART I - INTRODUCTION

Background

On August 16, 1989, the Deputy Secretary of Defense authorized the Airborne Self-Protection Jammer (ASPJ) program to move into low-rate initial production (LRIP) and authorized the Navy to award production contracts for 104 ASPJ units. Because of funding constraints, contracts for only 100 ASPJ units were awarded during October 1989. Before the August 1989 authorization, the ASPJ Program Office had bought 32 ASPJ units (12 full-scale developmental units and 20 production verification units).

The Navy awarded Production Verification (PV) contract N00019-87-C-0300 for 20 ASPJ's on August 31, 1987, to International Telephone and Telegraph (ITT), Avionics Division, Nutley, New Jersey, and Westinghouse Electric Corporation, Systems Group, Baltimore, Maryland (Joint Venture). The primary purpose of the ASPJ PV contract was to productionize the ASPJ design for ease of manufacturing; incorporate deficiency corrections resulting from the testing; and allow a technology transfer between the Joint Venture to enable each contractor to build the entire system. The ASPJ PV contract is a fixed-price incentive contract with a ceiling price of $252 million, which was divided into two phases. Phase I, consisting of 6 units, was awarded in August 1987, and Phase II, consisting of 14 units, was awarded in August 1988.

The PV contract required each of the Joint Venture contractors to build a designated portion of each of the first 16 units. The primary purpose of these units was to implement identified product enhancement and performance improvements before the ASPJ units were put into production. These enhancements and improvements were, in part, the result of deficiencies identified in initial operational test and evaluation efforts completed during February 1989. The performance modifications revolved around redesigning the microelectronics and changing the present software. Furthermore, these units were to be used for extensive contractor preproduction qualification testing and Government-sponsored developmental and operational test and evaluation.

The last four units were to be built independently, with each Joint Venture contractor building two complete systems. These units were designated to support functional and physical configuration audits to establish the production baseline. This acquisition strategy was intended to support eventual dual source competition between the two contractors after the joint developmental phase.

During the PV contract, the Joint Venture submitted 47 requests for waivers and deviations. Waivers and deviations are

contractor requests to depart from a particular contract performance specification or design requirement. A waiver can be requested when an item has already completed production and it is determined that the item does not meet contract terms. A deviation can be requested when it is known, before the start of production, that an item will not meet contract terms.

Objectives

The audit was requested by Chairman Daivd Pryor, Senate Governmental Affairs Subcommittee on Federal Services, Post Office, and Civil Service. The Chairman requested the audit after receiving allegations questioning the reasons for waivers and deviations to specifications on ASPJ production contracts and the completeness of a Contractor Operations Review (COR) at Westinghouse Electric Corporation's facility in Baltimore, Maryland. The original audit objectives were to determine the validity of the allegations and whether any actions were warranted on the part of management.

During the survey, we determined that no further effort was required concerning the COR. The survey substantiated the allegation that the ASPJ program was not included in the scope of the COR. However, we also concluded that the "Satisfactory" rating that the Air Force review team gave to the contractor was not materially affected by the exclusion of the ASPJ program. During the survey, we also concluded that the waivers and deviations issued against the ASPJ PV contract did have a potential impact on contract cost, contractor qualification testing, and the ASPJ acquisition strategy. As a result, we revised the audit objectives to:

- o review the actions taken by the Joint Venture, the program office, and procurement officials in determining the impact of the individual waivers and deviations on contract costs;

- o determine if sufficient testing will be completed before the next Defense Acquisition Board (DAB) Milestone IIIA review originally scheduled for February 1991. (The DAB review was changed to June 1991);

- o review the impact that the waivers and deviations had on Joint Venture reliability and effectiveness tests required by the ASPJ PV contract; and

- o evaluate the adequacy of internal controls over waivers and deviations.

We determined that the waivers and deviations did not affect the reliability and effectiveness tests. The contracting officer's approval required that any failures that occurred during testing,

as a result of the waivers and deviations, be considered relevant chargeable failures; correction of the deficiency be at no cost to the Government; and approval not constitute changes to the ASPJ system level requirements, relaxation of test requirements, or pass/fail criteria for any test required under the PV contract. Our audit disclosed that adequate consideration was not received for four waivers and deviations issued against the PV contract. Additionally, we determined that the Navy's acquisition strategy had not been adequately updated in consideration of the impact of significant program quantity reductions and the lack of operational test and evaluation on PV units. These two conditions are described in Part II of this report.

Scope

This economy and efficiency audit was performed from August 1, 1990, through April 30, 1991, and included a review of records dated primarily from February 1989 through April 1991. The audit universe consisted of 34 waivers and 13 deviations approved for the PV contract. We reviewed files from the procurement and administrative contracting offices, the ASPJ Program Office, the various technical review activities, and the Joint Venture offices in assessing the cost of each waiver and deviation.

We also analyzed each waiver and deviation to determine if the Joint Venture preproduction qualification test requirements were reduced. There were five preproduction qualification tests in the PV contract: the Reliability Growth Test, Electrical Performance Test, Built-in-Test Demonstration, Electromagnetic Interference and Compatibility Test, and Environmental Qualification Test. We reviewed test plans and results to determine the adequacy of contractor preproduction qualification tests.

The Technical Assessment Division of the Office of the Assistant Inspector General for Auditing, DoD, provided input to the audit staff in determining whether waivers and deviations reduced contractor qualification test requirements, test plans, and their implementation ensured adequate performance of contractor qualification tests, and preproduction qualification test results were appropriate as part of the exit criteria supporting the next LRIP decision.

The audit was made in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD, and accordingly included such tests of internal controls as were deemed necessary. A list of the activities visited or contacted is in Appendix D.

Internal Controls

We evaluated the adequacy of internal controls over waivers and deviations to the ASPJ production contracts. As part of our evaluation, we reviewed the ASPJ Configuration Management Plan, which provides the guidelines to be used in controlling, organizing, implementing, and accomplishing configuration management. This plan also includes procedures for implementing configuration identification, control, status accounting, technical review procedures, document and item identification, and audit procedures. We evaluated the ASPJ Joint Configuration Control Board process for evaluating the cost impact of waivers and deviations.

The audit identified material internal control weaknesses, as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directive 5010.38. Controls over waivers and deviations were not adequate to ensure that the cost impact was evaluated, consideration was obtained, and contract modifications were adequately priced. Recommendations A.1. and A.2., if implemented, will correct the weaknesses identified in this report. We determined the potential monetary benefits to be realized by implementing Recommendations A.1. and A.2. would be $1.9 million. A copy of this report is being provided to the senior official responsible for internal control within the Navy.

Prior Audit Coverage

Since October 1985, there have been seven audit reports issued that relate to either the ASPJ or the subject of waivers and deviations. The reports are synopsized in Appendix A.

PART II - FINDINGS AND RECOMMENDATIONS

A. WAIVERS AND DEVIATIONS

The Naval Air Systems Command (NAVAIR) did not obtain adequate cost reductions or other consideration for revisions to contract specifications and requirements in ASPJ PV contract N00019-87-C-0300. Consideration was not obtained because waivers and deviations were approved without adequate evaluation of the cost impact on the PV contract, and contract modifications were approved without obtaining certified cost and pricing data for performance of required cost analyses in support of the negotiation process. As a result, the procurement contracting officer (PCO) did not obtain adequate consideration for revisions to contract specifications and requirements that reduced the Joint Venture's effort on the PV contract by about $1.9 million.

DISCUSSION OF DETAILS

Background

Military Standard (MILSTD) 480B, "Configuration Control-Engineering Changes, Deviations, and Waivers," July 15, 1988, requires that a contractor initiate requests for waivers and deviations when contract items have not been, or will not be, built according to contract requirements. The request must include any estimated price adjustment to the contract or, if no change in contract price is warranted, the contractor must explain the lack of any price adjustment.

Federal Acquisition Regulation (FAR) 46.407, "Nonconforming Supplies or Services," allows the PCO to accept nonconforming supplies when it is in the Government's best interest to do so. The PCO is required to base his decision on advice from the technical activity that the item is safe for use and will perform its intended purpose; a request from the contractor for acceptance of the items; and the contract adjustment, including any adjustments offered by the contractor, if considered appropriate. This information shall be provided by the cognizant contract administration office or other Government activity directly involved in the procurement. FAR 46.407 also stipulates that each contract under which nonconforming items are accepted shall be modified to provide for an equitable price reduction or other consideration. The FAR did not define "other consideration." For purposes of this audit, we defined "other consideration" as compensation or services that the Joint Venture gave to the Government in exchange for approving the waivers and deviations and designated as consideration in either contract modifications or the approval letters.

FAR 43.102, "Policy," states that contract modifications shall be priced before their execution, if this can be done without adversely affecting the Government's interest. FAR 15.804-2, "Requiring Certified Cost or Pricing Data," requires certified cost or pricing data for modifications that involve a price adjustment exceeding $100,000. This provision was revised by Public Law 101-510, "Certified Cost or Pricing Data Thresholds," November 5, 1990, which increased the threshold to $500,000. This revision did not affect our assessment because the basic contract was awarded before the issuance of Public Law 101-510. In addition, FAR 15.805-5, "Field Pricing Support," stipulates that, if the estimated cost adjustment exceeds $500,000, the PCO must request field pricing support. Field pricing support includes cost, price, and technical analyses by the cognizant administrative contracting office, and contract audit support provided by the Defense Contract Audit Agency.

The May 2, 1988, ASPJ Configuration Management Plan, approved by the NAVAIR Director for Configuration Management, assigned the responsibility for reviewing waivers and deviations to the ASPJ Program Office Joint Configuration Control Board (JCCB). The ASPJ JCCB membership is comprised of the ASPJ Program Manager, the ASPJ Deputy Program Manager, and the ASPJ Configuration Manager, as well as various other Navy activities. The JCCB is responsible for verifying that proposed changes are justified and that cost information, funding, logistics support, and retrofit requirements are adequately supported. The JCCB is also responsible for recommending approval or disapproval of the waiver or deviation. For each approved waiver and deviation, the JCCB is to notify the PCO of the actions to be taken by submitting a Configuration Control Board Change Request/ Directive. When the PCO is notified of the JCCB approval, the PCO is to provide written direction to the Joint Venture indicating formal approval or disapproval and any conditions deemed appropriate.

Audit Analyses of Waivers and Deviations

We reviewed the 34 waivers and 13 deviations approved for the PV contract as of September 25, 1990, to determine if the Government had received cost reductions or other adequate consideration. The review included waiver and deviation files maintained by the Joint Venture, the ASPJ Program Office, the NAVAIR Procurement Office, and the respective Defense Contract Management Command Defense Plant Representative Office, at ITT Avionics Group and Westinghouse Electric Corporation (WEC), Electronic Systems Group. In addition, we reviewed Joint Venture cost proposals and other pertinent documentation.

Overall, we found that the Joint Venture did not initially provide the cost impact or offer consideration on any of the waivers and deviations, and it did not provide a rationale for the lack of a cost impact or other consideration. We were also

unable to find any documentation to indicate that the NAVAIR Procurement Office enforced FAR 15.804-2, which requires the submission of certified cost or pricing data where contract modifications were required. In addition, we did not find any documentation that the NAVAIR Procurement Office or the ASPJ Program Office enforced the MILSTD 480B requirement to provide the cost impact. We concluded that two waivers and two deviations reduced the effort on the part of the Joint Venture; however, appropriate consideration was not offered by the Joint Venture or obtained by the ASPJ Program Office or NAVAIR Procurement Office. Waivers and deviations with the estimated Joint Venture cost savings are shown in the following chart.

Joint Venture Savings

Waiver/Deviation Number	Related Modification	Estimated Joint Venture Savings
W6442-004	P00013	$ 81,900
W6442-033	P00019	747,600
D6442-008	None	1,048,842
D6442-013	None	58,269
Total		$1,936,611

We also concluded that the other 32 waivers and 11 deviations did not contain significant cost impact, and the NAVAIR Procurement Office approval letters contained adequate instructions to protect the Government's interests in the event of failures as a result of the waivers and deviations. Specifically, the Joint Venture was required to correct the failures at no cost to the Government. The following paragraphs present the results of our review of the four waivers and deviations for which appropriate consideration was not obtained.

Waiver No. W6442-004. On November 13, 1989, the Joint Venture submitted Waiver No. W6442-004, which requested the elimination of system level environmental stress screening (ESS) for the first six ASPJ systems. ESS is generally a vibration and temperature test designed to identify weaknesses in parts and workmanship defects and is performed by the contractor before acceptance testing. The Joint Venture's request stated that there was no cost impact on the PV contract. However, the PCO and the Program Office subsequently agreed to accept, as consideration for approving Waiver No. W6442-004, additional ASPJ software, which the contractor estimated to cost * as opposed to the ESS cost of * . The NAVAIR Procurement Office awarded PV contract modification P00013 on December 14, 1989. The modification formally eliminated the system level ESS for the six ASPJ systems and accepted the software as consideration. We estimated the value of the ESS to be * * * * for a

* Contractor confidential or proprietary data has been deleted.

difference of $81,900. The value of the software was determined using the Naval Avionics Center's estimate of 1 hour per line of software contained in the business clearance memorandum. The Joint Venture based its estimate on * per line of software. The waiver was approved and the modification was executed based on a sheet of paper stating the value of the ESS and software. Although the modification represented an * adjustment to the PV contract, no certified cost or pricing data were requested, and a cost analysis was not performed in support of the negotiation process. Additionally, no in-depth review was made of the Joint Venture estimates by the cognizant Defense Plant Representative Offices or the PCO.

Waiver No. W6442-033. On July 25, 1990, the Joint Venture submitted Waiver No. W6442-033 requesting the elimination of system level ESS for six ASPJ's. Statement of Work paragraph 3.1.2.6.3 and Military Specification (MILSPEC) 85022C, "Countermeasure Set AN/ALQ-165(V)," April 1, 1988, paragraph 4.6.4 requires that all ASPJ's be subjected to system level ESS. In exchange for eliminating system level ESS, the contractor wanted to substitute system replaceable assembly (SRA) and weapons replaceable assembly (WRA) ESS. On July 31, 1990, the PCO approved Waiver No. W6442-033 for one ASPJ. The approval was granted without any evidence that the cost impact of the waiver had been assessed. We estimated that the cost of system level ESS for one system was about * .

On August 23, 1990, PV contract modification P00019 eliminated system level ESS. The modification accepted the SRA and WRA ESS as consideration for the remaining 13 systems at no cost to the Government. In our opinion, the SRA and WRA ESS was an existing requirement and did not constitute consideration. MILSPEC 85022C, paragraph 4.6.2, states that ESS will be conducted on SRA's and WRA's. MILSPEC 85022C is the overall system requirement in the ASPJ PV contract. We estimated the value of the system level ESS that was eliminated on systems 7 through 20 without the Government receiving consideration at * . There was no documentation that the PCO or the Program Office attempted to determine the cost impact before approval of Waiver No. W6442-033 or modification P00019. The PCO did not request certified cost or pricing data or perform a cost analysis in support of the negotiation process. Also, the cognizant Defense Plant Representative Office was not requested to evaluate the adequacy of consideration offered or provide a cost estimate of the waiver.

Deviation No. D6442-008. The Joint Venture submitted Deviation No. D6442-008 on January 24, 1989, requesting that Quality Conformance Inspection requirements be eliminated for 54 hybrid microcircuits. MILSPEC 38510F, "General Specification for Microcircuits," October 31, 1983, requires a Quality Conformance Inspection, which consists of a series of destructive

* Contractor confidential or proprietary data has been deleted.

tests performed on microcircuits. The NAVAIR Procurement Office approved Deviation No. D6442-008 on April 26, 1989, after the deviation was reviewed by the ASPJ Program Office, without obtaining any cost reduction or other consideration to the PV contract. Furthermore, there were no records indicating that the NAVAIR Procurement Office or the ASPJ Program Office attempted to determine the cost impact of the reduced effort. * * * * * * * we determined the value of the eliminated requirements at about $1.1 million.

Deviation No. D6442-013. Deviation No. D6442-013 was related to Deviation No. D6442-008 and was approved on September 25, 1990. According to the Joint Venture, Deviation No. D6442-013 requested a change in the hybrid microcircuits that would be subjected to a Quality Conformance Inspection as set forth in Deviation No. D6442-008. However, the Joint Venture request stated that MILSTD 1772A, "Certification Requirements for Hybrid Microcircuit Facilities and Lines," July 7, 1989, be used in lieu of a Quality Conformance Inspection for three microcircuits. According to MILSPEC 38510F, both the qualification requirements of MILSTD 1772A and the Quality Conformance Inspection was required to be performed by the Joint Venture. * * * * * * we estimated a savings to the Joint Venture of $58,269. The PCO did not obtain sufficient cost impact information to support the determination that there were no cost savings resulting from this deviation.

Evaluation of Cost Impact by Cognizant Procurement Activities

The PCO and the ASPJ Program Office did not request a cost review of the waivers and deviations from the cognizant contract administration office or other Government activities. FAR 46.407 states that evaluations of the technical and cost impact of waivers and deviations can be obtained from the cognizant contract administration office or other Government activity directly involved in the procurement. Although the contract administration office at WEC provided unsolicited comments on the waivers and deviations, we found that neither the NAVAIR Procurement Office nor the ASPJ Program Office sought such assistance. When attempts to provide such data were made, the attempts were either ignored or challenged as to their appropriateness.

On February 27, 1989, the Defense Plant Representative Office at WEC informed the ASPJ Program Office that the first nine deviations did not contain discussion of proposed consideration in the deviation requests, and that the contractor should be reminded of the MILSTD 480B requirement for future waivers and deviations. We found no indication that the Program

* Contractor confidential or proprietary date has been deleted.

Office issued such a reminder to the Joint Venture and noted that after February 27, 1989, the remaining 34 waivers and 4 deviations requested did not provide a specified cost impact or rationale justifying the absence of a cost impact. On January 22, 1990, the PCO notified the administrative contracting officer not to address the issue of consideration. However, FAR 42.302, "Contract Administration Functions," states that the cognizant contract administration office shall assist in evaluating the waivers and deviations and make preliminary recommendations for acceptance or rejection of the waivers and deviations. According to the PCO, consideration for the waivers and deviations would be addressed by the NAVAIR Procurement Office when the waivers and deviations are approved. In view of the deficiencies noted in obtaining consideration for these waivers and deviations, we consider the PCO action to be inappropriate in that consideration was not adequately addressed.

Effects of Waivers and Deviations

As a result of not determining the cost impact of the waivers and deviations, the PCO did not identify cost reductions to the PV contract of about $1.9 million. The potential cost reductions to the PV contract would have resulted from contractor savings from revisions to contract requirements and specifications. During the audit, we discussed cost reductions and other consideration for approving waivers and deviations with the ASPJ Program Office, the PCO, and the Joint Venture. In the following paragraphs, we provide the results of these discussions.

ASPJ Program Office. According to ASPJ Program Office officials, whether or not consideration is due is a judgment decision. The ASPJ Deputy Program Manager stated that consideration was evaluated before approval of each waiver and deviation. However, we found no supporting documentation that the JCCB evaluated consideration in recommending approval. In fact, comments on 12 waivers and deviations made to the Program Office by the Defense Plant Representative Offices at ITT Avionics and WEC noted the absence of consideration offered by the contractor. In the recommendation for approval, there was no mention of consideration. Therefore, although we agree that approval of waivers and deviations is judgmental, the cost impact should be objectively determined and consideration obtained, where appropriate. Additionally, the ASPJ Program Office did not require that the Joint Venture address consideration in its requests for waivers and deviations or explain why no consideration was deemed necessary as a condition of acceptance.

NAVAIR contracting officer. The PCO informed us that the Government's rights are still protected for any waivers and deviations for which consideration was not adequate or obtained. The cost impact of the waivers and deviations can be included in the negotiations to establish the final price for the

fixed-price incentive contract. According to the PCO, certified cost and pricing data for specific waivers and deviations can be requested and included in the final contract price negotiation. The PCO also noted that the actual cost savings to the Government are only $532,000 (28 percent of the estimated savings of $1.9 million) because the contractor has exceeded the target price. We disagree with this conclusion because these waivers and deviations changed the scope of contracted work and are not cost growth or in-scope work that would normally be the basis for adjusting contract price between target and ceiling prices with liability determined in accordance with a preapproved share ratio. Furthermore, when the waivers and deviations were approved, the PCO could have negotiated a reduction to the target and ceiling price of the PV contract of $1.9 million. This also would have resulted in a savings to the Government of $1.9 million.

Joint Venture officials. The Joint Venture stated that modification P00015, which revised the PV delivery schedule, was consideration for all the waivers and deviations. We found no basis for the contractor's position. Although the NAVAIR procurement office delayed approval of pending waivers when this modification was negotiated, we believe this was done to protect the Government's rights because of the late delivery of the first six units. According to the Joint Venture letter of November 28, 1989, the revised delivery schedule contained in modification P00015 was consideration for the late delivery of the first six units. Additionally, since only waivers pending before approval of the modification were delayed, the modification could not have constituted consideration for waivers and deviations already approved and those submitted after modification P00015. Further, the delay of the waiver and deviation approvals did not indicate that this modification served as consideration for prior or pending waivers and deviations. When PV modification P00015 was issued, nine deviations and one waiver had already been approved. Furthermore, Waiver Nos. W6442-015 and W6442-018 through W6442-034, and Deviation No. D6442-013 had not yet been initiated. We found no evidence that either the NAVAIR Procurement Office or the ASPJ Program Office considered unsubmitted requests for waivers and deviations in their evaluations of the Joint Venture proposal to provide a 2-month advance PV delivery schedule. The $1.9 million in additional consideration identified during the audit was related to waivers and deviations already approved or not yet intiated when modification P00015 was processed.

RECOMMENDATIONS, MANAGEMENT COMMENTS, AND AUDIT RESPONSE

1. We recommend that the Airborne Self-Protection Jammer Program Manager, Naval Air Systems Command:

a. Obtain from the contractor the cost impact, or the rationale for the lack of a cost impact, as required by Military Standard 480B for all future waivers and deviations on Airborne Self-Protection Jammer program contracts.

b. Address consideration in recommending approval of waivers and deviations, as required by Military Standard 480B. Specifically, the Program Office should address the estimated cost impact provided by the contractor, factors used in determining adequate consideration, and rationale provided by the contractor if consideration is not warranted.

Navy comments. The Assistant Secretary of the Navy (Research, Development and Acquisition) concurred with Recommendations 1.a. and 1.b. The Assistant Secretary stated that all future waivers and deviations will be reviewed for cost impact and will be returned to the contractor when appropriate for contractor comment, and that consideration will be formally evaluated and documented on future waivers and deviations.

2. We recommend that the Procurement Contracting Officer, Naval Air Systems Command:

a. Obtain an independent assessment of contractor cost impact estimates or other consideration offered from the cognizant Defense Contract Management Command activity before approval of any waivers and deviations.

Navy comments. The Assistant Secretary concurred; however, his comments stated that an independent assessment would seriously delay the approval of waivers and deviations and could seriously affect the program. Instead the Navy is granting waivers and deviations while reserving the right to pursue consideration. Independent assessments will be obtained before approval, when appropriate to the program.

Audit response. The comments are not responsive. We did not find any evidence during the audit that waivers and deviations were approved while reserving the right to pursue consideration. We agree that this alternative would fulfill the intent of the recommendation. If this is meant as an alternative to our recommendation, then this should be specifically set forth in the comments to the final report. However, we do not agree with the provision that independent assessments should be obtained when appropriate to the program. Independent assessments should be requested

in accordance with FAR 46.407. In addition, it was evident during our audit that the ASPJ Program Office would never consider an independent assessment appropriate to the approval of a waiver or deviation. The ASPJ Program Office consistently felt that there was inadequte time to perform independent assessmnets. We request that the Navy reconsider its position and provide additional comments to the final report stating that independent assessments will be obtained as required by FAR 46.407.

b. Develop detailed Government cost estimates before negotiating modifications to Airborne Self-Protection Jammer production contracts required as a result of waivers and deviations.

c. Obtain contractor certification of cost and pricing data for all approved waivers and deviations requiring contract modification as a result of identified cost impacts that exceed Federal Acquisition Regulation 15.804.2 thresholds.

d. Perform cost/price analyses of certified cost and pricing data submitted by the contractor in support of the negotiation process for contract modifications.

Navy comments. The Assistant Secretary concurred with Recommendations 2.b., 2.c., and 2.d. The Assistant Secretary stated that Government cost estimates would be developed, that certified cost and pricing data would be obtained, and that cost/price analyses would be performed.

e. Include adequate consideration in the final negotiated price of the fixed-price incentive contract N00019-87-C-0300 for Waiver Nos. W6442-004 and W6442-033 and Deviation Nos. D6442-008 and D6442-013.

Navy comments. The Assistant Secretary concurred and stated that adequate consideration will be obtained in the final negotiated price. However, the response stated that consideration was obtained and documented for Waiver Nos. W6442-004 and W6442-033. In the case of Waiver No. W6442-004 the Navy noted that generic cost estimating procedures may not be applicable to ASPJ development. In addition, the ASPJ Program Office was not aware of any Naval Avionics Center technical experience with respect to ASPJ ATAC-16M assembly language.

In the case of Waiver No. W6442-033, the comments state that the Inspector General's position is based on an incorrect interpretation of the contract. Essentially, the Navy commented that WRA and SRA level ESS were not required before the contract modification and that the WRA and SRA level ESS in MILSPEC 85022C is simply a description of the testing to be completed if called for in the statement of work. Furthermore, the cost differences

associated with substituting lower level ESS for system level ESS on such a small production lot were considered negligible, although the contractor probably incurred a slight increase in cost.

In the case of Deviation Nos. D6442-008 and D6442-013, adequate cost information was not available to determine the appropriate consideration. The deviations were processed so that the PV test program would not be interrupted, with the understanding that consideration could be negotiated as part of the final contract settlement.

Audit response. The cost estimating methodology that we used for assessing the cost impact of Waiver No. W6442-004 was very similar to the techniques that the ASPJ Program Office used. The primary exception was the use of the Naval Avionics Center estimate for the lines per code taken from the Business Clearance Memorandum provided by the contracting officer. The Naval Avionics Center demonstrated its technical experience on at least one other occasion by commenting on Deviation No. D6442-010, which requested authorization to use ATAC-16 assembly language for PE-1 and PE-2.

We feel that our interpretation of the contract was correct. In addition to MIL-C-85022C, which was referenced in the contract, there are other factors that support our position. Our review of the contractor's cost proposals disclosed that cost estimates for WRA and SRA ESS testing were made based on the MIL-C-85022C requirement. In addition, the contractors were actually conducting WRA and SRA level ESS before the contract modification or the waiver. Furthermore, a copy of the draft modification obtained from the contracting officer's files referenced the MIL-C-85022C SRA and WRA requirement. All these factors led us to conclude that the WRA and SRA testing was an existing requirement, and that consideration was not received for Waiver No. W6442-033.

In the case of Deviation Nos. D6442-008 and D6442-013, there was no understanding that consideration could be negotiated as part of the final contract settlement. In fact, the Joint Venture representatives informed us that the accelerated delivery schedule in Modification P00015 was consideration for all waivers and deviations. As far as the Joint Venture was concerned, all the waivers and deviations were fairly negotiated and adequate consideration was provided in exchange for Government approval.

We request the the Navy reconsider its position and provide additional comments to the final report. Any documentation showing the stated understanding between the Joint Venture

and the Navy regarding negotiation of consideration as part of final contract settlement should be provided as part of the Navy's response. In addition, we request that the Navy specifically concur or nonconcur with the $1.9 million monetary benefit related to the finding.

3. We recommend that the Commander, Naval Air System Command, report and track the internal control weaknesses discussed in this finding in accordance with DOD Directive 5010.38.

Navy comments. The Assistant Secretary concurred and stated that the internal control weaknesses will be included in the Naval Air Systems Command's FY 1992 internal controls certification. The complete text of managements comments are in Part IV of this report.

B. PRODUCTION DECISIONS

As of April 30, 1991, the Navy acquisition strategy for the ASPJ was outdated and was no longer adequately justified from an economic and risk management standpoint. The acquisition strategy had not been adequately revised in consideration of the Air Force's withdrawal from the program in December 1989 and subsequent reductions in Navy aircraft programs. Overall, the ASPJ program was reduced from 2,303 to 356 units. The acquisition strategy called for 166 (47 percent) of the approved program requirement of 356 units to be awarded noncompetitively and equally between the 2 Joint Venture contractors before completion of operational test and evaluation (OT&E). The Navy can potentially reduce ASPJ procurement costs and program risk by proceeding directly to full-rate production and conducting a competitive procurement for the remaining requirement of 236 ASPJ units. Additionally, the $113 million of FY 1991 Procurement Funds for the Lot II buy of 46 units can be programmed to other uses.

DISCUSSION OF DETAILS

Background

DoD Directive 5000.1, "Defense Acquisition," February 23, 1991, stipulates that a rigorous, event-oriented management process must be used for acquiring quality products. The process must emphasize effective acquisition planning, improved communications with users, and aggressive risk management by both Government and industry. The Directive also stipulates that effective acquisition planning and aggressive risk management by both Government and industry are essential for program success. In addition, program decisions and resource commitments must be based on plans for, and progress in, controlling risk. A key factor in controlling risk is the determination of system maturity and identification of technical risks through test and evaluation.

DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991, requires that OT&E programs be structured to determine the operational effectiveness and suitability of a system under realistic combat conditions and to determine if the minimum operational performance requirements have been satisfied. Before the full-rate production decision, the Instruction requires that OT&E be conducted on a production representative system to determine that the system meets operational thresholds, is effective and suitable for its intended use, and supports a positive production decision.

Before entering the production and development phase, major Defense acquisition programs can be authorized LRIP. DoD Instruction 5000.2 defines LRIP as the production of a system, in limited quantity, to provide production configured or represen-

tative articles for operational testing; to establish an initial production base; and to permit an orderly increase in the production rate sufficient to lead to full-rate production upon successful completion of operational testing.

ASPJ Acquisition Strategy

During our audit of ASPJ waivers and deviations, we found that the ASPJ program had incurred highly destabilizing program quantity reductions and had not undergone any additional OT&E since the June 1989 DAB review. We also found that the developmental tests and evaluations (DT&E) underway as of April 30, 1991, would not provide the necessary basis for making continued production decisions.

Procurement status of the ASPJ program. As of April 30, 1991, the authorized procurement quantity for the ASPJ program was 356 units. This represents a decrease of 1,947 units from the 2,303 units authorized at the DAB Milestone IIIA review in June 1989. At that time, the DAB approved a LRIP award of 104 units. Because of congressional funding constraints, only 100 units were awarded. The reduction in the ASPJ program resulted from the Air Force's decision to terminate its participation in the program and subsequent reductions in the Navy's A-6E, F-14D, and F/A-18C programs.

As of April 30, 1991, the Navy had awarded contracts for 120 ASPJ units. The first 20 units (PV units) were awarded to the Joint Venture that developed the ASPJ on a fixed-price-incentive-fee contract. The award was made in two phases during August 1987 and August 1988, respectively. The 20 units were initially estimated to cost about $248 million and were scheduled for delivery from October 1989 to March 1991. PV modification P00014, December 1, 1989, adjusted the delivery schedule to February 1991. As of April 30, 1991, only 16 of the 20 ASPJ units had been delivered. As of March 31, 1991, the completion cost of the contract was estimated at $259 million and represented a $6.8 million overrun of the established contract ceiling price.

The remaining 100 units (Lot I) were awarded on October 6, 1989, on 2 separate contracts that awarded 50 units to each of the Joint Venture contractors. At the time of award, delivery was scheduled from November 1991 to October 1992. The estimated value of the two fixed-price-incentive-fee contracts was $420.1 million. The PV and Lot I awards represented about 5.2 percent of the 2,303-unit program. The following table shows the Navy acquisition plan as of April 30, 1991.

Navy Acquisition Plan

Fiscal Year	Number of Units	Type of Units
1987	6	PV Phase I
1988	14	PV Phase II
1989	100	Lot I LRIP
1990	0	(No funding) 1/
1991	46	Lot II LRIP
1992	50	Lot III FRP 2/
1993	70	Lot IV FRP
1994	70	Lot V FRP
Total	356 3/	

1/ The FY 1990 National Defense Appropriations Act eliminated the $374.6 million requested for the ASPJ as a result of congressional hearings and General Accounting Office and DoD,IG, reports.

2/ Proposed full-rate production assuming a favorable DAB Milestone IIIB review and decision.

3/ Total quantity includes the 20 PV units that were not included in the Navy's production estimate.

The Navy's acquisition strategy will continue the split award procedure used for Lot I on Lots II and III. Each of the Joint Venture contractors would receive one-half of the total award quantity. Lots IV and V would be awarded on a competitive down-select basis using a multiyear contract with Lot V being a priced option. The Navy's continued dual-source procurement for Lots II and III will result in a potential award of 23 units to each Joint Venture contractor in FY 1991 and 25 units to each contractor in FY 1992. With regard to Lot II, the Navy is authorized to expend only $63 million for ASPJ units in FY 1991. This would allow for a total contract award of only 20 systems (10 to each Joint Venture contractor); however, the Navy is seeking authority to reprogram funds to procure the 46 units initially requested for FY 1991. Procurement cost of the 46 units was estimated at $113 million. Because of the reduction in program quantities discussed above, the Lot II and III awards would result in each of the contractors receiving less than one-half of the Lot I award. We do not believe that such award quantities would be cost-effective.

Functional and Physical Configuration Audits

The Navy acquisition strategy would also result in an additional LRIP decision (Lot II) before successful completion of functional

and physical configuration audits. According to MILSTD 1521-B, "Technical Reviews and Audits for Systems, Equipments, and Computer Software," June 4, 1985, these configuration audits are essential for establishing a production baseline. The production baseline is to be established during August 1991 based on a configuration review of the final four units of the PV contract. The final four units were to be delivered during February 1991. The Navy's acquisition strategy would not allow for establishment of the production baseline until after the second Milestone IIIA decision in June 1991. If the 46 units being requested are awarded, 166 (47 percent of the total ASPJ program of 356) would be on contract before the establishment of a production baseline. In addition, the delivery of the final four units of the PV contract was already 3 months late as of April 30, 1991. We understand that two of the four units were delivered and conditionally accepted on May 31, 1991, after completion of audit field work. The units were conditionally accepted with five waivers because of noncompliance with contract acceptance test procedures. Regardless of this partial delivery, delay of the August 1991 configuration review is highly likely.

Competition and Break-In-Production Costs

The Navy acquisition strategy does not introduce competition into the ASPJ program until the Lot IV buy in FY 1993, when a competitive down-select is contemplated for the remaining 140 units of the 356-unit program. This acquisition strategy minimizes the potential benefit of competition in the ASPJ program. Therefore, we concluded that proceeding directly to a full-rate production decision and conducting a competitive procurement for the entire remaining quantity is the most cost-effective acquisition strategy.

Production cost reductions. Of the 356-unit requirement, 236 units are not on contract. This larger quantity can provide enhanced opportunities for each contractor to achieve lower production costs through more economic production rates and purchasing. Further, fixed production overhead and general and administrative costs for one versus two contractors can be distributed across the entire remaining quantity, thus reducing unit and total production costs as compared to using two contractors. Finally, the larger quantity may present an enticement for contractors to bid aggressively and reduce proposed profit in order to secure award of the remaining quantity.

Earlier competition. Competition can be introduced into the program in FY 1992 instead of FY 1993. This would result in an earlier competitive down-selection and additional savings from not maintaining excess production capacity at both contractor locations to sustain uneconomic production quantities in a sole source environment.

Anticipated break in production. A break in production is forecasted between Lot I (100 units) and Lot II (46 units) as a result of the acquisition strategy. Issuance of a solicitation for a competitive buyout will result in a reduction in the break-in-production costs because only one contractor will incur a break in production. The other contractor will complete work and shut down ASPJ production. Regarding the successful contractor, we believe that it is probable that break-in-production costs can be reduced or eliminated through an early competitive buyout based on the successful contractor's ability to be more effective in purchasing and production scheduling for the larger quantity. Additionally, the prompt completion of the competitive procurement will contribute to a reduction in break-in-production costs, which we consider to be at their highest level based on the existing acquisition strategy.

Delivery schedule. Based on the original ASPJ procurement objective, both contractors established capacity to produce ASPJ units. The acquisition strategy does not take advantage of the capacity at each location, rather, it provides minimal awards in FY's 1991 and 1992 of 23 and 25 units, respectively, to each contractor. This inefficiency in the acquisition strategy will drive unit costs up while delaying delivery of ASPJ units. A competitive buyout in FY 1992 after a full-rate production decision can potentially expedite the ASPJ delivery schedule and the completion of the program by using, to maximum advantage, the existing production capacity at the contractor with the lowest unit price.

Prior Operational Test and Evaluation

As of April 30, 1991, three initial OT&E efforts had been completed on the ASPJ program. However, these efforts were not conducted on production-representative ASPJ units in an operationally realistic threat environment or with a production representative ASPJ unit that was maintained and logistically supported by typical military personnel.

Initial OT&E of the ASPJ was conducted between June 1988 and February 1989. The tests were conducted on full-scale developmental (FSD) models integrated into the F/A-18A aircraft and installed on, but not integrated into, the F-16A aircraft. The FSD models were less sophisticated than the PV systems because they lacked the production upgrades, technology insertions, and software enhancements to be installed on the more advanced PV systems. The purpose of the initial OT&E efforts was to attempt to resolve 20 critical operational test issues dealing with system reliability and maintainability and effectiveness of the built-in-test procedure. The Commander, Naval Operational Test and Evaluation Force, and the Commander, Air Force

Operational Test and Evaluation Center, performed the OT&E. The OT&E efforts were monitored by independent contractors working for the Office of the Director, Operational Test and Evaluation.

Limitations on FSD testing. During initial OT&E, testers were prevented from determining the ASPJ's operational suitability and effectiveness and resolving critical operational test issues because of several constraints.

o The ASPJ units used in the test were FSD models, which were not representative of the ASPJ units to be produced. Operational testers estimated that over half of the hardware and software will be changed in the production version of the ASPJ. Therefore, testers could not determine production system performance.

o The electromagnetic environments at the test ranges did not represent the expected operational environment.

o Time-space position information accuracy prevented tactically representative limitations of test range altitudes from being flown during the tests. As a result of the limitations, the testers could not measure the effectiveness and suitability of the ASPJ in defeating or degrading threat radar systems in the intended operational environment for the ASPJ aircraft. The test limitations prevented Navy and Air Force testers from assessing 9 of the 20 critical operational issues and from fully resolving the remaining 11 critical operational issues. Based on available test results, the ASPJ was determined to be only marginally operationally effective[1/] and marginally operationally suitable.[2/] To date, no additional OT&E has been performed. Both the restart of OT&E and the DAB decision for the second LRIP award are planned for June 1991.

1/ Marginally operationally effective means that some of the critical operational effectiveness issues scheduled for testing were not satisfactorily resolved, which precluded rendering a finding of potentially effective; the system has exhibited significant problems that require a review of the program direction and possible correction of problems before the next phase of operational testing.

2/ Marginally operationally suitable means that some of the critical operational suitability issues scheduled for testing were not satisfactorily resolved, which precludes rendering a finding of potential suitable; the system has exhibited significant problems that require a review of the program direction and possible correction of problems before the next phase of operational testing.

Current Test and Evaluation Activity

The Navy plans to proceed with an additional LRIP award (Lot II) of the ASPJ program based on the results of DT&E consisting of contractor preproduction qualification testing and Navy developmental flight testing. The exit criteria for the June 1991 Milestone IIIA review, established by the DAB during a November 1990 program review, relies on the results of the PV phase of DT&E as a basis for determining the appropriateness of making a second LRIP award. However, one of the principal exit criteria uses reliability growth test (RGT) results as a measure of system reliability. Based on the following analysis, we believe the use of RGT results is not appropriate.

Reliability growth testing. The Rome Air Development Center's, "Reliability Engineers Toolkit," July 1988, states that the purpose of RGT is to uncover failures and take corrective actions to prevent their recurrence. RGT exposes a system to simulated operational environments, such as temperature extremes, random vibration patterns, various cooling conditions, and input power variations. RGT is conducted in a laboratory environment, and is not meant to be used as a measure of reliability, but is intended to slowly extend the amount of time between system breakdowns. The progress of RGT is measured in terms of the instantaneous mean time between failure (MTBF[I]) achieved and the growth slope. MTBF(I) is defined as the MTBF that could be expected when all identified system failures have been corrected and are proven to be effective.

RGT on the ASPJ started in August 1990 and was planned to be completed in July 1991. According to PV contract specifications, RGT will be considered complete when a minimum of 1,000 hours has been completed and the system shows an MTBF(I) of 110 hours. As of September 27, 1991, RGT had not yet been completed.

RGT is accomplished through testing until a failure occurs, analyzing the failure, evaluating and determining what corrective action is appropriate, and implementing the corrective action. Proper application of RGT requires that testing be discontinued during the corrective action process and that corrective actions be verified during subsequent testing. Keys to the importance of RGT are length of the test and the redesign and continued testing of parts and components that have failed. The test length is meant to provide reasonable assurance that the laboratory conducted RGT will identify probable failures under actual operating conditions. According to the "Toolkit," a 2,000-hour test is the minimum recommended RGT.

During the November 1990 DAB program review, the use of RGT was approved as an acceptable measure of system reliability. The exit criteria established was an MTBF(I) of 75 hours after

completion of 650 test hours. As of March 22, 1991, 729 hours of RGT had been completed with MTBF(I) of 73.7 hours. The related growth slope was .418. Based on the status of RGT, the Navy considers the major reliability exit criteria for the June 1991 Milestone IIIA review to have been met. However, there are two factors that cast doubt on the validity of the reported RGT results. These factors are the Joint Venture progress on corrective actions and the current growth slope.

Corrective actions. As of April 30, 1991, 17 failures had been identified during RGT. According to information provided by the Joint Venture and the NAVAIR Product Integrity Management Division (AIR 516), actions had been identified and implemented for only seven of the failures. The remaining 10 failures were still under investigation. A determination of the type of corrective actions required was estimated for June 1991, and a date for redesign and installation of the corrective actions had not been determined. The Joint Venture is coordinating with its subcontractors on the redesign and manufacture of components required to correct the failures. Until the corrective actions have been implemented and proven in the RGT process, the established MTBF(I) of 73.7 hours does not represent the true reliability of the system. In addition, the MTBF(I) is below the 75-hour MTBF(I) required by the DAB Milestone IIIA exit criteria.

Growth slope. The growth slope is another factor used to measure the progress of RGT. The growth slope is calculated using regression analysis procedures and is used to show the predicted improvement or decay of the RGT. A growth slope of .3 and above represents an acceptable RGT process. At the 650-hour point in the ASPJ RGT, the growth slope was .512. At the 729-hour point, the growth scope had fallen to .418 and RGT had been halted. RGT was halted on March 22, 1991, because continued testing could identify additional failures, which in turn would lower the growth slope as well as the projected MTBF(I). Resumption of RGT is not planned until the corrective actions have been incorporated into the ASPJ units undergoing RGT. Based on information provided by the NAVAIR Product Integrity Management Division, resumption of RGT will not take place until after the planned June 1991 Milestone IIIA review.

Compliance with Congressional Direction

During the budget deliberations for FY's 1990 and 1991, Congress consistently provided guidance and limitations on electronic warfare programs in general and the ASPJ program specifically. Primarily the congressional direction centered on the completion of OT&E before the award of full-rate production contracts. Congress deleted requested funds for the ASPJ program for FY 1990 and directed that no additional ASPJ awards would be made until completion of OT&E unless DoD reported that such testing would

cause a breach in production that would jeopardize the continuation of the program (Public Law 101-165, November 21, 1989). In FY 1991, Congress reduced the funds requested for the ASPJ and three other electronic warfare jammers and established specific requirements for the use of those funds. Essentially, Congress directed that no FY 1991 funds could be used for any quantity beyond minimum essential quantities until the Director, Operational Test and Evaluation, certified that the system had been thoroughly tested and met all operation criteria (Public Laws 101-510 and 511, November 5, 1990). A more detailed presentation of the congressional guidance is provided in Appendix B.

DoD had not yet reported to Congress, as required by Public Law 101-165, that completion of OT&E would result in an unacceptable breach in ASPJ production, which would jeopardize the program. In our opinion, the current acquisition strategy can be revised to ensure that such an unacceptable breach does not occur. Further, revision of the acquisition strategy can permit completion of OT&E before any further contract awards, is potentially more cost-effective because of earlier introduction of competition, and will permit completion of essential program milestones and reporting requirements. Since both contractors have the capacity to produce the remaining 236 units in a reasonable period, use of further LRIP contracts is not required to support minimum essential production levels. In fact, the proposed noncompetitive LRIP contract would result in sustaining excess capacity at both contractors rather than allowing one contractor to produce at its most efficient level. Therefore, release of future production contracts does not appear to be in accordance with the language in Public Law 101-165 until OT&E is complete.

Independent ASPJ Production

Another factor to be considered before authorizing continued production of the ASPJ is each of the Joint Venture contractor's ability to independently produce the ASPJ. One of the purposes of the PV contract award was to demonstrate that the Joint Venture contractors could independently build the complete ASPJ system. According to the PV contract specifications, each of the Joint Venture contractors was to independently build two of the last four units and deliver them to the Navy by February 1991. As of April 30, 1991, neither contractor had presented an independently produced ASPJ for acceptance testing. The last four units are also to be used in the physical and functional configuration audit to establish a production baseline for the manufacture of ASPJ's to be delivered under Lot I and future production contracts. Until these last four units are delivered, accepted, and tested, there will be no assurance that the Joint

Venture contractors can independently build an effective and suitable ASPJ system. Continuing to make production awards without this assurance adds additional risk to the acquisition process. Successful completion of the configuration audits will demonstrate that each contractor has the ability to manufacture an entire ASPJ unit that meets Government acceptance criteria before further contract awards. Proceeding to a full-rate production decision in FY 1992 without further LRIP award will permit the Navy to conduct acceptance testing on units from both contractors and complete the essential physical and functional configuration audits.

Historical Perspective

General Accounting Office (GAO) Report No. NSIAD-90-168 (OSD Case No. 8325), "Electronic Warfare: Need to Strengthen Controls over Air Force Jammer Programs," July 11, 1990, criticized the Air Force's acquisition of the AN/ALQ-131 Block II, AN/ALQ-135, and AN/ALQ-184 Jammer Programs. In each instance, the GAO report recounted acquisition plans that allowed the procurement of jammers before initiation or completion of OT&E. In the case of the AN/ALQ-135, 65 jammers were purchased before completion of OT&E, and less than one-half were installed. The remaining jammers were in storage for use as spares or awaiting destruction because they could not be repaired. The same fate could await the ASPJ if continued procurement is authorized before OT&E of the PV units proves the operational effectiveness and suitability of the system. Approval of Lot II (46 units) would result in 47 percent of the ASPJ procurement program under contract before completion of OT&E on production-representative units.

Comments on Prior Recommendations

In OAIG-AUD Report No. 90-066, May 10, 1990, we recommended that the Navy extend the current delivery schedule of the Lot I contract by 12 months. We made this recommendation to allow for the completion and evaluation of OT&E on the PV units. The Navy nonconcurred with the recommendation, citing the results of a production cost study showing program cost increases of $75 million to $278 million and potential loss of subcontractors and other suppliers to the Joint Venture if there were any delays to the then planned July 1990 award of Lot II. During the resolution process, it was agreed that the OSD Cost Analysis and Improvement Group would review and verify the Navy cost figures. If the cost increases were validated, we agreed that the DAB could then consider these costs when making its future production approvals. However, we believe that the reduction in the ASPJ program quantities form 2,303 to 356 units has increased the cost per unit and mitigated the results of the Navy's production cost study.

Summary

We consider there to be significant potential advantages, from a cost and risk reduction perspective, by eliminating further ASPJ LRIP contracts issued on a noncompetitive basis, and proceeding directly to a FY 1992 DAB Milestone III production and deployment decision. The information requirements supporting a Milestone III decision, including competition alternatives and OT&E are necessary to support continuation of the ASPJ program and should not be further postponed until FY 1993 through additional LRIP awards. After full-rate production approval, the remaining ASPJ requirement can be procured as a result of a competitive award. On April 17, 1991, the Navy issued a solicitation that potentially permits implementation of our recommendations. Specifically, the solicitation requests offers for quantities ranging from 1 to 96 units for the basic contract with 3 options for 1 to 96 units. Offers were due by June 17, 1991; however, the offer prices may not remain in effect until after the proposed DAB Milestone III review in FY 1992.

RECOMMENDATIONS, MANAGEMENT COMMENTS, AND AUDIT RESPONSE

We recommend that the Under Secretary of Defense for Acquisition:

1. Proceed directly to a FY 1992 Milestone III full-rate production and deployment decision on the Airborne Self-Protection Jammer program and not authorize any additional low-rate initial production.

2. Direct the timely issuance of a competitive solicitation for a firm-fixed-price contract with annual procurement options for the remaining Airborne Self-Protection Jammer program, with the contract award to occur after the Defense Acquisition Board review at the Milestone III full-rate production and deployment decision point.

3. Allocate the funds designated for the Airborne Self-Protection Jammer program under the Defense Agencies' budget line to the other three jammer programs in accordance with Public Law 101-511.

OSD comments. The Under Secretary of Defense for Acquisition partially concurred in the recommendation. The Under Secretary concurred in the need for a competitive buyout of the ASPJ program following completion of operational testing. However, the Under Secretary also stated that there was a need for an additional LRIP production award in FY 1991 to maintain the established production base and to avoid an estimated $152 million cost increase in the ASPJ's overall life-cycle cost if a break in production should occur. The Under Secretary's comments referenced the June 24, 1991, DAB meeting and the direction

subsequently provided in his July 1, 1991, Acquisition Decision Memorandum as having established clear limitations on ASPJ program production. The Under Secretary stated that he was sensitive to concerns that the ASPJ program not proceed at any rate higher than that necessary to sustain minimum essential production. The Under Secretary also stated that our $113 million potential monetary benefit, resulting from delaying ASPJ procurement, was not a real savings since the procurement would be made in subsequent years. The full text of the Under Secretary's response is in Part IV of this report.

Audit response. On July 1, 1991, the Under Secretary issued the Acquisition Decision Memorandum for the June 24, 1991, Defense Acquisition Board review of the ASPJ program (see Part IV). In the memorandum, the Under Secretary authorized the Navy to award additional LRIP contracts for the ASPJ. The award was not to exceed a total cost of $90 million. In addition, the Under Secretary directed the Secretary of the Navy to immediately request proposals from the ASPJ Joint Venture contractors, with priced options, for variable quantities up to the total remaining inventory objective. The proposals are to be used to make a down-select decision within 12 months of successful completion of OT&E. On July 12, 1991, the Naval Air Systems Command issued contracts totaling $89.3 million to the 2 ASPJ contractors for a total of 36 ASPJ's.

Our recommendations called for the halt of any further ASPJ contract awards until completion of operational test and evaluation and the issuance of the competitive solicitation to buy out the remaining ASPJ program. During the DAB review, the Under Secretary reduced the Navy's requested LRIP quantity for this award from 46 to 36 units. In the comments to this report, the Under Secretary presented convincing justification for the need to sustain the production base at both contractors until competitive down-select in FY 1992. The primary factor in this justification, in our opinion, is an increase in the required units to 739 from 356, after issuance of our draft report. Because of this increase in required quantity, the Under Secretary's decision to proceed with another LRIP buy is an acceptable alternative to our recommendation. While allowing the procurement of another 36 units, the Under Secretary has also served notice on the Navy that further ASPJ procurement will be made only after OT&E has been sucsessfully completed.

The Under Secretary's comment that a delay in the award of Lot II would increase the overall ASPJ program cost by about $152 million is based on a cost and production impact study completed by the Navy in July 1990. The study was performed

as a result of our May 10, 1990, report on the ASPJ program, which also recommended halting further production awards until OT&E had been completed. The Navy study projected a potential range of $78 million to $287 million, with $152 million being the "most likely" cost increase. The respective Defense Procurement Representative Office at the Joint Venture suggested a minimum production break cost of $71.3 million. Although the results of the study were reviewed and validated by the OSD Cost Analysis Improvement Group, we believe the results should have been compared with potential savings resulting from an increase in competition. The production break forecasted at the time of the estimate was significantly longer than would have occurred had the Lot II decision been postponed in June 1991. Also, when the study was conducted, the Navy estimated that about 880 ASPJ units would be purchased, and the additional costs were based on that figure. According to the Under Secretary's comments, the current program for the ASPJ is 739 units. The 141-unit reduction in quantity between the July 1990 Navy study and the Under Secretary's comments, represents a material change in the ASPJ program. A change of such magnitude may indicate that the estimated cost increase in July 1990 may not be applicable today. In addition, in discussion with Cost Analysis Improvement Group representatives, we were informed that the Navy's study did not include offsetting costs, such as potential retrofit costs for units contracted for before completion of OT&E. While we do not agree with the continued applicability of all of the assumptions used in the Navy's production impact study, we consider there to be a significant reduction in program cost risk as a result of the Under Secretary's decision to introduce competition 1 year earlier than planned and therefore consider his alternative actions responsive.

With regard to our estimated $113 million monetary benefit, the guidelines contained in DoD Instruction 7650.3 for determining the validity of the monetary benefit specify that a monetary benefit may be claimed if the report recommendation creates a situation where appropriated funds can be "put to better use." The delay of any further production, as recommended in the draft of this report, would have resulted in funds being made available for other purposes. We considered that to be funds "put to better use." We still consider that to be the situation. However, by accepting the Under Secretary's alternative action, the estimated monetary benefit pertaining to this finding will be reduced to $23 million. Additional comments regarding the remaining monetary benefits are requested from the Office of the Under Secretary.

PART III - ADDITIONAL INFORMATION

Appendix A - Prior Audits and Other Reviews
Appendix B - Synopsis of Congressional Guidance Relating to the ASPJ Program
Appendix C - Summary of Potential Monetary and Other Benefits Resulting from Audit
Appendix D - Activities Visited or Contacted
Appendix E - Report Distribution

APPENDIX A: PRIOR AUDITS AND OTHER REVIEWS

GAO Report No. NSIAD-90-162 (OSD Case No. 8325), "Electronic Warfare: Need to Strengthen Controls Over Air Force Jammer Programs," July 11, 1990, concluded that the Air Force had prematurely procured jammers without adequately testing their performance capability. This resulted in repairs, replacement of components, and modifications to resolve performance defects. GAO recommended that the Secretary of Defense prohibit further contracts for production until operational testing provides assurance that jammers will meet performance requirements. Also, GAO recommended the establishment of adequate internal controls over Air Force jammer programs to ensure proper testing and acceptable performance before procurment and deployment. DoD agreed or partially agreed with the findings but believed that internal controls were in place to ensure acceptable operational performance before full-rate production.

Department of Defense, Inspector General, Report No. 90-066, "Hotline Allegations Regarding the Milestone IIIA Production Decision For The Airborne Self-Protection Jammer Program," May 10, 1990, concluded that the acquisition plan for the ASPJ program provided for the Navy to proceed with extensive production of the ASPJ units before testing would determine whether production-representative ASPJ units would be effective in their intended environment. The ASPJ Acquisition Review Board inappropriately influenced decisionmakers by directing testers to present favorable test results. In addition, the ASPJ Program Office did not take appropriate action to resolve a $1.3 billion to $1.6 billion cost estimating difference with the OSD Cost Accounting Improvement Group (CAIG). The report recommended that the Navy renegotiate the delivery schedule for Lot I production contracts. The report also recommended that the Under Secretary of Defense for Acquisition defer the two interim Milestone IIIA DAB reviews until operational test and evaluation confirms the effectiveness of the ASPJ; reemphasize to acquisition managers the importance of independent test and evaluation efforts; establish guidance requiring coordination of program review minutes with operational testers before they are presented to the DAB; direct the ASPJ Program Office and the OSD CAIG to resolve the specific cost differences; and direct the Command, Control, Communications and Intelligence Systems Committee of the DAB to

review, approve, and monitor the agenda for resolving the specific cost estimating differences. Management generally nonconcurred with the recommendations.

Air Force Audit Agency Report No. 8076410, "Air Force Management of Contract Waivers and Deviations," April 5, 1989, concluded that the management of major waivers and deviations within the Air Force Systems Command was not completely effective. Specifically, procedures for reviewing, determining, and obtaining equitable consideration for major waivers and deviations were not adequately and consistently applied. Procedures for tracking major waivers and deviations were adequate to ensure approved waivers and deviations were promptly placed on contract; however, they were not adequate to ensure corrective actions were always promptly completed. The Systems Command concurred with all the recommendations.

GAO Report No. NSIAD-89-3 (OSD Case No. 7730), "Electronic Warfare: Status of The Airborne Self-Protection Jammer Program," November 4, 1988, concluded that the ASPJ was not ready to enter full-rate production; cost estimating methodology was reasonable, but costs were likely to change; the ASPJ may become DoD's most capable jammer, but it will not counter all threats; the ASPJ may not receive continued joint commitment from the Navy and Air Force; and the ASPJ should be carefully monitored by Congress. OSD concurred or partially concurred with all but one of GAO's conclusions. With regard to the joint commitment, OSD stated that the Services were committed to the ASPJ, and that the commitment was affirmed by the September 1988 DAB review.

GAO Report No. NSIAD-88-160 (OSD Case No. 7590), "DoD Acquisition Programs: Status of Selected Systems," June 30, 1988, concluded that the ASPJ was about 5 years behind schedule, and that developmental and operational tests have limitations that may hamper an accurate assessment of the ASPJ's performance. These limitations included testing of an ASPJ early developmental model, not the production-verification unit; use of test aircraft that were not of the appropriate configuration; and use of threat simulators during the ASPJ test that were not of the latest capabilities or densities. GAO made no recommendations, and OSD did not respond to the report.

Department of Defense, Inspector General, Report No. 87-053, "Survey of Deviations and Waivers for Nonconforming Products," November 19, 1986. The report concluded that DoD Components' procedures for reviewing and accepting waivers and deviations

were sound. The survey disclosed several indicators of potential weaknesses in the administration of waivers and deviations, including one indicating that contract administration officials lacked sufficient visibility to properly manage waivers and deviations. The DoD report contained no recommendations.

GAO Report No. NSIAD-86-1 (OSD Case No. 6535), "An Opportunity to Reduce Proliferation and Improve Acquisition Strategy for Electronic Combat Jammers," October 8, 1985, concluded that the Air Force and the Navy planned to spend billions of dollars acquiring the ALQ-131, the ASPJ, and other jamming systems to meet a common threat. One common jammer in both external pod and internal configurations could satisfy Service needs for tactical fighter aircraft. The report also concluded that the Air Force had not taken advantage of opportunities to reduce proliferation of jamming systems and had not sought to correct reliability and maintainability problems of existing systems in follow-on production. GAO made no recommendations, and OSD did not respond to the report.

APPENDIX B: SYNOPSIS OF CONGRESSIONAL GUIDANCE RELATING TO THE ASPJ PROGRAM

Department of Defense Appropriations Act for Fiscal Year 1990, Public Law 101-165, November 21, 1989. The Act directs that further operational testing be conducted before the award of any future production contracts for the ASPJ unless DoD reported that such testing would cause an unacceptable breach in production, which would jeopardize the continuation of the program. In any event, the Act directs that no increase to full-rate production should occur until additional operational testing has been conducted and the ASPJ program was verified to meet its design requirements against all threats. The Act provided no FY 1990 funding for the ASPJ, and DoD did not make any FY 1990 contract award for the program.

National Defense Authorization Act for Fiscal Year 1991, Public Law 101-510, November 5, 1990. Section 182, "Electronic Warfare Procurement," of the Act states that funds appropriated after the Act was issued may only be obligated and expended for procurement of the ASPJ program at levels sufficient to sustain existing production capabilities at minimum essential levels. The limitation also applies to the AN/ALQ 135, the AN/ALQ 184, and a classified Air Force program. For DoD to obligate and expend funds in excess of the limitation, the Act requires that DoD certify to the congressional committees that the program has undergone thorough and effective operational testing and that the Director, Operational Test and Evaluation, has determined, based on that testing, that the respective program meets all operational criteria established for the program.

Department of Defense Appropriations Act, for Fiscal Year 1991, Public Law 101-511, November 5, 1990. Congress was concerned with the direction and management of electronic warfare programs within DoD. In the Act, Congress eliminated $421.5 million in procurement funds for the four systems noted above from the respective aircraft lines and established a Defense Agencies budget line authorizing expenditure of $161.5 million in procurement funds. The ASPJ portion of the initial procurement request was $101 million of the $421.5 million. The Act states that funds from the Defense Agencies procurement line could not be used to allow quantities for any of the four programs to proceed beyond minimum essential production levels until the Director, Operational Test and Evaluation, had certified to Congress that the program had

been thoroughly tested and met all operational criteria. In addition, the Act directs that no FY 1991 funds could be used to award production contracts until the DAB had approved a strategy for the electronic warfare programs, which incorporated overall policy direction from top management and supporting rationale for proceeding with the programs selected. The Congressional Defense Committees were to be advised in writing of the results of the DAB decisions before the release of funds from the Defense Agencies procurement account.

APPENDIX C: SUMMARY OF POTENTIAL MONETARY AND OTHER BENEFITS RESULTING FROM AUDIT

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
A.1. and A.2.a., b., c., and d.	Compliance with law and DoD direction. Provides the Program Office and the Procurement Contracting Office (PCO) the data required to evaluate and determine approval or nonapproval of waivers or deviations.	Nonmonetary.
A.2.e.	Economy and Efficiency. Provides the PCO an opportunity to review waivers and deviations and determine the proper consideration required.	Funds put to better use. FY 1989 Procurement funds totaling $1.9 million.
A.3.	Compliance with law and DoD direction. Provides for reporting and tracking of internal control weaknesses	Nonmonetary
B.1., B.2., and B.3.	Compliance with law and DoD direction. Provides time for development of an adequate competitive procurement strategy including completion of operational test and evaluation before making further production contract awards.	Funds put to better use. FY 1991 Procurement funds totaling $23 million.

APPENDIX D: ACTIVITIES VISITED OR CONTACTED

Office of the Secretary of Defense

Office of the Under Secretary of Defense for Acquisition, Washington, DC
Office of the Assistant Secretary of Defense (Command, Control, Communications and Intelligence), Washington, DC
  Office of the Director, Electronic Combat, Washington, DC
  Office of the Director, Plans and Program Evaluation, Washington, DC
Office of the Assistant Secretary of Defense (Production and Logistics), Washington, DC
Office of the Director, Defense Research and Engineering (Test and Evaluation), Washington, DC
  Director (Weapon Systems Assessment), Arlington, VA

Department of the Navy

Headquarters, Naval Avionics Command, Indianapolis, IN
Headquarters, Naval Air Systems Command, Arlington, VA
  Airborne Self-Protection Jammer Program Office, Arlington, VA
  Product Integrity Management Division, Arlington, VA

Department of the Air Force

Air Force Contract Management Division, Kirtland Air Force Base, NM

Defense Agencies

Defense Contract Audit Agency Offices:
  ITT Avionics Division, Nutley, NJ
  Westinghouse Electronic Systems Group, Baltimore, MD
Defense Logistics Agency, Alexandria, VA
Defense Contract Management Command Offices:
  Defense Plant Representative Office, ITT Avionics Division, Clifton, NJ
  Defense Plant Representative Office, Westinghouse Electronic Systems Group, Baltimore, MD

Non-DoD Activities

Senate Government Affairs Subcommittee on Federal Services, Post Office, And Civil Service, Washington, DC

APPENDIX E: REPORT DISTRIBUTION

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition
Assistant Secretary of Defense (Command, Control, Communications and Intelligence)
Assistant Secretary of Defense (Production and Logistics)
Assistant Secretary of Defense (Program Analysis and Evaluation)
Comptroller of the Department of Defense
Director, Defense Research and Engineering

Department of the Navy

Secretary of the Navy
Assistant Secretary of the Navy (Financial Management)
Assistant Secretary of the Navy (Research, Development and Acquisition)
Comptroller of the Navy
Commander, Naval Air Systems Command

Non-DoD Activities

Office of Management and Budget

U.S. General Accounting Office, NSIAD Technical Information Center

Senate Subcommitee on Federal Service, Post Office, and Civil Service, Committee on Governmental Affairs

PART IV - MANAGEMENT COMMENTS

Under Secretary of Defense for Acquisition
Department of the Navy Comments
ASPJ Acquisition Decision Memorandum, July 1, 1991

MANAGEMENT COMMENTS FROM UNDER SECRETARY OF DEFENSE FOR ACQUISITION

THE UNDER SECRETARY OF DEFENSE

WASHINGTON, DC 20301

1 July 1991

ACQUISITION

MEMORANDUM FOR DOD INSPECTOR GENERAL

SUBJECT: Draft Report on Waivers and Deviations to Production Contracts for the Airborne Self-Protection Jammer Program (Project No. 0AE-5018)

Enclosed are my comments on the findings and recommendations to your draft report on the ASPJ program.

I concur in the need for a competitive buy-out for the remaining ASPJ quantities following operational testing, and I have taken steps to ensure such actions are taken following the recent Defense Acquisition Board review of the ASPJ. I also concur that the Navy should seek adequate consideration in the final negotiated price of the fixed-price-incentive contract N00019-87-C-0300 for waiver numbers W6442-004 and W6442-033 and Deviation numbers D6442-008 and D6442-013.

I cannot, however, support the report's conclusion that a delay in award of lot 2 coupled with a competitive bid for all remaining ASPJ units following the completion of operational testing would be in the best interest of the government at this time. The most recent series of developmental tests indicate that the technical risks associated with the program have been largely addressed by the corrective measures being taken in the ASPJ production verification units. A delay of the Lot 2 award would result in a likely cost growth of $152 million over the life of the program. This cost growth is a result of learning losses experienced by the prime contractors and the subvendors, and from potential vendor loss and requalification. The stated savings of $113 million resulting from deferring the procurement of additional units is not a savings at all. These units would still have to be procured in a subsequent year. The savings to be derived from competition are already in the program starting with the Lot 2 procurement. These facts weigh heavily against a delay.

I am sensitive to the concerns that this program not proceed at any rate higher than is necessary to sustain minimum essential production and have established clear limitations on the program to ensure such direction is followed until operational testing is concluded.

Donald J. Yockey

Attachment

Cc: ASN(RD&A)

RESPONSE OF THE UNDER SECRETARY OF DEFENSE (ACQUISITION) TO THE DOD INSPECTOR GENERAL DRAFT REPORT ON WAIVERS AND DEVIATIONS TO PRODUCTION CONTRACTS FOR THE AIRBORNE SELF-PROTECTION JAMMER PROGRAM

(PROJECT NO. 0AE-5018)

FINDING A: The Naval Air Systems Command (NAVAIR) did not obtain adequate cost reductions or other consideration for revisions to contract specifications and requirements in ASPJ PV contract N00019-87-C-0300. Consideration was not obtained because waivers and deviations were approved without adequate evaluation of the cost impact on the PV contract and contract modifications were approved without obtaining certified cost and pricing data for performance of required cost analyses in support of the negotiation process. As a result, the procurement contracting officer (PCO) did not obtain adequate consideration for revisions to contract specifications and requirements that reduced the Joint Venture's effort on the PV contract by about $1.9 million.

Comment: Concur. The Navy will seek consideration for the waivers and deviations.

Recommendation 1.A.: That the Navy obtain from the contractor the cost impact, or the rationale for the lack of a cost impact, as required by Military Standard 480B for all future waivers and deviations on ASPJ contracts.

Comment: Concur. Future waivers and deviations will be reviewed for cost impact and will be returned to the contractor when appropriate for contractor comment.

Recommendation 1.B.: That the Navy address consideration in recommending approval of waivers and deviations, as required by Military Standard 480B. Specifically, the program office should address the estimated cost impact provided by the contractor, factors used in determining adequate consideration, and rationale provided by the contractor if consideration is not warranted.

Comment: Concur.

Recommendation 2.A.: That the Procurement Contracting Officer obtain an independent assessment of contractor cost impact estimates or other consideration offered from the cognizant Defense Contract Management Command activity before approval of any waivers and deviations.

Comment. Concur. The Navy has this recommendation under review and will take appropriate action.

Recommendation 2.B.: That the Procurement Contracting Officer develop detailed Government cost estimates before negotiating modifications to ASPJ production contracts required as a result of waivers and deviations.

Comment: Concur.

Recommendation 2.C.: That the Procurement Contracting Officer obtain contractor certification of cost and pricing data for all approved waivers and deviations requiring contract modification as a result of identified cost impacts that exceed Federal Acquisition Regulation 15.804.2 thresholds.

Comment: Concur.

Recommendation 2.D.: That the Procurement Contracting Officer perform cost/price analyses of certified cost and pricing data submitted by the contractor in support of the negotiation process for contract modifications.

Comment: Concur. Cerified cost and pricing data will be obtained in accordance with FAR/DFARS guidance.

Recommendation 2.E.: That the Procurement Contracting Officer include adequate consideration in the final negotiated price of the fixed-price-incentive contract N00019-87-C-0300 for waiver numbers W6442-004 and W6442-033 and Deviation numbers D6442-008 and D6442-013.

Comment: Concur. The Navy will obtain consideration in the final negotiated price.

Recommendation 3: That the Commander, Navy Air Systems Command report and track the internal weaknesses discussed.

Comment: Concur.

FINDING B: PRODUCTION DECISIONS.

As of April 30, 1991, the Navy acquisition strategy for the ASPJ was outdated and was no longer adequately justified from an economic and risk management standpoint. The acquisition strategy had not been adequately revised in consideration of the Air Force withdrawal from the program in December 1989 and subsequent reductions in Navy aircraft programs. Overall, the ASPJ program was reduced from 2,303 to 356 units. The acquisition strategy called for 166 (47 percent) of the approved program requirement of 356 units to be awarded noncompetitively and equally between the two Joint Venture contractors before completion of operational test and evaluation (OT&E). The Navy can potentially reduce ASPJ procurement costs and program risk by proceeding directly to full-rate production and conducting a

competitive procurement for the remaining requirement of 236 ASPJ units. Additionally, the $113 million of FY 91 procurement funds for the Lot II buy of 46 units can be programmed to other uses.

Comment: Do Not Concur.

The cost which would be incurred from the break in production associated with a decision to delay production until after completion of operational tests has been estimated by the Navy to range between $77 million and $287 million with a most likely cost of $152 million. The range of the estimate depends upon the specific assumptions regarding vendor base business decisions. It is therefore judged unlikely that any increase in competition derived by conducting a competitive award after operational testing would compensate for the increased costs of escalation, learning loss, and vendor base loss or requalification.

In response to the Air Force withdrawal from the program, Navy planning, which had originally called for three low rate production lots, totalling 318 of 2303 ASPJ units, was altered in 1990 to accelerate testing and to reduce LRIP awards to lots 1 and 2 only. Lot 2 was further limited to that level necessary to sustain minimum essential production until operational testing is completed. This adjusted strategy was presented to the Senate Subcommittee on Governmental Affairs by the Deputy Secretary of Defense on May 11, 1990, and is recorded in the existing ASPJ baseline. The current program calls for a quantity of 510 units across the FYDP with an additional 229 planned in later years to meet Navy requirements for expected F/A-18 E/F aircraft. Quantity errors should be corrected in the final report.

The adjusted strategy limits LRIP quantities to 146 of 739 required units. Although this number is higher than might have been planned had the reduction of the USAF withdrawal been foreseen in advance of initial production start, it provides the basis for maintaining the production base until operational testing is completed. The planned LRIP quantity represents less than 20 percent of the total number of program units.

The CAIG October 1990 review of the Navy estimate placed costs at $10 million per month for a production break up to 12 months, after which time further estimates were considered impractical because of excessive uncertainties which accrued in forecasting business base assumptions. The DPRO offices of each of the ASPJ prime vendors in January 1991 suggested a minimum production break cost of $71.3 million.

Because of these assessed costs, it is judged unlikely that any benefit can be derived by delaying the lot 2 award. The recommendation that the USD(A) delay further awards until after operational testing is inconsistent with the technical and schedule risk which such a break would introduce into the program. In particular, it fails to reflect the fact that previous actions by the USD(A) to expand the lot 2 exit criteria to require more reliability and flight testing have reduced program risk and increased the probability of successful operational testing.

In summary, although the USD(A) agrees that competition for remaining program quantities and a down select to a single prime contractor should take place as soon as practical, the cost of delaying an FY91 LRIP award cannot be justified at this time.

Recommendation 1: That the Under Secretary of Defense for Acquisition proceed directly to a FY 1992 Milestone III full-rate production and deployment decision on the ASPJ program and not authorize any additional low-rate initial production.

Comment: Do Not Concur. To delay the award of a Lot II contract until 1992 will incur excessive production break costs and jeopardize the vendor production base.

Recommendation 2: That the Under Secretary of Defense for Acquisition direct the timely issuance of a competitive solicitation for a firm-fixed-price contract with annual procurement options for the remaining ASPJ program, with the contract award to occur after the DAB review at the Milestone III full-rate production and deployment point.

Comment: Partially Concur. Recommendation 2 is ambiguous in its intent and meaning. The current acquisition strategy to award Lot 2 in FY91 will minimize disruption to the production line without restricting the opportunity for the solicitation of buy-out proposals and a downselect to one contractor in FY92.

Recommendation 3: Allocate funds designed for ASPJ under the Defense Agencies' budget line to the other three jammer programs in accordance with Public Law 101-511.

Comment: Do Not Concur. An estimated $152 million in production break costs would occur if contract award is delayed into 1992.

MANAGEMENT COMMENTS FROM DEPARTMENT OF THE NAVY

THE ASSISTANT SECRETARY OF THE NAVY
(Research, Development and Acquisition)
WASHINGTON, D C 20350-1000

AUG 19 1991

MEMORANDUM FOR THE ASSISTANT INSPECTOR GENERAL FOR AUDITING, DOD

Subj: Draft Audit Report on Waivers and Deviations to Production Contracts for the Airborne Self-Protection Jammer Program (Project No. OAE-5018)

Encl: (1) Department of the Navy (DON) comments

In response to your memorandum of 12 June 1991, we have reviewed the subject draft report. Detailed comments on the findings and recommendations are forwarded as enclosure (1).

The Navy partially concurs with Finding A and concurs with all associated recommendations. However, the Navy does not concur with Finding B, Recommendations 1 and 3, and partially concurs with Recommendation 2.

Gerald A. Cann

NAVY COMMENTS
DEPARTMENT OF DEFENSE INSPECTOR GENERAL
DRAFT REPORT ON THE AUDIT OF WAIVERS AND DEVIATIONS TO PRODUCTION CONTRACTS FOR THE AIRBORNE SELF-PROTECTION JAMMER PROGRAM

I. Finding A: Adequate Consideration

A. Summary of DoDIG Finding

"The Naval Air Systems Command (NAVAIR) did not obtain adequate cost reductions or other consideration for revisions to contract specifications and requirements in ASPJ PV contract N00019-87-C-0300. Consideration was not obtained because waivers and deviations were approved without adequate evaluation of the cost impact on the PV contract and contract modifications were approved without obtaining certified cost and pricing data for performance of required cost analyses in support of the negotiation process. As a result, the procurement contracting officer (PCO) did not obtain adequate consideration for revisions to contract specifications and requirements that reduced the Joint Venture's effort on the PV contract by about $1.9 million."

B. Navy Comments to Finding A

Out of the 47 waivers and deviations reviewed by the DoDIG, two waivers and two deviations were considered by the DoDIG to have potentially reduced the effort on the part of the Joint Venture and appropriate consideration may not have been obtained. In regard to the other 32 waivers and 11 deviations, the DoDIG found no significant cost impact and that the approval letters contained adequate instructions to protect the Government's interests. The DoDIG estimated the savings on the two waivers and two deviations to be $1,936,911, less than 1% of the contract price. The DoDIG recognized that the PV contract was still open and that adequate consideration for the waivers and deviations could be included in the final negotiated price of the fixed-price-incentive contract.

C. DoDIG Recommendations and Navy Comments

1. Recommendation 1.A. The DoDIG recommends that the ASPJ Program Manager "obtain from the contractor the cost impact, or the rationale for the lack of a cost impact, as required by Military Standard 480B for all future waivers and deviations on ASPJ contracts."

Navy Comments

Concur. Future waivers and deviations will be reviewed for cost impact and will be returned to the contractor when appropriate for contractor comment.

2. Recommendation 1.B. The DoDIG recommends that the ASPJ Program Manager "address consideration in recommending approval of waivers and deviations, as required by Military Standard 480B. Specifically, the program office should address the estimated cost impact provided by the contractor, factors used in determining adequate consideration, and rationale provided by the contractor if consideration is not warranted."

Navy Comments

Concur. Consideration has been evaluated in the approval of waivers and deviations, although not adequately documented. The DoDIG "concluded that the other 32 waivers and 11 deviations did not contain significant cost impact,...and the approval letters contained adequate instructions to protect the Government's interests..." All deviations and waivers were evaluated by the same JCCB. The waivers and deviations reviewed by the DoDIG contained specific documentation regarding consideration that included withholding of payments, implementation of F/A-18 fire control radar interface and WRA and SRA Environmental Stress Screening. Consideration will be formally evaluated and documented on future waivers and deviations.

3. Recommendation 2.A. The DoDIG recommends that the Procurement Contracting Officer "obtain an independent assessment of contractor cost impact estimates or other consideration offered from the cognizant Defense Contract Management Command activity before approval of any waivers and deviations."

Navy Comments

Concur. Obtaining an independent assessment of contractor's cost impact estimates or other consideration from the DCMC activity before approval of any waivers or deviations introduces a delay into the waiver/deviation approval process, which could seriously affect the test programs and other time critical activities. An alternative being used is to grant the waiver/deviation while specifically, in writing, reserving the right to pursue consideration. This permits the program to take delivery of needed assets and program continuation without the loss of any of the Governments rights. Independent assessments will be obtained prior to waiver approval when appropriate to the program.

4. Recommendation 2.B. The DoDIG recommends that the Procurement Contracting Officer "develop detailed Government cost estimates before negotiating modifications to ASPJ production contracts required as a result of waivers and deviations."

Navy Comments

Concur.

5. Recommendation 2.C. The DoDIG recommends that the Procurement Contracting Officer "obtain contractor certification of cost and pricing data for all approved waivers and deviations requiring contract modification as a result of identified cost impacts that exceed Federal Acquisition Regulation 15.804.2 thresholds."

Navy Comments

Concur.

6. Recommendation 2.D. The DoDIG recommends that the Procurement Contracting Officer "perform cost/price analyses of certified cost and pricing data submitted by the contractor in support of the negotiation process for contract modifications."

Navy Comments

Concur. Certified cost and pricing data will be obtained in accordance with FAR/DFARS guidance.

7. Recommendation 2.E. The DoDIG recommends that the Procurement Contracting Officer "include adequate consideration in the final negotiated price of the fixed-price-incentive contract N00019-87-C-0300 for waiver numbers W6442-004 and W6442-033 and Deviation numbers D6442-008 and D6442-013."

Navy Comments

Concur. The Navy will obtain adequate consideration in the final negotiated price.

Consideration was obtained and documented for two of the waivers, W6442-004 and W6442-033.

In the case of waiver W6442-004: The DoDIG's estimating method appears more simplistic than those methods generally used for these types of actions. Generic cost estimating procedures may not be applicable to ASPJ development. The program office is not aware of any Naval Avionics Center technical experience with respect to ASPJ ATAC-16M assembly

language development. Request a copy of the ASPJ specific estimate used by the DoDIG be provided to the program office for evaluation in the final contract negotiation.

In the case of waiver W6442-033: The DoDIG's cost estimate, for which no backup was provided, is based upon an incorrect interpretation of the contract. Environmental Stress Screening (ESS) is used to induce the occurrence of failures caused by poor workmanship, infant parts mortality, etc., prior to the system's delivery to the fleet or higher level testing. ESS is commonly tailored through the use of the Statement of Work (SOW), which takes precedence over the system specification. Tailoring is based on the system's complexity, past test/fleet failure data, and cost effectiveness. WRA and SRA level ESS were not required prior to the contract modification. MILSPEC 85022C simply describes how WRA and SRA level ESS is to be performed if it is called for in the statement of work. The ASPJ PV Statement of Work (SOW), paragraph 3.1.2.6.3, states that all ASPJ systems shall be subjected to tests in accordance with subparagraph 4.6.4 of MIL-C-85022C(AS). MIL-C-85022C(AS) subparagraph 4.6.4 addresses system level Environmental Stress Screening (ESS) only. WRA and SRA ESS were not in the SOW until the contract was modified. The cost differences associated with substituting lower level ESS for system level ESS on such a small production lot were considered negligible, although the contractor probably incurred a slight increase in the cost related to changing the flow of his manufacturing process. The emphasis was to have the substitution take effect as quickly as possible. The true cost savings related to lower level ESS are realized by the Government during future production lots when contractors will be able to bid proposals based on cost history.

In the case of deviations D6442-008 and D6442-013, adequate cost information was not readily available to determine the appropriate consideration. The PV systems affected were key elements of an active $26.5 million annual test program. The deviations were processed so that the PV test program would not be interrupted, with the understanding that consideration could be negotiated as part of the final contract settlement. The DoDIG estimates of $1.1 million for these two deviations (0.4% of the contract price) will be evaluated in negotiating the final contract price.

8. Recommendation 3. The DoDIG recommends that the Commander, Naval Air Systems Command "report and track the internal weaknesses discussed."

Navy Comments

Concur. This will be included in the NAVAIR FY92 certification.

II. Finding B: Production Decisions

A. Summary of DoDIG Finding

"As of April 30, 1991, the Navy acquisition strategy for the ASPJ was outdated and was no longer adequately justified from an economic and risk management standpoint. The acquisition strategy had not been adequately revised in consideration of the Air Force withdrawal from the program in December 1989 and subsequent reductions in Navy aircraft programs. Overall the ASPJ program was reduced from 2,303 to 356 units. The acquisition strategy called for 166 (47 percent) of the approved program requirement of 356 units to be awarded noncompetitively and equally between the two Joint Venture contractors before completion of operational test and evaluation (OT&E). The Navy can potentially reduce ASPJ procurement costs and program risk by proceeding directly to full-rate production and conducting a competitive procurement for the remaining requirement of 236 ASPJ units. Additionally, the $113 million of FY 91 procurement funds for the Lot II buy of 46 units can be programmed to other uses."

B. Navy Comments to Finding B

The ASPJ acquisition strategy was revised following the Air Force's withdrawal and the associated requirement reduction. The revised strategy was part of the Deputy Secretary of Defense's testimony to Congress on 11 May 1990. The former strategy of three low-rate initial production lots with two contractors was changed to reflect only two low-rate initial production lots followed by an option to competitively down select to one contractor at Lot IV. ASPJ is not being produced by the joint venture of ITT Avionics (ITTAV) and Westinghouse (WEC). All ASPJ production contracts have been and are planned to be competitively awarded.

The procurement costs and program risks associated with delaying production until after the completion of OT-IIE were specifically analyzed in a Navy production study. The production study was completed after the U.S. Air Force withdrew from the program and was based on a Navy requirement of 822 systems. The OSD CAIG validated the cost figures in May 1991. The results of that production study estimated the costs incurred from a break in production to be between $78 million and $287 million with a most likely cost of $152 million. The additional costs would be the result of prime and vendor learning losses, vendor loss, vendor requalification and escalation, all with no tangible benefit (e.g. test assets) received by the Government. The study results were presented at the 16 November 90 ASPJ DAB and in detailed follow-up briefings. In summary, the DoDIG recommendations would not save the $113M of procurement funds identified but would delay the expenditure/procurement until FY92. Delaying the procurement would create a production break, costing the Government an estimated additional $152M.

The ASPJ inventory requirement is driven by the inventory of Navy aircraft. The program costs presented to the OSD CAIG on 15 May 1991 were for 484 systems, with an estimated acquisition cost of $1.2B and a life cycle cost of $2.6B in FY90 dollars. The Navy requirement as of 24 June 1991 is 739 systems. Further increases in this quantity are probable due to strong FMS interest.

The 166 systems (47%) referred to by the DoDIG include 20 Production Verification systems (intended for testing only and not for fleet delivery), 100 Lot I production systems and a DoDIG estimated Lot II award of 46 systems. The current program buys only 136 production systems (18%) before the completion of operational evaluation.

Exit criteria were established by the DAB to measure the performance of ASPJ and evaluate the risks of proceeding. The Lot II exit criteria established an MTBF(I) of 75 hours with a minimum of 650 hours of test time accumulated. As of March 22, 1991, 729 hours of RGT had been completed with an MTBF(I) of 83.75 hours and a growth slope of 0.47. This MTBF(I) was above the DAB Milestone IIIA exit criteria. RGT is based on a test, analyze, fix concept (TAAF), during which testing is commonly halted while failure analysis is performed. Failure analysis has been completed on all of the failures which were under investigation and the corrective actions have been incorporated for all but two of the failures. All exit criteria were met.

After reviewing the associated risks in detail, USD(A) concluded in the 20 December 1990 Acquisition Memorandum that an FY 91 investment would be required to sustain the ASPJ production base until operational testing could be completed. USD(A) balanced the costs of restarting ASPJ production against the risks of continuing Lot II LRIP and authorized Lot II LRIP in a 1 July 1991 Acquisition Decision Memorandum.

c. DoDIG Recommendations and Navy Comments

1. Recommendation 1. That the Under Secretary of Defense for Acquisition "proceed directly to a FY 1992 Milestone III full-rate production and deployment decision on the Airborne Self-Protection Jammer program and not authorize any additional low-rate initial production."

Navy Comments

Do not Concur. The current acquisition strategy provides for competition at Lot II. Furthermore, to delay the award of a Lot II contract until 1992 will incur unacceptable program cost and risk.

2. Recommendation 2. That the Under Secretary of Defense for Acquisition "direct the timely issuance of a competitive solicitation for a firm-fixed-price contract with annual procurement options for the remaining ASPJ program, with the contract award to occur after the DAB review at the MS III full-rate production and deployment point."

Navy Comments

Partially Concur. The current acquisition strategy provides for competition at Lot II. Over $150 million in production break costs would occur if the contract award were delayed into 1992. The Under Secretary of Defense for Acquisition directed the Navy to immediately request proposals from the contractors, with priced options, for variable quantities up to the total remaining inventory objective. With only the production capacity of one contractor available (8 systems per month) and a 22 month production lead time, buy out of the program would take approximately 8 years. The economic risks associated with this long period may not justify a firm-fixed-price contract. Options include other contract types, procuring the factory test equipment from the losing contractor when it is available and procuring additional capacity. The Navy is in the process of evaluating the best strategy to execute USD(A) direction and is preparing a request for proposal.

3. Recommendation 3. That the Under Secretary of Defense for Acquisition "allocate the funds designated for Airborne Self-Protection Jammer under the Defense Agencies' budget line to the other three jammer programs in accordance with Public Law 101-511."

Navy Comments

Do not Concur. 10 U.S.C. 2400 formally establishes the criteria for low-rate initial production (LRIP) and provides for LRIP awards in order to promote an orderly transition to full-rate production. The EW DAB directed the use of an LRIP to establish production at a minimum essential rate. A reallocation to the other EW programs of the $63.1 million held for ASPJ would not allow the ASPJ program to preserve a production base. An estimated $152 million in production break costs would occur if the contract award is delayed into 1992.

ASPJ ACQUISITION DECISION MEMORANDUM, JULY 1, 1991

THE UNDER SECRETARY OF DEFENSE
WASHINGTON, DC 20301

ACQUISITION

1 July 1991

MEMORANDUM FOR SECRETARY OF THE NAVY
VICE CHAIRMAN, JOINT CHIEFS OF STAFF
DIRECTOR, OPERATIONAL TEST AND EVALUATION

SUBJECT: Airborne Self-Protection Jammer (ASPJ) Program -- ADM

On June 24, 1991, the Defense Acquisition Board (DAB) conducted a Program Review of the ASPJ program to consider the Navy request to proceed with a Lot 2 low rate initial production (LRIP) award at a rate sufficient to sustain minimum essential production. Lot 2 Exit Criteria were met. The Conventional Systems Committee supported the Navy's request.

I have considered the concerns expressed by Congress and others that operational testing (OT&E) should be successfully completed before going forward with further production. However, I believe that good cost management practices, in particular the avoidance of restart costs that would exceed continuation costs, mandate maintaining a minimum production base while OT&E is conducted. The Navy is therefore authorized to procure the minimum essential quantities needed to keep the production base viable until a downselect can be made to a single prime contractor. The minimum quantity shall be no more than four per month, split between the two contractors and shall not exceed a cost of $90M.

The Navy shall immediately request proposals from the contractors, with priced options, for variable quantities up to the total remaining inventory objective. These proposals shall be used to make a downselect decision within 12 months with the actual award contingent upon successful OPEVAL completion. OT&E results shall be utilized in the downselect decision in conjunction with other relevant tests, assessments, and prices as the Navy deems appropriate.

The system level measures of effectiveness (MOEs) discussed at the DAB are judged to be technically acceptable. The Navy shall add these MOEs to the baseline and submit it to the Joint Requirements Oversight Council (JROC) within 10 days. The JROC will review the baseline to validate that satisfaction of these MOEs will provide a system which fulfills the operational requirement for ASPJ. The JROC will then forward the baseline to me for approval based on their recommendations. The Navy may begin OT&E while the JROC review is pending.

The Director, OT&E will work closely with the Navy to monitor the progress and results of OT and provide the DAB with the earliest possible evaluation of operational effectiveness and suitability in support of the schedule delineated above.

The planned evaluation of built-in-test software under actual Reliability Growth Test conditions should continue and verification of continuing satisfactory performance should be obtained prior to a full rate decision. The Tactical Aircraft Self Protection Analysis should be submitted as soon as possible for sufficient evaluation prior to Milestone III.

Don Yockey