Audit Report

OFFICE OF THE INSPECTOR GENERAL

DEFENSE ACQUISITION BOARD REVIEW PROCESS

Report No. 95-068 December 30, 1994

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Acronyms

ASAS	All Source Analysis System
ASPJ	Airborne Self-Protection Jammer
COEA	Cost and Operational Effectiveness Analysis
DAB	Defense Acquisition Board
D(PA&E)	Director, Program Analysis and Evaluation
DSARC	Defense Systems Acquisition Review Council
MIDS	Multifunctional Information Distribution System
OSD	Office of the Secretary of Defense
SFW	Sensor Fuzed Weapon
SRAM II	Short Range Attack Missile II
USD(A)	Under Secretary of Defense for Acquisition
USD(A&T)	Under Secretary of Defense for Acquisition and Technology

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

December 30, 1994

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY

SUBJECT: Defense Acquisition Board Review Process (Report No. 95-068)

We are providing this final summary report for your review and comments. The report addresses our evaluation of the effectiveness of the Defense Acquisition Board review process during FYs 1992 and 1993. Comments on a draft of this report were considered in preparing the final report.

DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. Therefore, final comments on the unresolved recommendations must be provided by February 28, 1995. See the "Management Comments Required" section at the end of the finding for recommendations you must comment on and the specific requirements for your comments. Recommendations are subject to resolution in accordance with DoD Directive 7650.3 in the event of nonconcurrence or failure to comment. We also ask that your comments indicate concurrence or nonconcurrence with the material internal control weaknesses highlighted in Part I.

We appreciate the courtesies extended to the audit staff. If you have questions on this report, please contact Mr. John A. Meling at (703) 604-9091 (DSN 664-9091) or Mr. Brian M. Flynn, Project Manager, at (703) 604-9076 (DSN 664-9076). Appendix H lists the distribution of this report. The audit team members are listed inside the back cover.

Robert J. Lieberman

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 95-068 **December 30, 1994**
(Project No. 2AE-0033)

DEFENSE ACQUISITION BOARD REVIEW PROCESS

EXECUTIVE SUMMARY

Introduction. This report is our sixth in a series of summary reports issued since 1984 that evaluated the Defense Acquisition Board (DAB) review process. The DoD Components submit documentation for DAB reviews highlighting the status of the program and its readiness to proceed into the next phase of the acquisition cycle and make recommendations on cost-schedule-performance trade-offs for decision by the Under Secretary of Defense for Acquisition and Technology. The DAB review should provide an independent assessment of the program and verify that exit criteria and the minimum required accomplishments of the phase preceding the milestone have been completed.

Objectives. The audit objective was to evaluate the effectiveness of the DAB review process, including the adequacy of documentation provided to the DAB in support of major milestone and program reviews. Internal controls related to the objective were also assessed.

Audit Results. Implementation of the February 1991 revisions to the DoD 5000 series of acquisition regulations has resulted in significant improvement in the quality of documentation used in the DAB process. Overall, DAB documentation was well-prepared and met requirements. However, we identified a systemic deficiency in cost and operational effectiveness analyses. The Military Departments did not always perform adequate cost and operational effectiveness analyses. Additionally, user involvement in the cost and operational effectiveness analysis process could be improved. Consequently, program alternatives and the impact of acquisition program baseline breaches were not properly considered in making program decisions.

Internal Controls. The audit identified a material internal control weakness; controls did not always ensure that cost and operational effectiveness analyses were performed when needed. Part I of the report discusses this internal control weakness.

Potential Benefits of Audit. Implementation of the recommendations in this report will enhance the effectiveness of the DAB review process. Three of the nine audit reports on major Defense acquisition programs being summarized in this report identified potential monetary benefits. However, no potential monetary benefits are associated with the finding and recommendations in this summary report on the DAB review process (Appendix F).

Summary of Recommendations. We recommended more timely identification and approval of requirements for cost and operational effectiveness analyses.

Management Comments. The Director, Acquisition Program Integration, provided management comments to the draft report for the Under Secretary of Defense for Acquisition and Technology. The Director indicated general concurrence with our recommendations for the finding on cost and operational effectiveness analyses. He

nonconcurred with the recommendation that cost and operational effectiveness analyses be reviewed and updated, if needed, when a breach in acquisition program baseline occurred. He partially concurred with the recommendations that the Joint Requirements Oversight Council assess the alternatives to use in cost and operational effectiveness analyses and the adequacy of the analyses performed. In commenting on the draft report finding on exit criteria, the Director stated that our recommendations would add levels of complexity to the bureaucracy that the Administration was attempting to reduce. Part II contains a discussion of management comments to the report. Part IV contains the complete text of management comments.

Audit Response. We deleted the draft finding on the use of exit criteria in view of management comments that recommended changes would not be made without more conclusive examples of weaknesses in the current use of exit criteria. We plan to initiate a separate audit of this subject if it is still warranted when current actions to streamline the acquisition review process are completed. In response to this final report, we request that the Under Secretary of Defense for Acquisition and Technology reconsider the position taken concerning the recommendation to review and update the cost and operational effectiveness analyses, if needed, when a breach in acquisition program baseline occurs. We also request an estimated date for revision of DoD Instruction 5000.2 and the results of coordination with the Joint Requirements Oversight Council be provided in the reply to this final report by February 28, 1995.

Table of Contents

Executive Summary i

Part I - Introduction 3

Background 2
Objectives 3
Scope and Methodology 3
Internal Controls 4
Prior Audits and Other Reviews 4
Another Matter of Interest 5

Part II - Finding and Recommendations 7

Cost and Operational Effectiveness Analysis 8

Part III - Additional Information 17

Appendix A. Summary of Milestone Decision Points and Acquisition Phases 18
Appendix B. Synopses of Prior Defense Acquisition Board Summary Audit Reports 19
Appendix C. Synopses of System Audit Reports of the Defense Acquisition Board Process 21
Appendix D. Extract From DoD Instruction 5000.2 on Cost and Operational Effectiveness Analyses 27
Appendix E. Audit Responses to Specific Management Comments 29
Appendix F. Summary of Potential Benefits Resulting From Audit 34
Appendix G. Organizations Visited or Contacted 35
Appendix H. Report Distribution 37

Part IV - Management Comments 39

Director, Acquisition Program Integration, Comments 40

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

Part I - Introduction

Background

This report is the sixth in a series of summary reports prepared since 1984 that evaluate the Defense Acquisition Board (DAB) process. The DAB is the senior advisory body to the Under Secretary of Defense for Acquisition and Technology[1] (USD[A&T]) responsible for enforcing policies and procedures governing the operations of the DoD acquisition process. The acquisition process is structured in distinct logical phases separated by major decision points, called milestones. DAB reviews are held at each major milestone decision point in the acquisition process. Each decision point leads to a phase of the acquisition process (Appendix A).

When the USD(A&T) feels that issues for acquisition programs should be resolved between milestone reviews, a DAB program review addresses those special issues.

The DAB is the primary forum to advise the USD(A&T) on mission needs approved by the Joint Requirements Oversight Council for Milestone 0 reviews, possible concept exploration and definition study efforts, Milestone I through IV decision point reviews, and program reviews of major Defense acquisition programs subject to DAB oversight. The reviews ensure that a program is ready to proceed into more advanced stages of development or production before receiving USD(A&T) approval and that proposed program plans for subsequent stages are consistent with sound acquisition management practices.

The DAB is supported by three committees: the Strategic Systems Committee; the Conventional Systems Committee; and Command, Control, Communications, and the Intelligence Systems Committee. The cognizant DAB Committee has several responsibilities. Each Committee conducts planning meetings to establish program document requirements and documentation reviews to ensure that all exit criteria and the minimum required accomplishments of the phase preceding the milestone are complete and to provide the basis for the preparation of the integrated program assessment of the program for presentation to the DAB. The DAB Committees identify the issues to be addressed at the DAB review and make key recommendations for USD(A&T) action.

After the Committee review, the DAB conducts the milestone review meeting focusing on four questions pertinent to approving a program to proceed to the next acquisition phase:

- Where is the program (versus where it should be)?
- Where is the program going (and how will it get there)?
- What risks exist (and how will those risks be managed)?

[1] Formerly the Under Secretary of Defense for Acquisition (USD[A]).

- Is the plan for the program affordable?

After a full discussion at the DAB review of the issues, trade-offs, baselines, exit criteria, and proposed acquisition strategy, the USD(A&T) determines the actions to be taken. USD(A&T) decisions resulting from DAB reviews are in an acquisition decision memorandum, signed by the USD(A&T).

Objectives

The overall audit objective was to evaluate the effectiveness of the DAB review process. Specifically, we examined the adequacy of documentation provided by the Military Departments and Defense agencies to the Defense Acquisition Board in support of major milestones and program reviews. Further, we evaluated compliance with DoD Directive 5000.1, "Defense Acquisition," February 23, 1991; DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991; DoD Manual 5000.2-M, "Defense Acquisition Management Documentation and Reports," February 23, 1991; and congressional direction issued to the Office of the Secretary of Defense (OSD). We also reviewed applicable internal controls.

Scope and Methodology

We performed this program audit 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. The audit was conducted from July 1992 through December 1993 and reviewed data and information dated from 1975 through 1993 relating to four major Defense acquisition programs discussed in this report. We have also consolidated the findings and recommendations concerning the three major Defense acquisition programs reviewed in the prior phase of this audit into this report because of the direct correlation of the issues identified.

The acquisition programs selected for the FYs 1992 and 1993 audits of the DAB review process and the order in which they were reviewed were the Sensor Fuzed Weapon (SFW), F/A-18 E/F Aircraft, M1A2 ABRAMS Tank, Airborne Self-Protection Jammer (ASPJ), All Source Analysis System (ASAS), Multifunctional Information Distribution System (MIDS), and DDG-51 Aegis Destroyer. This report also summarizes information from audits of the C-17 Aircraft and Short Range Attack Missile II (SRAM II) programs that included findings involving the DAB review process. Although the President terminated the SRAM II Program on September 27, 1991, in a nuclear arms reduction initiative, it is in this DAB summary report because our review of the SRAM II Program indicated systemic problems with the DAB review process.

We performed audit field work related to the DAB review process at OSD and Military Department organizations responsible for the preparation and review of DAB-required documents. We also visited selected contractor facilities. A list of organizations visited or contacted is in Appendix G.

We assessed the reliability of the computer-processed data used as audit evidence to the extent necessary to accomplish the audit objectives. Data testing was performed to confirm the completeness and authenticity of evidence used to support the findings and recommendations related to the nine major Defense acquisition programs reviewed.

Internal Controls

We assessed the implementation of requirements in DoD Directive 5010.38, "DoD Internal Management Control Program," April 14, 1987, and the internal management controls used to conduct Defense Acquisition Board reviews and prepare supporting DAB documentation. Those controls and procedures are specified in DoD Directive 5000.1, "Defense Acquisition," and DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991. The audit identified material internal control weaknesses, as defined DoD Directive 5010.38. The controls were not effective related to cost and operational effectiveness analyses (COEAs) and status reporting against approved exit criteria. Neither area was identified as an assessable unit within the established internal management control program. As a result, vulnerability assessments and management control reviews were not performed for those areas. We intend to perform an audit specifically examining the implementation of the internal management control program for major Defense acquisition programs. Therefore, separate recommendations addressing the internal management control program are not in this report. Copies of the final report will be provided to the senior officials responsible for internal controls within OSD and the Military Departments.

Prior Audits and Other Reviews

Since 1984, we have issued five summary audit reports evaluating the DAB and the Defense Systems Acquisition Review Council (the predecessor to the DAB) processes. The results of those summary reports are briefly presented in Appendix B. This summary report is based on our review of nine major programs, addressed in 10 audit reports issued between December 1991 and December 1993 with DAB-related findings. The results of these 10 reports, including findings, recommendations, and management comments, are synopsized in Appendix C.

Another Matter of Interest

The Office of the Inspector General, DoD, issued Report No. 94-014, "Low-Rate Initial Production in Major Defense Acquisition Programs," November 9, 1993, recommending that entry into low-rate initial production requires a milestone review equivalent in stature to the four milestone reviews in the present DAB process. In response to our recommendation, the Office of the USD(A&T) indicated that, as an alternative corrective action, it would be willing to implement a more rigorous review at Milestone II that would determine whether the next milestone should more appropriately be a Milestone III, full-rate production approval, or a Milestone IIIA, low-rate production approval. However, implementation of this alternative corrective action is currently in abeyance pending the results of a specially formed Process Action Team review to streamline the entire Defense acquisition process. Certain deficiencies noted in this audit would potentially have been avoided by a more thorough review of acquisition programs before entering low-rate initial production.

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Part II - Finding and Recommendations

Cost and Operational Effectiveness Analysis

The Military Departments did not always perform adequate cost and operational effectiveness analyses (COEA) to determine the cost and operational advantages and disadvantages of program alternatives, including the impact of changes in assumptions such as performance characteristics and cost. COEAs were not performed because DoD guidance did not provide adequate lead times between establishing COEA documentation requirements and the scheduled DAB review and because COEA updates were not mandatory when a program breached its acquisition program baseline. Deficiencies in the COEAs occurred because the alternatives to be assessed and measures of effectiveness to be used were not approved at the start of the analysis by the milestone decision authority with input from the Joint Requirements Oversight Council. Additionally, the Joint Requirements Oversight Council did not provide an assessment of the COEA results to the Defense acquisition executive in support of the DAB milestone review. As a result, programmatic decisions were being made, including continuation of the current acquisition phase and entry to the next phase, without fully considering the cost-effectiveness analyses of various program alternatives or the impact of breaches of acquisition program baselines. In addition, programs were delayed to accomplish analyses where requirements were identified late in the DAB review process.

Background

DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991, part 4, and DoD Manual 5000.2-M, "Defense Acquisition Management Documentation and Reports," February 23, 1991, part 8, provide procedures and guidelines for COEAs. The COEAs are to evaluate the costs and benefits, such as operational effectiveness or military utility, of alternative actions to meet recognized Defense needs. The COEAs are required to be prepared and considered at milestone decision reviews. They aid decisionmaking, facilitate communications, and document acquisition decisions by highlighting the advantages and disadvantages of the alternatives being considered and showing the sensitivity of each alternative to possible changes in key assumptions, such as threat, or variables, including selected performance capabilities. Further, COEAs provide early identification and discussion of reasonable alternatives among decisionmakers and staffs at all levels. Disagreements on key assumptions and variables must be explicitly identified and should not be immersed in the presentation of a compromise position. The COEA provides the rationale for the decisions by providing a historical record of alternatives at each milestone. Additionally, COEAs must have thresholds that are the maximum cost or minimum acceptable performance

that can be tolerated in a system. The COEA draws upon system interrelationships because individual systems generally cannot be evaluated in isolation and few deficiencies can be resolved by just one system.

The DoD Component responsible for the mission area in which a deficiency or opportunity is identified normally prepares the COEA. The DoD Component head identifies the independent analysis organization to prepare the COEA. The Joint Staff responsibility is to ensure that the full range of alternatives is considered, organizational and operational plans are developed, and joint-Service issues are addressed.

The Director, Program Analysis and Evaluation (D[PA&E])[2], has primary responsibility for assessing the adequacy of COEAs submitted in support of DAB reviews. The D(PA&E) provides, as necessary, guidance tailored to the program under review in the DAB review procedures from the USD(A&T). In the DAB process, the COEA is required at milestone decision reviews starting with Milestone I. At Milestones III and IV, the analysis updates the previous analysis required at Milestone II. The milestone decision authority specifies the elements of the updated analysis for a Milestone III review as part of the pre-milestone planning process.

Cost and Operational Effectiveness Evaluation

COEAs were not always performed when required or did not always adequately address viable alternatives to proceeding with new major Defense acquisition programs. The Military Departments did not perform COEAs to determine the advantages and disadvantages of alternatives or the impact on cost and operational effectiveness of changes in key program assumptions for six of the nine individual weapon systems reviewed: F/A-18 E/F aircraft, M1A2 tank, C-17 aircraft, SRAM II missile, ASPJ jammer, or DDG-51 destroyer.

The DoD policy and procedures related to the content, performance, and reporting of the results of COEAs required improvement. Specifically, the alternatives to be considered in a COEA and the measures of effectiveness used to compare the alternatives were not specifically approved by the milestone decision authority before the start of the COEA. As a result, the analyses actually performed were limited in some cases, such as the F/A-18 E/F, C-17, and DDG-51 programs, to alternatives that excluded viable solutions to the mission need. The milestone decision authority, in conjunction with the Joint Staff, has the implied responsibility to ensure that the full range of reasonable alternatives is considered. However, DoD Instruction 5000.2 does not specify how either the decision authority or the Joint Staff will fulfill this critical responsibility or the timing of the approval of alternatives to be considered related to the scheduled DAB milestone or program review. Because DoD Manual 5000.2M states that determining the alternatives to be used in the

[2] Formerly the Assistant Secretary of Defense (Program Analysis and Evaluation).

COEA is one of the most important steps in developing the analysis, the absence of specific procedures for review and approval of the COEA alternatives is a material weakness in DoD acquisition policy.

The DoD Instruction 5000.2, part 4, section E, on COEAs states that the D(PA&E) will provide, as necessary, guidance tailored to the program under review and that representatives of that office and the cognizant DAB Committee should participate in the early stages of development of the COEA. The nature of their guidance is not addressed in the DoD Instruction. This direction is insufficient to ensure that both the alternatives to be analyzed and the measures of effectiveness to be used in the analysis are specifically approved by the decision authority and the Joint Staff as the representative for the eventual user. Additionally, the guidance is provided at the time of the DAB planning meeting, which occurs 6 months before the scheduled DAB review. The draft DAB documentation, which includes the COEA, must be provided to the cognizant DAB Committee about 60 days before the scheduled DAB review. As a result, only about 120 days are available to prepare the COEA under existing policy and procedures in DoD Instruction 5000.2.

In addition, key measures of effectiveness were not determined sufficiently before the start of the COEA to permit validation by the D(PA&E) and approval by the milestone decision authority. Measures of effectiveness are defined to measure operational capabilities in terms of engagement or battle outcomes of program alternatives compared to a common baseline. In accordance with DoD Instruction 5000.2, measures of effectiveness should be developed at a level of specificity such that a system's effectiveness during developmental and operational testing can be assessed with the same effectiveness criteria as used in the COEA. This level of specificity permits further refinement of the COEA to reassess cost-effectiveness compared to alternatives if that performance, as determined during testing, indicates a significant drop in effectiveness compared to levels assumed in the COEA. Approval of the alternatives to be considered in the COEA and the measures of effectiveness to be used in the analysis would help ensure that the resulting analysis was sufficient to support the appropriate acquisition decision. Further, the milestone decision authority did not approve the independent organizations designated to perform COEAs.

DoD Instruction 5000.2, part 13, section D, "Joint Requirements Oversight Council Review Procedures," discusses Joint Requirements Oversight Council responsibilities for review of mission need statements, operational requirements documents, and acquisition program baselines in support of the overall DAB review process. However, the DoD Instruction does not address either Joint Requirements Oversight Council review of the measures of effectiveness before performance of the COEA or the results of the COEA as a basis for the Joint Requirements Oversight Council assessment provided to the DAB. As discussed in DoD Instruction 5000.2, part 4, section E, the COEA depends upon supporting analyses of the mission need, threat and U.S. capabilities, system interrelationships, and multi-role systems. A description of those analyses extracted from DoD Instruction 5000.2 is in Appendix D. While review of the mission need statements, operational requirements documents, and acquisition program baselines by the Joint Requirements Oversight Council is essential, approval of those documents does not automatically approve the supporting

analyses to the COEA because of significant differences in the content of the documents and because of the introduction of assumptions in the COEA pertaining to such factors as system employment and enemy tactics. As shown in Appendix D, the COEA depends heavily on the input of the user, yet the process for providing the input can clearly be improved. Therefore, the Joint Requirements Oversight Council should be required to assess the COEA and the DAB documents already required to be reviewed as a basis for providing the Joint Requirements Oversight Council assessment to the DAB.

For example, the mission need analysis supporting the COEA assesses the strengths and weaknesses of a military force confronting a postulated threat in a specified scenario or set of circumstances such as force structure, geographic location, and environmental conditions. Consistent with the Defense Planning Guidance, scenarios are selected and the COEA assesses how the alternatives under consideration would contribute to the national military mission. However, those scenarios are not defined in detail in the DAB documents reviewed by the Joint Requirements Oversight Council, and the Joint Requirements Oversight Council is not required to provide specific input to the D(PA&E) on the mission need analysis or other elements of the COEA, such as the assumptions made, that can significantly impact the results of the analysis.

Cause for the Lack of a COEA

COEAs were not performed because DoD guidance did not provide adequate lead times between establishing DAB documentation requirements and scheduling the actual DAB review. The DoD guidance establishes a process for Defense acquisition executive and Joint Requirements Oversight Council approval of the critical and underlying elements of the COEA to be performed.

Lead Time. DoD Instruction 5000.2, part 13, discusses DAB review procedures and states that the DAB milestone review process will begin with a planning meeting at least 6 months before the DAB milestone review. One purpose of the milestone planning meeting is to assess the plans for key milestone documents such as the COEA, independent cost estimate, test and evaluation master plan, and acquisition strategy report. The 6-month lead time between the DAB planning meeting and the actual DAB milestone review appears to be insufficient, considering all requirements associated with a COEA as outlined in DoD Manual 5000.2-M, part 8. The lead time should be at least 1 year for assessing the plans for a COEA. Additionally, to avoid program schedule delays and disruption caused by questioning COEA requirements immediately preceding DAB reviews, the Defense acquisition executive should review and approve the alternatives and measures of effectiveness in the COEA before its start. The Joint Requirements Oversight Council and D(PA&E) should base their approval on the COEA requirements recommended by the cognizant Service acquisition executive. Further, to safeguard the independence of the COEA performed, the Defense acquisition executive should also approve the independent organization designated to perform the COEA so that the need for supplemental analysis is minimized or eliminated. Approval of the

assumptions, alternatives, and measures of effectiveness used and the independent organization to perform the COEA is especially needed because, under current procedures, organizations perform repeated cost benefit and effectiveness analyses that vary widely in assumptions, measures of effectiveness, and alternatives assessed.

Program Breaches. DoD Instruction 5000.2 provides that the milestone decision authority may hold a program review before approving a recommended baseline change, but the Manual does not require an update of a COEA when a program breaches its acquisition program baseline. While such updates need not be a complete reaccomplishment of the COEA, the impact of the baseline breach on the continued cost and operational effectiveness of the system should be assessed and would provide the USD(A&T) with an effective tool for evaluating the status of the program. The impact of the breaches for the C-17, SRAM II, and M1A2 Tank Programs should have resulted in updates to respective COEAs to provide USD(A&T) additional data for evaluating the programs. The COEA updates may also have eliminated or reduced the management oversight those programs experienced as a result of the breaches. DoD Instruction 5000.2 requires that COEAs include a sensitivity analysis to highlight the impact of changes in factors such as threat, key performance criteria, and baseline parameters. If breaches in the acquisition program baseline exceed the ranges considered in the sensitivity analysis performed, an update of the COEA should normally be required.

Effect of Not Performing COEAs

The cost and operational effectiveness of various program alternatives was not being fully considered before proceeding with programmatic decisions. The objective of a COEA is to focus on fulfilling mission needs rather than supporting continued procurement of a particular system or platform. However, we found that the analyses often were tailored to support the recommended alternative. The COEA is absolutely fundamental to sound acquisition decisions and should be afforded a high priority in preparation for DAB reviews. Strengthening the procedures associated with timely approval of COEA requirements will ensure that the resulting analysis is sufficient to support the decision to be made. We recognize that the timing of the start of the COEA can be impacted by other DAB documentation, such as program cost estimating, affordability assessments, and test and evaluation master plans. However, earlier completion of those documents would provide more time for preparation of DAB documentation and facilitate program management of major Defense acquisition programs. Further, the COEA sensitivity analysis can be sufficiently broad to encompass all COEA assumptions, and the models often can be revised to recompute cost-effectiveness comparisons.

The increased involvement of the Joint Requirements Oversight Council in approving COEA alternatives and measures of effectiveness before conducting the analysis and reviewing the resulting analysis including the validation of the assumptions used would ensure that the user requirements are properly

translated into the COEA. Debate regarding viable alternatives or measures of effectiveness should not be delayed until scheduled DAB reviews are imminent. Early user involvement should ensure the original COEA is done properly.

Review and update, if required, of the COEA in support of revisions to the acquisition program baseline can limit the need for DAB program reviews or other forms of additional oversight. Specifically, if the COEA is still valid after considering the revisions to the acquisition program baseline, then the need for oversight reviews to consider acquisition program baseline revisions should be minimized.

Recommendations, Management Comments, and Audit Response

We recommend that the Under Secretary of Defense for Acquisition and Technology revise DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991, to include requirements for:

1. A cost and operational effectiveness analysis supporting a Defense Acquisition Board milestone or program review be established at least 12 months before the scheduled review and include specific approval by the milestone decision authority of the alternatives to be assessed, measures of effectiveness to be utilized, and the independent organization designated to perform the analysis.

Management Comments. The Director, Acquisition Program Integration, responded for the Under Secretary of Defense for Acquisition and Technology. The Director concurred indicating that DoD Instruction 5000.2 would be revised to require cost and operational effectiveness analyses to be started 12 months before the DAB as a normal procedure. The complete text is in Part IV.

Audit Response. We consider the Director's comments responsive. However, in response to the final report, please estimate when revision of DoD Instruction 5000.2 may be expected.

2. Review and update, if needed, existing cost and operational effectiveness analyses as a part of the approval process for baseline revisions when a program breaches its acquisition program baseline.

Management Comments. The Director nonconcurred, stating that given the sheer number of acquisition program baseline breaches, implementing a recommendation to automatically update cost and operational effectiveness analyses when acquisition program baseline breaches occur would shut down their entire acquisition process. The Director noted that the nature and magnitude of an acquisition program baseline breach may not necessitate an update of the cost and operational effectiveness analysis and that an update of

the cost and operational effectiveness analysis could take 6 to 12 months. The Director also felt that the recommendation would be a massive overkill that would violate the spirit of the National Performance Review, which found an overwhelming number of complex regulations.

Audit Response. The Director misread the recommendation. We agree that update of a program's cost and operational effectiveness analysis may not always be necessary. The recommendation is that the cost and operational effectiveness analysis should be reviewed and updated, if needed (underscoring added for emphasis), as a part of the approval process for baseline revisions. The USD(A&T) generally would need to know at least the rough magnitude of the impact of a baseline breach on the continued cost and operational effectiveness of a system.

Management comments indicate that needed updates of cost and operational effectiveness analyses should not be made "automatically" because such updates would require significant amounts of work. Our recommendation is based on the logic that if the facts and circumstances upon which a program's cost and operational effectiveness analysis were made have changed, then updates are often, but not always, needed to determine the continued cost and operational effectiveness of the system. Given the cost of major Defense acquisition programs, DoD's best interest is to get the information needed to make sound management decisions, even when significant amounts of work are required.

The National Performance Review cites the need to eliminate unnecessary and unproductive rules, but nothing in this report should be construed as advocating procedures that are unsound. Based on this clarification of the intent of our recommendation, we request that the Office of the Under Secretary of Defense for Acquisition and Technology reconsider its position in response to the final report.

3. The Joint Requirements Oversight Council to provide an assessment to the Defense acquisition executive of the alternatives to be considered in cost and operational effectiveness analyses on major Defense acquisition programs and the measures of effectiveness to be used before the start of the analysis.

Management Comments. The Director partially concurred, stating that early involvement of the Joint Requirements Oversight Council in the cost and operational effectiveness analysis process would be useful, but that the Joint Requirements Oversight Council had not responded to his office on the recommendation. The Director indicated that the issue would be discussed with the Joint Requirements Oversight Council.

Audit Response. The Director's comments were partially responsive. In reply to the final report, please estimate when coordination with the Joint Requirements Oversight Council will be completed and indicate management's position on the recommendation.

4. The Joint Requirements Oversight Council to provide an assessment to the Director, Program Analysis and Evaluation, on the adequacy of the cost and operational effectiveness analyses performed on major Defense acquisition programs.

Management Comments. The Director partially concurred, stating that the Director for Program Analysis and Evaluation would welcome assessment of the alternatives to be considered in cost and operational effectiveness analyses by the Joint Requirements Oversight Council, but noted that the Joint Requirements Oversight Council had not responded to his office on the recommendation. The Director indicated that the issue would be discussed with the Joint Requirements Oversight Council.

Audit Response. We are pleased with the comments on this recommendation. In response to the final report, please estimate when coordination with the Joint Requirements Oversight Council will be completed and management's final position on the recommendation.

Management Comments on the Finding. In Appendix E, we provide audit responses to specific management comments to the draft report pertaining to the content of the two draft audit findings.

Management Comments Required

Management is requested to comment on the items indicated with an "X" in the following table.

Management Comments Required on Finding

		Responses Should Cover			
Number	Addressee	Concur Nonconcur	Proposed Action	Completion Date	Related Issues
1.	USD(A&T)			X	
2.	USD(A&T)	X	X	X	Internal Control
3.	USD(A&T)	X	X	X	
4.	USD(A&T)	X	X	X	

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Part III - Additional Information

Appendix A. Summary of Milestone Decision Points and Acquisition Phases

The milestone decision process starts with the identification of broadly stated mission needs that cannot be satisfied by nonmateriel solutions.

Milestone 0. Concept Studies Approval marks the initial formal interface between broadly stated requirements and acquisition management systems. For potential programs passing this decision point, studies of alternative material concepts are conducted to identify the most promising solutions to valid user needs.

Milestone I. Concept Demonstration Approval marks the start of a new acquisition program. At this decision point, the concept baseline containing initial program cost, schedule, and performance objectives is established. Programs passing this decision point enter the Demonstration and Validation phase in which technologies critical to the most promising concepts are demonstrated and incorporated into system design.

Milestone II. Development Approval establishes the development baseline containing refined program cost, schedule, and performance objectives. Programs passing this decision point enter the Engineering and Manufacturing Development phase in which the most promising design approaches developed in the preceding phase are translated into stable, producible, and cost-effective design systems.

Milestone III. Production Approval establishes a production baseline containing refined program cost, schedule, and performance objectives. Programs passing this decision point enter the Production and Deployment phase in which a stable, efficient production and support base is established. An operational capability that satisfies the mission need must also be achieved during this phase.

Milestone IV. Major Modification Approval determines whether major modification of a system already in production is warranted. Programs passing this decision point enter the Operations and Support phase in which systems are monitored to ensure that they continue to provide the capabilities required to meet mission needs and that identified shortcomings are corrected.

Appendix B. Synopses of Prior Defense Acquisition Board Summary Audit Reports

Since 1984, we have issued five summary audit reports evaluating the DAB and the Defense Systems Acquisition Review Council (the predecessor to the DAB) processes.

Report No. 91-032, "Summary Report on the Audit of the Effectiveness of the Defense Acquisition Board Process--FY 1988," January 25, 1991. This report summarized the results of audits covering five systems but did not contain findings or recommendations. The report stated that actions had been taken regarding the recommendations in the reports on the individual systems. In addition, Congress and OSD took numerous actions subsequent to the issuance of the system reports.

Report No. 87-193, "Summary Report on the Audit of the Effectiveness of the Defense Systems Acquisition Review Council (DSARC) Process--FY 1986," July 17, 1987. This report summarized the results of audits covering seven individual systems but did not find new systemic issues that would require policy changes and, therefore, did not contain new findings and recommendations. However, it did reaffirm prior observations that more rigorous enforcement of existing acquisition policy was needed and that recommendations contained in prior summary reports remained valid and unaccomplished.

Report No. 87-166, "Summary Report on the Audit of the Effectiveness of the Defense Systems Acquisition Review Council (DSARC) Process--Phase III," June 3, 1987. This report summarized the results of audits covering six systems and presented two summary findings based on systemic conditions noted during the review. The first finding, "Operational Thresholds," reported that program managers had to provide adequate operational performance thresholds at the Milestone II decision point to serve as overall operational objectives to be met before receiving production approval from the Secretary of Defense. The second finding, "Major Changes to Acquisition Programs," reported that the Navy and the Air Force restructured the acquisition strategies for two major programs without obtaining the permission of the Secretary of Defense.

Report No. 85-104, "Summary Report on the Audit of the Effectiveness of the Defense Systems Acquisition Review Council (DSARC) Process--Phase II," July 28, 1985. This report summarized the results of audits covering 10 systems and presented 2 summary findings based on systemic conditions noted during the review. The first finding, "Acquisition Strategy," reported that required Milestone I reviews were not held or planned for 6 of the 10 major systems in the audit. The second finding, "Justification for a Major System New Start Document," reported that the new start documents for five major systems did not adequately present all necessary information, as required by the 5000 series of DoD Directives.

Report No. 85-009, "Summary Report on the Audit of the Effectiveness of the Defense Systems Acquisition Review Council (DSARC) Process," October 22, 1984. This report summarized the results of audits covering six systems and presented two summary findings based on systemic conditions noted during the audit. The first finding, "DSARC Documentation," reported that required documentation was not always prepared and provided to the DSARC within established time frames. The second finding, "Impact of Funding Issues," reported that the Military Departments had not adequately identified either the source or the amount of funding required to accomplish the system development objectives for the six systems reviewed.

Appendix C. Synopses of System Audit Reports of the Defense Acquisition Board Process

Between December 1991 and December 1993, we issued 10 audit reports, involving 9 major Defense acquisition programs, with DAB-related findings.

Report No. 94-019, "The DDG-51 Destroyer Program as Part of the Audit of the Defense Acquisition Board Review Process--FY 1993," December 10, 1993. This report found that the Navy is retiring surface combatants earlier than normally scheduled without considering the cost-effectiveness of upgrades to existing ships instead of new DDG-51 procurement. The report found that the Navy had not performed an adequate COEA supporting the Milestone IV DAB review. The analysis submitted did not meet the requirements of DoD Manual 5000.2. Without an adequate COEA, viable alternatives such as upgrades, lower cost ship programs, and alternative mixes of deployed ships were not adequately addressed. The Navy could reduce DDG-51 Destroyer procurements by eight ships and reduce funding requirements by about $4.3 billion in FY 1993 constant dollars over the FY 1994 Future Years Defense Plan. Additionally, the total buy of DDG-51 Destroyers could also be reduced as a result of performance of a COEA on all alternatives. Also, cost growth on future contracts and higher-than-estimated inflation rates would increase the reduction in funding requirements projected over the Five Year Defense Plan.

We recommended that procurement of DDG-51 Destroyers be limited to two ships per year through the remainder of the FY 1994 Future Years Defense Plan, retirement of operably capable surface combatants be deferred, and a formal COEA and affordability assessment of the DDG-51 Destroyer Program to include the 21st Century Destroyer Program be completed before award of further DDG-51 production contracts. On February 24, 1994, the Director, Acquisition Program Integration responded to the report. We determined that USD(A&T) and Navy had taken or planned actions subsequent to the issuance of the report that were sufficient to resolve all recommendations.

Report No. 93-120, "Review of the Multifunctional Information Distribution System as a Part of the Audit of the Defense Acquisition Board Review Process--FY 1993," June 21, 1993. This report found that the DAB process had not been effective for the MIDS Program. In the 3 years since MIDS transitioned to a DAB-cognizant major Defense acquisition program, no DAB review was held, no acquisition program baseline was approved, and no exit criteria were established as prerequisites for entry into the Engineering and Manufacturing Development phase. Also, the impact on interoperability of Air Force withdrawal from the Program was not adequately addressed. The international agreement for the current phase was concluded without a DAB review and before an acquisition strategy was approved and was not signed by the proper authority. Further, not all documentation required by regulations for

the upcoming Milestone II review was being prepared; however, the Navy was complying fully with the more limited document requirements established by the Office of the Secretary of Defense for the MIDS Program and associated acquisition regulations concerning document content. Finally, the Navy planned for the Service acquisition executive rather than the USD(A&T) to make the low-rate initial production decision.

We recommended that procedures be developed to require a DAB program review within 6 months of a decision by the USD(A&T) to transition a program to a DAB-cognizant major Defense acquisition program. We also recommended that a DAB program review be held for the MIDS Program during the Engineering and Manufacturing Development phase as a basis for the first low-rate initial production decision and that a development test and evaluation report and early operational assessment report be prepared for the review. Additionally, we recommended that the USD(A&T) conclude international agreement for Engineering and Manufacturing Development. We further recommended that the Joint Requirements Oversight Council perform an assessment of Navy, Air Force, and allied aircraft interoperability before the upcoming DAB Milestone II review of MIDS to evaluate the Air Force withdrawal from the Program. The Office of the USD(A&T) partially concurred with our finding and recommendations.

Report No. 93-087, "Review of the All Source Analysis System as a Part of the Audit of the Effectiveness of the Defense Acquisition Board Review Process--FY 1993," April 20, 1993. This report found that the DAB process was not effective for the ASAS Program. Testing conducted and planned was inadequate to support a decision to field the Block I system or award the engineering and manufacturing development contract for the Block II system. No DAB milestone review was held, and none is planned until 1997, although the Program had been in development since 1983 and had cost about $1.4 billion through 1992. The DAB program review planned for March 1993 did not include the materiel release decision for Block I and did not ensure preparation of all documentation needed for a thorough review.

We recommended that a DAB Milestone II review of the ASAS Program be conducted and that remaining FY 1993 ASAS funding be withheld until an acquisition decision memorandum was issued following the Milestone II review. The USD(A) partially concurred with our finding and recommendations and the Comptroller of the Department of Defense concurred.

Report No. 93-069, "The Airborne Self-Protection Jammer Program as a Part of the Audit of the Defense Acquisition Board Review Process--FY 1993," March 22, 1993. This report found that

o The 136 ASPJ units being acquired under low-rate initial production contracts and the 20 units acquired for operational testing did not meet user needs. The report was classified as "Secret" because portions of the operational

test and evaluation report, on which the audit results were based, were classified as secret. The classified portions of the audit report detail the reasons for which the ASPJ did not meet user needs.

o A COEA had not been performed to support the planned Milestone III, Production and Development, decision. Without a COEA, viable alternatives to this new development program were not adequately assessed as to their relative costs and operational effectiveness.

We recommended that the program be canceled, the Navy and the Air Force prepare one formal COEA, a Defense Acquisition Board program review be convened to determine the best action for fulfilling overall DoD operational requirements for aircraft self-protection, and the Navy conclude further procurement of ASPJ systems as low-rate initial production and terminate ongoing production activity. The Office of the USD(A) commented that the recommendations in the draft report, issued December 4, 1992, were accommodated by the Navy's termination of production contracts, which occurred on December 15, 1992. Potential monetary benefit of $485.5 million from reduced procurement costs were realized as a result of this management action. The Office of the USD(A) also agreed a COEA and DAB review would be required if the Navy or the Air Force were to restart any new program to meet their self-protection requirements.

Report No. 92-104, "Review of the M1A2 ABRAMS Tank Program as a Part of the Audit of the Effectiveness of the Defense Acquisition Board Review Process--FY 1992," June 16, 1992. This report found that

o The number of ABRAMS tanks in inventory and on contract exceeded requirements. As a result, plans to acquire an additional 18 M1A1 tanks were unjustified. Also, exercising an option on the existing M1A1 procurement contract to produce the last 62 tanks in the M1A2 configuration had not been adequately justified. The Army could potentially save $24.5 million, improve industrial mobilization capabilities, and acquire tanks suitable for entry into service by producing the units in the M1A1 configuration.

o A DAB Milestone IV, Major Modification, review had not been scheduled for the ABRAMS tank program to assess alternatives for upgrading earlier configurations of M1 tanks. The Army extensively documented operational requirements that supported the incorporation of the M1A1 configuration, and subsequently the M1A2 configuration, into production before the M1A2 production program was curtailed in April 1990. However, the Army had not requested a DAB Milestone IV review of alternatives for upgrading existing tanks, including affordability assessments and Joint Requirements Oversight Council evaluation of an updated and validated system threat assessment report. Documentation required to support program decisions was also not prepared.

We recommended that plans to modify the FY 1991 M1A1 tank production contract to substitute the production of 62 M1A2 tanks for 62 M1A1 tanks be canceled and that a contract for production of 18 M1A1 tanks using

congressional supplemental funding to the FY 1992 Appropriations Act not be awarded. In addition, we recommended that a Milestone IV review of the ABRAMS tank program be conducted. The USD(A) did not respond to the draft report and did not initiate any actions to mediate the audit results before the contract modification for 62 M1A2 tanks was executed on May 18, 1992.

Report No. 92-097, "F/A-18 E/F Program as a Part of the Audit of the Effectiveness of the Defense Acquisition Board Review Process--FY 1992," June 5, 1992. This report found that the Navy had not performed a COEA supporting the Milestone IV/II review to enter the Engineering and Manufacturing Development phase of the acquisition cycle. Without a COEA, viable alternatives to this new development program may not have been adequately assessed with regard to their relative cost and operational effectiveness. The lack of a COEA supporting the Engineering and Manufacturing Development decision was contrary to the intent of congressional direction on the F/A-18 E/F Program and DoD regulations. We recommended that a formal COEA of the F/A-18 E/F and alternative programs be prepared and program cost estimates and affordability assessments be updated. The USD(A) did not formally respond to the draft report. The Assistant Secretary of the Navy (Research, Development and Acquisition) responded but did not concur with our finding and recommendation. However, as a result of the mediation process, we were provided documentation that sufficient funding had subsequently been programmed for the F/A-18 E/F program and that a COEA, meeting the intent of our recommendation, had been made in response to our report. This COEA included the F/A-18 E/F, the current F/A-18 configuration, and the AX Program.

Report No. 92-089, "Cost-Effectiveness Analyses for the Air Force C-17 Program," May 12, 1992. This report found that the cost-effectiveness analyses of alternatives to the C-17 aircraft adequately supported continuation of the 120-aircraft C-17 Program. However, OSD and Air Force analyses were limited since performance of a C-141 service-life extension program, as a complement to the 120-aircraft C-17 Program, was not adequately considered to reduce long-term airlift costs associated with fulfilling mission needs identified in the mobility requirements study directed by Congress. Those needs can neither be met by the 120-aircraft C-17 Program alone nor by an expanded C-17 Program. We recommended that a COEA be performed and a special Defense Acquisition Board program review of the C-17 Program be conducted before the Lot V production decision. We also recommended that a service-life extension program for the C-141 aircraft fleet be assessed as part of the COEA to fulfill the requirements in the mobility requirements study. The USD(A) and the Assistant Secretary of the Air Force (Acquisition) nonconcurred with our finding and recommendations in the draft report. However, Congress incorporated language in the National Defense Authorization Act for FY 1993 directing the Air Force to comply with our recommendations.

Report No. 92-074, "Contracting Practices for the C-17 Flight Test Aircraft," April 10, 1992. This report found that the Air Force

inappropriately established, priced, and accepted the "T-1 Assembly Complete" contract line item, which was a prerequisite for the award of the third production lot of four aircraft that required USD(A) approval. The Air Force actions impaired effective OSD program oversight in the decision to proceed with the third production lot. As a result, Defense acquisition executive oversight of the C-17 Program was negatively affected and, at the time of acceptance, the Government paid more for "T-1 Assembly Complete" than justified, thereby increasing program risk. Based on the acceptance of "T-1 Assembly Complete," Douglas liquidated $1.635 billion in previously made progress payments and was paid an additional $16 million. No withholding was made for work not completed. We recommended that procedures be established to ensure that OSD staff are informed of contractual events that affect Defense acquisition executive decisions and that OSD staff participate, as appropriate, in the acceptance of those events. The nature and extent of this oversight should be coordinated by a single point of contact within the Office of the USD(A). The USD(A) did not provide comments to the draft report. The Assistant Secretary of the Air Force (Acquisition) did not agree that the degree of the Office of the USD(A) participation should be determined when the event-based milestones are established. The Assistant Secretary also nonconcurred with our statements that the award of Lot III required USD(A) approval and withholds from payment should have been made at the time of "T-1 Assembly Complete." The Director of Procurement nonconcurred with the recommendation that OSD staff participate in contract line acceptances that may result in Defense acquisition executive decisions. The Director also nonconcurred with the recommendation that the Office of the USD(A) should develop a process for coordinating its participation at contractual events. We agreed, based on the responses to our recommendations, that no management action would be necessary pending further evaluation of the problem area in an on-going and more detailed audit of the low-rate initial production process.

Report No. 92-050, "Review of the Sensor Fuzed Weapon as a Part of the Audit of the Effectiveness of the Defense Acquisition Board Review Process-FY 1992," February 18, 1992. This report found that proposed program-specific exit criteria were not established in the DAB documentation to proceed with future production decisions. As a result, management did not have an effective means of measuring progress toward, or justifying proceeding with, future production decisions. In addition, acquisition program baselines did not contain descriptive performance parameters for lethality and launch aircraft survivability. Also, the USD(A) did not approve the baseline agreement. As a result, the developmental baseline may not provide decisionmakers sufficient insight into achievement of essential system performance characteristics. We recommended the establishment of specific exit criteria for future SFW production decisions and acquisition program baselines for the number of kills per aircraft pass required in a countermeasures environment and the survivability of launch aircraft employing the SFW. The USD(A) concurred and the Air Force partially concurred with the recommendation to establish specific exit criteria. Both USD(A) and the Air Force partially concurred with the recommendation to establish acquisition program baselines.

Report No. 92-018, "Air Force Short Range Attack Missile II Program," December 12, 1991. This report found that the Air Force did not have a viable acquisition strategy for the continued development and production of the SRAM II Program. Significant cost overruns, schedule delays, performance problems, and changes in requirements had invalidated the original strategy. The Air Force failed to take corrective action when the contractor failed to make satisfactory progress. In addition, the DAB had not reviewed the program and approved a revised acquisition strategy, although piecemeal approval of acquisition program baselines had occurred. Development costs were estimated to exceed the contract ceiling price by as much as $265 million, the contractor was performing to schedules that were not contractually binding, production options could have elapsed causing an estimated increase of $275 million in production costs, and potential reductions in performance requirements were possible. We withdrew our recommendation because the President cancelled the SRAM II Program.

Appendix D. Extract From DoD Instruction 5000.2 on Cost and Operational Effectiveness Analyses

A cost and operational effectiveness analysis (COEA) will typically draw on several sub-analyses. Those analyses include mission needs, threat and U.S. capabilities, interrelationship of systems, contribution of multi-role systems, measures of effectiveness, costs, and cost-effectiveness comparisons. The following general guidelines apply to the development of COEAs.

1. **Mission Need Analysis.** A mission need analysis assesses alternatives in an operational context, identifying what force capabilities would be gained (or foregone) by pursuing any designated alternatives. A mission need analysis assesses the strengths and weaknesses of a military force when confronting a postulated threat in a specified scenario or set of circumstances.

a. The scenarios should include a set based on situations that conform to the scenarios in the Defense Planning Guidance, as well as scenarios concerning U.S. and allied involvement, and should not conflict with the assumptions in the Defense Planning Guidance scenarios. The analysis should address all relevant situations in the Defense Planning Guidance scenarios. U.S. force availability should be included in the scenarios or established elsewhere in the Defense Planning Guidance.

b. Alternative cases may be considered when they would contribute to the analysis. In those instances, the variance(s) from the Defense Planning Guidance scenario(s) must be clearly identified and addressed.

c. Whatever scenario is selected, the mission needs analysis must show how the alternatives under consideration would contribute to accomplishment of a national military mission established by the Defense Planning Guidance.

d. The COEA must describe, quantitatively and qualitatively, the operational impact (or range of impacts) of responding to an identified deficiency or opportunity as suggested by each alternative under consideration.

2. **Threat and U.S. Capabilities.** The COEA must include projections of the enemy threat. It should describe the strengths and weaknesses of forces and capabilities that potential adversaries could employ in the designated mission area and show how those forces and capabilities are projected to change.

a. Changes in the threat typically should be examined at least 10 years into the future. U.S. capabilities should be typically projected at least through the end of the 6-year Defense Program's funded delivery period and further if circumstances warrant.

b. The evaluation should consider how U.S. needs would change as a result of changes in the threat. Additionally, it should address the possible effects of countermeasures (reactive or technologically feasible) adversaries might employ against the capabilities offered by each alternative being evaluated.

3. **System Interrelationships.** Individual systems generally cannot be evaluated in isolation. Few deficiencies can be resolved by just one system, and some systems can complicate the use of other friendly systems. Therefore, the analysis must consider all relevant systems and the synergisms, such as interoperability, and potential difficulties they collectively represent on the battlefield.

4. **Multi-Role Systems.** A number of systems can accomplish significantly different functions at different times. For example, an aircraft carrier battle group can support sea lane Defense operations against submarines one day and conduct long-range power projection missions ashore the next. Accordingly, as appropriate, a COEA should account for this flexibility by investigating rather than considering only the outcomes of representative tactical engagements. It must also account for occasional nonavailability for one task because of application or dedication to another.

Appendix E. Audit Responses to Specific Management Comments

The Director, Acquisition Program Integration, provided management comments on the draft of this report for the Under Secretary of Defense for Acquisition and Technology. The complete text of the Director's comments is in Part IV of this report. We discuss the Director's comments on our recommendations in Part II of this report. We discuss in this Appendix specific management comments not addressed in Part II.

Management Comments. The Director stated that the draft of this report did not recognize their inputs to the previous reports summarized or the results of mediation meetings.

Audit Response. In Appendix C, we synopsized the audit reports on each individual major Defense acquisition program reviewed and appropriately recognized management comments on each report and mediation actions.

Management Comments. The Director stated that Appendix C of the draft report recognized that a COEA was performed for the F/A-18 E/F aircraft as a result of the mediation process while the body of the draft report indicated that a COEA was not performed. The Director also stated that they had previously explained to us that sufficient analysis had been done so that a formal COEA for the Milestone IV decision was not needed.

Audit Response. The body of draft report clearly stated that COEAs were not always performed when required (underscoring added for emphasis) or did not always adequately address viable alternatives to proceeding with new major Defense acquisition programs. The report cited the F/A-18 E/F aircraft as an example of such a situation. The fact that a COEA was subsequently performed as a result of our audit report does not alter the fact that in the case of the F/A-18 E/F aircraft, a COEA was not performed before the Milestone IV/II DAB review as required by DoD Instruction 5000.2.

Management Comments. The Director stated that the draft report ignored the fact that a COEA was optional for a Milestone IV review of the DDG-51 destroyer variant, per DoD Instruction 5000.2. The Director also felt that we had ignored their response to the final report on the DDG-51 that non-concurred with our finding and the adequacy of the Navy Destroyer Variant Study as a COEA.

Audit Response. The Director is correct that a formal COEA was not required for the DDG-51 destroyer variant. Our report recognized that fact, but indicated that the alternative to the COEA that was performed did not consider all alternatives to the continued procurement of DDG-51 destroyers. We continue to believe the Navy should have conducted a COEA when the DDG-51 program became an acquisition category ID program in August 1992. Also, we disagreed with the decision of the Director, Program Analysis and Evaluation, in October 1992 to accept the Destroyer Variant Study by the Navy as a

substitute for a formal COEA of the DDG-51 program. While the Destroyer Variant Study did present several options for a new and improved DDG-51 ship, it did not consider all viable alternatives.

While the USD(A&T) did not concur with our recommendation for a formal COEA for the DDG-51 destroyer variant, we believe that his subsequent actions were responsive to the intent of the report recommendation. He halted DDG-51 production with the third ship scheduled in FY 1994 pending review of documentation for the Milestone IV DAB. He also requested initiation of a Destroyer Acquisition Study that required a detailed assessment of alternative DDG-51 force levels, procurement actions, and attendant cost and industrial base implications to include foreign military sales and use of upgrades versus ship retirements. Further, he brought up an alternative Surface Combatant 21 ship concept for a Milestone O review to include conducting a surface combatant COEA beginning with Milestone I.

Management Comments. The Director stated that our report on "Contracting Practices for the C-17 Flight Test Aircraft" did not address COEA or exit criteria was closed out by a mediation meeting on September 18, 1992, and by our own wording recognized that "no management action would be necessary."

Audit Response. We summarized the report on "Contracting Practices for the C-17 Flight Test Aircraft" in Appendix C as an example where program management had inadequacies in the approval and monitoring of minimum accomplishments and exit criteria. As far as management actions needed, the Director's comments took our report wording somewhat out of context. To more accurately quote our report, it stated that, "no management actions would be necessary pending further evaluation of the problem area in an on-going and more detailed audit of the low-rate initial production process." We did not concede that no problems existed, but that management declined to take action on the problems without additional audit effort on our part.

Management Comments. The Director stated that SRAM II should not be cited in the report because the SRAM II predates current COEA policy.

Audit Response. DoD Instruction 5000.2, February 23, 1991, states that all Defense acquisition programs scheduled for milestone reviews 6 months after issuance of the instruction are subject to the new procedures and documentation requirements. Our report on the SRAM II noted the need to update the COEA for the low-rate initial production decision scheduled for May 1993. Accordingly, the SRAM II program was subject to DoD Instruction 5000.2 when our final report was issued on December 12, 1991.

Management Comments. The Director stated that the ASPJ program also predated current COEA policy in DoD Instruction 5000.2. Further, the Director indicated that the report wrongly suggested that the Inspector General saved DoD $485 million as a result of the ASPJ audit, noting that the claim was dropped in mediation meetings.

Audit Response. As previously discussed, the current COEA policy is applicable for all Defense programs scheduled for milestone reviews after August 23, 1991. Our report on the ASPJ program noted that a COEA had not been performed to support the Milestone IIIB, Production and Deployment,

decision scheduled for September 14, 1992. Accordingly, the ASPJ program was subject to the COEA requirements in DoD Instruction 5000.2 when our ASPJ report was issued on March 22, 1993.

We did not intend to claim monetary benefit resulting from the Navy's action terminating ASPJ production contracts. As noted in our draft ASPJ report, issued December 4, 1992, the Navy planned to acquire 240 ASPJ units at a cost of $485.5 million from FYs 1993 through 1998 and an additional 304 ASPJ units after FY 1998 at an estimated cost of $623.5 million. We recommended that the Navy terminate ASPJ production contracts because the ASPJ had not passed its operational testing. The Navy terminated production contracts on December 15, 1992. In this report, we stated that the Navy reduced procurement costs by $485.5 million as a result of its management action.

Management Comments. The Director stated that the draft report assertion that, "[COEA] analyses often were taylored to support the recommended alternative" was not based on any substantive or convincing evidence and that this assertion should be deleted.

Audit Response. The report statement that the COEA analyses often were tailored to support the recommended alternative was based on the results of audit reported for the C-17, F/A-18 E/F, M1A2, ASPJ, and DDG-51 that were summarized in Appendix C.

Management Comments. The Director stated that COEA analyses are not initiated at the DAB 6-month planning meeting but when the program enters the specific acquisition phase.

Audit Response. As stated in the draft report, the Director, Program Analysis and Evaluation, provides guidance for preparation of COEAs at planning meetings, which occur 6 months before scheduled DAB reviews. Although COEAs are sometimes initiated before the Director, Program Analysis and Evaluation, provides guidance on their preparation, this was not the case for the C-17 aircraft, F/A-18 E/F aircraft, M1A2 tank, ASPJ, or DDG-51 destroyer programs that we reviewed.

Management Comments. The Director stated that the draft report finding on exit criteria contained very few credible, specific examples of supposed weakness in the current policy. Further, he stated that the M1A2 is an acquisition category 1C program that did not belong in an audit report on the effectiveness of the DAB review process and that the SRAM II report predated current exit criteria policy.

Audit Response. We deleted the draft report finding to improve the use of exit criteria in view of management comments that recommended changes would not be made without more conclusive examples of weaknesses in the current use of exit criteria. Because we continue to believe that the use of exit criteria can be significantly improved, we plan to initiate a separate audit of this subject if it is still warranted, when current actions to streamline the acquisition process are completed.

Our inclusion of the audit report on the M1A2 was appropriate because when we selected the M1A2 program for audit, it was scheduled for a DAB review in

January 1992. Although the USD(A&T) subsequently waived the DAB review, our audit of the adequacy of the program office's preparation for the DAB review is appropriate for inclusion in this summary report.

Basic policy on the use of exit criteria existed in DoD Instruction 5000.2, February 23, 1991, at the time of our audit of the SRAM II program. Our audit of the SRAM II was made from April through July 1991 and the report was issued December 12, 1991. On February 26, 1993, DoD added Attachment 1, Section A, Part 11 of DoD Instruction 5000.2 to provide additional guidance on acquisition program baselines and exit criteria.

Management Comments. The Director stated that after a thorough review of the required documentation, the Command, Control, Communications, and Intelligence Systems Committee conducted a Milestone II review of the ASAS program August 23, 1993. Based on the recommendation of this Committee, the USD(A&T) signed an Acquisition Decision Memorandum on October 21, 1993, which completed the "paper DAB" for the ASAS program. The Acquisition Decision Memorandum approved the Army's request to proceed with the Engineering and Manufacturing Development phase of the ASAS Block II program and authorized the Comptroller of the Department of Defense to release the FY 1993 funds that had been on withhold pending favorable completion of the DAB. Contrary to the assertion in our audit report, the Director stated that they reviewed all documents needed for the ASAS Milestone II DAB.

Audit Response. We issued our audit report on the ASAS program April 20, 1993. The actions that the Director cites were taken after the issuance of our audit report and as a result of our recommendations. The synopsis of the report that we issued, as presented in Appendix C, is accurate.

Management Comments. The Director stated that the summary on MIDS in Appendix C did not recognize the difference between an international acquisition program and a DoD acquisition program. The primary difference is that an international program is driven by an international Memorandum of Understanding, which defines the specifics of the cooperative effort. Once the program Memorandum of Understanding is agreed upon, which often takes a considerable amount of time, the program must be inserted into the U.S. acquisition process. At the time of the Inspector General review, the Navy, as the lead Service, was beginning to prepare MIDS documentation for the Milestone II DAB. After the issuance of the audit report, the program office: completed all Milestone II DAB requirements; was directed by the USD(A&T) to proceed with the Engineering and Manufacturing Development phase; awarded the Engineering and Manufacturing Development contract to the international consortium; completed a study in June 1994 to reduce program cost, schedule, and insert new technology; and will request USD(A&T) to approve exit criteria for Engineering and Manufacturing Development in accordance with the June study results. Finally, the Director stated that documents such as the Developmental Test and Evaluation Report and Early Operational Assessment Report are required for LRIP, not Milestone II.

Audit Response. Our audit report on the MIDS program, issued June 21, 1993, recognized requirements for both major Defense acquisition programs and international acquisition programs in detail. It was neither possible nor relevant to cite such information for the synopsis of the report in Appendix C. The

actions that the Director cited were taken after the issuance of our audit report and as a result of our recommendations. The synopsis of the report that we issued, as presented in Appendix C, is accurate.

Regarding the Director's comment on the Developmental Test and Evaluation Report and Early Operational Assessment Report, we agreed in our report that the USD(A&T) should require the Navy to prepare these reports before entry into low-rate initial production.

Management Comments. The Director stated that the summary for the Sensor Fused Weapon audit presented in Appendix C wrongly suggested that exit criteria for low-rate initial production were not well-planned.

Audit Response. The Director provided no information to refute the facts on the Sensor Fused Weapon as summarized in our audit report. Proposed program-specific exit criteria for the Sensor Fused Weapon were not established in the DAB documentation to proceed with future Sensor Fused Weapon production decisions.

Management Comments. The Director stated that the policy of DoD Instruction 5000.2 is that exit criteria be flexible enough to allow the project manager to execute key events without the formality of a review by the milestone decision authority. The director felt that our draft finding ignored that policy.

Audit Response. We specifically recognized the cited policy in the draft report finding on exit criteria.

Appendix F. Summary of Potential Benefits Resulting From Audit

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
1.	Internal Control. Will provide sufficient time for preparation of the COEAs, which are fundamental to sound acquisition decisions.	Nonmonetary.
2.	Internal Control. Update of COEAs, when needed as a result of revisions to acquisition program baselines, can limit the need for DAB program reviews or other forms of oversight.	Nonmonetary.
3.	Program Results. Will ensure that the COEA will be done properly.	Nonmonetary.
4.	Program Results. Will ensure that the COEA has been done properly.	Nonmonetary.

Appendix G. Organizations Visited or Contacted

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology, Washington, DC
Under Secretary of Defense (Comptroller), Washington, DC
Assistant Secretary of Defense for Command, Control, Communications, and Intelligence, Washington, DC
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Director, Defense Research and Engineering, Washington, DC
Director, Operational Test and Evaluation, Washington, DC
Director, Acquisition Program Integration, Washington, DC
Director, Program Analysis and Evaluation, Washington, DC

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Assistant Secretary of the Army for Research, Development and Acquisition, Washington, DC
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Commander, U.S. Army Missile Command, Redstone Arsenal, AL
Commander, U.S. Army Tank-Automotive Command, Warren, MI
Army Materiel Systems Analysis Activity, Army Materiel Command, Aberdeen, MD

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Assistant Secretary of the Navy for Research, Development and Acquisition, Washington, DC
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Naval Air Systems Command, Arlington, VA
Naval Sea Systems Command, Arlington, VA
Space and Naval Warfare Systems Command, Arlington, VA

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Department of the Air Force (Continued)

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General Counsel of the Air Force, Washington, DC
Air Mobility Command, Scott Air Force Base, IL
Air Force Materiel Command, Wright-Patterson Air Force Base, OH
- Aeronautical Systems Center, Wright-Patterson Air Force Base, OH
  - C-17 System Program Office, Wright-Patterson Air Force Base, OH
  - Sensor Fuzed Weapon and Airfield Attack System Program Office, Eglin Air Force Base, FL
  - Short Range Attack Missile II System Program Office, Wright-Patterson Air Force Base, OH

Deputy Assistant Secretary of the Air Force for Contracting, Washington, DC
Headquarters, Warner-Robins Air Logistics Center, Robins Air Force Base, GA
Air Force Cost Analysis Agency, Washington, DC
Air Force Safety Agency, Norton Air Force Base, CA
Commander, Air Force Operational Test and Evaluation Center, Eglin Air Force Base, FL

Defense Agencies

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Defense Contract Audit Agency, Boeing Aerospace and Electronics, Seattle, WA
Defense Contract Audit Agency, Douglas Aircraft Company, Long Beach, CA

Other Defense Organizations

The Joint Staff, Washington, DC
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Defense Plant Representative Office, Boeing Aerospace and Electronics, Seattle, WA
Defense Plant Representative Office, Douglas Aircraft Company, Long Beach, CA
Defense Plant Representative Office, Lockheed-Georgia Company, Marietta, GA

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Senate Committee on Armed Services, Washington, DC

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Appendix H. Report Distribution

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  Senate Subcommittee on Defense, Committee on Appropriations
  Senate Committee on Armed Services
  Senate Committee on Governmental Affairs
  House Committee on Appropriations
  House Subcommittee on Defense, Committee on Appropriations
  House Committee on Armed Services
  House Committee on Government Operations
  House Subcommittee on Legislation and National Security, Committee on Government Operations

Part IV - Management Comments

Director, Acquisition Program Integration, Comments

Director, Acquisition Program Integration, Comments

PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE

3015 DEFENSE PENTAGON
WASHINGTON, DC 20301-3015

ACQUISITION AND TECHNOLOGY

7 JUN 1994

API/ASM

MEMORANDUM FOR DIRECTOR, ACQUISITION MANAGEMENT DIRECTORATE

SUBJECT: Defense Acquisition Board Review Process (Project No. 2AE-0033)

We have reviewed your draft summary report dated March 29,1994, and offer the following overall response to your findings and recommendations.

We do not believe that your findings and recommendations contribute very much to the effectiveness of the DAB process. We are particularly disturbed when you simply staple inaccurate summaries of previous audits together with little apparent analysis. Your alleged "data" not only ignore our inputs to those previous reports, but also seem to ignore the results of the mediation meetings that occurred.

We feel in the case of COEAs that you have added some value since we generally concur in your recommendations (i.e. we only non-concur in one of the four recommendations and partially concur in two others). However, in the case of exit criteria you are simply not making a good case to change 5000 policy as we non-concur in five of the six recommendations. You are proposing to add more levels of complexity to the bureaucracy that this Administration is attempting to reduce.

Our detailed comments on the findings and recommendations are attached.

Gene H. Porter
Director, Acquisition
Program Integration

Attachment

Attachment

Finding A. Cost and Operational Effectiveness Analysis

- We question your summary findings regarding F/A-18 E/F, DDG-51, C-17, SRAM II, and ASPJ:

  - Your Appendix C summary of the F/A-18 E/F audit notes that as a result of the mediation process a COEA had been performed. This contradicts your finding on page 9 that a COEA was not performed. As we have previously explained, sufficient analysis had already been done so that a formal COEA for the Milestone IV decision was not needed.

  - Your Appendix C summary of the DDG-51 and the findings on page 9 ignore the fact that a COEA is optional for a Milestone IV per 5000.2 policy. You have chosen to ignore our Feb 24, 1994, detailed response which non-concurred with your assertion regarding the DDG-51 COEA and adequacy of the Navy Destroyer Variant study as a COEA.

  - Your Appendix C includes a summary of Report No. 92-074 on C-17 contracting practices. This report does not address COEA or exit criteria; was closed out by the Sep 18, 1992, mediation meeting; and by your own wording notes that "no management action would be necessary." This section is simply an inert filler in your report.

  - The Appendix C summary and finding on page 9 regarding the SRAM II do not belong in this report as the SRAM II predates current COEA policy.

  - In like manner the ASPJ is a mature program (now terminated) that predates current COEA 5000.2 policy. Appendix C also wrongly suggests that the IG has saved $485M as a result of their ASPJ audit. This claim was dropped by the IG in mediation meetings but reappears in this ASPJ summary. This summary also doesn't belong in this report.

- Your finding on page 13 that "[COEA] analyses often were tailored to support the recommended alternative" is not based on any substantive or convincing evidence. This assertion should be deleted.

- COEA analyses are not initiated at the DAB six-month planning meeting but when the program enters the specific acquisition phase.

Finding B. Exit Criteria

This finding is particularly flimsy with very few credible, specific examples of supposed weakness in the current policy documented in the finding or in Appendix C. We also see very little connection between the findings and the resultant recommendations. We take issue with your findings regarding inadequacy of exit criteria for SFW, MIA2, C-17, SRAM II, and MIDS. We did respond in writing to your audit and mediation on MIA2. The MIA2 is an ACAT 1C so it doesn't belong in a report on the effectiveness of the DAB. The ARMY does have exit criteria for the MIA2. Your Appendix C does not address any problem with C-17 exit criteria so it is not clear why it is in the main finding. The SRAM II predates current exit criteria policy.

We find significant errors in Appendix C regarding ASAS and MIDS. After a thorough review of the required DoD 5000 documentation, a C3I Systems Committee Milestone II Review of the ASAS program was conducted on August 23, 1993. Based on the recommendation of the C3I Systems Committee, the Under Secretary of Defense (Acquisition and Technology) signed the ASAS Program Acquisition Decision Memorandum (ADM) on October 21, 1993, which completed the "paper DAB" for the ASAS program. The ADM approved the Army's request to proceed with the Engineering and Manufacturing Development (EMD) phase of the ASAS Block II program and authorized the DoD Comptroller to release the FY 93 funds that had been on withhold pending favorable completion of the DAB. Contrary to your assertion we reviewed all documents needed for the ASAS Milestone II DAB.

The summary on MIDs in Appendix C, does not recognize the difference between an international acquisition program and a DoD acquisition program. The primary difference is that an international program is driven by an international Memorandum of Understanding (MOU), which defines the specifics of the cooperative effort. Once the program MOU is agreed upon, which often takes a considerable amount of time, the program must be inserted into the US acquisition process. MIDS-LVT, an ACAT 1 program, was determined by the C3I Systems Committee to be ready for a Milestone II DAB decision. At the time of the IG review, the Navy, as the lead Service, was beginning the process of preparing MIDS-LVT documentation for the Milestone II DAB. Since the MIDS-LVT IG report was concluded, the program: has completed all Milestone II DAB requirements; has been directed by USD(A&T) to proceed with the EMD phase; has awarded the EMD contract to the international consortium MIDSCO; will complete a study in June 1994 to reduce program cost, schedule, and insert new technology; and will request

cost, schedule, and insert new technology; and will request USD(A&T) to approve exit criteria for EMD in accordance with the June study results. We pointed out earlier that the "missing documents" (i.e., DT&E report and early operational assessment are required for LRIP, not Milestone II.

The Appendix C summarizing the Sensor Fuzed Weapon audit wrongly suggests that exit criteria for LRIP were not planned. This mistake was probably due to your inappropriate review of draft documentation before the DAB process had been concluded.

Our 5000.2 policy states that exit criteria are to be flexible enough to allow the PM to execute key events without the formality of MDA review. Your finding ignores that.

In summary, your basic finding is not well substantiated and your Appendix C paints an incorrect picture that ignores our response to draft IG reports and the resultant mediation. This situation casts doubt on your basic rationale for changing current exit criteria policy.

Recommendation A.1

We concur in your reccomendation to more cleanly start COEAs 12 months before the DAB (as a normal procedure).

Recommendation A.2

We strongly non-concur with your recommendation to automatically update a COEA when APB breaches occur. Given the sheer number of APB breaches, implementing this recommendation would shut down our entire acquisition process. The nature and magnitude of the breach may not necessitate a COEA update which could take 6 to 12 months to complete. This is massive overkill that violates the spirit of the National Performance Review which found an overwhelming number of complex regulations.

Recommendation A.3

We partially concur with your recommendation regarding early involvement of the JROC in the COEA process. While we feel that it would be useful, the JROC did not respond to us on this recommendation. We need to discuss this with the JROC.

Recommendation A.4

We partially concur with your recommendation to have the JROC provide a COEA assessment to PA&E. PA&E tells us that

they would welcome the JROC assessment but we again need to discuss this with the JROC.

Recommendation B.1.a

We non-concur in the recommendation to have SAE approval of revisions to exit criteria on DAB (ACAT ID) programs. We do not believe that it is appropriate for a component acquisition executive to approve revisions to DAB exit criteria. Satisfaction of exit criteria forms the basis for entering the next phase of development and frequently triggers a significant obligation of funds. While it may be necessary to modify exit criteria such modifications should be approved only by the milestone decision authority, USD(A&T).

Recommendation B.1.b

We partially concur in this recommendation regarding the PEO approving corrective action plans to address exit criteria problems areas, but see no reason for this to be in a top level DoD policy document. The duties of a PEO to approve action plans is inherent in his senior level position.

Recommendation B.1.c

We non-concur in PEO approval of ACAT ID exit criteria attainment for the same reasons as B.1.a above.

Recommendations B.1.d, B.2.a, and B.2.b

We non-concur in these recommendations that specifically require DAES reporting on exit criteria. We carefully constructed the 5000.2 policy to allow exit criteria to be crafted so that decisions could be made that did not automatically require a USD(A&T) review. We did not want to create more OSD oversight but wanted the PM to set his own internal criteria to be met within a phase. Your recommendations illustrate again your overly simplistic approach to acquisition oversight. Every shred of program information is not reported in the DAES. Just because something is not in the DAES does not mean that OSD doesn't know its status. You should understand that many exit criteria are not easily responded to in a yes or no fashion, and may require a detailed technical explanation and its associated metrics to reflect attainment.

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