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DOD 5000.2-M

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DEPARTMENT OF DEFENSE MANUAL

ch 4

Defense Acquisition Management Documentation and Reports

February 1991

Under Secretary of Defense for Acquisition

S/S by DoD 5000.1, Jtd 15 MAR 96

DEPARTMENT OF DEFENSE
PUBLICATION SYSTEM

CHANGE TRANSMITTAL

OFFICE OF THE SECRETARY OF DEFENSE
Under Secretary of Defense for Acquisition

NAVSO P-6079
CHANGE NO. 1
DoD 5000.2-M
March 5, 1993

Defense Acquisition Management Documentation and Reports

The Under Secretary of Defense for Acquisition, has authorized the following pen changes to DoD 5000.2-M, "Defense Acquisition Management Documentation and Reports," February 1991.

PEN CHANGES

Page iii, TABLE OF CONTENTS, Part 12. Change "COMPETITIVE PROTOTYPE STRATEGY WAIVER" to "RESERVED FOR FUTURE USE"

Page 2-1, References

Change reference "(c)" to "(d)"

Insert a new reference "(c) Chairman of the Joint Chiefs of Staff Memorandum of Policy No. 77, "Requirements Generation System Policies and Procedures," September 17, 1992"

Paragraph 1.a., line 4. Add "See Chairman of the Joint Chiefs of Staff Memorandum of Policy No. 77, "Requirements Generation System Policies and Procedures" (reference (c)) for additional guidance."

Paragraph 1.b., line 3. Change "(c)" to "(d)"

Paragraph 2.c.

Line 2. Change "nonmaterial" to "nonmateriel"

Line 3. After "potential," insert "(see Section 12-B of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)))"

Page 2-2

Subsection 3., Points of Contact, Specific [column]

Line 3. Change "DCNO (OP-07)" to "CNO (N8)"

Line 7. Change "XOX" to "XOR"

Page 2-1-1, at the bottom of this page, add a new paragraph, "6. Joint Potential Designator. Indicate the Joint Potential Designator established through the validation process. (See Section 12-B of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)))."

Page 3-3, subsection 3., Points of Contact, Specific [column]

Line 3. Change "NAVOP 091" to "CNO (N091)"

Line 5. Change "XOX" to "XOR"

WHEN PRESCRIBED ACTION HAS BEEN TAKEN, THIS TRANSMITTAL SHOULD BE FILED WITH THE BASIC DOCUMENT

NUMBER DoD 5000.2-M, Change 1	DATE March 5, 1993	DEPARTMENT OF DEFENSE PUBLICATIONS SYSTEMS TRANSMITTAL
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INSTRUCTIONS FOR RECIPIENTS (continued)

Page 4-5, subsection 3., Points of Contact

General [column]

Line 3. Change "ASD(P&L)" to "Dir, DefProc"

Line 4. Change "DDR&E" to "DUSD(A)"

Specific [column]

Line 3. Change and "DASD(P)" to "Dir, DefProc"

Line 4. Change and "DDR&E(TWP)" to "Dir, TS"

Line 5. Change "DDDR&E(S&TNF)" to "Dir, S&SS"

Line 10. Change "PA" to "AR"

Line 31. Change "XOX" to "XOR"

Page 4-D-1, References

(a) Line 1. Change "2438" to "2439"

(b) Lines 1, 2, and 3. Change "2365, "Competitive prototype strategy requirement: major defense acquisition programs"" to "2438, "Major programs: competitive prototyping""

(c) Lines 1 and 2. Change "2502, "Policies relating to defense industrial base"" to "2440, "Technology and industrial base plans""

Subparagraph 1.b.(1).

Line 1. Change "2438" to "2439"

Line 2. Change "2365" to "2438"

Subparagraph 1.b.(2).

Line 1. Change "2502" to "2440"

Page 4-D-1-2

Subparagraph 2.c.(2)

Lines 6 and 7. Change "2502 "Policies relating to defense industrial base" to "2440 "Technology and industrial base plans""

Subparagraph 2.c.(3)

Line 6. After "provide", insert "justification and"

Lines 10, 11, 12, 13 and 14. Delete "Prepare a request for a competitive prototype strategy waiver for milestone decision authority approval, under authority delegated by the Secretary of Defense, specifying the basis for the waiver (see Part 12 for competitive prototype strategy waiver)."

Page 4-D-1-3, subparagraph 2.d.(3)

Lines 2, 3, and 4. Change "Defense Federal Acquisition Regulation Supplement part 217, subpart 217.72, paragraph 217.7202" to "Appendix D, "Component Breakout," of Defense Federal Acquisition Regulation Supplement" and after "Provide the" insert "complete"

Lines 5 and 6. Change "acquisition approach" to "breakout strategy"

Page 4-D-1-4, subparagraph 2.f.(1). Change to read "Fixed price development contracts of \$25 million or more (or of \$10 million or more when for the development of a major system or subsystem and funded with Fiscal Year 1990, 1991, 1992, 1993 or subsequent year funds if so directed by law) or fixed price contracts for lead ships will not be used without the prior approval of the Under Secretary of Defense for Acquisition."

Page 4-D-2-1, Reference (c), line 1; paragraph 1.b., line 2; and paragraph 2.a., line 1. Change "2438" to "2439"

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INSTRUCTIONS FOR RECIPIENTS (continued)

Page 4-E-2

Subsection 2., line 4. Add "Where applicable, include in the risk analysis an assessment of the electronic warfare vulnerability based on analysis and test results."

After subsection 3., insert a new subsection. "4. A chart showing how to determine the level of risk is at Attachment 1."

Flush with the left margin and below the ILLUSTRATIVE RISK REDUCTION SUMMARY, add:

"Attachment - 1

1. Level of Risk Assessment Table"

Page 5-2, Subsection 3., Points of Contact, General [column], line 3. Change "DNI(OP-0922)" to "CNO (N22)"

Page 6-2, paragraph 2.b., line 2. Change "at Milestone II," to "in support of"

Page 6-4, subsection 3., Points of Contact, Specific [column], line 1. Change "(RM&S)/MR" to "(R&R)/TFR"

Page 7-4, subsection 3., Points of Contact

General [column]

Line 1. Change "DDR&E" to "DUSD(A)"

Line 7. Delete "DJ7"

Specified [column]

Line 1. Change "DDDR&E(T&E)" to "Dir, T&E"

Line 7. Delete "J7/ORD"

Page 8-14, subsection 3., Points of Contact, Specified [column], line 5. Change "XOX" to "XOR"

Page 9-2, subsection 3., under the Points of Contact

General [column]

Line 2. Change "ASD(P&L)" to "Dir, DefProc"

Specified [column]

Line 2. Change "DASD(P)" to "Dir, DefProc"

Page 10-3, subsection 3., Points of Contact

General [column], line 1. Change "DDR&E" to "DUSD(A)"

Specified [column]

Line 1. Change "DDDR&E(T&E)" to "Dir, T&E"

Line 3. Change "NAVOP 091" to "CNO (091)"

Page 11-2, subsection 3., Points of Contact

General [column], line 1. Change "DDR&E" to "DUSD(A)"

Specified [column]

Line 1. Change "DDDR&E(T&E)" to "Dir, T&E"

Line 4. Change "NAVOP 091" to "CNO (091)"

Page 15-2

Subparagraph 2.b.(1), line 3. Change "7" to "6"

Subparagraph 2.b.(2) (f), line 1. Change "Section 4" to "paragraph 3 of Section 4-A of DoD Instruction 5000.2, "Acquisition Systems Management Policies and Procedures" (reference (c))"

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INSTRUCTIONS FOR RECIPIENTS (continued)

Page 19-2, subparagraph 2.b.(2) (a), line 6. Change "3" to "2"

Page 19-3, subparagraph 2.b.(2) (b), line 7. Change "2" to "3"

Page 19-3-1, Add a new paragraph: "See Attachment 1 of Part 14 in this Manual for the acquisition program baseline format and explanatory notes."

Page 21-1, subparagraph 2.a.(1)

Line 1. After "The", insert "Under Secretary of Defense for Acquisition, as delegated by the" and after "Defense" insert ","

Lines 2 and 3. Change "five-year defense program (i.e., the first 5 years of the 6-Year Defense Program)" to "Future Years Defense Program, or at least the first five years thereof,"

Page 22-2

Subparagraph 2.b.(1). Change to read "Where use of a fixed price research and development contract, or a contract modification requiring a justification and approval, with a value over \$25 million (or with a value over \$10 million when for the development of a major system or subsystem of a major system and funded with Fiscal Year 1990, 1991, 1992, 1993 or subsequent year funds if so directed by law) is planned;"

Subsection 3., Points of Contact

General [column], line 1. Change "ASD(P&L)" to "Dir, DefProc"

Specified [column], line 1. Change "DASD(P)" to "Dir, DefProc"

PAGE CHANGES

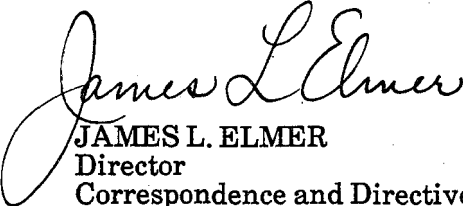
Remove: Pages 6-3&6-4, 12-1 through 12-3, 14-1 through 14-1-7, 14-2-1 through 14-2-4, 19-1-1, and 19-4-1 through 19-4-4

Insert: Attached replacement pages and new pages 4-E-1-1, 14-1-8, 14-2-5, and 19-4-5

Changes appear on pages 6-3, 12-1, 14-1&14-2, 14-1-2 through 14-1-8, 14-2-2 through 14-2-4, 19-1-1, and 19-4-2 through 19-4-4 and are indicated by marginal asterisks.

EFFECTIVE DATE

The above changes are effective immediately.


JAMES L. ELMER
 Director
 Correspondence and Directives

Attachments
 27 pages



OFFICE OF THE SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

February 23, 1991

FOREWORD

This Manual is issued under authority of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," January 1, 1991. It contains procedures and formats to be used to prepare various milestone documentation, periodic in-phase status reports, and statutory certifications.

This Manual applies to the Office of the Secretary of Defense; the Military Departments; the Chairman, Joint Chiefs of Staff and Joint Staff; the Unified and Specified Commands; the Defense Agencies; and DoD Field Activities (hereafter referred to collectively as "DoD Components").

It is the policy of the Department of Defense that Department of Defense acquisition documentation and reports, as defined herein, shall be:

1. Authorized by statute or Department of Defense policy;
2. Necessary for the conduct of official business; and
3. Properly planned, coordinated, produced, and distributed in accordance with this Manual.

Specific responsibilities pertaining to major areas of this Manual are provided in each individual part, as appropriate. The Under Secretary of Defense for Acquisition has the responsibility for preparation, maintenance, distribution, and update of this Manual.

This Manual is effective immediately for periodic reports and required certifications. However, the milestone documentation formats in this Manual shall first apply to programs coming to a milestone review 6 months after the date of publication of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures." This Manual is mandatory for use by all DoD Components, and DoD Component Heads shall distribute this Manual to the Program Manager and appropriate field operating command level within 60 days of receipt.

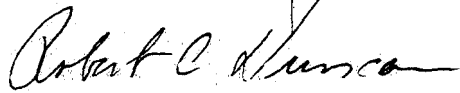
This Manual is intended for DIRECT implementation. There shall be no supplementation by DoD Components. Implementation necessary to establish the internal management processes required to comply with this Manual is permitted.

Send recommended changes to the Manual through proper channels to:

Under Secretary of Defense for Acquisition
ATTN: Office of Acquisition Policy and Program Integration
Pentagon, Room 3E1034
Washington, DC 20301

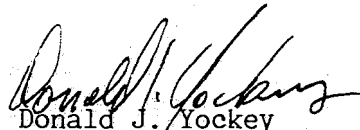
DoD Components may obtain copies of this Manual through their own publications channels. Other Federal Agencies and the public may obtain copies from the U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

For all matters in this Manual relating to operational test and evaluation.



Robert C. Duncan
Director, Operational
Test and Evaluation

For all matters in this Manual except operational test and evaluation.



Donald J. Yockey
Acting Under Secretary of
Defense for Acquisition

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PART 22	FIXED PRICE CONTRACTING CERTIFICATION
PART 23	MANUAL CHANGE AND ADMINISTRATIVE UPDATE PROCEDURES

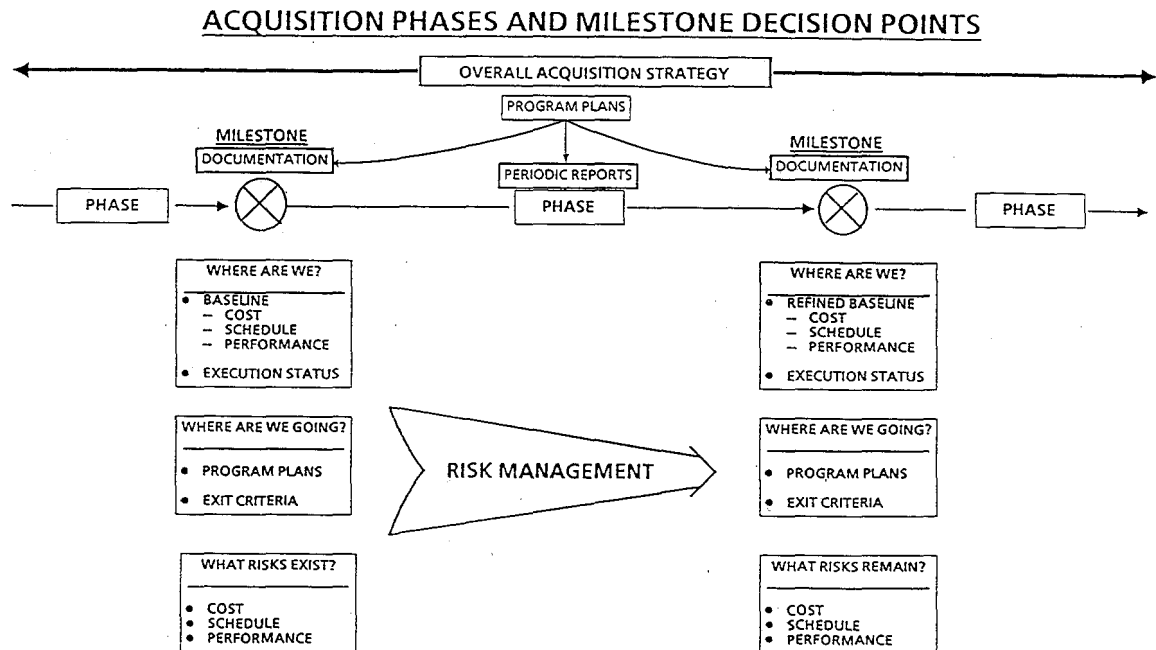
PART 1

DOCUMENT BACKGROUND

Reference: (a) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

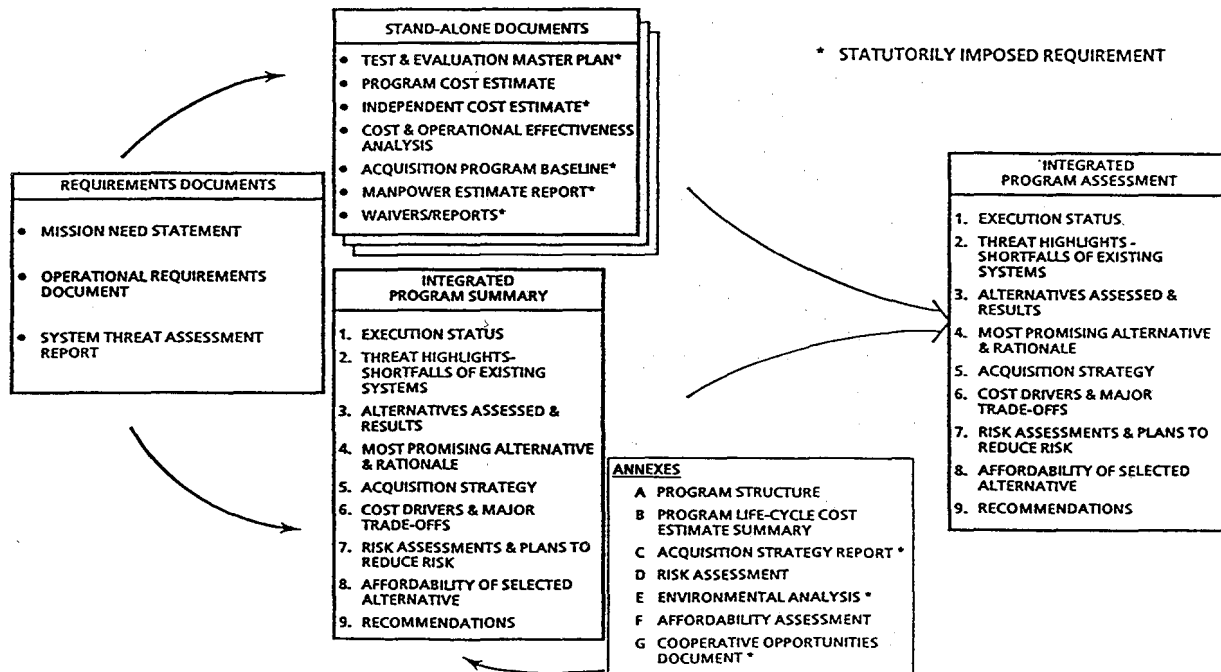
In every acquisition program there is an overarching strategy that guides the program called the acquisition strategy. This acquisition strategy is contained in detailed plans that the Program Manager uses to manage the program. A synthesis of the program plans with essential information needed to comply with statutorily imposed requirements and to make decisions is provided to the milestone decision authority at milestone decision points. Finally, during the execution of the program in the phase between milestone decision points, the Program Manager provides periodic assessments of the status of program accomplishments against program plans to the milestone decision authority. Program plans, milestone documentation, and periodic reports are a means to an end -- not an end in themselves.

The model of the acquisition process established in DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (a)) provides a way of showing the relationship of plans, milestone documentation, and periodic reports.



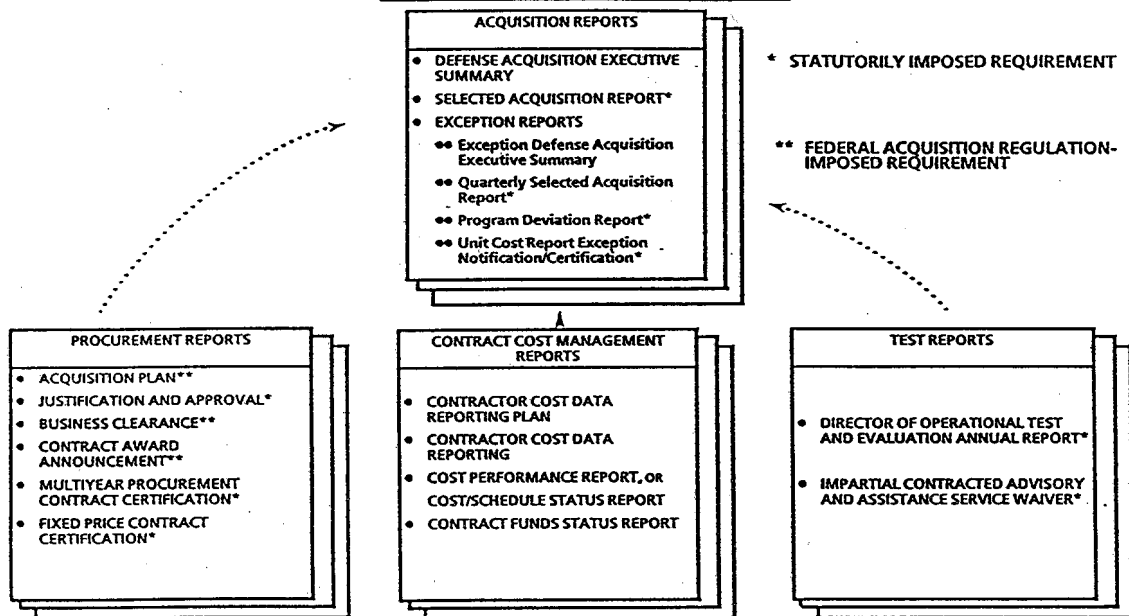
Documentation developed and submitted in support of a milestone review by the Program Manager and the Program Manager's Component can be grouped into three general categories -- requirements documents, the Integrated Program Summary with annexes, and stand-alone documents. The Integrated Program Summary with annexes and the stand-alone documents provide information to enable the milestone decision authority to make a milestone decision and to provide the staff with information to develop the Integrated Program Assessment. These categories, and the types of specific information included in each category, are highlighted below.

MILESTONE DOCUMENTATION CONCEPT



Periodic reports and certifications are also developed and submitted in support of the acquisition process. These reports and certifications are grouped into four general categories -- acquisition reports, procurement reports, contract cost management reports, and test reports. These categories, and the types of specific information included in each category, are highlighted below.

PERIODIC REPORTS CONCEPT



This Manual includes formats for the major items of documentation and the major periodic reports. These formats are intended to be used for the documentation and reporting requirements of acquisition category I programs and for acquisition category II, III, and IV programs as required by statute. These same formats MAY be used for non-statutory acquisition category II, III, and IV program requirements, tailored to the specifics of the program, at the discretion of the milestone decision authority.

A complete listing of milestone documentation requirements and periodic reports, by acquisition category and milestone, is provided in DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (a)), Sections 11-C and 11-D. A list of program plans required by DoD Instruction 5000.2 is shown in Section 11-E of the Instruction.

PART 2

MISSION NEED STATEMENT

- References: (a) DoD Directive 5000.1, "Defense Acquisition,"
February 23, 1991
- See chg 1* — (b) DoD Instruction 5000.2, "Defense Acquisition Management
Policies and Procedures," February 23, 1991
- (c) DoD 7750.5-M, "Procedures for Management of Information
Requirements," November 1986, authorized by DoD Directive
7750.5, "Management and Control of Information
Requirements," August 7, 1986

1. PURPOSE

- a. This section implements relevant portions of DoD Directive 5000.1, "Defense Acquisition" (reference (a)) and DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)). *ADD par. (see change 1)*
- b. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (c)).

2. PROCEDURES

- a. Format. The Mission Need Statement (MNS) will be a nonsystem-specific statement of operational capability need, prepared in accordance with the format attached. The Mission Need Statement should not exceed five pages and should identify any supporting documentation.
- b. Preparation and Submission. The Mission Need Statement may be prepared by any DoD Component which has identified a specific mission area need or deficiency. The Mission Need Statement should be submitted to the operational validation authority. For mission needs that could potentially result in a major defense acquisition program (acquisition category I), the Mission Need Statement should be submitted to the Joint Requirements Oversight Council (JROC) for review and validation.
- c. Review Procedures. The operational validation authority reviews the identified mission need, confirms that a nonmaterial ^E solution is not feasible, assesses the joint service potential, ^(see chg 1) and forwards its recommendations to the milestone decision authority for consideration for Milestone 0. For Mission Need Statements submitted to it, the Joint Requirements Oversight Council also assigns a joint priority and then forwards its recommendations to the Under Secretary of Defense for Acquisition. A Mission Need Statement shall be the primary document for initiating a Milestone 0 review. *(see chg 1)*

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	Dir, AP&PI	DepDir, ASM
Dept of Army	DCSOPS	DAMO-FDR
Dept of Navy	ASN(RDA)	DCNO (OP-07) CWD (N8) NAVOP 091 HQMC/I&L MCRDAC/AWT
Dept of Air Force	AF/XO	AF/ XO XOR
CJCS (Joint Staff)	VCJCS	J7/ORD

See chg 1

Attachment - 1

1. Mission Need Statement Format

MISSION NEED STATEMENT (FORMAT)

**MISSION NEED STATEMENT
FOR
TITLE OF OPERATIONAL CAPABILITY NEED**

1. Defense Planning Guidance Element. Identify the major program planning objective or section of the Defense Planning Guidance to which this need responds. Also reference DoD or Military Department long range investment plans, if applicable.
2. Mission and Threat Analyses. Identify and describe the mission need or deficiency. Define the need in terms of mission, objectives, and general capabilities. Do not discuss the need in terms of equipment or system-specific performance characteristics. Discuss the Defense Intelligence Agency (DIA)-validated threat to be countered as well as the projected threat environment and the shortfalls of existing capabilities or systems in meeting these threats. Comment on the timing of the need and the general priority of this need relative to others in this mission area.
3. Nonmateriel Alternatives. Discuss the results of the mission area analysis. Identify any changes in U.S. or Allied doctrine, operational concepts, tactics, organization, and training that were considered in the context of satisfying the deficiency. Describe why such changes were judged to be inadequate.
4. Potential Materiel Alternatives. Identify known systems or programs addressing similar needs that are deployed or are in development or production by any of the Services or Allied nations. Discuss the potential for inter-Service or Allied cooperation. Indicate potential areas of study for concept exploration/definition including the use of existing U.S. or Allied military or commercial systems or product improvements of existing systems. Do not evaluate these alternatives.
5. Constraints. Describe, as applicable, key boundary conditions related to infrastructure support that may impact on satisfying the need: logistics support; transportation; mapping, charting and geodesy support; manpower, personnel, and training constraints; command, control, communications, and intelligence interfaces; security; and standardization or interoperability within the North Atlantic Treaty Organization (NATO) or with other allies or DoD Components. Address the operational environments (including conventional; initial nuclear weapon effects; nuclear, biological, and chemical contamination (NBCC); electronic; and natural) in which the mission is expected to be accomplished. Define the level of desired mission capability in these environments.

6. See Change 1

PART 3

OPERATIONAL REQUIREMENTS DOCUMENT

- References:
- (a) DoD Directive 5000.1, "Defense Acquisition," February 23, 1991
 - (b) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991
 - (c) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986

1. PURPOSE

- a. This section implements relevant portions of DoD Directive 5000.1, "Defense Acquisition" (reference (a)) and DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).
- b. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (c)).

2. PROCEDURES

- a. Format. The Operational Requirements Document (ORD) is a formatted statement containing performance (operational effectiveness and suitability) and related operational parameters for the proposed concept or system. The Operational Requirements Document format and content are at attachment 1.
 - (1) Each concept proposed at Milestone I, Concept Demonstration Approval, for continued evaluation in Phase I, Demonstration and Validation, will be described in an initial Operational Requirements Document in terms of minimum acceptable requirements (thresholds) that define the system capabilities needed to satisfy the Mission Need Statement.
 - (a) The parameters in the initial Operational Requirements Document will be tailored to the concept (e.g., satellite, aircraft, ship, missile, or weapon, etc.) and reflect system-level performance capabilities such as range, probability of kill, platform survivability, operational availability, etc. Applicable environmental conditions will be identified.
 - (b) Objectives should also be established for each parameter. Objectives should represent a measurable, beneficial

increment in operational capability or operations and support, as defined in Section 4-B of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

- (c) Key parameters from the Operational Requirements Document will be included as thresholds in the Concept Baseline at Milestone I. Objectives from the Operational Requirements Document will be used to help establish the objectives in the Concept Baseline subject to affordability constraints and the results of cost and operational effectiveness analyses during Phase 0, Concept Exploration and Definition.
- (2) The Operational Requirements Document will be updated and expanded for Milestone II, Development Approval, to include thresholds and objectives for more detailed and refined performance capabilities and characteristics based on the results of trade-off studies and testing conducted during Phase I, Demonstration and Validation.
 - (a) After Milestone II, the Operational Requirements Document should be modified only as a result of a change in the Mission Need Statement or cost-schedule-performance trade-offs during Phase II, Engineering and Manufacturing Development.
 - (b) Key parameters from the Operational Requirements Document will be included in the Development Baseline at Milestone II and the Production Baseline at Milestone III, Production Approval.
- (3) The Operational Requirements Document will be used to develop requirements for contract specifications during each acquisition phase.

b. Preparation and Submission

- (1) The Operational Requirements Document will be initially prepared by the user or user's representative during Phase 0, Concept Exploration and Definition, for the preferred concept(s) to be proposed at Milestone I. It will be updated by the user or user's representative during Phase I, Demonstration and Validation.
- (2) The Service Chief or his designated representative (or DoD Component Head if not a Service) will approve the Operational Requirements Document prior to each milestone decision point and submit it to the DoD Component Acquisition Executive or appropriate milestone decision authority to be used in the preparation of program documentation such as baselines and specifications.

(3) For acquisition category I D programs, the Joint Requirements Oversight Council will designate the approval authority for the Operational Requirements Document.

c. Review Procedures. Each DoD Component will establish internal procedures for preparation, review, coordination, and approval of Operational Requirements Documents.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

<u>DoD Component</u>	<u>Points of Contact</u>	
	<u>General</u>	<u>Specific</u>
OSD	Dir, AP&PI	DepDir, ASM
Dept of Army	DCSOPS	DAMO-FDR
Dept of Navy	ASN(RDA)	NAVOP 091 CNO (NO91) MCRDAC/AWT
Dept of Air Force	AF/XO	AF/XOX XOR
CJCS (Joint Staff)	VCJCS	J7/ORD

(See chg 1)

Attachment - 1

1. Operational Requirements Document Format

OPERATIONAL REQUIREMENTS DOCUMENT (FORMAT)

OPERATIONAL REQUIREMENTS DOCUMENT

FOR

PROGRAM TITLE

1. General Description of Operational Capability. Describe the overall mission area, the type of system proposed, and the anticipated operational and support concepts in sufficient detail for program and logistics support planning. Include a brief summary of the Mission Need Statement. If a Mission Need Statement did not precede the Operational Requirements Document, explain the process that investigated alternatives for satisfying the mission need and developing operational requirements.
2. Threat. Summarize the threat to be countered and the projected threat environment. This threat information should reference Defense Intelligence Agency or Service Technical Intelligence Center approved documents and be validated by the Service Intelligence Director. For major defense acquisition programs (acquisition category I), reference the Defense Intelligence Agency (DIA)-validated System Threat Assessment Report. In some non-warfighting systems, the threat may be listed as not applicable.
3. Shortcomings of Existing Systems. Describe why existing systems cannot meet current or projected requirements (do not describe a proposed system).
4. Capabilities Required. Identify performance (operational effectiveness and suitability) capabilities and characteristics required. State in operational terms and prioritize if possible. Specify each performance parameter in terms of a minimum acceptable value (threshold) required to satisfy the mission need and a performance objective. The objective should represent a measurable, beneficial increase in capability or operations and support above the threshold.
 - a. System Performance. Include system performance parameters such as range, accuracy, payload, speed, mission reliability, etc. Describe mission scenarios (wartime and peacetime, if different) in terms of mission profiles, employment tactics, and environmental conditions (all inclusive: natural and man-made, e.g., weather, countermeasures, ocean acoustics, etc).
 - b. Logistics and Readiness. Include measures for mission-capable rate, operational availability, frequency and duration of preventive or scheduled maintenance actions, etc. Describe in terms of mission requirements considering both wartime and peacetime logistics operations. Identify combat support requirements including battle damage repair capability, mobility

requirements, expected maintenance manpower and skill levels, and surge and mobilization objectives and capabilities.

c. Critical System Characteristics. Address electronic counter-countermeasures (ECCM) and Wartime Reserve Modes (WARM) requirements; conventional, initial nuclear weapons effects, and nuclear, biological, and chemical contamination (NBCC) survivability; natural environmental factors (such as climatic, terrain, and oceanographic factors); and electromagnetic compatibility and frequency spectrum assignment for systems operating in the electromagnetic spectrum. Define the expected mission capability (e.g., full, percent degraded, etc) in the various environments. Include applicable safety parameters such as those related to system, nuclear, explosive, and flight safety. Identify communications, information, and physical and operational security needs.

5. Integrated Logistics Support (ILS). Establish organizational, intermediate, and depot level support objectives for initial and full operational capability.

a. Maintenance Planning. Identify maintenance tasks to be accomplished and time phasing for depot maintenance, including programmed depot maintenance and surveillance inspections such as nuclear hardness and structural integrity. Describe the planning approach for contract versus organic repair.

b. Support Equipment. Define the standard support equipment to be used by the system. Describe the test and fault isolation capabilities desired of automatic test equipment at all levels, expressed in terms of realistic and affordable probabilities and confidence levels.

c. Human Systems Integration. Briefly describe the operational and maintenance training concept (pipeline, training devices, embedded training/onboard training, interactive courseware). Identify manpower, personnel, and training constraints. Establish objectives and thresholds if applicable for manpower (force structure and end strength), personnel (numerical and skill level), training, and safety. Specify manpower and training methodologies to be used (e.g., HARDMAN Comparability Methodology).

d. Computer Resources. Identify computer resource constraints (examples include language, computer, data base, architecture, or interoperability constraints). Address all mission critical and support computer resources, including automated test equipment. Describe the capabilities desired for integrated computer resources support. Identify any unique user interface requirements, documentation needs, and special software certifications.

e. Other Logistics Considerations. Describe the provisioning strategy for the system. Specify any unique facility and shelter requirements. Identify special packaging, handling, and transportation considerations. Define unique data requirements such as engineering data for depot support and technical orders for the system and depot.

6. Infrastructure Support and Interoperability. Discuss interfacing systems (at the system/subsystem, platform, and force levels), specifically those related to command, control, communications, and intelligence (C3I),

transportation and basing, and standardization and interoperability. Identify companion Operational Requirements Documents and other Services that may have similar requirements. Assign a joint potential designation (joint, joint interest, or independent).

a. Command, Control, Communications, and Intelligence. Describe how the system will be integrated into the command, control, communications, and intelligence architecture that is forecast to exist at the time the system will be fielded. Include data requirements (data, voice, video), computer network support, and anti-jam requirements. Identify unique intelligence information requirements, including intelligence interfaces, communications, and data base support pertaining to target and mission planning activities, threat data, etc.

b. Transportation and Basing. Describe how the system will be moved either to or within the theater. Identify any lift constraints. Detail the basing and associated facilities available for training locations and main and forward operating bases.

c. Standardization, Interoperability, and Commonality. Describe considerations for joint use, NATO cross-servicing, etc. Identify procedural and technical interfaces, and communications, protocols, and standards required to be incorporated to ensure interoperability with other Service, joint Service, and Allied systems. Address energy standardization and efficiency needs for both fuels and electrical power as applicable.

d. Mapping, Charting, and Geodesy Support. Identify cartographic materials, digital topographic data, and geodetic data needed for system employment. Where possible, Defense Mapping Agency standard military data will be used.

e. Environmental Support. Identify the standard and unique weather, oceanographic, and astrogeophysical support required. Include data accuracy and forecast requirements.

7. Force Structure. Estimate the number of systems or subsystems needed, including spares and training units. Identify the platforms and quantities of these platforms (including other Services' or Government agencies' if appropriate) that will employ the systems or subsystems being developed and procured to satisfy this Operational Requirements Document.

8. Schedule Considerations. Define what actions, when complete, will constitute attainment of Initial and Full Operational Capability (leave flexible for these to be revised as the program is progressively defined and trade-off studies are completed). Clearly specify the operational capability or level of performance necessary to declare Initial and Full Operational Capability. Include the number of operational systems, operational and support personnel, facilities, and organizational, intermediate, and depot support elements that must be in place. If availability in a specific time frame is important, specify an objective for initial operational capability. Describe the impact if this objective is not achieved and identify a window of acceptability if appropriate.

PART 4

INTEGRATED PROGRAM SUMMARY

- References:
- (a) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986
 - (b) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991
 - (c) Title 10, United States Code, Section 2350a.(e), "Cooperative Opportunities Document"
 - (d) DoD Instruction 5000.33, "Uniform Budget Cost Terms and Definitions," August 15, 1977

1. PURPOSE

- a. This Part provides instructions for preparing the Integrated Program Summary in support of a milestone decision review.
- b. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (a)).

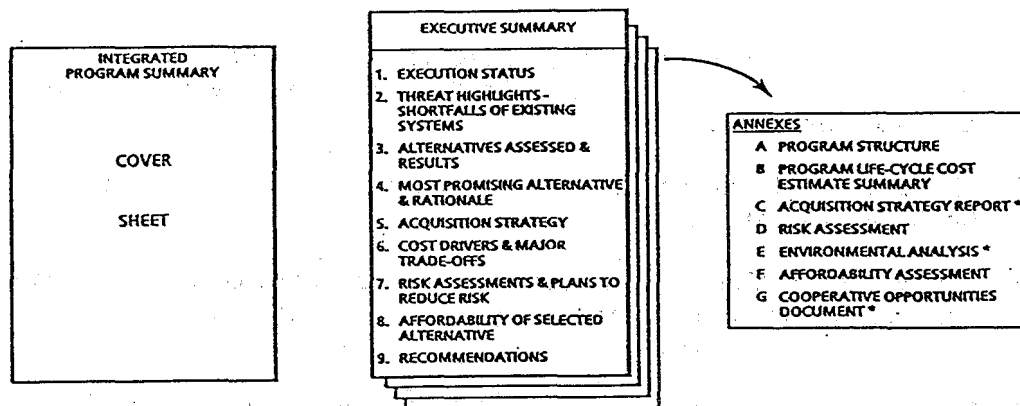
2. PROCEDURES

- a. Overview. The Integrated Program Summary with its annexes is the primary decision document used to facilitate top-level acquisition milestone decisionmaking. It provides a comprehensive summary of program structure, status, assessment, plans and recommendations by the Program Manager and the Program Executive Officer. Primary functions of the Integrated Program Summary include:
 - (1) Summarizing where the program is versus where it should be;
 - (2) Describing where the program is going and how it will get there;
 - (3) Identifying program risk areas and plans for closing risks; and
 - (4) Providing the basis for establishing explicit program cost, schedule, and performance (operational effectiveness and suitability) objectives and thresholds in the stand-alone acquisition program baseline (see Part 14) and program-specific exit criteria for the next acquisition phase.

- b. Integrated Program Summary Format. The format for the Integrated Program Summary and its supporting annexes is highlighted below. Subsequent paragraphs provide additional details on the specific information to be provided at each milestone decision point.

INTEGRATED PROGRAM SUMMARY

STATUTORILY-IMPOSED REQUIREMENT.



- c. Milestone I, Concept Demonstration Approval. At Milestone I, the Integrated Program Summary shall summarize the results of Phase 0, Concept Exploration and Definition. It shall identify and provide the following information:

- (1) The most promising concept(s) to be carried into Phase I, Demonstration and Validation, for demonstration and further development, and the reasons for elimination of alternative concepts.
- (2) The risk reduction efforts to be accomplished during Phase I.
- (3) The trade-off decisions to be made for Milestone I, and recommended to be made for Milestone II, by the milestone decision authority.
- (4) The design alternatives and trade-offs to be evaluated during Phase I.
- (5) A summary of the program life-cycle cost estimate, independent cost estimate, affordability assessment and proposed Concept baseline.

- (6) The DoD Component's proposed program acquisition strategy and any proposed waivers.
- d. Milestone II, Development Approval. At Milestone II, the Integrated Program Summary shall summarize the results of Phase I, Demonstration and Validation, and how the exit criteria in the Milestone I Acquisition Decision Memorandum were satisfied. It shall identify and provide the following information:
- (1) The risk reduction efforts accomplished during Phase I and to be accomplished during Phase II, Engineering and Manufacturing Development.
 - (2) The trade-off decisions to be made for Milestone II, and recommended to be made for Milestone III, by the milestone decision authority.
 - (3) The trade-offs to be evaluated during Phase II prior to Critical Design Review.
 - (4) A summary of the program life-cycle cost estimate, independent cost estimate, affordability assessment, and proposed Development baseline.
 - (5) The DoD Component's proposed acquisition strategy , any proposed waivers, the low-rate initial production quantities, and the test and evaluation events to be accomplished prior to low-rate initial production contract award.
- e. Milestone III, Production Approval. At Milestone III, the Integrated Program Summary shall be updated to describe program changes since Milestone II and how the exit criteria in the Milestone II Acquisition Decision Memorandum were satisfied. It shall identify and provide the following information:
- (1) The risk reduction efforts accomplished during Phase II and to be accomplished during Phase III, Production and Deployment.
 - (2) Any proposed preplanned product improvements to be approved at Milestone III for a production line block upgrade or to be evaluated for a potential Milestone IV.
 - (3) A summary of the program life-cycle cost estimate, independent cost estimate, affordability assessment, and proposed Production baseline.
 - (4) The DoD Component's proposed acquisition strategy for the remainder of the program including any proposed waivers.
- f. Milestone IV, Major Modification Approval. At Milestone IV, the Integrated Program Summary shall be updated to describe the need to pursue proposals for major upgrades or modifications to systems that are still in production and to document the ability of the proposed major upgrade to satisfy the need.

- g. Acquisition Category I D Integrated Program Summaries and Assessments. The draft Integrated Program Summary is prepared for acquisition category I D programs by the Program Executive Officer, with support from the Program Manager. It is approved by the DoD Component Acquisition Executive and submitted to the the Defense Acquisition Board Executive Secretary no later than 45 days prior to the Defense Acquisition Board Committee review.
- (1) Any questions raised or deficiencies identified during the review of the draft Integrated Program Summary, including acquisition program baseline issues, will be communicated to the Component no later than 27 days prior to the Defense Acquisition Board Committee meeting. A final Integrated Program Summary approved by the DoD Component Acquisition Executive will be submitted to the Defense Acquisition Board Executive Secretary no later than 10 working days prior to the Defense Acquisition Board Committee review.
 - (2) An Integrated Program Assessment will be prepared by the respective Defense Acquisition Board Committee in the same format as the Integrated Program Summary. The Integrated Program Summary and Integrated Program Assessment will be provided to the Under Secretary of Defense for Acquisition and members of the Defense Acquisition Board prior to each milestone for acquisition category I D programs.
- h. Application to Acquisition Category I C, II, III, and IV Programs. The Integrated Program Summary and Integrated Program Assessment concept will be used by the DoD Component milestone decision authorities for acquisition category I C, II, III and IV programs; however, the documentation content should be appropriately streamlined and tailored for acquisition category II, III and IV programs.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix on page 4-5 identifies the offices to be contacted for additional information on this part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

DoD Component	Points of Contact	
	General	Specific
OSD Overall ● Cost Summary ● ASR ● Risk Assessment ● Environ Analysis ● Afford Assessment ● COD	Dir, AP&PI ASD(PA&E) ASD(P&L) <i>Dir, Def Proc</i> DDR&E <i>DUSD(A)</i> ASD(C3I) ASD(P&L) ASD(PA&E) Dir, AP&PI DUSD(IP)	DepDir, ASM Chair, CAIG DASD(P)/DSPS DDDR&E(TWP) <i>DIR, TS</i> DDDR&E(S&TNE) <i>DIR, S&SS</i> DASD(C3I) DASD(E)/EPD DASD(GPP) DASD(SP) DepDir, PA <i>AR</i> ADUSD(P&A)
Dept of Army Overall ● Cost Summary ● ASR ● Risk Assessment ● Environ Analysis ● Afford Assessment ● COD	ASA(RDA) ASA(FM) ASA(RDA) ASA(RDA) ASA(IL&E) ASA(RDA) ASA(RDA)	SARD-RP SAFM-CA SARD-RP SARD-DE SAILE-ESO SARD-RI SARD-ZD
Dept of Navy Overall ● Cost Summary ● ASR ● Risk Assessment ● Environ Analysis ● Afford Assessment ● COD	ASN(RDA) ASN(RDA) ASN(RDA) ASN(RDA) ASN(I&E) ASN(RDA) ASN(RDA)	Dep, APIA Dir, NCA Dep, APIA Dep, APIA ASN(I&E) Dir, RE Dep, APIA
Dept of Air Force Overall ● Cost Summary ● ASR ● Risk Assessment ● Environ Analysis ● Afford Assessment ● COD	ASAF(A) ASAF(FM) ASAF(A) ASAF(A) ASAF(MRAI&E)) AF/XO ASAF(A)	SAF/AQX SAF/FMC SAF/AQC SAF/AQX SAF/MIQ AF/ XO <i>XOR</i> SAF/AQX
CJCS (Joint Staff) Overall ● Cost Summary ● ASR ● Risk Assessment ● Environ Analysis ● Afford Assessment ● COD	DJ8 DJ8 DJ8 DJ8 DJ8 DJ8 DJ8	J8/SPED J8/PBAD J8/SPED J8/PBAD J8/SPED J8/PBAD J8/SPED

(see change)

See chgd

PART 4
SECTION A

INTEGRATED PROGRAM SUMMARY (FORMAT)

FOR

PROGRAM TITLE

COVER SHEET - Page 1

1. Decision Requested. Summarize the decisions requested to be made by the milestone decision authority at the milestone review.
2. Program Description. Provide a brief description of the program. This description should be identical to descriptions used in other reports, such as the Acquisition Program Baseline (see Part 14) and the Selected Acquisition Report (see Part 17). Reference the approved Mission Need Statement (see Part 2) and the Operational Requirements Document (see Part 3), and describe how the program supports the identified mission need and operational requirements in both broad and specific terms.

Acquisition Category _____ Program Element _____ Project Number _____

PREPARED BY

Program Executive Officer or
Designated Component Official:

Program Manager:

_____ Date _____

_____ Date _____

CONCURRENCE

User's Representative:

_____ Code _____

_____ Date _____

APPROVAL

ACAT I C, II, III, and IV programs: Designated Component Official

_____ Code _____

_____ Date _____

ACAT I D programs: DoD Component Acquisition Executive:

_____ Code _____

_____ Date _____

Note: Use this cover sheet to forward the summary to the milestone decision authority; a forwarding letter is not required nor desired.

INTEGRATED PROGRAM SUMMARY (FORMAT)

FOR

PROGRAM TITLE

EXECUTIVE SUMMARY - Page 2 and subsequent

1. Program Execution Status

a. At all milestones

- (1) Describe how the exit criteria in the prior milestone Acquisition Decision Memorandum were satisfied.
- (2) Summarize any subsequent guidance, decisions, and congressional actions.
- (3) Provide the current program and contract(s) status of:
 - (a) Cost estimate-at-completion.
 - (b) Schedule relative to Annex A Program Structure.
 - (c) Achieved performance.
- (4) Summarize major cost, schedule and performance trade-offs made during the previous phase and to be made during the next phase.
- (5) Program funding status relative to:
 - (a) Prior years.
 - (b) Current budget.
 - (c) 6-Year Defense Program.
 - (d) Outyear extended plan for funding program completion.
- (6) Include and discuss obligation status for prior and current year funding.

b. At Milestone I

- (1) If a new system is proposed, discuss why use of an existing U.S. or allied military or commercial system or product improvement of an existing system was not selected.
- (2) For the most promising concept, identify existing military or commercial non-development items (subsystems) which will be evaluated for use or possible modification during the next phase.

c. At Milestone II

- (1) Describe program progress since Milestone I including contract performance as reported in the Defense Acquisition Executive Summary and the results of test and evaluation.
- (2) For the most promising design, identify which subsystems, components or materials require new or additional development and discuss why an existing military or commercial non-development item subsystem, component or material cannot be used. Identify supporting analyses.

d. At Milestone III. Describe the program progress since Milestone II including contract performance as reported in the Defense Acquisition Executive Summary and the results of test and evaluation.

e. At Milestone IV

- (1) Describe the program progress since Milestone III including contract performance as reported in the Defense Acquisition Executive Summary.
- (2) Summarize significant deficiencies identified as necessitating major upgrades or modifications.

2. Threat Highlights/Existing System Shortfalls

- a. Summarize the threat environment.
- b. Identify the key intelligence judgments obtained from the System Threat Assessment Report.
- c. Describe the hostile intelligence threat.
- d. Discuss inadequacies of existing capabilities or systems.
- e. Address program protection and system security planning (see Section 5-F and Section 6-I, respectively, in DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b))).

3. Alternatives Assessed and Results

- a. Identify all alternatives considered.
- b. Discuss rejected alternatives and reasons for their non-selection.
- c. Summarize the results of cost and operational effectiveness analyses (see Part 8).
- d. Succinctly assess the advantages and disadvantages of establishing a cooperative development program with one or more of the Allied

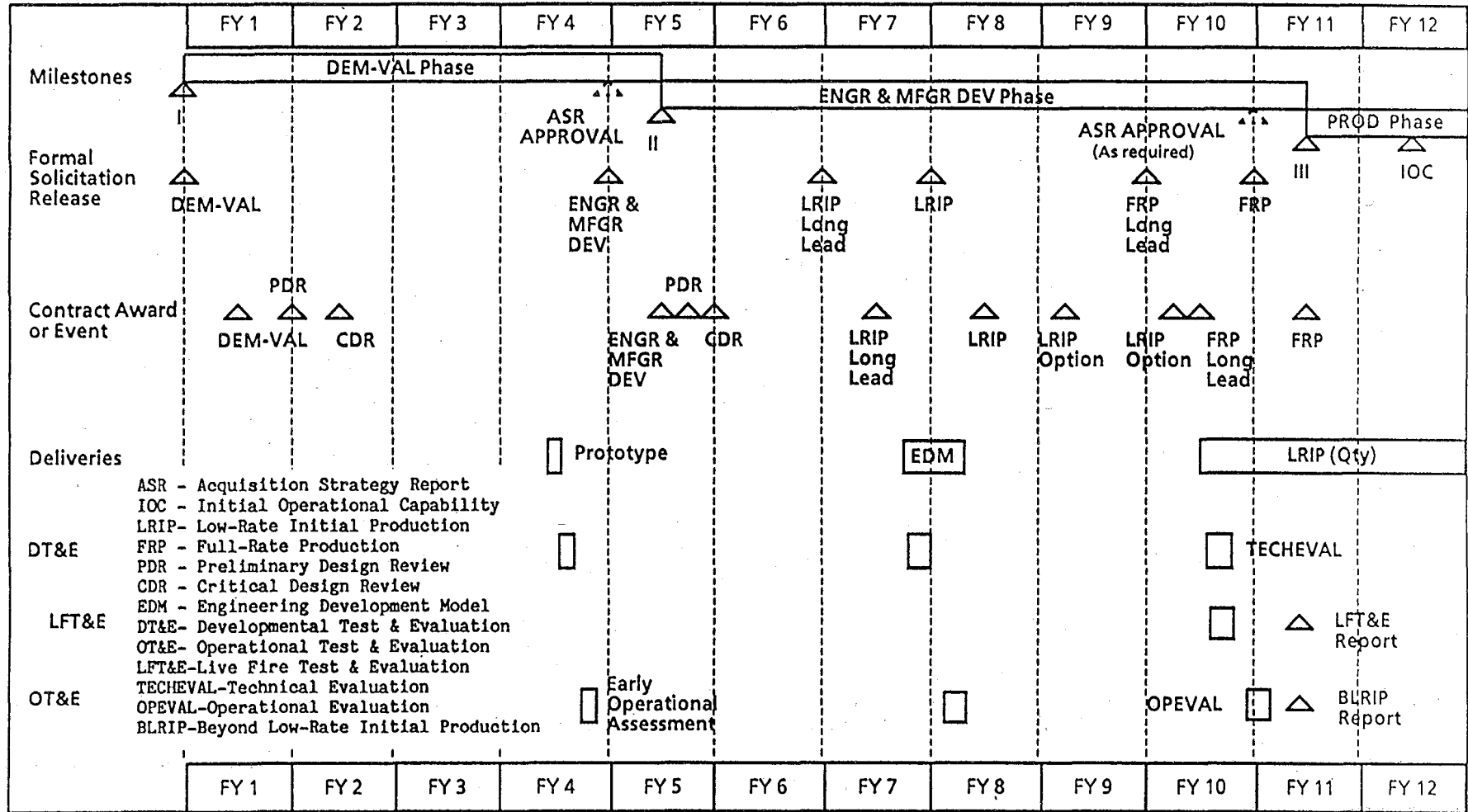
nations (summarize from Annex G, Cooperative Opportunities Document, (see Section 4-H) for acquisition category I programs). Include a recommendation as to whether the DoD should explore the feasibility and desirability of a cooperative development program with one of more of the Allied nations. Title 10, United States Code, Section 2350a.(e), "Cooperative Opportunities Document" (reference (c)).

4. Most Promising Alternative and Rationale. Summarize the cost, schedule and performance assessment of the most promising alternative and the supporting rationale relative to the other alternatives, the Mission Need Statement, and the Operational Requirements Document. The Program Life-Cycle Cost Estimate Summary for the most promising alternative along with the other alternatives is provided in Annex B (see Section 4-C).
5. Acquisition Strategy. Summarize the acquisition strategy proposed for the program. The Annex C, Acquisition Strategy Report, (see Section 4-D) is to describe in greater detail the proposed acquisition strategy and the rationale and justification for its selection.
6. Cost Drivers and Major Trade-offs
 - a. Highlight the current cost drivers and the proposed major cost, schedule, and performance trade-offs for the next phase.
 - b. Discuss the major trade-off decisions to be made by the milestone decision authority for the current milestone and the possible major trade-offs recommended to be made by the milestone decision authority for the next milestone.
7. Risk Assessment and Plans to Reduce Risk. This paragraph is to include the following:
 - a. A succinct summary of the threat, technology, design and engineering, support, manufacturing, cost, and schedule risk assessment from Annex D for all known or potential risks. Identify the system component(s) or subsystem(s) most directly affected, and the actual or planned specific risk reduction efforts being undertaken by the Program Manager. A suggested format for presenting such risks and risk reduction efforts is shown in Annex D (see Section 4-E).
 - b. The highlights of the environmental risk analysis and appropriate mitigating measures from Annex E (see Section 4-F).
8. Affordability of Selected Alternative (Milestones I-IV). Summarize from Annex F (see Section 4-G) the affordability assessment of the selected alternative in the context of the overall long-range modernization and investment plans of the Component.

9. Recommendations. Recommend the proposed acquisition strategy, the major trade-offs to be made by the milestone decision authority, proposed exit criteria and whether or not to proceed into the next phase. Identify any issues that require resolution by the milestone decision authority or higher authority.

NOTE: Stand-alone milestone documentation required in support of the milestone review process for a specific acquisition category program is identified in Parts 5, 6, 7, 8, 9, 10, 11, 12, 14, and 15. (See Section 11-C of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).)

ANNEX A - PROGRAM STRUCTURE (ILLUSTRATIVE EXAMPLE)



4-B-1

ANNEX B - PROGRAM LIFE-CYCLE COST ESTIMATE SUMMARY (\$M) (cont'd.)

As of Date: _____ Initial^②
 FY _____ FY _____ FY _____ FY _____ FY _____ FY.....^② **TOTAL PROGRAM**

PRODUCTION PHASE REQMTS

PROCUREMENT^③

System Cost^③

Recurring Flyaway, Rollaway, or Sailaway Cost

(Provide one level of WBS indenture based on program requirements)

Other Flyaway, Rollaway, or Sailaway Cost

Total Flyaway, Rollaway, or Sailaway Cost

Support Cost

Other System Costs

Advance Proc Prior Yr (Show as minus entries)

Advance Proc Current Yr (Show as plus entries)

Initial Spares

Other line item procurement^③

Total Procurement

(Also show Total Procurement funding in the approved 6-year Defense Program)(Show as Non-Add Entries in ())

MILCON

O&M^③

MILPERS^③

Total Production Phase

OPERATIONS AND SUPPORT PHASE REQMTS

MILPERS

O&M

PROCUREMENT^③

RDT&E^③

Total Operations & Support Phase

OTHER REQUIREMENTS^③

During Development

During Production

During Operations & Support

Industrial Capacity Investment

Total Other Requirements

TOTAL XX-YR LIFE-CYCLE REQMTS

4-C-2

PART 4
SECTION C

ANNEX B - PROGRAM LIFE-CYCLE COST ESTIMATE SUMMARY (\$M)
FOOTNOTES

- ① Provide cost profile for each concept alternative at Milestone I (for subsequent milestones, provide the cost profile for the preferred concept alternative selected at Milestone I) in Base Year \$ and Then Year \$ using current 6-year Defense Program rates/ground rules for the program baseline quantity stream. For the preferred alternative, provide two additional cost profiles for accelerated quantity streams. The first will be based on optimum peacetime surge production rates /rate acceleration attainable from baseline materiel and facility resources (including reasonable line-of-balance enhancements to that baseline). The second will be based on mobilization production rates/rate acceleration required to meet warfighting demand including any necessary enhancements to baseline materiel and facility resources.
- ② Apply footnotes as required to explain each profile. Adjustments to format are authorized to accommodate each program. Any adjustments will be decided on at the initial milestone planning meeting. Terms and definitions will be in accordance with DoD Instruction 5000.33, "Uniform Budget Cost Terms and Definitions," (reference (d)). Use as many columns as necessary to show every FY of acquisition funding from initial to last FY, and operations and support funding until the end of the life cycle of the system.
- ③ Identify the number of development and production incremental units to be funded and delivered during each fiscal year.
- ④ Include other life-cycle related costs (such as the program manager's office and civilian salaries) funded by O&M and MILPERS appropriations during development or production phases, or later.
- ⑤ Enter the costs by Appropriation, such as Aircraft Procurement, Missile Procurement, Shipbuilding & Conversion or Other Procurement. If more than one applies, identify each separately.
- ⑥ System cost is equal to weapon system cost as defined in DoD 5000.33; "Uniform Budget Cost Terms and Definitions," (reference (d)).
- ⑦ Identify industrial base program (industrial facilities, manufacturing technology, and technology modernization) cost directly related to the system at hand and other system peculiar costs identified as a separate line item, or as a portion of a separate line item, in another part of the procurement budget. Identify each by the line item number and name (or program element and name) under which funding is required and the amount in each.
- ⑧ Enter Procurement costs associated with operating/owning a weapon system, such as modifications, replenishment spares, and support equipment, and RDT&E costs in operational program elements (other than Program 6) such as for mods.
- ⑨ Enter system-peculiar cost carried elsewhere in the budget such as installation, program manager's office, civilian salaries, shore-based training facilities, intelligence support, etc.

4-C-3

PART 4
SECTION C

PART 4
SECTION D

INTEGRATED PROGRAM SUMMARY

ANNEX C

ACQUISITION STRATEGY REPORT

- References:
- (a) Title 10, United States Code, Section 2438⁹, "Major programs: competitive alternative sources"
 - (b) Title 10, United States Code, Section ~~2365~~, "Competitive ~~prototype strategy requirement: major defense acquisition programs~~" (See change)
 - (c) Title 10, United States Code, Section ~~2502~~, "~~Policies relating to defense industrial base~~" See chg/L
 - (d) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

1. PURPOSE

- a. This Annex provides procedures for completing an Acquisition Strategy Report, which is to be appended as Annex C to the Integrated Program Summary.
- b. An Acquisition Strategy Report is designed to satisfy the requirements of:
 - (1) Title 10, United States Code, Sections 2438⁹ (reference (a)) and ~~2438~~ ~~2365~~ (reference (b)) for major defense acquisition programs (acquisition category I programs). See change
 - (2) Title 10, United States Code, Section ~~2502~~²⁴⁴⁰ (reference (c)) for analysis and assessment of the capabilities of the defense industrial base to develop, produce, maintain, and support major defense acquisition programs.
- c. The provisions of this Annex also satisfy the requirements of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (d)) for acquisition category II, III and IV programs.

2. PROCEDURES

- a. Acquisition Category I Programs. Milestone decision authorities will approve the acquisition strategy for acquisition category I programs prior to beginning Phase I, Demonstration and Validation.

- (1) The acquisition strategy will provide for the use of a competitive prototype program strategy in the development of a major weapons system or a subsystem of such system (beginning in the Demonstration-Validation phase) unless a waiver is granted. The term "subsystem of such system" means a collection of components (such as the propulsion system, avionics, or weapon controls) for which the prime contractors, major subcontractors, or government entities have responsibility for system integration.
- (2) The acquisition strategy will also provide the option for the establishment of competitive alternative sources for acquisition category I programs and for major subsystems under the acquisition category I programs throughout the period from the beginning of Phase II, Engineering and Manufacturing through the end of Phase III, Production and Deployment procurement if the results of the analyses of Section 4-D, Attachment 2 are positive. The milestone decision authority may provide that the requirement for competitive alternative sources of an acquisition category I program or major subsystem of such program is satisfied even though the sources for that acquisition category I program or major subsystem of such program do not develop or produce identical systems if the systems developed serve similar functions and compete effectively with each other.

NOTE: A "major subsystem" of a system is defined as one whose research, development, test, and evaluation expenditure under an acquisition category I development program is equal to or greater than \$20 million (based on fiscal year 1980 constant dollars)(equal to or greater than approximately \$30 million (fiscal year 1990 constant dollars)) and is purchased directly by the United States.

NOTE: A "major subsystem" of a system is defined as one whose procurement expenditure under the acquisition category I procurement program is equal to or greater than \$100 million (based on fiscal year 1980 constant dollars)(equal to or greater than approximately \$180 million (fiscal year 1990 constant dollars)) and is purchased directly by the United States.

- b. Waiver. Waiver to the statutorily-imposed competitive prototype program strategy requirement for development of a major weapon system (or subsystem of such system) under an acquisition category I program will be addressed on a case-by-case basis and documented by providing compelling reasons why it is impractical to comply with this requirement. The format for submitting such a waiver is discussed and described in Part 12 of this Manual.

- c. Contracts. Contracts for each acquisition category program and each major subsystem under each acquisition category I program will be awarded in accordance with the acquisition strategy for such program.
- d. Acquisition Category II, III, and IV Programs. The contents of the Acquisition Strategy Report will be appropriately tailored and applied to acquisition category II, III, and IV programs at Milestone I and subsequent milestones.
- e. Acquisition Strategy Report and Acquisition Plan.
 - (1) To minimize the administrative burden, common acquisition strategy paragraphs from the acquisition strategy report should also be used for the acquisition plan.
 - (2) The acquisition plan, incorporating the approved acquisition strategy, may not be approved until the Acquisition Strategy Report has been approved by the milestone decision authority. The Acquisition Strategy Report and any associated waivers will be prepared and approved prior to formal solicitation release. For Milestones II and III, the APPROVED Acquisition Strategy Report will be included as Annex C in the Integrated Program Summary.

Attachments - 2

- 1. Acquisition Strategy Report Format
- 2. Competitive Alternative Sources Analyses

INTEGRATED PROGRAM SUMMARY

ANNEX C

ACQUISITION STRATEGY REPORT (FORMAT)

FOR

PROGRAM TITLE

1. Program Structure. Define the relationship among acquisition phases, decision milestones, solicitations, contract awards, systems engineering design reviews, contract deliveries, test and evaluation periods, production releases, and operational deployment objectives. Discuss degree of concurrency and phase transitions.
 - a. List quantities to be procured and delivered by fiscal year by phase in terms of prototypes, engineering development models, low-rate initial production and full rate production.
 - b. Summarize the program structure on a single diagram similar to the illustrative example shown in Annex A (see Section 4-B) to the Integrated Program Summary.
 - c. See Federal Acquisition Regulation part 7, subpart 7.1, paragraphs 7.105(a)(5), (b)(11) and (b)(18) and Defense Federal Acquisition Regulation Supplement part 207, subpart 207.1, paragraphs 207.105(a)(S-70), (a)(S-71), (a)(S-72), (a)(S-73) and (b)(S-70)(x) for related acquisition plan paragraphs.
2. Acquisition Approach
 - a. Overview
 - (1) Discuss the basic acquisition strategy being pursued including transition of critical technologies in technology demonstration programs to prototypes and engineering development models, plans for reducing risk, non-development items, evolutionary acquisition, and preplanned product improvements in the context of the operational requirements and the management approach to the acquisition.
 - (2) Discuss applicable Government vs contractor management responsibilities -- e.g., systems integration, Government versus contractor support, Government versus contractor furnished equipment/information, etc.

- (3) See Federal Acquisition Regulation part 7, subpart 7.1, paragraphs 7.105(b)(6), (b)(12), (b)(13), and (b)(14) and Defense Federal Acquisition Regulation Supplement part 207, subpart 207.1, paragraphs 207.105(b)(6) for related acquisition plan paragraphs.

b. Streamlining

- (1) Discuss plans to streamline the process (to include combining or eliminating phases; using concurrent processes; consolidating or simplifying program documentation; streamlining contractual requirements) and identify associated waivers or deviations required.
- (2) Identify special streamlining initiatives such as Defense Enterprise Programs and milestone authorization, but also discuss accommodation of legislative requirements such as competitive prototyping, live fire testing, etc, unless waivers are approved.
- (3) See Federal Acquisition Regulation part 7, subpart 7.1, paragraph 7.105(a)(8) and Defense Federal Acquisition Regulation Supplement part 207, subpart 207.1, paragraph 207.105(a)(8) for related acquisition plan paragraphs.

c. Sources

- (1) Indicate the prospective sources of supplies and/or services that can meet the need. Include consideration of small business, small disadvantaged business, and labor surplus area concerns. Discuss the need to create or preserve domestic sources.
- (2) Identify surge and mobilization objectives and discuss the industrial preparedness strategy for achieving these objectives. For acquisition category I programs, include analysis and assessment of the capabilities of the defense industrial base to develop, produce, maintain, and support the program in accordance with Title 10, United States Code, Section 2502, ~~"Policies relating to defense industrial base"~~ (reference (c)).
See chg 1
- (3) If the acquisition strategy for acquisition category I programs does not call for competitive prototypes in development (beginning in Phase I, Demonstration and Validation); and calls for less than two sources in Phase II, Engineering and Manufacturing Development; or Phase III, ^{justification on a} Production and Deployment, the Component will provide ^(see chg 1) rationale for not using competitive prototypes in Phase I and for the use of less than two sources in Phase II or Phase III along with an analysis which includes comparative costs, schedule estimates, and other background information to support the rationale. ~~Prepare a request for a competitive prototype strategy waiver for milestone decision authority approval, under authority delegated by the Secretary of Defense, specifying the basis for the waiver~~
See Change 1

See chg 1

~~(see Part 12 for competitive prototype strategy waiver)~~. The approved acquisition strategy may not be revised without approval of the milestone decision authority. Any significant change in requirements may require further analysis to demonstrate the continuing effectiveness of the selected acquisition strategy.

- (4) See Federal Acquisition Regulation part 7, subpart 7.1, paragraph 7.105(b)(1) and (17) and Defense Federal Acquisition Regulation Supplement part 207, subpart 207.1, paragraphs 207.105 (b)(17)(i), (ii), and (iii) and 207.105(b)(S-70)(iii) for related acquisition plan paragraphs.

d. Competition

- (1) Explain the manner in which competition will be maximized within a total life-cycle competition strategy. Include a discussion of the competitive/noncompetitive aspects of each phase, supported by economic and logistical analyses sufficient to justify less than full and open competition where applicable. Describe how competition will be sought, promoted, and sustained for subsystems, major components, spare parts, and services.

- (2) Discuss the use of repurchase data to increase competition, including funding availability and the contractual approach to acquiring such data, proprietary rights, and patent considerations.

- (3) Discuss the results of detailed component breakout reviews relative to major components or subsystems (~~see Defense Federal Acquisition Regulation Supplement part 217, subpart 217.72, paragraph 217.7202~~ for analysis requirements). Provide the rationale along with the supporting analysis for the ~~acquisition~~ *breakout strategy* approach proposed. *(See chg 1)*

- (4) See Federal Acquisition Regulation part 7, subpart 7.1, paragraph 7.105(b)(2) and (b)(12)(iii) and Defense Federal Acquisition Regulation Supplement part 207, subpart 207.1, paragraph 207.105(b)(S-70)(vi) and (vii) for related acquisition plan paragraphs.

e. Contract Types

- (1) Discuss the types of contracts contemplated for succeeding phases, including considerations of risk assessment and reasonable risk-sharing by Government and contractors.

- (2) Identify the incentive structure, including incentives for contractors to improve productivity through investment in capital facilities, equipment, and advanced technology.

- (3) Address all existing or contemplated deviations and waivers.

- (4) See Federal Acquisition Regulation part 7, subpart 7.1, paragraph 7.105(b)(4) and Defense Federal Acquisition Regulation Supplement part 207, subpart 207.1, paragraph 207.105(b)(S-70)(v), (viii) and (ix) for related acquisition plan paragraphs.

f. Fixed Price Contracts

- See change* (1) Fixed price contracts in excess of \$10 million or fixed price contracts for lead ships shall not be used without prior Under Secretary of Defense for Acquisition approval.
- (2) If the acquisition strategy for Phase II, Engineering and Manufacturing Development proposes the use of fixed price contracts, the Component will prepare a waiver for Under Secretary of Defense for Acquisition signature with supporting rationale. The waiver shall accompany the proposed acquisition strategy.
3. Major Trade-offs. Identify major trade-off decisions affecting cost, schedule, and/or performance that must be made by the milestone decision authority prior to release of the formal solicitation. Discuss trade-offs to be included in the formal solicitation.

INTEGRATED PROGRAM SUMMARY

ANNEX C

ACQUISITION STRATEGY REPORT

COMPETITIVE ALTERNATIVE SOURCES ANALYSES

FOR

PROGRAM TITLE

- References:
- (a) Under Secretary of Defense for Acquisition Memorandum, "Major Programs - Competitive Alternative Sources," April 28, 1988 (canceled)
 - (b) Under Secretary of Defense for Acquisition Memorandum, "Dual Sourcing in Defense Production," June 8, 1990 (canceled)
 - (c) Title 10, United States Code, Section ~~2438~~^{2439 (see chg 1)}, "Major programs; competitive alternative sources"
 - (d) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

1. PURPOSE

- a. This attachment supersedes Under Secretary of Defense for Acquisition Memorandum, "Major Programs - Competitive Alternative Sources" (reference (a)) and Under Secretary of Defense for Acquisition Memorandum, "Dual Sourcing in Defense Production" (reference (b)).
- b. To satisfy the statutory requirements of Title 10, United States Code, Section ~~2438~~²⁴³⁹, "Major programs; competitive alternative sources" (reference (c)). *(see chg 1)*
- c. To determine when it is practicable to establish a competitive alternative sources option for acquisition category I programs for Phase II, Engineering and Manufacturing Development, or Phase III, Production and Deployment.

2. PROCEDURES

- a. Title 10, United States Code, Section ~~2438~~²⁴³⁹, "Major programs; competitive alternative sources" (reference (c)) as implemented by DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (d)) requires that the acquisition strategy have an option for establishing competitive alternative sources for

acquisition category I programs for Phase II, Engineering and Manufacturing Development and Phase III, Production and Deployment prior to the start of Phase II, Engineering and Manufacturing Development if the results of the analyses of paragraph 2.b. or 2.c., respectively, show that the establishment and maintenance of two or more sources:

- (1) Would:
 - (a) Likely reduce the technological risks associated with the program;
 - (b) Likely result in reduced costs for such program; or
 - (c) Likely result in an improvement in design commensurate with the additional cost;
 - (2) Would not result in unacceptable delays in fulfilling the needs of the Department of Defense; and
 - (3) Is otherwise in the national security interests of the United States.
- b. An analysis of competitive alternative sources for Phase II, Engineering and Manufacturing Development will include:
- (1) A discussion of the acquisition strategy implemented, and the results of such strategy, during Phase I, Demonstration and Validation.
 - (2) An analysis of the projected costs of maintaining two contractors versus one during Phase II.
 - (3) A discussion of any anticipated program delays that would result from maintaining two contractors during Phase II.
 - (4) An assessment of the reduction in overall program risk from maintaining two contractors during Phase II. This assessment should be made for both contractors developing similar engineering development models to the same design specification and for both contractors developing different engineering development models to different design specifications.
 - (5) An assessment of the existing supplier base capable of developing and producing the system and subsystems.
 - (6) An assessment of Government and contractor nonrecurring costs associated with development and low-rate initial production tooling and test equipment.
 - (7) An assessment of the low-rate initial production quantities necessary to maintain two contractors during Phase II prior to transition to Phase III, Production and Deployment.

- (8) If there will only be one Phase II contractor, what provisions will be in the Phase II contract to provide for Phase III, Production and Deployment competition?
- (a) Technical data rights.
 - 1 Unlimited, or
 - 2 Limited.
 - a Proprietary data payments.
 - b Royalty payments.
 - (b) Reprourement technical data package
 - 1 Validation.
 - 2 Warranty (technical data package).
 - 3 Phase II contractor incentives.
 - (c) Technology transfer to second contractor.
 - 1 Leader-follower, or
 - 2 Reprourement technical data package.
 - a Build-to-print, or
 - b Form, fit, and function.
 - (d) Configuration control of technical data package.
 - (e) System integration cognizance.
- (9) Additional planning for transition to Phase III during Phase II.
- (10) Planning for competition for Phase III during Phase II.
- c. An analysis for competitive alternative sources for Phase III, Production and Deployment will include:
- (1) Number of systems planned to be procured.
 - (a) Production rate profile.
 - (b) Potential minimum and maximum quantities.
 - (c) Estimate of the break-even point for recovering dual-source investments.
 - (2) Assumptions made in performing the cost-benefit analysis:

- (a) Experience curve projections and behavior during sole-source and dual-source conditions.
 - (b) Adjustments to experience curve made for changes in production rate.
- (3) Government and contractor nonrecurring costs associated with tooling and test equipment.
 - (4) Cost of educational buys and qualification testing, including the added costs resulting from smaller buys from the prime contractor during the learning and qualification periods of the second source.
 - (5) Method to be used in implementing the necessary technology transfer:
 - (a) Technical data package, or
 - (b) Leader-follower or form, fit, and function.
 - (c) Include in the paragraph (a) and (b) analyses, above, the implications of any proprietary data or logistics impacts.
 - (6) Planned methods for maintaining configuration management.
 - (7) Discussion of the supplier base capable of producing the system to include whether there is any requirement to develop different vendors from the current prime's vendors.
 - (8) Currently budgeted funds compared to funding required to implement the dual-sourcing arrangement. Total program budgets should be included.
 - (9) Discussion of the impact of alternative sources on program schedule.
- d. Analyses similar to the above should also be performed for acquisition category II, III, and IV programs for Phase II, Engineering and Manufacturing Development and Phase III, Production and Deployment prior to the start of Phase II, Engineering and Manufacturing Development.

PART 4
SECTION E

INTEGRATED PROGRAM SUMMARY

ANNEX D

RISK ASSESSMENT (FORMAT)

FOR

PROGRAM TITLE

1. Risk Assessment. Describe the threat, technology, design and engineering, support, manufacturing, cost, and schedule risk assessment for all known or potential risks. Identify the system component(s) or subsystem(s) which have moderate risk or higher. Identify the functional risk assessment in a summary format like the following:

<u>FUNCTIONAL AREA</u>	<u>RISK ASSESSMENT</u>	<u>CRITICAL RISK SUBSYSTEM/COMPONENT</u>
Threat*	Low	
Technology	Low	
Design and engineering	High	
Hardware	Moderate	
Software	High	
Manufacturing	Low	
Support	Low	
Cost	Moderate	
Funding	Moderate	
Schedule	Moderate	
Concurrency	Moderate	

*Threat risk includes sensitivity to uncertainties in threat data, potential for breaking critical intelligence parameter thresholds, and vulnerability to foreign intelligence collection efforts.

2. Each functional risk assessment must be supported by critical subsystems' risk assessments. Critical subsystems risk assessments must be supported by and traceable to design reviews, test results, and specific analyses considered.

ADD (See chg 1)

3. Plans to Reduce Risk. Identify the actual or planned specific risk reduction efforts being undertaken by the Program Manager. A suggested format for presenting such risks and risk reduction efforts is shown below (the specific risk examples shown are illustrative only). Include appropriate mitigating measures for any environmental impact risk from the Annex E analysis.

4. (See chg 1)

ILLUSTRATIVE RISK REDUCTION SUMMARY

<u>POTENTIAL RISK AREA</u>	<u>COMPONENT OR SUBSYSTEM DIRECTLY AFFECTED</u>	<u>RISK REDUCTION ACTIONS</u>
Software	Software for missile and system integration	<ul style="list-style-type: none"> • Consult independent software experts • Software redesign with alternate source • Employment of software independent verification and validation effort
Countermeasures	Guidance system	<ul style="list-style-type: none"> • Alternative design approaches
Seeker Saturation	Seeker	<ul style="list-style-type: none"> • Alternative design and sources
DT&E Schedule	Missile and system integration	<ul style="list-style-type: none"> • Change in test schedule and in timing of low-rate initial production

(See chg 1)

LEVEL OF RISK ASSESSMENT TABLE

PROBABILITY OF OCCURANCE IMPACT ON PROGRAM OF EACH OCCURANCE	FREQUENT (>75%)	PROBABLE (25%<75%)	IMPROBABLE (<25%)
CATASTROPHIC	HIGH RISK	HIGH RISK	MODERATE RISK
CRITICAL	HIGH RISK	MODERATE RISK	MODERATE RISK
MARGINAL	MODERATE RISK	MODERATE RISK	LOW RISK
NEGLIGIBLE	MODERATE RISK	LOW RISK	LOW RISK

PART 4
SECTION F

INTEGRATED PROGRAM SUMMARY

ANNEX E

ENVIRONMENTAL ANALYSIS

- References:
- (a) Title 40, Code of Federal Regulations, Parts 1500-1508, National Environmental Policy Act Regulations, July 1, 1986
 - (b) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

1. PURPOSE

This Annex describes the methodology and procedures for analyzing the potential environmental impacts of weapons systems and integrating that information with other considerations in program management and the acquisition process.

2. PROCEDURES

- a. During each phase of the acquisition process, identify and analyze the potential environmental consequences of each alternative being considered. This analysis includes environmental impacts of each alternative throughout the system's life cycle, potential mitigation of adverse impacts, and how the environmental impacts and proposed mitigation measures would affect alternatives. The programmatic environmental analysis will be conducted simultaneously and thoroughly coordinated and integrated with other plans and analyses for the program.
- b. Include in the annex noteable environmental effects; proposed mitigation measures and associated costs; and discussion of whether environmentally preferable alternatives were chosen or recommended, and how environmental impacts and proposed mitigation measures would affect schedules, siting alternatives, and program costs (life cycle).
- c. If a "Finding of No Significant Impact" (see Title 40, Code of Federal Regulations, Parts 1500-1508, National Environmental Policy Act Regulations (reference (a))) is proposed after completion of an analysis, the Program Manager will coordinate that document with the official responsible for environmental programs within the Program Manager's Component. After coordination, the "Finding" shall be made available to the public unless it is classified.

- d. The policies and procedures governing environmental analysis are contained in Section 6-I of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

Attachment - 1

1. Environmental Analysis Format

INTEGRATED PROGRAM SUMMARY

ANNEX E

ENVIRONMENTAL ANALYSIS (FORMAT)

FOR

PROGRAM TITLE

1. **Alternatives Considered.** Describe the concept/design alternatives considered and identify the most promising alternative.
2. **Potential Environmental Effects.** Describe the need for land, sea, or air space associated with the most promising alternative and describe the potential effects on the land, sea, and air environment and potential impacts on public health and safety by the development, test, manufacturing, basing, operation, and support of the most promising alternative.
3. **Rationale for Concept/Design Alternative Chosen.** Provide the rationale for choosing the most promising concept and design alternative. Discuss in terms of system cost, schedule, and performance versus affect on the environment. State whether all practicable means to avoid or minimize environmental harm from the most promising design alternative have been adopted, and if not, why these additional means were not adopted.
4. **Mitigation Measures.** Summarize substantial mitigating design, support, basing and operating measures proposed, the estimated cost of such measures, and the schedule impact, if any.
5. **Conclusions.** State the type of environmental analysis conducted (environmental impact statement, environmental assessment, or some other type of analysis). Summarize whether the concept/design alternative chosen is environmentally preferable to other alternatives. If an environmental impact statement is conducted, summarize the public response.

PART 4

SECTION G

INTEGRATED PROGRAM SUMMARY

ANNEX F

AFFORDABILITY ASSESSMENT (FORMAT)

FOR

PROGRAM TITLE

1. Data Development

- a. Ongoing and New Start Programs. Identify the projected fiscal year cost for ongoing and approved new start Research, Development, Test and Evaluation and Procurement programs over the period beginning with Milestone I for the proposed system through the end of its procurement, in constant fiscal year and then year dollars. Use the Defense Planning Guidance and long-range modernization and investment plans as the initial base for the foregoing analysis at Milestone I and a best estimate for the period beyond those plans as appropriate. At subsequent milestones, cost projections beyond those plans, which start at the milestone, will represent a smaller portion of the period of cost projection for those programs, and hence less uncertainty in the cost projections.
- b. Proposed New Start Program. Determine the estimated fiscal year Research, Developmental, Test and Evaluation and Procurement cost of the proposed system, beginning with Milestone I through the end of its procurement, in constant fiscal year and then year dollars,
- c. Current System Support. Summarize the Operating and Support costs for the current system if not replaced by the proposed system for a 15 year period beginning with the planned initial operational capability of the proposed system.
- d. Proposed System Support. Compare the Operating and Support costs for the proposed system in terms of an equivalent number of proposed systems for the same 15 year period as in paragraph 1.c.

2. Affordability Assessment. Plot the costs of the paragraph 1.a. ongoing and approved new start programs and the paragraph 1.b. proposed new start program on a chart similar to the attachment 1 illustrative example. Compare paragraphs 1.c. and 1.d. costs. Likely questions to be asked/answered as a result of this are: Does the proposed acquisition strategy for the proposed new start program fit within the topline Defense Planning Guidance and long range modernization and investment plans? What adjustments would have to be made to the acquisition

strategy of the proposed new start program to fit within the topline Defense Planning Guidance and long-range modernization and investment plans? What adjustments would have to be made to the acquisition strategy of ongoing and/or approved new start programs to fit the proposed new start program within the topline Defense Planning Guidance and long-range modernization and investment plans?

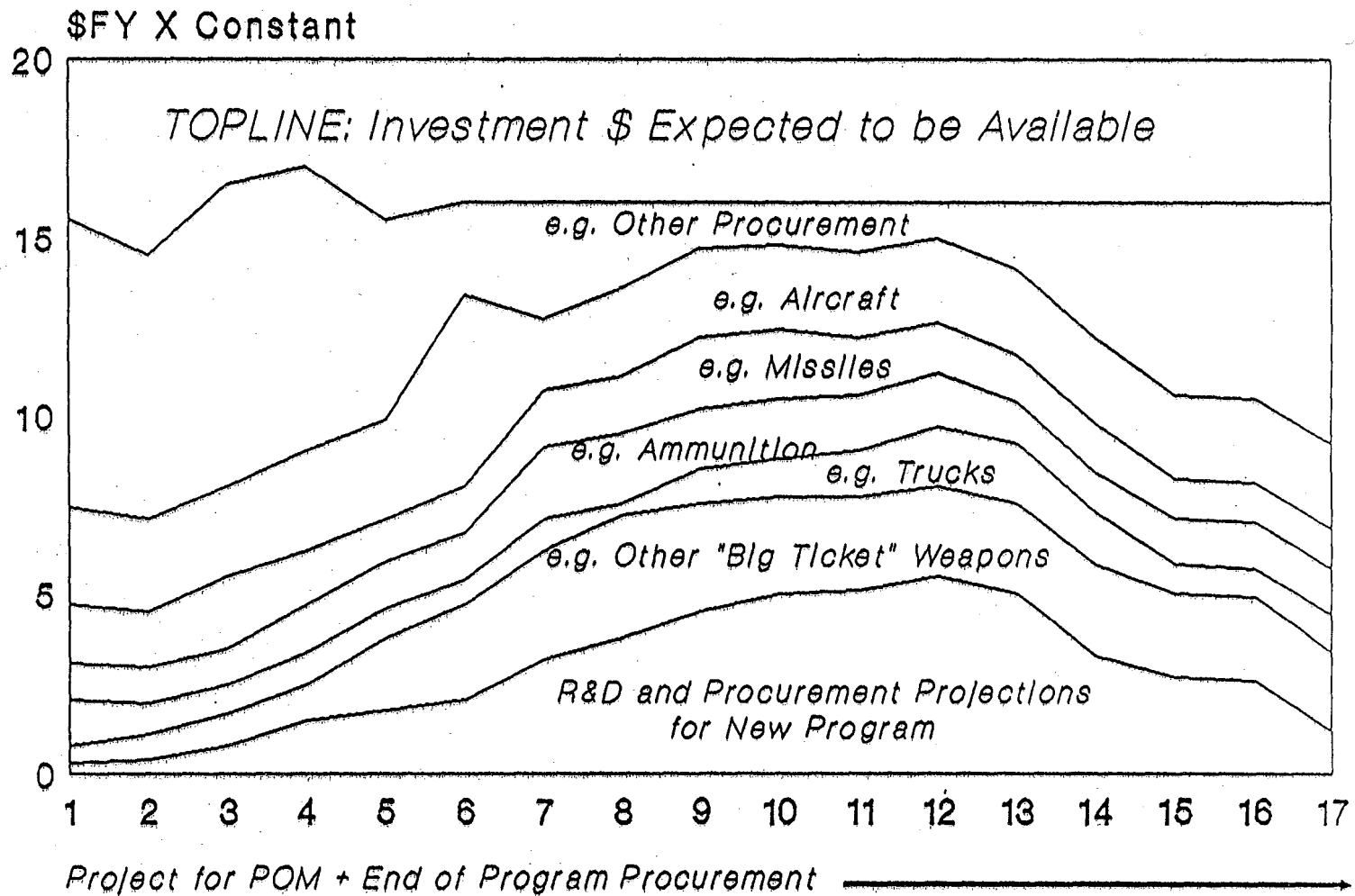
3. Recommendations. Provide at least two alternative acquisition strategies - that may include offsets, trade-offs, or adjustments to the acquisition strategies of ongoing or approved new start programs - to accommodate the proposed new start program within the topline Defense Planning Guidance and long-range modernization and investment plans.

Attachment - 1

1. Affordability Assessment Chart Format

Annex F

Affordability of a New Program



4-G-1-1

PART 4

SECTION H

INTEGRATED PROGRAM SUMMARY

ANNEX G

COOPERATIVE OPPORTUNITIES DOCUMENT

- References:
- (a) Under Secretary of Defense for Acquisition Memorandum, "Cooperative Opportunities Documents," May 21, 1990 (canceled)
 - (b) Title 10, United States Code, Section 2350a.(e), "Cooperative Opportunities Document"

1. PURPOSE

- a. This section supersedes the Under Secretary of Defense for Acquisition memorandum, "Cooperative Opportunities Documents" (reference (a)).
- b. The provisions of this annex satisfy the statutory requirements of Title 10, United States Code, Section 2350a.(e), "Cooperative Opportunities Document" (reference (b)).
- c. These provisions are designed to ensure that opportunities for cooperative research and development projects are considered at an early point in the formal review process of major defense acquisition programs.

2. PROCEDURES

- a. Acquisition Category I Programs. A Cooperative Opportunities Document in the format attached shall be: prepared at Milestone I; approved and forwarded by the DoD Component Acquisition Executive or designated Component Official as part of the Integrated Program Summary; and updated as necessary at subsequent milestones.
- b. Acquisition Category II, III, and IV Programs. A Cooperative Opportunities Document is not statutorily required by reference (b) for non major defense acquisition programs. Cooperative opportunities should be investigated as part of the acquisition strategy for these programs.

Attachment - 1

- 1. Cooperative Opportunities Document Format

INTEGRATED PROGRAM SUMMARY

ANNEX G

COOPERATIVE OPPORTUNITIES DOCUMENT (FORMAT)

FOR

PROGRAM TITLE

1. Background. The National Defense Authorization Act for Fiscal Years 1990 and 1991 (Public Law 101-189, Section 931 of November 29, 1989) amended and retitled Title 10, United States Code, Chapter 138, "Cooperative Agreements with NATO Allies and Other Countries," by adding Section 2350a., "Cooperative research and development projects; allied countries." Subsection 2350a.(e), "Cooperative Opportunities Document," mandates an analysis of cooperative opportunities at early decision points in the defense acquisition process for major defense acquisition programs. This document summarizes the results of such an analysis for the (DoD Component) (Name) program.
2. Description. (Name of replacement or upgraded system) will (replace, upgrade) the (name of replaced or modified system)(state the time frame this will occur). [Add any additional information, in a short paragraph, to describe the program system's use and/or deployment.] The (Name) system [these items describe the system or affect the analysis - be brief but sufficient][Use the same description as in the Integrated Program Summary]:
 - Is (describe fundamental element of the system).
 - Carries/has (describe type and nature of payload).
 - Uses (describe guidance or delivery mode, etc.).
 - Has (describe performance capabilities).
 - Can perform (describe missions or operations).
3. Cooperative Development Provisions. The following paragraphs address specific areas required by current legislation.
 - a. Are there any similar projects in development or production by one or more major allies of the United States?

Yes/No. Briefly describe other projects that are considered similar. Specify major similarities and differences.
 - b. If yes, could that project satisfy, or be modified in scope so as to satisfy, the military requirements of the United States?

Yes/No. This question is critical in most cases. The sense of Congress indicates and the legislation implies that United

States military requirements should also be considered for modification. The intent of the legislation is to field better weapons with greater efficiency. Extensive modification of an existing system may not be cost effective. An unwise relaxation of a military requirement may field a system which cannot do the job.

- c. What are the advantages and disadvantages of seeking a cooperative development program with one or more other Allied nations?

At this point, a paragraph or two should clearly describe the option. The advantages and disadvantages should then be listed using a dual column format. It is critical that the advantages and disadvantages focus on the cooperative character of the program, not on technical issues that need to be resolved regardless of how the development program is structured. The listings should be organized according to the following four areas:

- (1) Program Timing
- (2) Development and Life Cycle Costs
- (3) Technology Sharing
- (4) Rationalization, Standardization and Interoperability

NOTE: Any item which is critical to an informed dialogue on the option should be added to the listing regardless of whether or not it fits in one of the above categories.

- d. What alternate forms of cooperation could be appropriate for this project?

As a minimum, each project should be evaluated in terms of its potential for: Foreign Military Sales, co-production, licensed production, component/sub-component co-development or incorporation of subsystems from allied sources.

Wherever there is substantial potential for cooperation, the summary should list advantages and disadvantages in terms of the following four areas:

- (1) Program Timing
- (2) Development and Life Cycle Costs
- (3) Technology Sharing
- (4) Rationalization, Standardization and Interoperability

4. Analysis. This section considers all the factors raised in the first part of the document, and logically aligns and weighs them to reach a conclusion. All the factors raised by the questions, and pertinent items from the description, should be considered or dismissed.

5. Conclusion. Draw the conclusion in the first sentence, using the words from the legislation: "The United States (should) (should not) seek to establish cooperation of the (Name) system, and the Department of Defense (should)(should not) further explore the feasibility and desirability of a cooperative program." Add any additional information that relates to the recommendations or that may apply to program contingencies. The DoD Component Acquisition Executive or designated Component Official approves the Annex G Cooperative Opportunities Document for acquisition category I programs with approval of the Integrated Program Summary.

PART 5

SYSTEM THREAT ASSESSMENT REPORT

- References:
- (a) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991
 - (b) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986

1. PURPOSE

- a. The System Threat Assessment Report (STAR) is the primary threat document used in support of the milestone decision review and management of acquisition category I programs.
- b. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (b)).

2. PROCEDURES

- a. The System Threat Assessment Report for acquisition category I programs shall be:
 - (1) Initially prepared prior to Milestone I, Concept Demonstration Approval, by the Service intelligence command or agency, using the attached format;
 - (2) Tailored and focused on the threat assessment at the system level;
 - (3) Based on the description of the acquisition program alternative(s) under consideration at Milestone I;
 - (4) Approved by the Director of the DoD Component intelligence command or agency prior to Milestone I; and
 - (5) Updated at Milestones II, III, and IV and at other points in the program as determined by the milestone decision authority.
- b. The System Threat Assessment Report shall be validated by the Defense Intelligence Agency for acquisition category I programs at Milestone I and for acquisition category I D programs at Milestones II, III, and IV.
- c. A system threat assessment shall be prepared by the DoD Component intelligence command or agency, using the attached format for guidance, for acquisition category II, III, and IV programs, as well

as highly sensitive classified programs unless specifically waived by the milestone decision authority.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (a)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	ASD(C3I)	DASD(I)
Dept of Army	DCSI	DAMI-FIT-TI
Dept of Navy	DNI(OP-0922) CNO (N22) HQMC/C4I2	NTIC(DA 00-30) HQMC/C4I2(INT)
Dept of Air Force	AF/IN	AFIA/INK
CJCS (Joint Staff)	VCJCS	J8/SPED
Other DoD Components	DIA	DIA/DT-AS

*see
Chpt*

Attachment - 1

1. System Threat Assessment Report Format

SYSTEM THREAT ASSESSMENT REPORT (FORMAT)

SYSTEM THREAT ASSESSMENT REPORT FOR PROGRAM TITLE

1. Preface. A formatted page outlining the scope of the System Threat Assessment Report, the offices involved in preparation, the responsible program office, the information cutoff date, and the Defense Intelligence Agency validation statement.
2. Table of Contents and List of Figures and Illustrations.
3. Executive Summary. A concise description of the projected future operational threat environment, the system-specific threat, the reactive threat that could affect program decisions, and when appropriate, the results of interactive analysis obtained by the Service program manager when evaluating the program against the threat. Timeframe of the threat to be addressed will start at initial operational capability of the program and extend to the end of its expected operational lifetime. The Executive Summary will provide a complete, autonomous threat overview. It will be specific and sharply focused and provide the key intelligence judgments applicable to the critical intelligence parameters and the particular milestone issues.
4. System Description and Threat. The section shall focus on the relevant major threat capabilities which could impact on the effectiveness of the new start system. The section shall consist of the following:
 - a. Introduction. A brief opening statement to include a short summary of the Mission Need Statement for the system.
 - b. System Description. A summary of program objectives for the system as defined in the Operational Requirements Document, to include: mission; available physical and technical characteristics (including such electronic parameters as frequency bands, radiated power, modulation, etc.); method of operation; initial operational capability; and lifespan data (detailed parameters may only become available as the program develops). If development of the system would cause a marked change in the threat to related elements -- launch platform, associated command, control, and communications (C3), etc. -- then these elements should be addressed in the system description. The minimum acceptable operational performance requirements, expected operational environments, critical system characteristics, and system operational and support concepts contained in the Operational Requirements Document should be summarized. Briefly discuss the

sensitive technologies and unique system features, protection threats and vulnerabilities, and program security concept and proposed countermeasures described in the program protection plan. Depending on the complexity of the system, details may also be placed in an appendix.

c. Operational Threat Environment. A generalized overview of the operational, physical, and technological environment in which the system will have to function during its lifetime, and, if applicable, the targets it is designed to engage. Developments and trends that can be expected to affect mission capability during the system's lifetime should be projected out to the end of the life cycle. Areas covered should include: enemy doctrine, strategy, and tactics affecting system mission(s) and operations. Threat content and emphasis will vary from program to program.

d. Targets. If applicable, an analysis of the actual capabilities and signatures of projected enemy targets (e.g., vehicles, ships, aircraft, or silos) the U.S. system is designed to engage. Target employment, characteristics, command and control, and numbers should be included. Types and density of targets might also be covered along with such common parameters as the thickness and types of armor to be defeated. Technical specifications for individual target models, if required, should be placed in appendices to the basic documents.

e. System-Specific Threat. An assessment of the threat to the mission capabilities of the new start system throughout its operational lifetime. Timeframes for threat snapshots are at initial operational capability of the system and at initial operational capability plus 10 years. Threat assessment should integrate doctrine, force level, and means (conventional; electronic; initial nuclear weapons effects; nuclear, biological, and chemical contamination; advanced weapons; or others, as appropriate). Detail and certainty will decrease as projections extend into the far term. Confidence in key judgments should be expressed in estimative terms to the maximum extent possible. Analysis will be responsive to critical intelligence parameters developed by the Service. Critical intelligence parameters are a series of threat capabilities or thresholds established by the program, changes to which could critically impact the effectiveness and survivability of the proposed system. The System-Specific Threat checklist includes:

(1) System-Specific Threat at Initial Operational Capability.

(a) System(s) Description (of opposing weapons).

(b) Magnitude of Threat (projected force level).

(c) Threat Integration -- A combined evaluation of the threat to the U.S. system when hostile employment doctrine, force levels, and systems are considered together.

(2) Follow-on System-Specific Threat. A snapshot of the threat at initial operational capability plus 10 years. This should also assess developments which would serve to degrade the system's capability out to the end of its cycle. Appropriate items are:

- (a) System Description.
- (b) Magnitude of Threat.
- (c) Threat Integration.

f. Reactive Threat. To the maximum extent possible, changes that might reasonably be expected to occur in hostile doctrine, strategy, tactics, force levels, technology, and weapon systems as a result of the development and deployment of the new system or the disclosure of system technical information. Analysis of each reactive threat should consider, as a minimum, projections of:

- (1) Modifications in strategy, doctrine, and tactics.
- (2) New Systems or Modifications to Existing Systems -- Description and likely deployment.
- (3) Changes in Force Level.
- (4) Threat Integration -- A combined evaluation of the components of the potential reactive threat to the new start system.

5. Appendices: Detailed information, generally in tabular form, required by the Service to conduct an interactive analysis or to support statements made in paragraph 4 of the System Threat Assessment Report. Critical intelligence parameters and associated intelligence production requirement control numbers are to be placed in a separate appendix.

6. Reference List: A list of major sources used in the preparation of the report. These sources should mainly include intelligence community agreed-to information or Defense Intelligence Agency validated intelligence data.

7. Distribution: Appropriate DoD Component level offices should be included.

PART 6

MANPOWER ESTIMATE REPORT

- References:
- (a) Title 10, United States Code, Section 2434, "Independent cost estimates; operational manpower requirements"
 - (b) DoD Directive 5000.1, "Defense Acquisition," February 23, 1991
 - (c) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986
 - (d) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

1. PURPOSE

- a. The Manpower Estimate Report is a report required by Title 10, United States Code, Section 2434, "Independent cost estimates; operational manpower requirements" (reference (a)), for major defense acquisition programs. This report also implements the provisions of DoD Directive 5000.1, "Defense Acquisition" (reference (b)), which directs consideration of affordability (in this case, manpower affordability) at each milestone.
- b. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (c)).

2. PROCEDURES

- a. Preparation. The Manpower Estimate Report documents the total number of personnel (military officers/enlisted, civilian, and contractor) that are or will be needed to operate, maintain, support, and train for the program upon full operational deployment. The validity of the Manpower Estimate Report is dependent upon force structure, personnel management, and readiness requirements, as well as on the acquisition decision on the size of the buy. Considerations affecting the manpower estimate may vary, but in general, should adhere to the following principles.
 - (1) Manpower requirements will be based upon the quantity and delivery schedule of the total system (e.g., xx vehicles, yy ground terminals, zz training devices, etc.), and should include allocations for operational use, reserves, and pre-positioned sets. These quantities and schedules must be consistent with the program schedule in the Integrated Program Summary (see Section 4 of this Manual), and the life-cycle cost estimate.

- (2) The manpower requirements should be derived from a comprehensive assessment of the projected force structure and will include considerations such as the number and type of units to be equipped; the number of individual components of the total system to be provided at each organizational activity; the quantity and quality (skill level) of each occupational specialty or job series of personnel in each manpower category; and required manning levels per site.
 - (3) Operator requirements should be derived from an assessment of the total number of personnel needed to operate the system. Considerations should include crew size; command, control, and intelligence; shore or duty rotation; general purpose users; and peak performance requirements.
 - (4) Maintenance and support manpower requirements should be derived from an assessment of the total number of personnel needed to maintain and support all elements of the total system. Maintenance and support manpower requirements will be consistent with the maintenance concept contained in the Integrated Logistics Support Plan (ILSP) and should consider annual operating requirements (wartime and peacetime); maintenance ratios; system reliability; direct and indirect maintenance times; and the use of interim contractor support.
 - (5) Training personnel requirements should be derived from an assessment of the total number of personnel needed to support the total training system. Training personnel requirements will be consistent with the DoD Component training plan(s) and training system schedules, and should consider course and training pipeline throughput; instructor-to-student ratios; subject matter expertise for development of training devices/materials; training device/simulation operators and support personnel; surge capacity for mobilization; and use of contractor support.
 - (6) After baseline manpower requirements have been identified, the input and "steady state" levels required to ensure the availability of each military occupational speciality should be assessed. Flow rate considerations include accession rate; retention rate; training rate, and non-availability rate. The required quantity of each manpower category should be modified to reflect flow rate considerations.
 - (7) The manpower requirement is the basis for determining manpower programming. Programmed manning, expressed as end strengths for military personnel and DoD civilians, involves the coordination, appropriation, and deployment of manpower resources in concert with DoD Component-wide personnel management activities. Programmed manning levels should be consistent with the life-cycle cost estimate.
- b. Submission. The Manpower Estimate Report will be prepared by the DoD Component manpower agency, or its designee, ~~at Milestones II,~~
in support of (See chg 1)

should include the methodology used to develop the Report; system deployment plans; force structure and readiness goals; operational, maintenance, support, and training considerations; and other information helpful in clarifying the Report. Information need not be duplicated. Where up-to-date information has already been provided, cite the document/report name, date, page number, etc.

- (3) For acquisition category I D programs, the DoD Component Acquisition Executive will prepare a cover memorandum forwarding the Manpower Estimate Report to the Under Secretary of Defense for Acquisition. The cover memorandum should explicitly state whether or not endstrength increases are required, or whether endstrength savings can be realized as a result of fielding the system. Additionally, any increase in military and civilian personnel endstrengths required to attain full operational deployment of the system, above the endstrengths authorized in the fiscal year in which the Reports is submitted will be specifically addressed. Fielding options in the event that endstrength increases are not approved must be described.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (d)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	ASD(FM&P)	DASD(RM&S)/MR <i>See ch 1</i>
Dept of Army	DCSOPS	DAMO-FDR
Dept of Navy	ASN(RDA)	ASN(MRA)
Dept of Air Force	AF/PR	AF/PRQ

Attachment - 1

1. Manpower Estimate Report Format

**MANPOWER ESTIMATE REPORT (FORMAT)®
(Program Title)**

FYxx① FYxx+1 FYxx+2 FYxx+3 FYxx+4.(Until

Fielding Complete)

OPERATE:ⓐ

- Military
 - Officers
 - Enlisted
- Civilian
- Contractor

MAINTAIN:ⓐ

- Military
 - Officers
 - Enlisted
- Civilian
- Contractor

SUPPORT:ⓐ

- Military
 - Officers
 - Enlisted
- Civilian
- Contractor

TRAIN:ⓐ

- Military
 - Officers
 - Enlisted
- Civilian
- Contractor

TOTALS:

-
- ① Begin with initial production and continue through full operational deployment. Estimates should be cumulative from fiscal year to fiscal year.
 - ② Provide estimates for required billets (or man-years for contractors) and programmed manning for each fiscal year. Provide deltas between required billets and programmed manning.
 - ③ Provide separate estimates by Active and Reserve Components for each Service.

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PART 7

TEST AND EVALUATION MASTER PLAN

- References:
- (a) Title 10, United States Code, Section 2399(b)(1), "Operational Test and Evaluation"
 - (b) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991
 - (c) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986

1. PURPOSE

- a. This Part provides the procedures and formats to implement the requirements of Title 10, United States Code, Section 2399(b)(1), "Operational Test and Evaluation" (reference (a)), and DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).
- b. The Test and Evaluation Master Plan documents the overall structure and objectives of the test and evaluation program. It provides a framework within which to generate detailed test and evaluation plans and it documents schedule and resource implications associated with the test and evaluation program.
- c. The Test and Evaluation Master Plan identifies the necessary developmental test and evaluation and operational test and evaluation activities. It relates program schedule, test management strategy and structure, and required resources to:
 - (1) Critical operational issues;
 - (2) Critical technical parameters;
 - (3) Minimum acceptable operational performance requirements;
 - (4) Evaluation criteria; and
 - (5) Milestone decision points.
- d. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (c)).

2. PROCEDURES

- a. For multi-Service or joint programs, a single integrated Test and Evaluation Master Plan is required. Component-unique content requirements, particularly evaluation criteria associated with critical operational issues, can be addressed in a Component prepared annex to the basic Test and Evaluation Master Plan.
- b. For a program consisting of a collection of individual systems, a Capstone Test and Evaluation Master Plan integrating the test and evaluation program for the entire system is required. Individual system unique content requirements are to be addressed in an annex to the basic Capstone Test and Evaluation Master Plan.
 - (1) The requirement for a Capstone Test and Evaluation Master Plan is dependent upon the degree of integration and interoperability required to satisfy the total system's minimum acceptable operational performance requirements.
 - (2) Capstone Test and Evaluation Master Plan use may not be appropriate for major weapon platforms (major defense acquisition programs).
- c. Attachment 1 is the Test and Evaluation Master Plan format for acquisition category I and other acquisition category programs designated for Office of the Secretary of Defense test and evaluation oversight. Attachment 1 may be used for other acquisition category programs, tailored to the specifics of the program, at the discretion of the milestone decision authority.
 - (1) The Test and Evaluation Master Plan should not exceed 30 pages. Appendix A, Bibliography, Appendix B, Acronyms, and Appendix C, Points of Contact, are excluded from the 30-page limit as are any annexes that may be deemed appropriate by the DoD Component.
 - (2) Copies of the approved (or draft if not yet approved) Mission Need Statement, System Threat Assessment Report, and Operational Requirements Document will be submitted with the Test and Evaluation Master Plan. Other documents referenced in the Test and Evaluation Master Plan will be submitted to the Office of the Secretary of Defense upon request.
- d. Submission.
 - (1) Initial Submission. For acquisition category I D programs, fifteen copies of a preliminary Test and Evaluation Master Plan are to be submitted to the Deputy Director of Defense Research and Engineering (Test and Evaluation) 45 days (draft) and 10 days (final), prior to the Defense Acquisition Board Milestone I Committee review of the program. For acquisition category I C programs, fifteen copies of a preliminary Test and Evaluation Master Plan are to be submitted to the Deputy Director of

Defense Research and Engineering (Test and Evaluation) 45 days (draft) and 10 days (final) prior to Milestone I. For other acquisition category programs designated for Office of the Secretary of Defense test and evaluation oversight, preliminary Test and Evaluation Master Plans are required to be submitted within 90 days of designation. These preliminary plans will be final plans for the Demonstration-Validation phase.

- (2) Multi-Service or Joint Programs. The lead Component is responsible for preparation and coordination of the Test and Evaluation Master Plan. Approval signatures on the Test and Evaluation Master Plan signature page are required for the lead Component as well as all other participating DoD Components.
 - (3) Requirement for Other DoD Component Coordination. Where a program of any Component must interface with other Components during development and testing or where it will interface operationally with the systems of other Components, coordination of the affected Components must be obtained and indicated in the Test and Evaluation Master Plan before it is submitted to the Deputy Director of Defense Research and Engineering (Test and Evaluation).
 - (4) Test and Evaluation Master Plan Updates. Update the Test and Evaluation Master Plan at milestones, when the program baseline has been breached, or on other occasions when the program has changed significantly. Updates may be made by use of "correction pages" and by use of memoranda indicating "no change".
- e. Review and Approval. The Director of Operational Test and Evaluation and Deputy Director of Defense Research and Engineering (Test and Evaluation) will be the Office of the Secretary of Defense Test and Evaluation Master Plan approval authorities for acquisition category I D and I C programs and those other acquisition category programs designated for Office of the Secretary of Defense test and evaluation oversight. The formal response objective of a Test and Evaluation Master Plan approval, including the preliminary plan at Milestone I, is within 45 days of submittal to the Deputy Director of Defense Research and Engineering (Test and Evaluation) by the DoD Component.
- f. Circumstances When a Test and Evaluation Master Plan Is No Longer Required. When a program's development is completed and critical operational issues are satisfactorily resolved, including the verification of deficiency corrections, Test and Evaluation Master Plan updates are no longer required. The following attributes are examples for which an updated Test and Evaluation Master Plan submission may no longer be required:
- (1) Fully deployed system with no operationally significant product improvements or block modification efforts.

- (2) Full production ongoing and fielding initiated with no significant deficiencies observed in production qualification test results.
- (3) Partially fielded system in early production phase having successfully accomplished all developmental and operational test objectives.
- (4) Programs for which planned test and evaluation is only a part of routine aging and surveillance testing, service life monitoring, or tactics development.
- (5) Programs for which no further operational testing or live fire testing is required by any DoD Component.
- (6) Program for which future testing (e.g., product improvements or block upgrades) has been incorporated in a separate Test and Evaluation Master Plan (e.g., an upgrade Test and Evaluation Master Plan).

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD DT&E OT&E	DDR&E <i>DUSD (A)</i> DOT&E	DDDR&E (T&E) <i>Air, T&E</i> DepDir, R&A
Dept of Army	DUSD(OR)	DACS-TE
Dept of Navy	ASN(RDA)	NAVOP 091 MCRDAC/AWT
Dept of Air Force	ASAF(A)	SAF/AQV
CJCS (Joint Staff)	DJT <i>See chgt</i> DJ8	J7/ORD <i>See chgt</i> J8/SPED

Attachment - 1

- 1. Test and Evaluation Master Plan Format

TEST AND EVALUATION MASTER PLAN OUTLINE (FORMAT)

- PART I SYSTEM INTRODUCTION (2 pages suggested - refer to annexes)
MISSION DESCRIPTION
SYSTEM THREAT ASSESSMENT
MINIMUM ACCEPTABLE OPERATIONAL PERFORMANCE REQUIREMENTS
SYSTEM DESCRIPTION
CRITICAL TECHNICAL PARAMETERS (See Figure 1)
- PART II INTEGRATED TEST PROGRAM SUMMARY (2 pages suggested)
INTEGRATED TEST PROGRAM SCHEDULE (See Figure 2)
MANAGEMENT
- PART III DEVELOPMENTAL TEST AND EVALUATION OUTLINE (10 pages suggested)
DEVELOPMENTAL TEST AND EVALUATION OVERVIEW
DEVELOPMENTAL TEST AND EVALUATION TO DATE
FUTURE DEVELOPMENTAL TEST AND EVALUATION
LIVE FIRE TEST & EVALUATION
- PART IV OPERATIONAL TEST AND EVALUATION OUTLINE (10 pages suggested)
OPERATIONAL TEST AND EVALUATION OVERVIEW
CRITICAL OPERATIONAL ISSUES
OPERATIONAL TEST AND EVALUATION TO DATE
FUTURE OPERATIONAL TEST AND EVALUATION
- PART V TEST AND EVALUATION RESOURCE SUMMARY (6 pages suggested)

TEST ARTICLES
TEST SITES AND INSTRUMENTATION
TEST SUPPORT EQUIPMENT
THREAT SYSTEMS/SIMULATORS
TEST TARGETS AND EXPENDABLES
OPERATIONAL FORCE TEST SUPPORT
SIMULATIONS, MODELS AND TESTBEDS
SPECIAL REQUIREMENTS
TEST AND EVALUATION FUNDING REQUIREMENTS
MANPOWER/TRAINING
- Appendix A BIBLIOGRAPHY
Appendix B ACRONYMS
Appendix C POINTS OF CONTACT (See Figure 3)
- ANNEXES or ATTACHMENTS (if appropriate)

Test and Evaluation Master Plan Outline

TEST AND EVALUATION MASTER PLAN CONTENT (FORMAT)

1. PART I--SYSTEM INTRODUCTION

- a. Mission Description. Reference the Mission Need Statement (see Part 2 of this Manual) and briefly summarize the mission need described therein.
- b. System Threat Assessment. Reference the system threat assessment (see Part 5 of this Manual) and briefly summarize the threat environment described therein.
- c. Minimum Acceptable Operational Performance Requirements. Reference the Operational Requirements Document (see Part 3 of this Manual) and summarize the critical operational effectiveness and suitability parameters and constraints (manpower, personnel, training, software, computer resources, transportation (lift), and etc) described therein.
- d. System Description. Briefly describe the system design. Include the following items:
 - (1) Key features and subsystems, both hardware and software (such as architecture, interfaces, security levels, reserves, etc), allowing the system to perform its required operational mission.
 - (2) Interfaces with existing or planned systems that are required for mission accomplishment. Address relative maturity and integration and modification requirements for nondevelopmental items. Include interoperability with existing and/or planned systems of other DoD Components or allies.
 - (3) Critical system characteristics (see Section 4-C of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," (reference (b)) or unique support concepts resulting in special test and analysis requirements (e.g., post deployment software support, hardness against nuclear effects; resistance to countermeasures; development of new threat simulation, simulators, or targets).
- e. Critical Technical Parameters
 - (1) List in a matrix format (see Figure 1) the critical technical parameters of the system (including software maturity and performance measures) that have been evaluated or will be evaluated during the remaining phases of developmental testing. Critical technical parameters are derived from the Operational Requirements Document, critical system characteristics (see Part 4 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)) and technical performance measures (see Section 6-A of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)) and should include the parameters in the

acquisition program baseline (see Part 14 of this Manual). Discuss the relationship between the critical technical parameters and the minimum acceptable operational performance requirements in the Operational Requirements Document.

- (2) Next to each technical parameter, list the accompanying objectives and thresholds as illustrated by Figure 1.
- (3) Highlight critical technical parameters that must be demonstrated before entering the next acquisition or operational test phase and ensure that the actual values which have been demonstrated to date are included in the last column.

2. PART II -- INTEGRATED TEST PROGRAM SUMMARY

a. Integrated Test Program Schedule

- (1) As illustrated in Figure 2, display on a chart the integrated time sequencing of the critical test and evaluation phases and events, related activities, and planned cumulative funding expenditures by appropriation.
- (2) Include event dates such as milestone decision points; operational assessments, test article availability; software version releases; appropriate phases of developmental test and evaluation, live fire test and evaluation, and operational test and evaluation; low rate initial production deliveries; Full Rate Production deliveries; Initial Operational Capability; Full Operational Capability; and statutorily required reports.
- (3) A single schedule should be provided for multi-Service or Joint and Capstone Test and Evaluation Master Plans showing all DoD Component system event dates.

b. Management

- (1) Discuss the test and evaluation responsibility of all participating organizations (developers, testers, evaluators, users).
- (2) Provide the date (fiscal quarter) when the decision to proceed beyond low-rate initial production is planned. (Low-rate initial production quantities required for operational test must be identified for the Director of Operational Test and Evaluation approval prior to Milestone II for acquisition category I programs and other acquisition category programs designated for Office of the Secretary of Defense test and evaluation oversight).
- (3) Identify and discuss any operational issues and vulnerability and lethality Live Fire Test requirements that will not be addressed before proceeding beyond low-rate initial production.

3. PART III -- DEVELOPMENTAL TEST AND EVALUATION OUTLINE

- a. Developmental Test and Evaluation Overview. Explain how developmental test and evaluation will: verify the status of engineering and manufacturing development progress; verify that design risks have been minimized; and substantiate achievement of contract technical performance requirements; and be used to certify readiness for dedicated operational test. Specifically, identify:
- (1) Any technology/subsystem that has not demonstrated its ability to contribute to system performance and ultimately fulfill mission requirements.
 - (2) The degree to which system hardware and software design has stabilized so as to reduce manufacturing and production decision uncertainties.
- b. Developmental Test and Evaluation to Date. Identify completed developmental test and evaluation by noting on the matrix of critical technical parameters those parameters that have been demonstrated.
- c. Future Developmental Test and Evaluation. Discuss all remaining developmental test and evaluation that is planned, beginning with the date of the current Test and Evaluation Master Plan revision and extending through completion of production. Place emphasis on the next phase of testing. For each phase, include:
- (1) Configuration Description. Summarize the functional capabilities of the system's developmental configuration and how they differ from the production model.
 - (2) Developmental Test and Evaluation Objectives. State the test objectives for this phase in terms of the critical technical parameters to be confirmed. Identify any specific technical parameters which the milestone decision authority has designated as exit criteria and/or directed to be demonstrated in a given phase of testing.
 - (3) Developmental Test and Evaluation Events, Scope of Testing, and Basic Scenarios. Summarize the test events, test scenarios and the test design concept. Quantify the testing (e.g., number of test hours, test events, test firings). List the specific threat systems, surrogates, countermeasures, component or subsystem testing, and testbeds the use of which are critical to determine whether developmental test objectives are achieved. As appropriate, particularly if an agency separate from the test agency will be doing a significant part of the evaluation, described the methods of evaluation. List all models and simulations to be used and explain the rationale for their credible use. Describe how performance in natural environmental conditions representative of the intended area of operations (e.g. temperature, pressure, humidity, fog, precipitation, clouds, blowing dust and sand, icing, wind conditions, steep

terrain, wet soil conditions, high sea state, storm surge and tides, etc.) and interoperability and compatibility with other weapon and support systems as applicable will be tested.

(4) Limitations. Discuss the test limitations that may significantly affect the evaluator's ability to draw conclusions, the impact of these limitations, and resolution approaches.

d. Live Fire Test and Evaluation. Include a description of the overall live fire test and evaluation strategy for the item; critical live fire test and evaluation issues; required levels of system vulnerability/lethality; the management of the live fire test and evaluation program; live fire test and evaluation schedule, funding plans and requirements; related prior and future live fire test and evaluation efforts; the evaluation plan and shot selection process; and major test limitations for the conduct of live fire test and evaluation. Live fire test and evaluation resource requirements (including test articles and instrumentation) will be appropriately identified in the Test and Evaluation Resource Summary.

4. PART IV -- OPERATIONAL TEST AND EVALUATION OUTLINE

a. Operational Test and Evaluation Overview

- (1) The primary purpose of operational test and evaluation is to verify that operationally effective and operationally suitable systems are approved for production that meet the mission needs and minimum operational performance requirements of the operating forces.
- (2) The Test and Evaluation Master Plan will show how program schedule, test management structure, and required resources are related to operational requirements, critical operational issues, test objectives, and milestone decision points. Testing will evaluate the system (operated by typical users) in an environment as operationally realistic as possible, including threat representative hostile forces and the expected range of natural environmental conditions.

b. Critical Operational Issues

- (1) List in this section the critical operational issues. Critical operational issues are the operational effectiveness and operational suitability issues (not parameters, objectives or thresholds) that must be examined in operational test and evaluation to evaluate/assess the system's capability to perform its mission.
- (2) A critical operational issue is typically phrased as a question that must be answered in order to properly evaluate operational effectiveness (e.g., "Will the system detect the threat in a combat environment at adequate range to allow successful

engagement?") and operational suitability (e.g., "Will the system be safe to operate in a combat environment?").

- (3) Some critical operational issues will have critical technical parameters and minimum acceptable operational performance requirements or thresholds. Individual attainment of these attributes does not guarantee that the critical operational issue will be favorably resolved. The judgment of the operational test agency is used by the DoD Component to determine if the critical operational issue is favorably resolved.
- (4) If every critical operational issue is resolved favorably, the system should be operationally effective and operationally suitable when employed in its intended environment by typical users.

c. Operational Test and Evaluation to Date

Identify and date test reports that detail the results of testing and operational assessments to date. Indicate critical operational issues that were resolved (satisfactory, unsatisfactory, yes, no, etc.), partially resolved, or unresolved at the completion of each phase of testing.

d. Future Operational Test and Evaluation. For each remaining phase of operational test and evaluation, separately address the following:

- (1) Configuration Description. Identify the system to be tested during each phase, and describe any differences between the tested system and the system that will be fielded including, where applicable, software maturity performance and criticality to mission performance, and the extent of integration with other systems with which it must be interoperable or compatible. Characterize the system (e.g., prototype, engineering development model, production representative or production configuration).
- (2) Operational Test and Evaluation Objectives. State the test objectives including the minimum acceptable operational performance requirements and critical operational issues to be addressed by each phase of operational test and evaluation and the milestone decision review(s) supported. Operational test and evaluation that supports the beyond low rate initial production decision should have test objectives that examine all areas of operational effectiveness and suitability.
- (3) Operational Test and Evaluation Events, Scope of Testing, and Scenarios. Summarize the scenarios and identify the events to be conducted, type of resources to be used, the threat simulators and the simulation(s) to be employed, the type of representative personnel who will operate and maintain the system, the status of the logistic support, the operational and maintenance documentation that will be used, the environment

under which the system is to be employed and supported during testing, the plans for interoperability and compatibility testing with other United States/Allied weapon and support systems as applicable, etc. Identify planned sources of information (e.g., development testing, testing of related systems, modeling, simulation, etc.) that may be used by the operational test agency to supplement this phase of operational test and evaluation. Whenever models and simulations are to be used, explain the rationale for their credible use. If operational test and evaluation cannot be conducted or completed in this phase of testing and the outcome will be an operational assessment instead of an evaluation, this should clearly be stated and the reason(s) explained.

- (4) Limitations. Discuss the test limitations including threat realism, resource availability, limited operational (military, climatic, nuclear, etc.) environments, limited support environment, maturity of tested system, safety, etc., that may impact the resolution of affected critical operational issues. Indicate the impact of the test limitations on the ability to resolve critical operational issues and the ability to formulate conclusions regarding operational effectiveness and operational suitability. Indicate the critical operational issues affected in parenthesis after each limitation.

5. PART V --TEST AND EVALUATION RESOURCE SUMMARY

- a. Provide a summary (preferably in a table or matrix format) of all key test and evaluation resources, both government and contractor, which will be used during the course of the acquisition program. Specifically, identify the following test resources:

- (1) Test Articles. Identify the actual number of and timing requirements for all test articles, including key support equipment and technical information required for testing in each phase by major type of developmental test and evaluation and operational test and evaluation. If key subsystems (components, assemblies, subassemblies or software modules) are to be tested individually, before being tested in the final system configuration, identify each subsystem in the Test and Evaluation Master Plan and the quantity required. Specifically identify when prototype, engineering development, preproduction, or production models will be used.
- (2) Test Sites and Instrumentation. Identify the specific test ranges/facilities to be used for each type of testing. Compare the requirements for test ranges/facilities dictated by the scope and content of planned testing with existing and programmed test range/facility capability, and highlight any major shortfalls, such as inability to test under representative natural environmental conditions. Identify instrumentation that must be acquired specifically to conduct the planned test program.

- (3) Test Support Equipment. Identify test support equipment that must be acquired specifically to conduct the test program.
 - (4) Threat Systems/Simulators. Identify the type, number, availability, and fidelity requirements for all threat systems/simulators. Compare the requirements for threat systems/simulators with available and projected assets and their capabilities. Highlight any major shortfalls. Each threat simulator shall be subjected to validation procedures to establish and document a baseline comparison with its associated threat and to ascertain the extent of the operational and technical performance differences between the two throughout the simulator's life-cycle
 - (5) Test Targets and Expendables. Identify the type, number, and availability requirements for all targets, flares, chaff, sonobuoys, smoke generators, acoustic countermeasures, etc. that will be required for each phase of testing. Identify any major shortfalls.
 - (6) Operational Force Test Support. For each test and evaluation phase, identify the type and timing of aircraft flying hours, ship steaming days, and on-orbit satellite contacts/coverage, and other critical operating force support required.
 - (7) Simulations, Models and Testbeds. For each test and evaluation phase, identify the system simulations required, including computer-driven simulation models and hardware/software-in-the-loop testbeds. Identify the resources required to validate and certify their credible usage or application before their use.
 - (8) Special Requirements. Discuss requirements for any significant non-instrumentation capabilities and resources such as: special data processing/data bases, unique mapping/charting/geodesy products, extreme physical environmental conditions or restricted/special use air/sea/landscapes.
 - (9) Test and Evaluation Funding Requirements. Estimate, by Fiscal Year and appropriation line number (program element), the funding required to pay direct costs of planned testing. State, by fiscal year, the funding currently appearing in those lines (program elements). Identify any major shortfalls.
 - (10) Manpower/Personnel Training. Identify manpower/personnel and training requirements and limitations that affect test and evaluation execution.
- b. The preliminary Test and Evaluation Master Plan should project the key resources necessary to accomplish demonstration and validation testing and early operational assessment. The preliminary Test and Evaluation Master Plan should estimate, to the degree known at Milestone I, the key resources necessary to accomplish developmental test and evaluation, live fire test and evaluation, and operational test and evaluation. These should include elements of the National

Test Facilities Base (which incorporates the Major Range and Test Facility Base (MRTFB), capabilities designated by industry and academia, and Major Range and Test Facility Base test equipment and facilities), unique instrumentation, threat simulators, and targets. As system acquisition progresses, the preliminary test resource requirements shall be reassessed and refined and subsequent Test and Evaluation Master Plan updates shall reflect any changed system concepts, resource requirements, or updated threat assessments. Any resource shortfalls which introduce significant test limitations should be discussed with planned corrective action outlined.

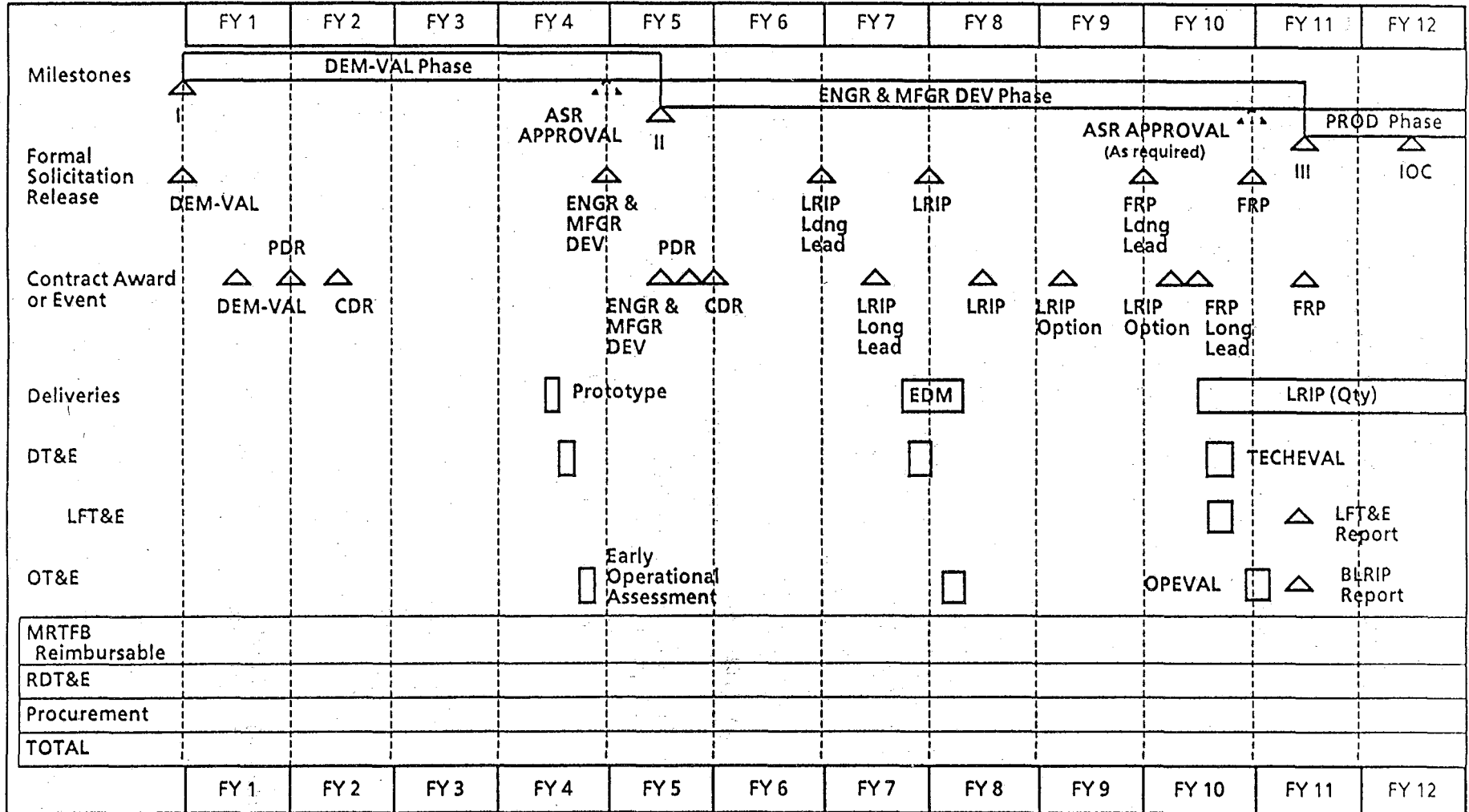
6. Appendix A -- BIBLIOGRAPHY
 - a. Cite in this section all documents referred to in the Test and Evaluation Master Plan.
 - b. Cite all reports documenting technical and operational testing and evaluation.
7. Appendix B -- ACRONYMS. List and define all acronyms used in the Test and Evaluation Master Plan.
8. Appendix C -- POINTS OF CONTACT. Provide a list of points of contact as illustrated by Figure 3.
9. ANNEXES or ATTACHMENTS. Provide as appropriate.

Critical technical parameters	Total events	Technical objective and threshold for each test event	Location	Schedule	Decision supported	Demonstrated value
Measurable parameter with reference	Single event or test phase	Measurable technical value	Test facility	Test period	Milestone in-process review or major event	
Detection range 10.0 Km (reference)	D/V DT E/MD DT PQT	7.0 Km 9.5Km 10.0 Km	ABC Range	1Q FY-XX	M/S II	

Figure 1 - Sample Critical Technical Parameters Matrix

(This matrix depicts the evaluation criteria to assess developmental progress)

FIGURE 2 - INTEGRATED TEST PROGRAM SCHEDULE (ILLUSTRATIVE EXAMPLE)



7-1-12

PROGRAM POINTS OF CONTACT (FORMAT)

<u>NAME</u>	<u>ORGANIZATION</u>	<u>PHONE (COMMERCIAL/AUTOVON)</u>
Service Secretary/Agency Director Monitor/Coordinator		
User Representative		
Program Manager		
Development Test Director/Coordinator		
Operational Test Director/Coordinator		

Figure 3

PART 8

COST AND OPERATIONAL EFFECTIVENESS ANALYSIS

- References:
- (a) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986
 - (b) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

PURPOSE

- a. This Part provides general procedures and guidelines for developing cost and operational effectiveness analyses.
- b. Cost and operational effectiveness analyses are essential elements of the decision making process for all acquisition programs. The procedures described in this part are specifically oriented to the Cost and Operational Effectiveness Analyses required for acquisition category I programs. They should be used as guidelines for other acquisition category programs.
- c. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements," (reference (a)).

2. PROCEDURES

- a. Overview. A cost and operational effectiveness analysis evaluates the costs and benefits (i.e., the operational effectiveness or military utility) of alternative courses of action to meet recognized defense needs.
 - (1) One of the alternatives typically considered represents the current program or status quo.
 - (2) Another is usually an improved version of the current program.
 - (3) Other alternatives are assessed against these cases in terms of changes in cost and effectiveness; i.e., in terms of their marginal costs and benefits, thus exploring the cost and benefit of an alternative to the base case.
 - (4) The sensitivity of alternatives to potential changes in key assumptions, variables, and constraints is also addressed in this type of analysis.
 - (5) A comprehensive test and evaluation program is an integral factor in analyzing operational effectiveness, since it will

provide test results at each milestone decision point that give credence to the key assumptions and estimates that may have been made in the current or earlier cost and operational effectiveness analyses.

- b. How to do a cost and operational effectiveness analysis. There are no easy shortcuts or checklists to assessing the cost and operational effectiveness of major defense acquisition programs. The key concepts that apply are highlighted in subsequent paragraphs.

(1) Mission Needs, Deficiencies, and Opportunities. The aims of this element of a cost and operational effectiveness analysis are to identify defense needs, to define the deficiencies of existing systems in meeting those needs, and to discover opportunities for satisfying needs and alleviating deficiencies.

(a) This type of analysis is conducted for Milestone I, Concept Demonstration Approval, and Milestone II, Development Approval. Normally, Milestone O, Concept Studies Approval, will have initiated studies on a broad set of alternative capabilities in response to a Mission Need Statement. One of the first steps in developing a Milestone I cost and operational effectiveness analysis is to reexamine the Milestone O justification to confirm that it remains valid and to set the stage for trade-offs among needs, technical approaches, performance, and cost.

(b) An initial step in planning the analysis is to establish the level at which the main analysis will be performed (e.g., air-to-air missiles, fighter aircraft). Whatever level is chosen, a check should be made of the implications for outcomes expected at the next higher organizational level. In many cases, it will be necessary to consider results at several higher levels.

(c) The scenarios should include a set based on situations that conform to the scenarios in the Defense Planning Guidance; that is, the underlying assumptions concerning the threat, as well as those concerning U.S. and allied involvement, should not conflict with the assumptions in the Defense Planning Guidance scenarios. All relevant situations in the Defense Planning Guidance scenarios should be addressed in the analysis. U.S. force availability should be consistent with any deployment/reinforcement objectives included in the scenarios or established elsewhere in the Defense Planning Guidance. Alternative cases may be considered when they would contribute to the analysis. In these instances, the variance(s) from the Defense Planning Guidance scenario(s) must be clearly identified and addressed. The time period selected for study should be of sufficient length to measure effects on mission capabilities once a system has been deployed in significant number.

- (2) Threats. The threat analysis determines those elements against which a given system might be used and the forces that could be used against that system. It includes broad considerations (such as the nature and size of opposing forces or conventional versus nuclear weapons used) as well as detailed ones (the strength of kinetic energy projectile attacks, electronic warfare deceptive measures). The threat should be analyzed in sufficient detail to identify, with a reasonable degree of assurance, the conditions that might exist when employing the new U.S. system. A few suggestions for analyzing the threat:
- (a) Get the intelligence and security communities involved early. Consider having the Defense Intelligence Agency participate in planning the analysis.
 - (b) Examine enemy objectives as carefully as our own, recognizing that the objectives of threat forces may not be diametrically opposed to ours.
 - (c) Explore the implications of constraints on the threat. Ensure that a worldwide allocation of key threat forces underlies the specification of threat elements that would be engaged by the U.S. system. Consider logistics, personnel, and infrastructure factors that might affect the nominal performance of enemy weapons systems.
 - (d) Develop a range of plausible threats, to allow for the uncertainty inherent in threat projections. Postulate reasonable countermeasures or enemy responses to U.S. systems. What would a smart opponent do? What do the enemy's past performance, doctrine, and operational concepts suggest regarding future actions?
 - (e) Recognize that grossly overestimating or underestimating the threat can lead to the formulation of inferior alternatives. Overestimating enemy force size or capability could invite consideration of unachievable or prohibitively expensive solutions, while underestimating enemy responses to a U.S. acquisition might lead to inadequate provision for future product improvements.
- (3) Operational Environments. In discussing the operational environment, it is important to:
- (a) Evaluate explicitly the potential contribution of Allied forces. Describe Allied concepts of operation, projected force structures, and capabilities. If Allied forces would operate in close proximity to the new U.S. system, assess how their role in the battle would be affected by the system's introduction and how U.S. performance would be affected by Allied contributions.
 - (b) Evaluate terrain, weather, ocean or other pertinent environmental parameters. For atmospheric conditions, the

analysis should be supported by meteorological data describing both normal and reasonably expected adverse weather conditions under which the system would be expected to operate. For terrain and ocean conditions, analyses should be supported by similar representative data. Examples of the type of data that might be pertinent to the system in question include temperature, visibility limits, precipitation, ocean acoustic noise, soil trafficability, and snow cover. Setting environmental constraints that are too stringent or too lenient (or not understanding system sensitivity to such constraints) can either preclude from consideration alternatives that otherwise might be effective or lead to the establishment of performance standards that have little bearing on how a system would operate in a war.

- (c) Consider the operational threat environment. In most environments there will be several methods to meet the survivability requirement. For instance, in the initial nuclear weapons effects environment, developers can use hardening, avoidance, deception, proliferation, reconstitution, redundancy or a combination thereof to meet the requirement. For each threat environment there should also be expected mission capabilities. Each of these affords the opportunity to formulate multiple alternatives to be considered in determining the most cost and operationally effective solution.
- (4) Constraints and Assumptions. Constraints and assumptions are factors that limit the set of viable alternatives to be considered. They should be carefully defined and stated explicitly. Progress sometimes comes from finding that a presumed constraint (e.g. personnel, funding, technical) does not exist or can be modified. Constraints and assumptions also can change over time. Therefore, understanding the consequences of such changes is important.
- (5) Operational Concept. A good analysis embraces a solid statement and analysis of the organizational and operational plan for each alternative. These plans describe the way in which forces and equipment would be arranged and employed in battle. They address both doctrine and tactics in explaining how a system would be used to accomplish national objectives. In some cases, each system alternative will require a separate plan. In others, a single plan (or modified version thereof) can accommodate the entire group of alternatives. Sometimes, field experimentation is necessary to refine a plan.
- (6) Functional Objectives. The preceding steps produce information that enables one to understand the context in which a system would be employed. Next, this understanding must be expressed in terms of functional objectives for the system. Functional objectives are statements describing, in quantitative terms, the tasks a system will be expected to perform. They depend upon

the type of system at issue. For example, when analyzing transportation systems, the objectives are stated in terms of movement requirements; for firepower systems, they reflect the types of targets to be engaged. The effectiveness of system alternatives is then measured in terms of the degree to which the functional objectives would be attained.

- (a) It is important to understand this relationship -- how meeting basic operational objectives depends upon the performance of the system at issue. In the end, differences in system performance must be assessed against differences in system costs.
 - (b) A key part of the analysis, therefore, is developing a clear understanding of the functional objectives established for a system. Without such an understanding, the measures of effectiveness used to compare alternatives are unlikely to be relevant.
- (7) Alternatives. One of the most important steps in developing the analysis is to identify the alternatives to be considered. This determines the set of possible solutions. Subsequent steps in the analysis focus on assessing the benefits and risks associated with each alternative. When structuring the set of alternatives, consider both current systems and improved versions, along with systems in development by the other Services or Allies and conceptual systems not yet on the drawing board. Clearly, the uncertainty associated with the capability and availability of a system will depend on its state of development, with the risks and uncertainties greater in the early development stages. A frequent weakness in an analysis results from devoting inadequate attention to potential modifications of existing systems.
- (a) When generating the set of alternatives, check that:
 - 1 A reference alternative (or base case), funded in the 6-Year Defense Program, is included. This alternative represents the existing or currently programmed system, funded and operated according to current plans.
 - 2 A range of alternatives is investigated (as opposed to variations on a single theme). Where possible, include alternatives in which doctrine and tactics, rather than just hardware, are varied, since organizational and operational plans can change. Consider including alternatives with potential to mitigate significant, environmentally driven, performance limitations.
 - 3 Each alternative is fully defined, including the specification of material, organization, and tactics. Describe the organizational and operational plan for the system, and the units within which it would be embedded. Explain how the system or unit would operate in

conjunction with other systems or units in accomplishing its functional objectives.

- 4 All reasonable options are represented. Occasionally, this will require a set of alternatives that includes a mix of proponency (e.g., surface delivered and air delivered ordnance).
 - 5 The alternatives have been selected on the basis of the task to be accomplished, and not solely on the means to accomplish the task. For example, an alternative to acquiring an improved surveillance system for airfield protection might be to provide more revetted storage areas.
 - 6 New systems are not oversold. Too often, the capabilities hoped for at the "paper stage" of development do not materialize. A healthy degree of skepticism is required in describing alternatives.
- (b) When in doubt about an alternative, include it. If it is a "bad" option, the subsequent analysis will show that to be the case. If, on the other hand, the alternative has merit that was not immediately apparent, the analysis will demonstrate that as well.
- (c) Allow for new alternatives to be considered as the study progresses. Frequently, alternatives emerge as a result of insights gained from ongoing analyses and from sources outside the study team.
- (8) Models. Models are a representation of an actual or conceptual system that involves mathematics, logical expressions, or computer simulations. They are used in cost and operational effectiveness analysis to estimate how a particular system would function. They could be applied, for example, to investigate questions such as: What would be the effect of an improved sensor on a submarine versus submarine engagement? What would be the likely impact of additional aircraft hardening on aircraft performance in battlefield air interdiction? Because the mission area will already have been defined, it will not normally be necessary to perform a theater-level (i.e., joint and combined force) analysis to satisfy the cost and operational effectiveness analysis requirements. On the other hand, an understanding of theater-level capability should underlie the work.
- (a) The models used can take a variety of forms, from simple "stubby pencil calculations" to elegant mathematical formulations to large force-on-force computer simulations. Clearly, the type of model most useful for an analysis depends on the purpose being served.
- (b) As you select and apply models, consider the following:

- 1 Like weapon systems, models are rarely entirely "good" or "bad." They are suitable or unsuitable for particular purposes.
 - 2 Models should help eliminate personal bias and preference. So be cautious when using models that include a "man-in-the-loop."
 - 3 A great number of models already are available in almost every mission area. Consider them before attempting to build new ones.
 - 4 Keep the model simple. Often a simple mathematical equation can project the performance you are seeking to display.
 - 5 Be sure to test the model to see if it describes the base case well. Generally, we know more about the base case, the existing system, than we do about the alternatives. If the model does not "predict" what we know the existing system can do, it is not likely that its other predictions will be sound.
 - 6 Use several models. If different models yield similar results, one might gain confidence that the estimates are reasonable.
 - 7 Run a "common sense" test. Are the results plausible? Are they within reasonable bounds?
 - 8 Evaluate the quality of the environmental simulation and the environmental limitation evaluation. For systems using sensors with a known vulnerability to adverse environmental conditions, for instance, does the model adequately incorporate the adverse effects of the environmental conditions during the simulation?
- (9) Data for the Analysis. It is important to develop a validated database for the analysis. The data must be current, accurate, and technically and operationally validated by engineering assessments, technical tests, and operational tests. Additionally, current tactical and employment doctrine must be reflected in the database.
- (10) Measures of Effectiveness. Measures of effectiveness are tools that assist in discriminating among a number of alternatives. They show how the alternatives compare in meeting functional objectives and mission needs. Examples of such measures would include loss exchange results, force effectiveness contributions, systems saved, and tons delivered per day. A few suggestions:

- (a) Select measures of effectiveness that relate directly to a system's performance characteristics and to mission accomplishment. Decisionmakers need to know the contribution of the system to the outcome of battle, not just how far it can shoot or how fast it can fly.
 - (b) Use quantitative, objective measures of effectiveness where feasible to minimize the contamination of personal bias.
- (11) Costs. Cost estimates are as important as operational effectiveness measures in the analysis. Decision makers must combine cost considerations with assessments of operational effectiveness and potential constraints (e.g., timeliness, political considerations) in weighing alternatives. Several factors must be considered in developing cost estimates for a cost and operational effectiveness analysis, including:
- (a) Estimating Technique. Estimates can be developed using a variety of techniques. There are three general approaches.
 - 1 Parametric methods relate cost to parameters that specify a system within a class of systems, such as, weight and maximum speed for fighter aircraft.
 - 2 In estimating by analogy one adjusts the known costs of existing systems similar to the one in question to arrive at cost projections.
 - 3 Engineering, or bottoms-up estimates are made by pricing each component of a system.
 - 4 Quite often, several methods can be used to estimate a given cost; the analyst must determine which is most appropriate on a case-by-case basis.
 - (b) Program Quantities. The analysis must address the system quantity for which a decision is being sought. The acquisition objective, if different, can be treated as an excursion. Quantity ranges are acceptable if the planned buy is within the specified range, is specifically addressed, and assumes a reasonable procurement schedule.
 - (c) Validation. The cost input to the analysis must be validated at the same level as the requirements document the analysis supports. Validation should identify the weaknesses, or "soft areas," in the cost estimates.
 - (d) Cost Uncertainty Analysis. Cost uncertainty is inherent in the analyses and stems from the potential for unplanned system changes, technical problems, schedule shifts, estimating errors, and the like. In the early stages of development, it can arise from the ranges in a key cost/performance relationship for a system. The purpose of cost uncertainty analysis is to "bound the estimate." This

can be done objectively, by statistical analysis, or subjectively, through the use of expert opinion. Using an arbitrary plus-or-minus percentage figure to denote range is not uncertainty analysis.

- (e) Cost Sensitivity Analysis. Cost sensitivity is the degree to which changes in certain parameters cause changes in the costs of a system. Each potential change should be tested independently. Operating parameters that affect costs (such as activity rates and performance characteristics) should be examined for sensitivity to change. The results of each sensitivity analysis must be documented.
 - (f) Relation to Baseline Cost Estimate. Cost and operational effectiveness analysis costs must be based on a valid baseline cost estimate. All else being equal (i.e., quantities are the same), the baseline cost estimate serves as the life cycle cost estimate for the base case in the analysis. If the baseline cost estimate is incomplete (or has not been validated) and time is a factor, the analysis may use unvalidated estimates. This, however, could result in last minute changes that would have to be accommodated later.
- (12) Scope by Milestone. The scope of a cost and operational effectiveness analysis depends upon the acquisition stage to which the system has advanced, the milestone decision to be made, and the system's dollar value:
- (a) Milestone I. A Milestone I analysis is developed when knowledge of the program under consideration is sketchy. At this point, the analysis considers a range of alternative concepts to satisfy the identified mission need. Performance expectations and costs should be expressed as intervals (i.e., between this low value and that high value), with high reliance on parametric estimating techniques. Cost estimates take into account advanced development and engineering development. In addition, gross estimates of investment (procurement) costs are required. It is generally difficult to obtain accurate organizational and operational cost projections for a Milestone I analysis, but rough estimates are expected. In any event, these early estimates or cost intervals should be qualified to highlight the weaknesses inherent in them and any possibility for gross error. To the extent known, the characteristics of each concept that drive the cost intervals or uncertainties should be identified.
 - (b) Milestone II. A Milestone II analysis is accomplished toward the end of Phase II, Demonstration and Validation, when the most promising system concept has been demonstrated and validated. By then, there is generally sufficient knowledge of the system to narrow the performance and cost intervals to point estimates using

bottoms-up (engineering) estimating techniques. A Milestone II cost assessment includes total life-cycle costs, expressed in both constant and current dollars. Point estimates are bounded by an uncertainty range -- "possible low" to "possible high" costs. Life-cycle estimates are provided for all alternative design approaches.

(c) Milestone III. At Milestone III, a decision is made to produce, cancel, or continue development of a system. By that time, the design approach typically has been chosen. A cost and operational effectiveness assessment is not required unless conditions have changed sufficiently so that previous cost-effectiveness determinations are no longer valid. Because costs are more likely to have changed, Milestone III analyses often provide only updated estimates of life cycle costs. If a change is of sufficient magnitude to cause the Defense Acquisition Board to revisit its Milestone II decision, the full Milestone II cost and operational effectiveness analysis is updated.

(d) Milestone IV. A Milestone IV decision addresses the need to initiate an upgrade or modification to a system currently in production. The analysis prepared for this milestone decision review should consider the costs and consequence of all alternatives to include maintaining the status quo.

(13) Trade-Off Analyses. Trade-off analyses describe equal-cost or equal-capability packages; that is, they display the implications of "trading" one set of controllable variables (such as schedule or performance) for another (such as cost). These analyses are an important component of both Milestone I and II analyses. To do a trade-off analysis, one must identify areas of uncertainty, conduct sensitivity analyses, and establish thresholds.

(a) Uncertainty. Trade-off analyses identify areas of uncertainty and estimate their extent. The implications of the uncertainties are examined using cost models and effectiveness models. This serves to highlight for decision makers the areas in which uncertainties most affect the analysis and, therefore, its results.

(b) Sensitivity. Sensitivity analyses show explicitly how military utility is affected by changes in system capability. They show how system characteristics (size, weight, etc.) drive performance, and how performance affects military utility or effectiveness. Parameters should be varied individually where it is reasonable to do so. The uncertainty inherent in estimating parameters and in determining their impact should be displayed explicitly.

1 As a result of this step, the analysis is able to show "where we are on the curve": whether the desired performance is stretching a system to the point that increases in performance add little of benefit; whether the results are sensitive to change.

2 In a very real sense, there are few "hard, unchallengeable" requirements in weapons acquisition. Certain characteristics, capabilities, and levels of effectiveness are not "essential, regardless of cost." Sensitivity analysis illuminates how important it is to incorporate these features into a system.

(c) Thresholds. An important step in developing a cost and operational effectiveness analysis is to determine thresholds, the maximum cost or minimum acceptable performance that could be tolerated in a system. In order to approach thresholds and acceptability bands reasonably, senior decision makers and users must be directly involved in reviewing the combinations of cost and performance that would be acceptable.

1 Cost thresholds are expressions of value. They answer such questions as: How valuable is a given capability to the Service? How much would the Service be willing to give up in order to obtain that capability? At what point would it be preferable to drop the idea in favor of some other course of action?

2 Performance thresholds may be more difficult to determine but are at least as important as cost thresholds. They show at what point degradations in performance yield outcomes that no longer satisfy the mission need. Together, cost and performance thresholds help in determining which alternatives are worthwhile and what combinations or intervals of performance and cost are acceptable.

(14) Analysis of Alternatives. There is no magic formula for combining cost and effectiveness measures to identify a preferred alternative. Judgements and perceptions about the relative importance of competing needs are important in the final choice of a course of action. A cost and operational effectiveness analysis can assist in making that choice by providing a solid framework for evaluating the alternatives, and by highlighting the implications of alternative choices. In that regard, it is essential to:

(a) Compare equal-cost or equal-effectiveness alternatives.

(b) Show the absolute values of measures. Make the facts available and visible. Display the measures of cost and effectiveness for each alternative.

- (c) Never use schemes in which several measures of effectiveness are weighted and combined into an overall score. Weighting schemes can sometimes be helpful, but they must be clearly explained in the analysis so that their results can be interpreted correctly.
 - (d) Use ratios only where appropriate. Ratios may ignore sufficiency and mask important differences. Ratios such as Loss Exchange Ratios (LER) are acceptable for use as measures of effectiveness. Ensure that the absolute values of the components are shown in conjunction with any ratio used.
 - (e) Point out dominance relationships.
 - (f) Identify the more effective alternatives that are roughly equivalent in cost, and the less costly alternatives that are about equal in effectiveness.
 - (g) For alternatives with comparable costs and effectiveness, identify those that are weaker with regard to the more important (or more frequent) objectives, and those that incur risks without producing compensating benefits.
 - (h) Highlight factors that may help in ranking the remaining alternatives. Consider for example, sensitivity to key variables, vulnerability to countermeasures, preservation of flexibility for future options, contribution to longer term goals, and time phasing of resource requirements.
 - (i) Reexamine the base case alternative in light of the new insights. It may well be better than was first perceived, or it may have turned out to be such a poor choice as to make otherwise unattractive alternative quite appealing.
- (15) Conclusions. The conclusions should identify the major costs and measures of effectiveness associated with each alternative. Likewise, the criteria on which decisions are to be made should be clearly identified and explained. Several criteria are always preferable to a single criterion.

c. Defense Acquisition Board Review Process

- (1) Each cost and operational effectiveness analysis submitted in support of a Defense Acquisitive Board review is referred to the appropriate Committee.
- (2) Prior to the scheduled milestone decision review, the Assistant Secretary of Defense (Program Analysis and Evaluation) prepares a report that assesses whether the analysis submitted has examined all reasonable alternatives and adequately evaluated their costs, risks, and benefits. The report should include a statement on the adequacy of the models and database used in the

cost and operational effectiveness analysis. This report becomes part of the Committee's Integrated Program Assessment.

- (3) Additional information on the pre-Defense Acquisition Board review process is provided in Section 13-A of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," (reference (b)).

d. What to Look for in Reviewing a Cost and Operational Effectiveness Analysis. There is no formal checklist for reviewing a cost and operational effectiveness analysis. As a general rule, however, analyses are evaluated for at least the following:

- (1) What are the problems, deficiencies, and opportunities being addressed? Are these symptoms of more basic concerns?
- (2) Is the context (i.e., threat, scenario, environment) consistent with the Defense Planning Guidance? Has a spectrum of threats been considered? Have Allied forces been considered in appropriate detail?
- (3) Have assumptions and constraints been identified explicitly? Are they reasonable? How would changes in them affect the results?
- (4) Have all reasonable alternatives been considered?
- (5) Were multiple measures of effectiveness used? Do they relate to the performance thresholds and objectives established for the system? To overall improvements in capabilities?
- (6) Have all relevant costs been displayed? Has the Cost Analysis Improvement Group reviewed the cost estimates?
- (7) Are the models clearly identified? Are they appropriate to the system being evaluated? Are the input parameters defined explicitly in the documentation? Can the results be replicated?
- (8) Has the database for the cost and operational effectiveness analysis been validated through engineering analyses or tests.
- (9) Does the analysis present all costs and measures of effectiveness for all alternatives? Have equal-cost or equal-effectiveness alternatives been examined?
- (10) Are the criteria used for assessing alternatives identified explicitly? Are they meaningful? Consistent with higher order objectives? Intuitively acceptable or, if not, adequately explained?
- (11) Do the results look reasonable? Is it clear from the analysis why the effectiveness measures came out as they did?

(12) Were sensitivity analyses conducted showing how changes in technical performance affect military utility, cost, and/or schedule? Do the results suggest reasonable ranges or thresholds for performance and cost?

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	ASD(PA&E)	DASD(GPP) DASD)SP)
Dept of Army	ASA(RDA)	SARD-DO
Dept of Navy	ASN(RDA)	Dep, APIA
Dept of Air Force	AF/XO	AF/ XOX - XDR
CJCS (Joint Staff)	VCJCS	J8/SPED

Attachment - 1

1. Cost and Operational Effectiveness Analysis Format

COST AND OPERATIONAL EFFECTIVENESS ANALYSIS (FORMAT)

COST AND OPERATIONAL EFFECTIVENESS ANALYSIS

FOR

PROGRAM TITLE

1. The Acquisition Issue
 - a. Need. Describes the deficiency or opportunity identified at Milestone 0, Concept Studies Approval in the Mission Need Statement. Shows derivation from Defense Planning Guidance.
 - b. Threat. Describes projected enemy forces and tactics, including potential countermeasures. Cites sources for the projections and areas of uncertainty. References the System Threat Assessment Report.
 - c. Environment. Defines expected operating environment (terrain, weather, altitude, etc.). Notes Allied contributions where relevant. References the applicable sections of the Operational Requirements Document.
 - d. Constraints. Describes underlying assumptions regarding personnel, funding, and technical constraints. Shows effects, at the margin, of changes in the assumptions. References the applicable sections of the Mission Need Statement and the Operational Requirements Document.
 - e. Operational Concept. Summarizes the organizational and operational plan for the proposed system. Covers forces, equipment, doctrine, and tactics. References the applicable sections of the Operational Requirements Document.
2. Alternatives
 - a. Performance Objectives. Describes quantitatively the minimum acceptable operational requirements and objectives for performance of the proposed concept/system. Shows the impact of changes at the margin in performance and mission satisfaction. References the applicable sections of the the Operational Requirements Document.
 - b. Description of Alternatives. Describes the alternatives investigated in the analysis.

3. Analysis of Alternatives

- a. Models. Identifies the models used in the analysis and discusses the reasons for their selection. Documents the input data and assumptions.
- b. Measures of Effectiveness. Identifies the measures of effectiveness used; explains the rationale for their selection. Presents results for the individual alternatives.
- c. Costs. Shows life cycle and force costs for each alternative in constant and current dollars. Displays sunk costs (if provided) separately. Shows manpower implications and program and budget status.
- d. Trade-Off Analyses. Shows uncertainties in the cost and effectiveness estimates for each alternative. Analyzes sensitivity of the results to changes in performance and schedule. Identifies possible cost and performance thresholds for each alternative.
- e. Decision Criteria. Suggests criteria for selecting among the alternatives.

4. Summary of Results

Summarizes the major findings of the analysis. Highlights factors affecting the acceptability and affordability of the alternatives, both individually and in relation to one another.

PART 9

LOW-RATE INITIAL PRODUCTION REPORT FOR NAVAL VESSELS AND SATELLITES

- References:
- (a) Title 10, United States Code, Section 2400(c), "Low-Rate Initial Production of Naval Vessel and Satellite Programs"
 - (b) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986
 - (c) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

1. PURPOSE

- a. This Part defines the procedures for establishing at Milestone II, a definitive low-rate initial production quantity and rate for each naval vessel and military satellite major defense acquisition program.
- b. This Part implements the requirements of Title 10, United States Code, Section 2400(c), "Low-Rate Initial Production of Naval Vessel and Satellite Programs," reference (a).
- c. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (b)).

2. PROCEDURES

- a. A Low-Rate Initial Production Report for Naval Vessels and Satellites will be prepared by the Program Manager, approved by the milestone decision authority and submitted to Congress at Milestone II, Development Approval, for acquisition category I naval vessel and satellite programs.
- b. In accordance with Title 10, United States Code, Section 2400(c), reference (a), low-rate initial production for naval vessels and satellites is production of items at the minimum quantity and rate that:
 - (1) Preserves the mobilization production base for that system and;
 - (2) Is feasible, as determined pursuant to policies and procedures prescribed in DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," reference (c).

c. The Low-Rate Initial Production Report for Naval Vessels and Satellites will include the following information:

- (1) An explanation of the rate and quantity prescribed for low-rate initial production and the considerations in establishing that rate and quantity.
- (2) A test and evaluation master plan.
- (3) An acquisition strategy that has been approved by the milestone decision authority for acquisition category I programs to include the procurement objectives in terms of total quantity of articles to be procured and annual production rates.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this Part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (c)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	Dir, AP&PI ASD(P&L) <i>Dir, DefProc</i> DOT&E	DepDir, ASM DASD(P)/DSPS <i>DIR, DefProc</i> DepDir, R&A
Dept of Army	ASA(RDA)	SARD-DE
Dept of Navy	ASN(RDA)	DASN(Ships) DASN(C3I/EW/SPACE)
Dept of Air Force	ASAF(A)	SAF/AQX

See change 1

PART 10

LIVE FIRE TEST AND EVALUATION REPORT

- References:
- (a) Title 10, United States Code, Section 2366, "Major systems and munitions programs: survivability testing and lethality testing required before full-scale production"
 - (b) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

1. PURPOSE

- a. This Part defines procedures for providing an independent Office of the Secretary of Defense report to Congress on live fire survivability testing of a covered system (vehicle, weapon platform, or conventional weapon system that includes features designed to provide some degree of protection to users in combat) or live fire lethality testing of a major munitions program or a missile program.
- b. This Part implements the requirements of Title 10, United States Code, Section 2366, "Major systems and munitions programs: survivability testing and lethality testing required before full-scale production" (reference (a)).
- c. The Live Fire Test and Evaluation Report has been assigned Report Control Symbol DD-ACQ(AR)1845.

2. PROCEDURES

- a. An independent Office of the Secretary of Defense Live Fire Test and Evaluation Report will be prepared by the Deputy Director of Defense Research & Engineering (Test & Evaluation) within 45 days after receipt of the DoD Component's Live Fire Test Report by the Office of the Secretary of Defense, approved by the Secretary of Defense (or as delegated to the Under Secretary of Defense for Acquisition for acquisition category I programs or the Director, Defense Research and Engineering for acquisition category II, III, and IV programs), and submitted to Congress prior to the decision to proceed beyond low-rate initial production, reporting on survivability or lethality testing in the following cases:
 - (1) Realistic survivability testing of acquisition category I and II covered systems programs (see paragraph 1.a., above, for definition of a "covered system") or covered system product improvement programs.
 - (2) Realistic lethality testing of acquisition category I and II major munitions programs, missile programs, or major munitions or missile product improvement programs.

- (3) Realistic lethality testing of a major munitions program for which more than 1 million rounds (which may be less than a acquisition category II program) are planned to be acquired.
- b. The term "realistic survivability testing" means, in the case of a covered system (or a covered product improvement program for a covered system), testing for vulnerability of the system in combat by firing munitions likely to be encountered in combat (or munitions with a capability similar to such munitions) at the system configured for combat, with the primary emphasis on testing vulnerability with respect to potential user casualties and taking into equal consideration the susceptibility to attack and combat performance of the system.
- c. The term "realistic lethality testing" means, in the case of a major munitions program or a missile program (or a covered product improvement program for such a program), testing for lethality by firing the munition or missile concerned at appropriate targets configured for combat.
- d. The term "configured for combat" means, with respect to a weapon system, platform, or vehicle, loaded or equipped with all dangerous materials (including all flammables and explosives) that would normally be on board in combat.
- e. The term "covered product improvement program" means a program under which a modification or upgrade (which may be an acquisition category I, II, III, or IV program) will be made to a:
- (1) Covered major system that (as determined by the Secretary of Defense or as delegated to the Under Secretary of Defense for Acquisition or Director, Defense Research and Engineering) is likely to affect significantly the survivability of such system, or
 - (2) Major munitions program or missile program that (as determined by the Secretary of Defense or as delegated to the Under Secretary of Defense for Acquisition or Director, Defense Research and Engineering) is likely to affect significantly the lethality of the munition or missile produced under the program.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix on page 10-3 identifies the offices to be contacted for additional information on this Part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	DDR&E DUSD(A)	DDDR&E(T&E) DIR, T&E
Dept of Army	DUSD(OR)	DACS-TE
Dept of Navy	ASN(RDA)	NAVOP 091 CNO (091) MCRDAC/AWT
Dept of Air Force	ASAF(A)	SAF/AQV

See
changes

PART 11

LIVE FIRE TEST AND EVALUATION WAIVER

- References:
- (a) Title 10, United States Code, Section 2366, "Major systems and munitions programs: survivability testing and lethality testing required before full-scale production," Subsection (c), "Waiver Authority"
 - (b) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986
 - (c) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

1. PURPOSE

- a. This Part defines procedures to certify to Congress that:
 - (1) Live fire survivability testing of a covered system (vehicle, weapon platform, or conventional weapon system that includes features designed to provide some degree of protection to users in combat) would be unreasonably expensive and impractical, or
 - (2) Live fire lethality testing of a major munitions program or missile program would be unreasonably expensive and impractical.
- b. This Part implements the requirements of Title 10, United States Code, Section 2366, "Major systems and munitions programs: survivability testing and lethality testing required before full-scale production," Subsection (c), "Waiver Authority" (reference (a)).
- c. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (b)).

2. PROCEDURES

- a. A Live Fire Test and Evaluation Waiver will be prepared by the Program Manager, certified by the Secretary of Defense (or as delegated to the Under Secretary of Defense for Acquisition for acquisition category I programs or the Director, Defense Research and Engineering for acquisition category II, III, and IV programs), and submitted to Congress prior to Milestone II, Development Approval, in the following cases:
 - (1) For acquisition category I and II covered systems (see paragraph 1.a., above, for definition of a "covered system") or covered system product improvement programs of any acquisition

category, when it would be unreasonably expensive and impractical to conduct live fire survivability testing.

- (2) For acquisition category I and II major munitions programs, missile programs, or major munitions or missile product improvement programs of any acquisition category, when it would be unreasonably expensive and impractical to conduct live fire lethality testing.
- (3) For a major munitions program for which more than 1 million rounds are planned to be acquired, when it would be unreasonably expensive and impractical to conduct live fire lethality testing.

b. The Live Fire Test and Evaluation Waiver will include with any such certification as required in paragraph 2.a., a report:

- (a) Explaining how the Secretary of Defense (or as delegated to the Under Secretary of Defense for Acquisition or the Director, Defense Research and Engineering) plans to evaluate the survivability of a covered major system or program or the lethality of a major munitions or missile program; and
- (b) Assessing possible alternatives to realistic survivability testing of a covered major system.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this Part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (c)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	DDR&E DUSD (A) Dir, AP&PI	DDDR&E(T&E) Dir, T&E DepDir, ASM
Dept of Army	DUSD(OR)	DACS-TE
Dept of Navy	ASN(RDA)	NAVOP-091 CNO (091) MCRDAC/AWT
Dept of Air Force	ASAF(A)	SAF/AQV

See chg 1

PART 12

*

Reserved for Future Use

*

PART 13

VALUE ENGINEERING REPORT

- References: (a) Office of Management and Budget Circular A-131, "Value Engineering," January 26, 1988
(b) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

1. PURPOSE

- a. This Part provides for statistical value engineering data necessary to document the status of value engineering program efforts and to identify areas for program improvement.
- b. This Part implements the requirements of Office of Management and Budget Circular A-131, "Value Engineering" (reference (a)).
- c. The Value Engineering Report has been assigned Report Control Symbol DD-P&L(SA) 1138.

2. PROCEDURES

- a. The DoD Components will compile and submit an annual statistical summary of their value engineering efforts as outlined in the sample format and instructions of attachment 1.
- b. This Value Engineering Report will cover the entire fiscal year and will be submitted to the Assistant Secretary of Defense for Production and Logistics 45 days after the close of the fiscal year.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix on the next page identifies the offices to be contacted for additional information on this Part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	ASD(P&L)	DASD(PR)/IPQ
Dept of Army	ASA(RDA)	SARD-RP
Dept of Navy	ASN(RDA)	Dep, APIA
Dept of Air Force	ASAF(A)	SAF/AQC

Attachment - 1

1. Value Engineering Report (Format)

VALUE ENGINEERING REPORT (FORMAT)

DoD Component
Annual Value Engineering (VE) Report
Fiscal Year _____

1. Estimate the amount of funds invested in VE by your component in this fiscal year

	In-House	Contractor Related
Funds invested:	\$ _____	\$ _____
(see Instruction #1)		

2. What were the estimated VE savings by your component this fiscal year? List these savings for in-house savings and contractor-generated savings. What was the estimated return on investment (ROI) for each of these categories?

	Current FY savings (see Instruction #2&3)	ROI (see Instruction #4)
In-house:	\$ _____	_____
Contractor:	\$ _____	_____

3. How many people are now assigned full time to VE in your component? How many full-time equivalents (FTE)?

People assigned:
Full-time: _____
FTE: _____

4. Identify the number of people in your component receiving VE training in this fiscal year.

Training (people):
8 hours or more: _____
Under 8 hours: _____

5. How many VE proposals did your component receive in this fiscal year? Report in-house and contractor-generated proposals separately. How many in-house and contractor-generated VE proposals were approved for the same time period?

Proposals:	Received	Approved
In-house origin:	_____	_____
Industry origin:	_____	_____

Average Value Engineering Change
Proposal (VECP) processing time:
Number of VECPs requiring more than 45 days to
accept or reject:

Number of program requirement clauses
placed in contracts this year:

6. Provide narrative of accomplishments as described below:
 - a. A description of the efforts to increase contractor participation in VE.
 - b. A description of each of the top 20 fiscal year contractor VE projects, to include the number of VECPs submitted, the number approved and the net savings to both the Government and to the contractor.

INSTRUCTIONS

1. Funds Invested. Estimates should include salaries and overhead expenses of value engineering employees, value engineering training costs, costs for contracting for value engineering services, Value Engineering Proposal (VEP) or VECP development and implementation costs, and any other costs directly associated with your value engineering program. Overhead may be estimated at 50% of salaries.
2. Savings. Savings are defined as a reduction in or the avoidance of expenditures that would have been incurred except for the value engineering program. Savings should be reported in the year incurred; i.e., in the year that the reduction or cost avoidance actually occurs. Recurring savings resulting from a specific VE effort should be reported for a maximum of 3 years - the initial year and the 2 subsequent years. Procurement savings resulting from value engineering efforts should be calculated in accordance with FAR 42.248-1(g).
3. A study or project may be reported as an in-house value engineering study only if:
 - a. It was identified as a value engineering project before presentation of specific proposal for decisions, or
 - b. Evidence of the application of elements of the value engineering discipline is available (such as functional analysis, evaluation of worth, cost comparisons).
4. Return on Investment (ROI). ROI is determined by dividing the Government's cost of performing the value engineering function into the savings generated by the function.

PART 14

ACQUISITION PROGRAM BASELINES

- References:
- (a) Title 10, United States Code, Section 2435, "Enhanced program stability"
 - (b) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991
 - (c) Baseline Guidance, Attachment 1 to Under Secretary of Defense for Acquisition Memorandum, "Approval of Major Program Baselines," February 9, 1988 (canceled)
 - (d) Baseline Guidance, Attachment 1 to Under Secretary of Defense for Acquisition Memorandum, "Approval of Major Program Baselines," February 17, 1988 (canceled)
 - (e) Baseline Guidance, Attachment 1 to Under Secretary of Defense for Acquisition Memorandum, "Approval of Major Program Baselines," February 26, 1988 (canceled)
 - (f) Under Secretary of Defense for Acquisition Memorandum, "Baseline Policy and Selected Acquisition Report (SAR) Submission," October 30, 1989 (canceled)
 - (g) Under Secretary of Defense for Acquisition Memorandum, "Baseline Policy," May 30, 1990 (canceled)
 - (h) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986

1. PURPOSE

- a. This Part establishes procedures for the preparation, submittal, approval, and reporting of acquisition program baselines for defense acquisition programs.
- b. This Part implements the provisions of Title 10, United States Code, Section 2435, "Enhanced program stability" (reference (a)) and the policies and procedures of Sections 11-A and 11-C of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).
- c. This Part supersedes Baseline Guidance, Attachment 1 to Under Secretary of Defense for Acquisition Memorandum, "Approval of Major Program Baselines" (references (c), (d), and (e)), Under Secretary of Defense for Acquisition Memorandum, "Baseline Policy and Selected Acquisition Report (SAR) Submission" (reference (f)), and Under Secretary of Defense for Acquisition Memorandum, "Baseline Policy" (reference (g)).
- d. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (h)).

2. PROCEDURES

a. Baseline Preparation

The acquisition program baseline will initially be developed by the Program Manager as a Concept Baseline for the Milestone I decision point. A Development Baseline and a Production Baseline will be prepared at Milestone II and Milestone III respectively.

b. Baseline Content

- (1) The baseline parameters will represent the objectives and thresholds for the system to be produced and fielded. See Section 11-A of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," (reference (b)) for additional guidance.
- (2) Each baseline will include the contract specification or specifications included in the solicitation (if a contract is not yet negotiated and/or awarded) applicable to each baseline parameter. No requirement exists for the baseline to contain every contract or solicitation specification; only those specifications that are related to the program baseline parameter are to be included. Contract or solicitation specifications will reflect the phase in which the program is currently operating. Thus, while contract specifications should be traceable to baseline parameters, they will not always be the same.
- (3) The baselines will be developed using the attached format.

b. Baseline Submission

The acquisition program baseline will be submitted by the Program Manager through the decision chain to the milestone decision authority as a stand alone part of the milestone documentation package. The timeline for Defense Acquisition Board reviews is discussed in Section 13-A of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

- (1) For an acquisition category I C program, the DoD Component Acquisition Executive will approve the baseline and will forward an information copy of the baseline to the Under Secretary of Defense for Acquisition (Attn: Defense Acquisition Board Executive Secretary) within 10 days of approval.
- (2) For an acquisition category I D program, the DoD Component Acquisition Executive will submit the baseline to the Under Secretary of Defense for Acquisition for approval.
- (3) For acquisition category I programs coming before the Defense Acquisition Board, performance objectives and thresholds must be submitted to the Joint Requirements Oversight Council (JROC) for review and confirmation that the resulting capabilities satisfy the mission need prior to each milestone review.

c. Baseline Approval

The acquisition program baseline will be approved with the Acquisition Decision Memorandum following a milestone or program review by the milestone decision authority (see Section 11-C of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," (reference (b))).

d. Approved Baseline Reporting

- (1) Current approved acquisition program baselines will be reported in the Selected Acquisition Report (see Part 17) and in the Defense Acquisition Executive Summary report (see Part 16).
 - (a) Updated baseline values may be reported in the Selected Acquisition Report and Defense Acquisition Executive Summary only after the milestone decision authority has formally approved a new or revised acquisition program baseline.
 - (b) Until a revised acquisition program baseline is approved and signed by the milestone decision authority, the Program Manager will continue to reflect the previous acquisition program baseline parameters in the Defense Acquisition Executive Summary and the Selected Acquisition Report. The Defense Acquisition Executive Summary program assessment ratings should also continue to be based on the previously approved acquisition program baseline until the approval process is completed.
- (2) Following the signing of a new or revised acquisition program baseline, the new acquisition program baseline values will be recorded in the Defense Acquisition Executive Summary and in the Selected Acquisition Report. The Defense Acquisition Executive Summary program assessment ratings will be based on the new or revised acquisition program baseline.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix below identifies the offices to be contacted for additional information on this Part. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	Dir, AP&PI	DepDir, ASM
Dept of Army	ASA(RDA)	SARD-DE
Dept of Navy	ASN(RDA)	Dir, RE
Dept of Air Force	ASAF(A)	SAF/AQX
CJCS (Joint Staff)	DJ7	J7/ORD

Attachments - 2

1. Acquisition Program Baseline Format
2. Acquisition Program Baseline Sample

ACQUISITION PROGRAM BASELINE FORMAT

The intent of the attached format is to capture the key parameters that define the system (see Section 11-A of DoD 5000.2, "Defense Acquisition Policies and Procedures", (reference (b)), for a discussion of the term "key parameters.") The number of key parameters should be small. Therefore, the acquisition program baseline should be one or two pages in length and should contain only the information shown in the attached format.

CLASSIFICATION

ACQUISITION PROGRAM BASELINE AGREEMENT
PROGRAM XXX

With the objective of enhancing program stability and controlling cost growth, we, the undersigned, approve this baseline document. Our intent is that the program be managed within the programmatic, schedule, and financial constraints identified. We agree to support the required funding in the Planning, Programming, and Budgeting System (PPBS).

This baseline document is a summary and does not provide detailed program requirements or content. It does, however, contain key performance, schedule, and cost parameters that are the basis for satisfying an identified mission need. As long as the program is being managed within the framework established by this baseline, in-phase reviews will not be held.

Program Manager

Program Executive Officer

NOTE: Use appropriate signature blocks for each signature. Date each signature.

DoD Component Acquisition Executive

Under Secretary of Defense for Acquisition
(if appropriate)

Classified by:
Declassify on:

CLASSIFICATION

CLASSIFICATION

PROGRAM XXX
ACQUISITION PROGRAM BASELINE*

REFERENCE: Operational Requirements Document dated _____

(Enter below in tabular form performance baseline information. Objectives and thresholds must be entered. If only one value is specified, that value will be assumed to be both the objective and the threshold.)

SECTION A: PERFORMANCE ^{2/}

CONCEPT BASELINE ^{1/}	DEVELOPMENT BASELINE ^{1/}	CONTRACT SPEC ^{5/}
M/S I Approval Date	M/S II Approval Date	
<u>Objective/Threshold</u>	<u>Objective/Threshold</u>	_____

(Each commodity has a few parameters which are critical to that commodity and must be addressed (e.g., aircraft weight, missile range, reliability). List these few critical parameters. The following are illustrative examples only.)

- Hit/Kill Probability
- Rate of Fire
- Accuracy
- Lethality
- Survivability
- Resistance to Detection
- Speed
- Altitude
- Range
- Payload
- Mission Time/Radius
- Loiter Time
- Communications Connectivity
- Resistance to Jamming
- Electromagnetic Compatibility
- Availability
- Reliability
- Maintainability
- Transportability
- Crew Size

SEE NOTES FOR GUIDANCE ON
COMPLETING THIS TABLE

Footnotes: ^{6/}

A-1
CLASSIFICATION

CLASSIFICATION

PROGRAM XXX
ACQUISITION PROGRAM BASELINE

(Enter below in tabular form schedule baseline information. Dates identified with a † are the minimum dates required in each baseline but are rarely sufficient to describe the program.)

SECTION B: SCHEDULE (Dates) 3/

CONCEPT BASELINE 1/ M/S I Approval Date <u>Objective/Threshold</u>	DEVELOPMENT BASELINE 1/ M/S II Approval Date <u>Objective/Threshold</u>	CONTRACT SPECS 5/ _____
--	---	----------------------------

† Milestone I

- † Dem/Val contract award
- Prototype Development Complete
- Technical Test (Start-Complete)
- † Early Operational Assessment (Start - Complete)

† Milestone II

- † Development Contract Award
- Preliminary Design Review Complete
- † Critical Design Review Complete
- First Flight SEE NOTES FOR GUIDANCE ON
COMPLETING THIS TABLE
- † Service final DT&E (Start - Complete)
- Long Lead Release for Low-Rate Initial Production
- † Low-Rate Production Contract Award
- † Low-Rate initial Production First Delivery
- † IOT&E (Start - Complete)

† Milestone III

- † Full Rate Production Contract Award
- First Unit Equipped
- † Organic Support Capability Date (date at which organic support capability is established at each planned level of maintenance)
- FOT&E (Start - Complete)
- † Service Depot Support Date
- † Initial Operational Capability (date by which initial training and provisioning have been completed -- see DoD Instruction 5000.2, Part 15 for definition)
- Full Operational Capability (date by which full capability achieved see DoD Instruction 5000.2, Part 15, for definition)

Milestone IV (if required)

- † I/FOT&E (Start - Complete)
- † Initial Operational Capability
- Full Operational Capability
- Last Unit Equipped

Footnotes: 6/

B-1
CLASSIFICATION

CLASSIFICATION

PROGRAM XXX
ACQUISITION PROGRAM BASELINE

(Enter below in tabular form cost baseline information.)

SECTION C: COST ^{4/}

CONCEPT BASELINE ^{1/}	DEVELOPMENT BASELINE ^{1/}	CONTRACT SPECS ^{5/}
M/S I Approval Date	M/S II Approval Date	
<u>Objective/Threshold</u>	<u>Objective/Threshold</u>	_____

Then Year \$(Info Only/No Deviation Criteria):

Total RDT&E
Total Procurement Cost
Total MILCON

Base Year \$ (FYXX):

Total RDT&E
Total Procurement Cost
Total MILCON

SEE NOTES FOR GUIDANCE ON
COMPLETING THIS TABLE

Average Unit Procurement Cost \$ (FYXX):
based on a xx/mon production rate

Total Procurement Quantities (Info Only/
No Deviation Criteria):

Footnotes: ^{6/}

NOTES

*To be created at Milestone I as a Concept Baseline and updated at each subsequent milestone, in-phase program review, as appropriate, or baseline breach.

1/ Complete the Milestone I column at the initial submission (or previous milestone columns and the current milestone column if initial submission is other than Milestone I). Future columns will be added at subsequent milestone or program reviews or as a result of a breach. Previous columns will not be revised to reflect actual results or changes in events or characteristic titles. Future columns will be reflected in every section.

- The type of baseline (Concept, Development, or Production) must be specified in the appropriate column heading followed by the milestone number and the date the baseline was approved by the milestone decision authority (leave date blank if the baseline is not yet approved).
- If the acquisition program baseline is being updated for an in-phase program review, insert a column titled "Revised Baseline/Program Review" and the date the revised baseline was approved by the milestone decision authority (leave date blank if the baseline is not yet approved).
- If an intermediate milestone review is held and a baseline is generated, insert a column titled "Revised Baseline/the intermediate milestone" and the date the revised baseline was approved by the milestone decision authority (leave date blank if the baseline is not yet approved).
- If the program has a Milestone IV, a new baseline will be created for the phase into which the program decision authority directs the program (e.g., a Milestone IV may result in a program being directed back into engineering and manufacturing development; therefore, a new Development Baseline will be established and titled Milestone IV/II).
- If a baseline is changed because of a baseline breach, insert a column titled "Change #" and the date the change was approved by the milestone decision authority (leave date blank if the baseline is not yet approved).
- For new milestone baselines, enter all data. If new stub entries in cost, schedule, or performance are added, state "not specified" in previous columns for that stub. If old stub entries no longer apply, state "deleted" in future columns. DO NOT CHANGE PREVIOUS STUB TITLES.
- For baseline revisions or changes, enter only the revised or changed information caused by the program revision or baseline breach.

2/ Enter acquisition program baseline performance requirements for parameters tailored to each program. Performance objectives and thresholds will be derived from the Operational Requirements Document and the results of the previous acquisition phase. Performance objectives and thresholds must be reviewed by the Joint Requirements Oversight Council (for acquisition category I D programs) at each milestone, and ultimately be verifiable by developmental and operational testing. Performance includes operational, technical, and supportability parameters.

3/ Enter acquisition program baseline schedule information. All required dates as shown on the format must be included along with those other dates necessary to adequately describe the program. Dates will be specified as MON YR. If a milestone is scheduled for a quarter or fiscal year, the baseline date will be converted to the last month of the quarter or the fiscal year.

4/ Enter total cost (by Then Year and by Base Year dollars in millions), average procurement unit cost (i.e., total base year procurement cost divided by total procurement quantity), and total procurement quantity. Cost data reflected in the baseline must reflect realistic cost estimates, but may not exceed the amounts in the Independent Cost Estimate in accordance with Title 10, United States Code, Section 2435, "Enhanced program stability" (reference (a)).

- * • Acquisition program baseline costs must include the total program not just the amount funded in the budget or just the total amount budgeted and programmed through the Future Years Defense Program (i.e., baseline costs must include unfunded requirements if those unfunded requirements are a part of the approved program). However, the acquisition program baseline should not include costs that are not part of the program approved by the milestone decision authority. *

- Programs where all, or a part, of the procurement quantities and funds are budgeted as part of another program's procurement line items must report all procurement funding. Examples of these programs include C³I electronics, ship electronics suites, or aircraft engine programs that are essentially subsystems of a platform(s). In these cases the program office is advised to note and distinguish such procurement costs.

- * • Joint programs must include the common quantities and costs from all participating DoD Components. Joint programs include programs developed by a single DoD Component but procured for more than one DoD Component (see Section 12-B and Part 15 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (b))). Unique requirements must be appended in a separate baseline. *

- Base year cost indices may only change at a milestone. If base year indices are changed, the cost section of the baseline will reflect both the costs in the original base year dollars and the costs in the revised base year dollars.

- Average procurement unit costs are based on some assumption regarding production rate. The assumed production rate must be provided in a footnote.
- 5/ Contract or solicitation specifications will be added to the baseline as an information only (i.e., no deviation criteria applicable) entry. Specifications do not need to be kept current.
- If a particular baseline parameter is supported by several contract or solicitation specifications, each specification will be shown in the appropriate algorithm (e.g., probability of kill in the baseline may be supported by two contract specifications -- accuracy (CEP) and weight (tonnage). Therefore, $P_k = CEP + Wt.$). When specifications may be traded off within a contract, that fact will be indicated in a footnote. When a contract or solicitation specification does not exist for a parameter, show "N/A."
 - All performance parameters should show applicable contract or solicitation specifications. Those schedule parameters that are included in the contract or solicitation and that are related to the baseline schedule parameters will also be provided. Contract target and ceiling prices (if applicable) will be shown in a footnote in the cost section of the baseline.
- 6/ Although each performance, schedule, and cost parameter must stand on its own, footnotes may be used in each section of the baseline to explain critical conditions applying to a parameter. Footnotes should not be used to provide explanations for changes in parameters; such explanations belong in the Program Deviation Report. Each parameter has only one footnote number (e.g., first flight might be given footnote number 1). Footnotes applicable to different baseline columns will be given a letter and dated. For example, a footnote applicable to first flight in the Development Baseline (signed 10/06/91) will be shown as 1/. If an additional footnote for a subsequent change (signed 5/25/92) is necessary, the original footnote will be shown as 1/ a.(10/06/91) showing that it applies to the Development Baseline and the subsequent footnote will be shown as 1/ b.(05/25/92) showing that it applies to the change.

ACQUISITION PROGRAM BASELINE
SAMPLE

UNCLASSIFIED

ACQUISITION PROGRAM BASELINE AGREEMENT
TFX-100A PROGRAM

With the objective of enhancing program stability and controlling cost growth, we, the undersigned, approve this baseline document. Our intent is that the program be managed within the programmatic, schedule, and financial constraints identified. We agree to support the required funding in the Planning, Programming, and Budgeting System (PPBS).

This baseline document is a summary and does not provide detailed program requirements or content. It does, however, contain key performance, schedule, and cost parameters that are the basis for satisfying an identified mission need. As long as the program is being managed within the framework established by this baseline, in-phase reviews will not be held.

B. Rogers

10 May 91

B. Rogers
Col, USAF
Program Manager, TFX-100A

David Vapors

12 May 1991

David Vapors
Maj Gen, USAF
Program Executive Officer, Tactical Aircraft

Lucy Skywriter

25 May 91

Lucy Skywriter
Assistant Secretary of the Air Force for Acquisition

Donald A. Data

June 27, 1991

Donald A. Data
Under Secretary of Defense for Acquisition

UNCLASSIFIED

#First Amendment (Ch 1, 3/5/93)

14-2-3

*** UNCLASSIFIED ***
TFX-100A
Acquisition Program Baseline

REQUIREMENT: Operational Requirements Document dtd March 15, 1991

Section A. PERFORMANCE

TFX-100A

	Concept Baseline		Development Baseline		Contract Specs
	M/S I	10/06/88	M/S II	06/27/91	
	Objective Threshold		Objective Threshold		
[U] Prob of Kill (%) ¹	.98	.95	.95	.90	.95
[U] Survivability (%)	.95	.95	.95	.95	.95
[U] Speed (warp)	NOT SPECIFIED		5	3	5
[U] Radar Cross Section (m ²)	NOT SPECIFIED		3	6	3
[U] Sustained Load Factor @ 75k ft (gs)	NOT SPECIFIED		8	5	8
[U] IR Suppression (deg)	NOT SPECIFIED		10	15	10
[U] Full Mission Capable Rate (%)	90	85	95	90	95
[U] Availability (%)	NOT SPECIFIED		97	94	97
[U] MMH/FH (hrs)	NOT SPECIFIED		2.5	3	2.5
[U] MTTR (hrs)	NOT SPECIFIED		4	5	4
[U] MTBCMF (hrs)/2	NOT SPECIFIED		100	85	100
[U] Empty Weight (lbs)	35000	40000	50000	55000	50000
[U] Range (miles)	250	200	250	200	250
[U] Payload					
[U] Missiles	10	8	15	12	15
[U] Rounds	300000	250000	500000	450000	500000
[U] Loiter Time (mins)	NOT SPECIFIED		45	30	45
[U] Combat Ceiling @ max thrust (ft)	NOT SPECIFIED		>50000	50000	>50000

Footnote:

[U] 1/ a.(10/06/88) Probability of kill is based on probability of acquisition x probability of hit (reliability x accuracy) all of which may be traded off against each other in the contract as long as probability of kill = .98
b.(06/27/91) Based on trade-offs during Dem/Val, probability of kill has been set at .95

2/ Mean time between critical mission failures is based on 500 flying hours.

ACROYNMS

- IR-infra-red
- MMH/FH-Maintenance Manhours per Flying Hour
- MTTR-Mean Time To Repair
- MTBCMF-Mean Time Between Critical Mission Failure

NOTE: Contract Specs are shown here as an illustration. Contract Specs will not be printed in an approved acquisition program baseline (APB).

Feb 91#
5000.2-M

*** UNCLASSIFIED ***
TFX-100A
Acquisition Program Baseline

Section B. SCHEDULE

TFX-100A

	Concept Baseline		Development Baseline		Contract Specs
	M/S I	10/06/88	M/S II	06/27/91	
	Objective	Threshold	Objective	Threshold	
[U] Milestone 0		JUN 86		JUN 86	N/A
[U] Milestone I		OCT 88 APR 89		OCT 88	N/A
[U] Dem/Val Contract Award		NOV 88 MAY 89		NOV 88	N/A
[U] Prototype Development Complete		JUN 90 DEC 90		JUN 90	JUN 90
[U] Early Operational Assessment					
[U] Start		JUL 90 JAN 91		JUL 90	N/A
[U] Complete		SEP 90 MAR 91		SEP 90	N/A
[U] Milestone II		JAN 91 JUL 91		JUN 91 DEC 91	N/A
[U] EMD Contract Award		MAR 91 SEP 91		JUN 91 DEC 91	N/A
[U] Preliminary Design Review		MAR 92 SEP 92		JUN 92 DEC 92	JUN 92
[U] Critical Design Review		JUN 94 DEC 94		JUN 94 DEC 94	JUN 94
[U] First Flight/1		JUL 94 JAN 95		JUL 94 JAN 95	JUL 94
[U] Low-Rate Production Contract Award		JUL 94 JAN 95		JUL 94 JAN 95	N/A
[U] Low-Rate Initial Production First Delivery		JUN 96 DEC 96		JUN 96 DEC 96	JUN 96
[U] Live Fire Test and Evaluation					
[U] Start		OCT 96 APR 97		OCT 96 APR 97	N/A
[U] Complete		DEC 96 JUN 97		DEC 96 JUN 97	N/A
[U] Initial Operational Test and Evaluation					
[U] Start		JAN 97 JUL 97		JAN 97 JUL 97	N/A
[U] Complete		JUN 97 DEC 97		JUN 97 DEC 97	N/A
[U] Milestone III		NOV 97 MAY 98		NOV 97 MAY 98	N/A
[U] Full Rate Production Contract Award		DEC 97 JUN 98		DEC 97 JUN 98	N/A
[U] Required Assets Availability		FEB 98 AUG 98		FEB 98 AUG 98	N/A
[U] Organic Support Available		MAR 99 SEP 99		MAR 99 SEP 99	N/A
[U] Depot Support Available/2		MAR 99 SEP 99		MAR 01 SEP 01	N/A
[U] First Full Rate Production Delivery		DEC 99 JUN 00		DEC 99 JUN 00	DEC 99
[U] Initial Operational Capability (First Wing Deployed)		JUN 00 DEC 00		JUN 00 DEC 00	N/A

Footnote:

- [U] 1/ Final developmental test and evaluation performed as part of the first flight.
- 2/ Depot support will initially be performed by the contractor.

ACRONYMS

EMD-Engineering and Manufacturing Development

#First Amendment (Ch 1, 3/5/93)

14-2-4

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*** UNCLASSIFIED ***
TFX-100A
Acquisition Program Baseline

Section C. COST

TFX-100A

	Concept Baseline		Development Baseline	
	M/S I	10/06/88	M/S II	06/27/91
	<u>Objective Threshold</u>		<u>Objective Threshold</u>	
Then Year \$M (Info only/No deviation criteria):				
[U] Total RDT&E	3697.4		3479.7	
[U] Total Procurement	25483.2		17569.0	
[U] Total MILCON	243.9		340.1	
Base Year \$M (FY 87)				
[U] Total RDT&E/1	3452.1	3969.9	3238.7	3724.5
[U] Total Procurement	18905.0	19850.3	11751.4	12339.0
[U] Total MILCON	168.1	193.3	250.0	287.5
[U] Average Unit Procurement Cost \$M (FY 87)/2	108.029	124.233	78.343	90.094
[U] Navy	108.029	124.234	78.343	90.094
[U] Air Force	108.028	124.232	78.343	90.094
[U] Total Procurement Quantities: (Info only/No deviation criteria)	175		150	
[U] Navy	75		75	
[U] Air Force	100		75	

Footnote:

- [U] 1/ RDT&E costs include development of a new phaser gun and ammunition (\$376.0).
2/ Average procurement unit costs are based on a 3 aircraft per month production rate.

CONTRACT SPECS

Current contract (F99000-85-Z-5556) is FPIF with a target price of \$856.0M and a ceiling price of \$934.0M for 24 aircraft.

PART 15

PROGRAM OFFICE AND INDEPENDENT LIFE-CYCLE COST ESTIMATES

- References:
- (a) Title 10, United States Code, Section 2434, "Independent cost estimates; operational manpower requirements"
 - (b) DoD 7750.5-M, "Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 7750.5, "Management and Control of Information Requirements," August 7, 1986
 - (c) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991

PURPOSE

- a. This Part defines procedures for the preparation and submission to the Office of the Secretary of Defense Cost Analysis Improvement Group (CAIG) of cost estimates prepared in support of Defense Acquisition Board (DAB) or Defense Acquisition Board Committee reviews for acquisition category I D programs and in support of DoD Component reviews of acquisition category I C programs.
- b. This Part implements the requirements of Title 10, United States Code, Section 2434, "Independent cost estimates; operational manpower requirements" (reference (a)).
- c. The reports in this Part are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements" (reference (b)).

2. PROCEDURES

a. Implementing Process

- (1) The program office and independent cost estimates required as part of acquisition category I milestone or program reviews will be briefed to the Office of the Secretary of Defense Cost Analysis Improvement Group. Except as agreed to by the Cost Analysis Improvement Group Chair, the required briefing must be provided in accordance with the timeline in Section 13-A and the procedures in Section 13-C of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (c)).
- (2) The DoD Component sponsoring the acquisition program will establish, as a basis for the cost estimates, a description of the salient features of the acquisition program and of the system itself.
 - (a) This description, referred to here as a Cost Analysis Requirements Description, will be provided to the teams

preparing the program office and independent cost estimates, and will be included as a separate section of the documentation of those estimates.

- (b) The Cost Analysis Requirements Description will be provided in preliminary form to the Cost Analysis Improvement Group at the administrative meeting that formally initiates its work on the estimate at the Planning Meeting (see Section 13-A of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (c))).
- (c) For joint programs, the Cost Analysis Requirements Description will include the common program as agreed to by all participating DoD Components in accordance with Section 12-B of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (c)) as well as all unique program requirements of the participating DoD Components.

b. Scope of Cost Estimates and Categories to Use in Presenting Them

- (1) Life-cycle cost estimates should be developed in accordance with Attachments 1-3. The work breakdown structure used in the acquisition phases will be consistent with Section ¹²~~13~~-B of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (c)). *See chgt*
- (2) In accordance with Section 10-A of DoD Instruction 5000.2 (reference (c)), life cycle cost estimates must:
 - (a) Include all program costs, regardless of funding source or management control;
 - (b) Include the entire program as currently planned, rather than limiting costs to an arbitrary term of years, such as the 6-Year Defense Program years;
 - (c) Include all cost categories (research and development, investment, and operations and support) and all appropriations (research, development, test, and evaluation; procurement; military construction; operation and maintenance; and military personnel).
 - (d) Not be arbitrarily limited to certain budget accounts or to categories covered by certain lines of authority;
 - (e) Not treat items procured for some other purpose, but used on the system, as free goods; i.e., "opportunity costs" of these assets should be identified and quantified to the extent possible. *(see chgt)*
 - (f) Cover all alternatives (see Section 4) that the sponsoring DoD Component considered for the decision at hand, but may emphasize the sponsor's most promising alternative.

Provide net present values of acquisition cost streams for all alternatives considered.

c. Documentation

- (1) Objective. The purpose of the documentation of cost estimates is to provide sufficient information about the way the estimates were produced so that Cost Analysis Improvement Group analysts could, provided access to the data bases employed, reproduce the estimates. The means by which each part of the estimate was produced must be fully explained.
- (2) Specific Elements
 - (a) Where a cost estimating relationship is used, its source must be cited completely, or the model and the set of data with which it was calibrated must be cited.
 - (b) Where judgment was used to adjust estimates made by analogy with other systems or components of systems, the backgrounds of those making the judgment must be given (e.g., are they cost analysts, engineers, vendor or Government employees?), as well as complete citations of the sources(s) of the costs of the analogous system(s). Sources of the costs of each element in an engineering or "grass roots" estimate must be cited completely.
 - (c) Detailed requirements for the content of cost estimates for the Concept Exploration and Definition Phase (if applicable), the Demonstration and Validation Phase, and the Engineering and Manufacturing Development Phase are given in attachment 1. Requirements for the Production and Deployment Phase are given in attachment 2. Requirements for the Operation and Support Phase are given in attachment 3.

d. Cost Estimating Methodologies

- (1) Cost estimates reported to the Cost Analysis Improvement Group should be consistent with estimates in Cost and Operational Effectiveness Analyses (see Part 8). Similarly, manpower estimates behind operation and support cost estimates provided to the Cost Analysis Improvement Group should be consistent with the Manpower Estimate Report (see Part 6).
- (2) Those producing independent cost estimates may "pass through" elements of the program office estimate into the independent estimate if the estimates of the element being passed through are essentially certain.
 - (a) It would not generally be acceptable, however, to pass through elements of an estimate on the grounds that the program office used the only, or the best, data available on the system at hand.

- (b) An independent estimate produced by an alternative method can still give useful additional information about costs and cost risks, even in such a case.
- (3) The Military Departments issue valuable guidance on cost analysis, such as Army Regulation 11-18, "The Cost and Economic Analysis Program;" SECNAVINST 7000.19B, "Department of the Navy Cost Analysis Program;" and "AFSC Cost Estimating Handbook," SAF/FMC. The Cost Analysis Improvement Group also issues guidance on specific aspects of cost analysis from time to time (see, for example, "Generic Cost Estimating Guide for Operating and Support Costs," Office of the Secretary of Defense Cost Analysis Improvement Group, September 25, 1984).
 - (a) These publications do not, however, provide principles that can reasonably be applied in all cases.
 - (b) The judgment of professional cost analysts should be brought to bear on the special character of each system whose costs are to be estimated, to develop methods well-suited to that case, and to communicate the results to the Cost Analysis Improvement Group.

3. RESPONSIBILITIES AND POINTS OF CONTACT

The matrix on the next page identifies the offices to be contacted for additional information on this Part. The full titles of those offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (c)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	ASD(PA&E)	Chair, CAIG
Dept of Army	ASA(FM)	SAFM-CA
Dept of Navy	ASN(RDA)	Dir, NCA
Dept of Air Force	ASAF(FM)	SAF/FMC
CJCS (Joint Staff)	DJ8	J8/PBAD

Attachments - 3

1. Required Elements for Estimates of Demonstration and Validation Phase and Engineering and Manufacturing Development Phase Costs
2. Required Elements for Estimates of Production and Deployment Phase Costs
3. Required Elements for Estimates of Operations and Support Phase Costs

**REQUIRED ELEMENTS FOR ESTIMATES OF DEMONSTRATION AND
VALIDATION PHASE AND ENGINEERING AND MANUFACTURING
DEVELOPMENT PHASE COSTS**

Demonstration and Validation Phase

1. Prime Mission Equipment
 - a. Structure, Integration, Assembly
 - b. Propulsion
 - c. Installed Equipment (specify)
 - d. System Software
2. System Test and Evaluation
3. System Engineering/Program Management
 - Flyaway Cost
4. Peculiar Support
5. Training
6. Data
7. Other
8. In-House (specify)
9. Contingency/Risk Factor

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (TOTAL)
MILITARY CONSTRUCTION
OPERATION AND MAINTENANCE
MILITARY PERSONNEL

Engineering and Manufacturing Development Phase

1. Prime Mission Equipment
 - a. Structure, Integration, Assembly
 - b. Propulsion
 - c. Installed Equipment (specify)
 - d. System Software
2. System Test and Evaluation
3. System Engineering/Program Management
 - Flyaway Cost
4. Peculiar Support
5. Training
6. Data
7. Initial Spares and Repair Parts
8. Operational/Site Activation
9. Initial Spares and Repair Parts
10. In-House (specify)
11. Contingency/Risk Factor

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (TOTAL)
PROCUREMENT
MILITARY CONSTRUCTION
OPERATION AND MAINTENANCE
MILITARY PERSONNEL

TOTAL RESEARCH AND DEVELOPMENT COST CATEGORY

Number of Units:

Program Data: Provide quantities (e.g., prototypes, engineering development hardware, flight test vehicles). Provide estimates for recurring costs separately from non-recurring costs for each research and development cost category. Functional cost elements (engineering, initial set of tools, manufacturing, quality control, etc.) for each research and development cost category are to be provided, as appropriate, to support the analysis.

NOTE: Include concept exploration and definition phase costs by program element and fiscal year for those concept exploration and definition phase program elements which can be specifically and uniquely identified as being development effort for the program approved at Milestone I.

**REQUIRED ELEMENTS FOR ESTIMATES OF PRODUCTION AND
DEPLOYMENT PHASE COSTS**

1. Prime Mission Equipment
 - a. Structure, Integration, Assembly, and Test
 - b. Propulsion
 - c. Installed Equipment (specify)
 - d. System Software
2. System Engineering/Program Management
 - Flyaway Cost
3. Command and Launch Equipment (specify)
4. Platform Modification (specify)
5. Peculiar Support Equipment
6. Training
7. Data
8. Operational/Site Activation
9. Industrial Facilities
10. Initial Spares and Repair Pats
11. Other Procurement

PROCUREMENT (TOTAL)
MILITARY CONSTRUCTION
OPERATION AND MAINTENANCE
MILITARY PERSONNEL

TOTAL INVESTMENT COST CATEGORY

Program Data: Provide quantities by fiscal year. Provide non-recurring costs separately from recurring costs by fiscal year for each cost element. Provide total appropriation costs. Provide advanced procurement requirements by year only at the appropriation level of aggregation. Functional cost sub-elements (e.g., sustaining engineering, sustaining tooling, recurring quality control, recurring manufacturing, recurring purchased equipment, non-recurring rate tools) for each investment cost element are to be provided, as appropriate, to support the analysis.

REQUIRED ELEMENTS FOR ESTIMATES OF OPERATIONS AND SUPPORT
PHASE COSTS

1. Unit Mission Personnel
 - a. Officers
 - b. Enlisted
 - c. Civilian
 - d. Temporary Additional Duty Pay
2. Unit Level Consumption
 - a. Petroleum, Oil, and Lubricants (POL)
 - b. Consumables
 - c. Training Munition/Expendables
3. Depot Maintenance
 - a. Overhaul
 - b. Component Repair
 - c. Installation of Modifications/Alterations
 - d. Software Maintenance
 - e. Interim Contractor Support (ICS)
4. Sustaining Investment
 - a. Repairable Spares Procurement
 - b. Replacement Support Equipment Procurement
 - c. Modification/Alteration Kit Procurement
 - d. Sustaining Engineering Support
5. System and Inventory Management Control
6. Indirect Operations and Support
(This includes base operations support, supply, transportation, real property maintenance, communications, medical/dental activities, personnel acquisition, and initial and upgrade training.)

Program Data: Number of years at steady state; number of years for program phase-in; inventory size (number); operational tempo (e.g., flying hours per crew per month, steaming hours per year); crew size; and crew ratio.

PART 16

DEFENSE ACQUISITION EXECUTIVE SUMMARY

- References:
- (a) DoD Instruction 5000.50, "Defense Acquisition Executive Summary," March 23, 1989 (canceled)
 - (b) DoD Directive 5000.11, "Data Elements and Data Codes Standardization Program," December 7, 1964
 - (c) DoD 5000.12-M, "DoD Manual for Standard Data Elements," July 1989, authorized by DoD Instruction 5000.12, "Data Elements and Data Codes Standardization Procedures," April 27, 1965
 - (d) Title 10, United States Code, Section 2435, "Enhanced program stability"
 - (e) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991
 - (f) DoD 7110.1-M, "DoD Budget Guidance Manual," July 1988, authorized by DoD Instruction 7110.1, "DoD Budget Guidance," October 30, 1980
 - (g) Federal Acquisition Regulation, Subchapter 3, Part 16, "Contract Type," current edition

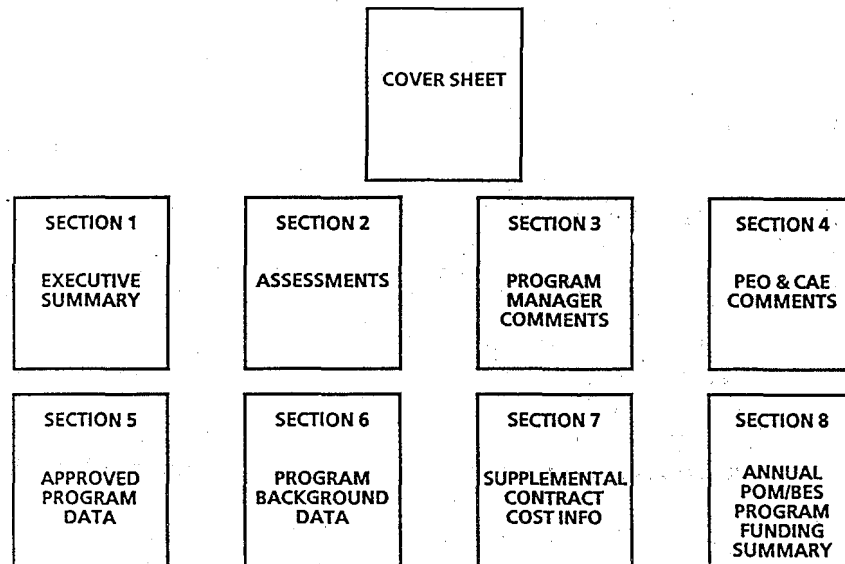
1. PURPOSE

- a. This Part replaces DoD Instruction 5000.50, "Defense Acquisition Executive Summary" (reference (a)), which has been canceled.
- b. These procedures provide standard, comprehensive summary reporting of acquisition category I programs between milestone decision points.
- c. The Defense Acquisition Executive Summary Report is designed to provide, on a regular and systematic basis, advance indications of both potential and actual program problems before they become significant. Recognizing that problems are expected to surface in these programs aids in communication and early resolution.
- d. The Defense Acquisition Executive Summary Report:
 - (1) Has been assigned Report Control Symbol DD-ACQ (Q) 1429; and
 - (2) Uses existing DoD standard data elements as required by DoD Directive 5000.11, "Data Elements and Data Code Standardization Program" (reference (b)). The standard elements used are contained in DoD 5000.12-M, "DoD Manual for Standard Data Elements" (reference (c)).

2. PROCEDURES

- a. Report Structure and Format. The Defense Acquisition Executive Summary Report consists of a cover sheet and eight reporting sections as illustrated below and discussed in the sections attached.

DEFENSE ACQUISITION EXECUTIVE SUMMARY REPORT STRUCTURE



b. Frequency of Reports

- (1) The Under Secretary of Defense for Acquisition will designate programs for Defense Acquisition Executive Summary reporting and assign a quarterly reporting month.
- (2) Program Managers of designated reporting programs will submit the cover sheet and Sections 1 through 7 of the Report to the Under Secretary of Defense for Acquisition by the last working day of the program's designated quarterly reporting month.
- (3) Out-of-cycle exception reports will be submitted as provided for below in paragraph 2.g.

- c. Report Submission Dates. The Defense Acquisition Executive Summary Report will not be delayed for any reason. The Report will reflect the most current status of the program with comment on actual or projected changes in the appropriate sections.

- d. Reporting Dollar Values. All dollars are to be shown in millions rounded to one decimal point (e.g., \$54.2M).

- e. Classified Data. Each classified paragraph and line in a Report is to be identified by a "(C)" for CONFIDENTIAL or "(S)" for SECRET. TOP SECRET information will not be submitted, except for highly sensitive classified programs designated for Defense Acquisition Executive Summary reporting by the milestone decision authority. Specific classified text will also be bracketed { }.
- f. Out-of-Cycle Exception Reports. There are three types of out-of-cycle exception reports.
- (1) The first type of exception report is submitted when there is cause to believe that an acquisition program baseline deviation COULD occur if a problem is left untreated. (Note: If the Program Manager has reasonable cause to believe that a baseline breach WILL occur or HAS occurred, the Program Manager must submit a Program Deviation Report as required by Title 10, United States Code, Section 2435, "Enhancing program stability" (reference (d)). See Part 19 of this Manual for a complete discussion of program deviation reporting.)
 - (a) In such cases, the Program Manager of the program will immediately submit Section 2 (Program Assessment), Section 3 (Program Manager Comments), and a blank Section 4 (Program Executive Officer/DoD Component Acquisition Executive Comments) to the Program Executive Officer.
 - (b) The Report, with Section 4 completed by the Program Executive Officer and DoD Component Acquisition Executive, will then be immediately forwarded to the Under Secretary of Defense for Acquisition.
 - (2) The second type of exception report is submitted when there is reasonable cause to believe that a unit cost breach has occurred or will occur. In such cases the Program Manager will submit Sections 6 (Program Background Data) and 7 (Supplemental Contract Cost Information) through the Program Executive Officer to the DoD Component Acquisition Executive. (See Part 18 for a complete discussion of unit cost reporting.)
 - (3) The third type of exception report involves the submission of Section 8 (Annual Program Objective Memorandum/Budget Estimate Submit Program Funding Summary). The information required by this section is submitted by all program offices at the same time, following submission of the Components' Program Objective Memoranda or Budget Estimate Submissions, in accordance with the schedule established by the Under Secretary of Defense for Acquisition.
- g. Additional Supporting Data from Contractors. Information presented in Defense Acquisition Executive Summary reports will be based solely on estimates made by the Program Manager, supplemented by summaries of data normally received from contractors. Defense Acquisition

Executive Summary Report information requirements will not be used as the authority to require additional data from a contractor.

- h. Reporting Means. Program Managers will prepare and submit their Reports in one hard-copy and one floppy disk. The floppy disc will be prepared using the instructions and format contained in the microcomputer-based Defense Acquisition Executive Summary software model.
- i. Reporting Additions, Terminations, and Waivers. DoD Component Acquisition Executives will usually be notified 3 months in advance of a requirement to start Defense Acquisition Executive reporting on a program. Programs for which reporting is no longer required will also be identified promptly to the DoD Component Acquisition Executive. Waivers from reporting requirements may be submitted to the Under Secretary of Defense for Acquisition on a case-by-case basis along with supporting rationale.
- j. Consistency of Information with Other Documents and/or Reports. The information submitted in the Defense Acquisition Executive Summary Report must be consistent with other documents and reports. In this regard:
 - (1) The approved acquisition program baseline will be incorporated, as appropriate, into Section 5 (Approved Program Data).
 - (2) The Defense Acquisition Executive Summary should present total costs and total quantities for all years as projected through the end of the program. This concept of "total program" is further explained in the preparation instructions for Section 6 (Program Background Data) and Section 8 (Annual Program Objective Memorandum/Budget Estimate Submit Program Funding Summary).
 - (3) Information shown in the Report should be consistent with that in the latest Acquisition Decision Memorandum and approved acquisition program baseline, the Selected Acquisition Report (see Part 17), and other approved program documentation.
 - (4) The Defense Acquisition Executive Summary may differ from the Selected Acquisition Report in cases where the Selected Acquisition Report shows only research, development, test and evaluation funding.
 - (5) The first Defense Acquisition Executive Summary Report submission after the submission of the President's Budget to the Congress will reflect the new President's Budget funding in all sections, as appropriate, of the Report. (Note: the approved acquisition program baseline will not be updated to the President's Budget until and unless a baseline change based on a breach has been approved. See Part 14 for a complete discussion of the acquisition program baseline.) Subsequent quarterly Reports will reflect the President's Budget updated for approved

acquisition program baseline changes, approved reprogramming actions, actual expenditures, and accounting adjustments.

- k. Focal Points. To facilitate the resolution of data item entry questions and the flow of administrative preparation instructions, Defense Acquisition Executive Summary Report focal points will be established in the Office of the Under Secretary of Defense for Acquisition, the Offices of the DoD Component Acquisition Executives, the Offices of the Program Executive Officers, and in the reporting Program Manager's office.

NOTE: The formats included in this Part will become effective when the program software model is updated to the new formats. Until the model is updated, continue to use the current formats.

3. RESPONSIBILITIES AND POINTS OF CONTACT

- a. The Under Secretary of Defense for Acquisition will:

- (1) Administer the Defense Acquisition Executive Summary requirements and provide guidance to the DoD Component Acquisition Executives, as necessary.
- (2) Designate programs that require Defense Acquisition Executive Summary reporting.
- (3) Review and analyze Department of Defense acquisition programs under Defense Acquisition Executive Summary reporting.
- (4) Determine that the Office of the Secretary of Defense and all elements of DoD Components are properly overseeing the status and progress of acquisition category I programs.
- (5) Maintain a historical data file of all Defense Acquisition Executive Summary reports and maintain the automated contractor cost data segment of the Defense Acquisition Executive Summary data base.
- (6) Use Defense Acquisition Executive Summary Sections 6 (Program Background Data) and 7 (Supplemental Contract Cost Information) data, as necessary, to support financial oversight.

- b. The Comptroller of the Department of Defense will provide independent program funding and budget execution status analyses to the Under Secretary of Defense for Acquisition.

- c. The Director, Operational Test and Evaluation:
 - (1) Assists in the independent assessment of the status of Defense Acquisition Executive Summary program operational test and evaluation and operational performance.
 - (2) Reviews Defense Acquisition Executive Summary Reports to ensure consistency with test planning documentation.
- d. The OSD Cost Analysis Improvement Group will:
 - (1) Assist in the independent assessment of the status of Defense Acquisition Executive Summary program costs.
 - (2) Provide all estimates it prepares of Defense Acquisition Executive Summary programs to the Office of the Under Secretary of Defense for Acquisition Defense Acquisition Executive Summary focal point for incorporation into the Defense Acquisition Executive Summary data base.
- e. The DoD Component Heads will require that:
 - (1) The Component Acquisition Executives:
 - (a) Establish a Component focal point for Defense Acquisition Executive Summary reporting.
 - (b) Provide necessary programmatic and budget information to Program Managers to ease the preparation and ensure completeness of all Defense Acquisition Executive Summary reports.
 - (c) Ensure that the Defense Acquisition Executive Summary reflects the independent assessment of the Program Manager to the Under Secretary of Defense for Acquisition, and minimize the imposition of different assessment reviews or modifications of those assessments by the various layers of the Component organization.
 - (d) Review Defense Acquisition Executive Summary reports and add comments as appropriate on Defense Acquisition Executive Summary Section 4 (Program Executive Officer/DoD Component Acquisition Executive Comments).
 - (e) Receive all reports of potential program baseline deviations from Program Managers and review the affected programs.
 - (2) The Program Executive Officers will review Defense Acquisition Executive Summary reports and add comments as appropriate on Defense Acquisition Executive Summary Section 4 (Program Executive Officer/DoD Component Acquisition Executive Comments).

(3) The Program Managers:

- (a) Establish focal points for Defense Acquisition Executive Summary reporting within their program offices.
- (b) Prepare Defense Acquisition Executive Summary reports in accordance with this part.
- (c) Verify that Defense Acquisition Executive Summary reports are complete, accurate, and consistent before forwarding them to the Program Executive Officer.
- (d) Maintain sufficient records to document fully and track reported Defense Acquisition Executive Summary data and ensure the records are available for periodic on-site Office of the Secretary of Defense reviews.

f. The matrix below identifies the offices to be contacted for additional information on this section. The full titles of these offices may be found in Part 14 of DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures" (reference (e)).

<u>DoD Component</u>	Points of Contact	
	General	Specific
OSD	Dir, AP&PI	DepDir, PA
Dept of Army	ASA(RDA)	SARD-DE
Dept of Navy	ASN(RDA)	Dir, RE
Dept of Air Force	ASAF(A)	SAF/AQX
CJCS (Joint Staff)	DJ8	J8/SPED

PART 16

SECTION A

COVER SHEET

PURPOSE:

The Defense Acquisition Executive Summary Cover Sheet will be used for all Defense Acquisition Executive Summary report submissions. The instructions below explain how to complete the Cover Sheet.

PREPARATION INSTRUCTIONS:

Program Name (Popular Name). Enter the designation, nomenclature, and popular name (if any) of the Department of Defense acquisition program (e.g., F-99A/Advanced Fighter (EAGLE)).

1. DoD Component. Enter the responsible Department of Defense Component.
2. Program Manager (PM) Information. Enter the Program Manager's rank and name, mailing address (including office symbol and zip code), and commercial and AUTOVON telephone numbers, and date of assignment.
3. Program Manager's Point of Contact (POC). Enter the Program Manager's Defense Acquisition Executive Summary point of contact, rank and name, mailing address (only if different from Program Manager's address), and commercial and AUTOVON telephone numbers. This individual is responsible for preparing the Defense Acquisition Executive Summary report for the Program Manager and is authorized to answer simple questions on data problems found in the report (such as apparent number transpositions or data inadvertently omitted from the report). Updates or information bulletins on the microcomputer-based Defense Acquisition Executive Summary software model will be addressed to this individual, as well as to the DoD Component Defense Acquisition Executive Summary focal points.
4. Program Executive Officer (PEO) Information. Enter the Program Executive Officer's rank and name; mailing address (including office symbol and zip code, but only if different from the address of either the Program Manager or Program Manager's Defense Executive Summary Point of Contact (specify which; i.e., Program Manager or Program Manager's Defense Executive Summary Point of Contact)) and commercial and AUTOVON telephone numbers.
5. Contents. Do not enter anything. The software program will do this automatically for you.

6. Security Classification Data

- a. Classified by: Enter classifying official's office symbol, or cite the System Classification Guide (SCG) and date.
- b. Downgrade Instruction: Provide specific instruction on when automatic downgrade is to occur, or indicate "Not Subject to Automatic Downgrade."
- c. Declassify on: Enter the Originating Agency Determination Required (OADR), or a specific date.

Attachment - 1

1. Cover Sheet Format

DEFENSE ACQUISITION EXECUTIVE SUMMARY COVER SHEET

(Program Name) Report Date Class:
1. DoD Component: [U]

2. Program Manager (PM) Information:

*** PM Name:
Address:
Comm Phone: Autovon:
Date Assigned:

3. Program Manager's Point of Contact (POC):

Name:
Address:
Comm Phone: Autovon:

4. Program Executive Officer (PEO) Information:

*** PEO Name:
Address:
Comm Phone: Autovon:

5. Contents

Page No.

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PM Comments	3-1
PEO/SAE Comments	4-1
Approved Program Data	5-1
Program Background Data	6-1
Supplemental Contract Cost Information	7-1
Annual POM/BES Funding Summary	8-1

6. Security Classification Data:

Classified By:
Downgrade Instruction:
Declassify:

PART 16

SECTION B

EXECUTIVE SUMMARY

DEFENSE ACQUISITION EXECUTIVE SUMMARY SECTION 1

PURPOSE:

This section provides summary level information on the status of the program. Other sections of the Report offer specific information on various issues. The intent of this section is to provide a synthesis of the issues that follow in the report (for example, design problems exist and affect cost, schedule and test and evaluation; operational test requirements have changed and affect funding, schedule, test, etc).

PROCEDURES:

In the printed Defense Acquisition Executive Summary report, Sections 1, 2, 3, and 4 appear in the order that their numbers suggest. However, since these summary sections most logically would be completed after the Program Manager completes the more detailed sections, the sequence for completion of the Defense Acquisition Executive Summary report by the Program Manager is Sections 5, 6, 7, 2, 3, 1, and 4 (Section 4 is completed by the Program Executive Officer and DoD Component Acquisition Executive).

PREPARATION INSTRUCTIONS:

1. Executive Summary

- a. Program Issues: This paragraph should be limited to ten lines maximum and provide a qualitative evaluation of key issues or accomplishments and their significance in a clear and straight forward writing style from the Program Manager's perspective. Key issues do not necessarily have to be those detailed later in the Assessment Section (Section 2) or the Program Manager's Comments Section (Section 3) of this Report. Issues should not be limited to those contained in the approved acquisition program baseline. If there are none, enter "none".
- b. Significant Developments Since Last Report: The Program Manager should provide, in a clear and straight forward style not exceeding 30 lines, program developments and accomplishments and their significance to the major program objectives since the last Defense Acquisition Executive Summary Report submission. The areas addressed here should consider the entire program and all objectives, and not be limited only to those areas that are part of the approved acquisition program baseline.

- (1) Subjects appropriate for inclusion here are any program areas that require the additional attention of the Program Manager. Examples include test results; advisory information, such as changes in risk levels for major area(s) of the program; changes to major internal milestones; the addition of contract modifications; and the need for relief from the program or resource requirements outlined in the Integrated Program Summary (IPS), Test and Evaluation Master Plan (TEMP), Manpower Estimate Report (MER), or any other major approved documentation.
 - (2) This assessment should also include any affect that this program may have on any other interrelated programs or any affect that interrelated programs may have on this program.
 - (3) Developments and accomplishments raised here do not necessarily have to be those detailed later in the Assessments Section (Section 2) or the Program Manager's Comments Section (Section 3) of this report.
2. Baseline Information/History: The intent of this paragraph is to provide a brief overview of the stability of the approved acquisition program baseline.
- a. Initial Milestone Baseline Approval Date: For line one, enter the date (MM/DD/YY) of the initial milestone acquisition program baseline.
 - b. Current Acquisition Program Baseline (APB) Date: For line two, enter the date (MM/DD/YY) of the most current approved acquisition program baseline.
 - c. Total Number of Baselines: For line three, enter the total number of acquisition program baselines approved for the current phase of the program. The initial milestone acquisition program baseline is number "one."
 - d. Defense Acquisition Board or Component Program: For line four, enter whether this is a program subject to direct oversight by the Defense Acquisition Board (DAB) or the Component. The purpose here is to indicate who officially approved the most current acquisition program baseline.

Attachment - 1

1. Executive Summary Format

DEFENSE ACQUISITION EXECUTIVE SUMMARY SECTION 1

EXECUTIVE SUMMARY

(Program Name) Report Date Class:[U]

1. Executive Summary

a. Program Issues:

b. Significant Developments Since Last Report:

2. Baseline Information/History:

Class: [U]

Initial Milestone Baseline Approval Date:

Current Acquisition Program Baseline (APB) Date:

Total Number of Baselines

DAB or Component Program

PART 16

SECTION C

ASSESSMENTS

DEFENSE ACQUISITION EXECUTIVE SUMMARY SECTION 2

PURPOSE:

The purposes of this section are to assess the status of the entire program and to identify potential or actual program problems.

PROCEDURES:

1. The Defense Acquisition Executive Summary Report measures program performance against significant intermediate objectives as well as against the key parameters identified in the acquisition program baseline. Measurement of a program's progress and status is not possible using only the approved acquisition program baseline; therefore, in assessing program status all program documentation (e.g., the Selected Acquisition Report) should be considered.
2. Section 2 also will be used to identify issues associated with proposed changes to the most recent President's Budget, such as the Program Objective Memoranda, or Budget Estimate Submission, where proposed changes have the potential to cause a change in the acquisition strategy or to the approved acquisition program baseline threshold. The procedures for notifying the milestone decision authority of potential and actual acquisition program baseline breaches are provided in Part 19 of this Manual.

Note: The microcomputer-based Defense Acquisition Executive Summary software model combines Sections 2 and 3 into a single input section. However, the software model prints Sections 2 and 3 as separate formats. Therefore, for classification purposes, when Sections 2 and 3 are printed, each should be reviewed separately by the Program Manager as to appropriate classification.

PREPARATION INSTRUCTIONS:

1. Color Coded Rating System
 - a. The following guidelines will be used in assessing the status of the program:
 - (1) On-Track (GREEN): All aspects of the program are progressing satisfactory as evidenced by performance facts, schedule, costs, and contractor performance. Some minor problem(s) may exist, but appropriate solutions are available. Performance characteristics at the subsystem and

system level are supporting program objectives and meeting threshold requirements. Milestone slippages, if any, can be rescheduled without requiring a significant amount of additional effort on the part of the program office or contractors. Costs are not expected to exceed approved funding levels or contract target costs.

(2) Advisory (GREEN OR YELLOW): The program is generally progressing satisfactorily, but some event, action, or delay has occurred or is anticipated that will require additional effort and emphasis on the part of the Program Office and/or contractor. No major set-back is anticipated for the program; no action or decision is required by higher authority; and the approved acquisition program baseline is not affected. Depending on the Program Manager's judgment, the Program Manager may classify this advisory as a GREEN ADVISORY (GA) or a YELLOW ADVISORY (YA).

(3) Potential or Actual Problem (YELLOW): Some event, action or delay has occurred that impairs progress against major objectives in one or more segments of the program. While appropriate solutions are within the Program Manager's ability to solve, timely action by the Program Executive Officer, DoD Component Acquisition Executive, or the Under Secretary of Defense for Acquisition may also be required. Required actions may include granting relief from a major program objective, or decision, or similar type action. In the case of a potential risk to a major program objective or approved acquisition program baseline, the Program Manager should state this distinction in Section 3 (Program Manager's Comments). Early reporting is encouraged. See Part 19 for a discussion of exception Defense Acquisition Executive Summary reporting of potential baseline breaches.

(4) Major Weakness (RED): Some event, action, or delay has occurred that seriously impedes successful accomplishment of one or more major program objectives. Such a set-back to the program requires reorientation or reprogramming of the program effort, with the advice and consent of either the Program Executive Officer, DoD Component Acquisition Executive, or the Under Secretary of Defense for Acquisition. A major weakness includes, but is not limited to, deviations from the approved acquisition program baseline that will result in a breach (see Part 19) or a unit cost breach (see Part 18).

- b. The Program Manager will review each program performance indicator and enter a "G" (GREEN; on-track), "Y" (YELLOW; potential or actual problem), or "R" (RED; major problem) next to each indicator. The software program allows the Program Manager (PM) to make comments in Section 3 (Program Manager's Comments) each assessment, regardless of "color."

- (1) If the problem is a potential one, the Program Manager should clearly note this fact in Section 3 (Program Manager's Comments) so there is no doubt that this is an advisory and that the situation is being properly managed. Early reporting of potential problems and that corrective action plans are underway is essential.
- (2) In most cases, it is expected that the progression of program assessment ratings should move from GREEN to YELLOW to RED, without sudden changes from GREEN to RED. This is consistent with the intent that the Defense Acquisition Executive Summary is to be used as an early warning report of both potential and actual problems. In this regard, the system depends on the Program Manager exercising sound judgment in assessing the program's status. Rating an indicator as "on-track," solely because the acquisition program baseline might be "on-track" is counterproductive and leads to downstream problems. Additionally, in the past, some program offices have provided only the status of their platform and not their electronics (or vice versa); or, the status of other areas which, though not yet in the approved acquisition program baseline, are in fact key program objectives. All areas are to receive attention by the Program Manager in the Defense Acquisition Executive Summary status updates. The Program Manager should also report on the status of interrelated programs that may adversely affect the program objectives (or vice versa).

Program Performance and System Indicators

Nine major areas are to be rated. They are described below:

- a. Performance Characteristics. Includes a broad range of mission performance criteria, including, but not limited to, essential physical, technical, operating, software, reliability, availability, maintainability, durability, manpower, training system effectiveness, and other similar characteristics needed to meet field or fleet needs. The program's overall performance to date should be compared with the significant objectives for the program as a whole and significant major subsystems for the program, which include, but are not exclusive of approved acquisition program baseline performance requirements. Analysis and testing results from contractor and Government activities are to be used in performing this evaluation.
- b. Test and Evaluation. Assess the overall status of system test planning, system testing, considering test article availability, test support, test center and range availability and funding, test success and achievement of test schedules as provided for in the approved Test and Evaluation Master Plan.
- c. Logistics Requirements and Readiness Objectives. All significant logistics requirements and readiness objectives must be considered in assessing this indicator.

- (1) Logistics Requirements. Assess the overall status of logistics requirements (including manpower requirements). Assess initiatives to achieve or maintain logistics management and support requirements. Consider maintenance manpower, support equipment, test and measurement equipment, training, training manpower and equipment (e.g., will the training system, including facilities, instructors, and training devices, be on-line and fully operational when necessary?), technical data, packaging, handling and storage, transportation and transportability, material fielding, depot support and maintenance, fuel, consumables, replenishment spares, contractor support, war reserves, logistics management, and other relevant logistics issues.
 - (2) Readiness Objectives. Readiness objectives describe the ability of a system to undertake a specified set of missions or capabilities at planned peacetime and wartime utilization rates (e.g., for a missile system, established time to launch; for aircraft, previously agreed upon number of planes ready for take-off, or time for take-off). Should a readiness objective potentially or actually affect the program objectives or thresholds, other performance indicators (such as the performance characteristics or test and evaluation indicators) will be rated and discussed appropriately. Also consider the system's ability to interface with other systems or units responsible for its operation or deployment, the proportion of total operating time that the system is operable, the frequency of maintenance and the extent of required maintenance crew checks and service, the life of major system components and requirements relative to time between major overhauls or rebuilds, and those system features designed to ensure the system's ability to survive and function in a hostile environment.
- d. Cost Performance. Assess the program's cost performance status based on performance to date. Include an assessment of the performance of Firm Fixed Price (FFP) and cost capped contracts. The major consideration is executability of the program within approved resources, based on cost and schedule performance status of the program's major contracts and the probable effects of those contracts on cost estimates for future effort on the program. When a contract's cost is expected to exceed the Government's liability, a YELLOW rating normally should be assigned even though funding is available to cover the maximum liability. The Program Manager's comments should discuss what is being done to ensure contractual requirements are met, and what the effect is on estimated future contract prices. Consider if the research, development, test and evaluation and production programs can be accomplished within the approved funding program. Consider potential unit cost reporting threshold breaches (see Part 18). Assess the status of the program's design-to-cost,

value engineering, and other cost reduction initiatives. Consider the probability of achieving design-to-average-unit-procurement-cost objectives, and cost and/or performance tradeoff initiatives, such as, increased performance at the same cost and constant performance at reduced cost.

- e. Funding. Assess the overall adequacy and availability of programmed and budgeted funds by fiscal year. The effect of potential funding shortfalls, reductions, or non-availability due to Congressional, Office of the Secretary of Defense, Component, and/or cooperative Allied country actions. Identify program areas not funded to the approved acquisition program baseline, and whether the program is executable to the baseline, or if actual obligation rates are as planned.

- f. Schedule Performance. Compare the program's overall schedule performance and deliveries to date with the program schedule milestones (consider Section 5, Approved Program Data) and annual delivery schedules (consider Section 6, Program Background Data). Consider the effect of schedule variations on major decision points, operational capability dates, and if any major component of the system being developed or procured is not meeting the planned schedule. Any system Initial Operational Capability (IOC) or Full Operational Capability (FOC) that will not be met for any reason will be reported as a RED rating.

- g. Contracts. Review all aspects of contract performance including technical and schedule achievement, cost performance, deliveries, contract change proposals and negotiations, and quality. Review the potential for contract adjustments and the ability to properly execute the contract. Also assess all significant aspects of the contract award schedule, including definitization dates. Consider the affect of delays that threaten to extend major contract award dates that are on the critical path of program master schedule activities, or that threaten to expose the Government to unnecessary cost risk. These provisions are applicable for all types of contracts including fixed-price, those with a cost cap, and those that may have been waived by either any Department of Defense component or any Government agency, regardless of reason or circumstance.
 - (1) A YELLOW rating should normally be applied when the condition of the contract is such that delays threaten to extend major contract award dates on the critical path of the program master schedule or to expose the Government to unnecessary cost, technical, or schedule risk.

 - (2) A RED rating should normally be applied when a delay for a major contract award, modification, or definitization activity or event exceeds 90 days, the existing contract cannot be executed as currently negotiated, or contractual actions required to deal with contractor cost, technical, or schedule deficiencies have not been taken or were not effective.

- n. Production. Assess the overall status of the planning and execution of production and continuous process improvement activities. This means all hardware and software aspects of the program. The production assessment should consider configuration management, technical data package availability, contractor capital investment, material availability, surge and mobilization planning, capacity to meet delivery requirements, value engineering, and other key production (hardware and software) requirements. Assess initiatives to achieve or maintain timely and cost effective production. Consider the development and qualification of "capable" manufacturing processes and whether all of these processes have been considered and incorporated beginning with the design phase (hardware and software), continuing throughout the development phase and into production. Assess the extent to which appropriate considerations have been incorporated into the design such that production can achieve desired and/or planned ramp-up rates and redesign of system or components or software codes are not needed for Government acceptance of and use of the final product. Assess whether the transition to the production program integrates all life-cycle disciplines and incorporates continuous process improvement throughout the acquisition process for both the hardware and the software.
- i. Management Structure. This area is for consideration and assessment of those areas that do not fit elsewhere under paragraphs 2.a. through h., above (e.g., status of documentation; effect of problems from interrelated programs on this program, or vice versa; dependence of and problems for this program on Government- or Contractor-Furnished Equipment (GFE or CFE) that are not managed or controlled by the Program Manager; manpower and training for the subject weapon system; adequacy of program office manpower to accomplish current or planned future requirements; relevant national security issues; Joint Service issues; Foreign Military Sale (FMS) issues; or other areas of significance to the Program Office).

Attachment - 1

1. Assessments Format

DEFENSE ACQUISITION EXECUTIVE SUMMARY SECTION 2

ASSESSMENTS

(Program Name) Report Date Class:

<u>Program Assessment Indicators</u>	<u>Assessment</u>	[U]
Performance Characteristics	G	
Test & Evaluation	Y	
Logistics Requirements & Readiness Objectives	R	
Cost	G	
Funding	G	
Schedule	G	
Contracts	Y	
Production	R	
Management Structure	Y	

PART 16

SECTION D

PROGRAM MANAGER'S COMMENTS
DEFENSE ACQUISITION EXECUTIVE SUMMARY SECTION 3

PURPOSE:

The purpose of this section is to summarize and explain observations, advisory comments, and potential or significant program problem areas for the categories shown in Defense Acquisition Executive Summary Section 2 (Assessments), with emphasis on changes since the previous reporting period.

PROCEDURES:

1. Assess the entire program, and do not focus solely on the approved acquisition program baseline.
2. Indicate in the assessments if this is a new issue, a significant change, or no change in status from last quarter's report.
3. Program Managers are invited to explain the reason for their assessment, when different from the written assessment(s) from the Office of the Secretary of Defense in the monthly feedback package; however, Program Managers are not obliged to alter their assessment or rating.

PREPARATION INSTRUCTIONS:

1. General Guidelines

In developing the comments for this section, quantitative comparisons between the approved program values and the Program Manager's latest estimate should be included when appropriate.

- a. Ratings are to be based on the formally approved acquisition program baseline and not on proposed new baseline parameters that may be undergoing review.
- b. Approved Program Data (Section 5) may contain additional data elements that are not part of the approved acquisition program baseline, but are contained in official program documentation and are integral to the program objectives. These are provided for a more complete picture of the program and allow for realistic status reporting of the program through the Defense Acquisition Executive Summary report. The status of these additional data elements should be carefully considered in rating and providing a written assessment in this section.

2. Minimum Requirements

Explain the following, at a minimum:

- a. Comment on all ratings, regardless of "color," where an ADVISORY would avoid potential surprises. Describe the problem and provide the significance of the problem relative to major program objectives and, if applicable, the approved acquisition program baseline. Also discuss if an interrelated program is affected. Discuss the actions to be taken to accomplish the affected program objective(s). If the program objective needs to be changed, discuss the changes. If there is no management action plan in place, explain when this will be accomplished. Note: Identification and reporting of a problem is more important than waiting to report until even a minimal corrective action plan is in hand.
- b. Provide the status of corrective action(s) since the last Defense Acquisition Executive Summary report in all cases, whether an advisory, potential or actual problem. The status should include the management plan to correct the issue and the level of risk associated with the plan.
- c. Comment, as appropriate, on any pending or proposed acquisition program baseline parameter changes, the reason for the change, and the risk associated in not changing the baseline parameter, as well as the risk that remains after the change is made to the baseline parameter. When rating against any acquisition program baseline parameter, ratings are based on the approved acquisition program baseline and not on any proposed new baseline parameters that may be undergoing review. Changes to the baseline parameters and baseline deviations will be reported in accordance with Part 19.
- d. Comment on changes made to any data parameters contained in Approved Program Data (Section 5) that are not part of the approved acquisition program baseline. Changes to these data parameters can be made by the Program Manager (PM) without prior approval of any higher authority. If the Program Manager determines that any change to these parameters merits higher level attention, the Program Manager should also summarize the change in Section 1 (Executive Summary). Should any of these changes require an exception Selected Acquisition Report (SAR), official guidance should be followed (see Part 17).

Note: The software program model combines Sections 2 and 3 into a single input section. However, the model prints Sections 2 and 3 as separate formats. Therefore, for classification purposes, when Sections 2 and 3 are printed, each should be reviewed separately by the Program Office as to appropriate classification.

Attachment - 1

1. Program Manager's Comments Format

DEFENSE ACQUISITION EXECUTIVE SUMMARY SECTION 3

PROGRAM MANAGER'S COMMENTS

(Program Name)

Report Date

Class:

Program Manager's Comments

[U]

PART 16

SECTION E

PROGRAM EXECUTIVE OFFICER/DOD COMPONENT ACQUISITION

EXECUTIVE COMMENTS

DEFENSE ACQUISITION EXECUTIVE SUMMARY SECTION 4

PURPOSE:

The purpose of this section is to enable the Program Executive Officer and the DoD Component Acquisition Executive to provide their assessments and perspectives on the program.

PREPARATION INSTRUCTIONS:

1. **General Guidelines**

- a. The Program Manager's report input will not be changed or modified by the Program Executive Officer or the Component Acquisition Executive except as necessary to correct format errors, the use of unapproved acquisition program baseline parameters, or other such inconsistencies.
- b. The comments of both the Program Executive Officer and the Component Acquisition Executive may differ from those of the Program Manager; however, the Program Executive Officer and the Component Acquisition Executive must ensure that this Report reflects the independent assessment of the Program Manager.

2. **Specific Guidelines**

The following specific guidelines apply regarding the completion of this section:

- a. Comments should focus on changes in the relative level of risk associated with the program, the significance of the problems reported by the Program Manager, the Program Manager's proposed corrective actions, the level of risk associated with these actions, and other significant changes to the program from the vantage point of the Program Executive Officer and the Service or Agency Acquisition Executive.
- b. Comments should be provided on any pending or proposed acquisition program baseline parameter changes, the reason for the change, and the risk associated in not changing the baseline parameter, as well as the risk that remains after the change is made to the baseline parameter.

- c. Comments should also be provided on any proposed changes to additional data elements that are not part of the approved acquisition program baseline, but are contained in official program documentation and are integral to the program objectives.
- d. The Office of the Secretary of Defense staff will review this section carefully in making final assessments.

Attachment - 1

1. Program Executive Officer/DoD Component Acquisition Executive Comments

DEFENSE ACQUISITION EXECUTIVE SUMMARY SECTION 4

PROGRAM EXECUTIVE OFFICER/DOD COMPONENT ACQUISITION EXECUTIVE COMMENTS

(Program Name) Report Date Class:

PEO/CAE Comments [U]