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## Department of Defense Instruction USDRE

**SUBJECT:** Major System Acquisition Procedures

- References:**
- (a) DoD Directive 5000.2, "Major System Acquisition Process," January 18, 1977 (canceled by reference (b))
  - (b) DoD Directive 5000.1 "Major System Acquisitions," March 19, 1980
  - (c) DoD Directive 5000.35, "Defense Acquisition Regulatory System," March 8, 1978
  - (d) through (u), see enclosure 1

### A. PURPOSE

This Instruction replaces DoD Directive 5000.2 (reference (a)) to provide revised supplementary procedures for Department of Defense use in implementation of reference (b).

### B. APPLICABILITY

The provisions of this Instruction apply to the Office of the Secretary of Defense (OSD), the Military Departments, the Organization of the Joint Chiefs of Staff (OJCS), and the Defense Agencies. As used in this Instruction, the term "DoD Components" refers to the Military Departments and the Defense Agencies.

### C. PROCEDURES

1. Major System Designation. The Secretary of Defense shall designate certain acquisition programs as major systems. The Defense Acquisition Executive (DAE) may recommend candidate programs to the Secretary of Defense at any point in the acquisition process, but normally recommendations shall be made in conjunction with Mission Element Need Statement (MENS) approval. The DAE is authorized to withdraw the designation of "major systems" when changing circumstances dictate. The DAE shall advise the Secretary of Defense before such an action is taken.

2. Major System Listings. The Executive Secretary of the Defense Systems Acquisition Review Council (DSARC) shall, as the agent of the DAE, maintain and distribute a list of designated major systems. Additions and deletions to the list shall be disseminated when changes occur. The Executive Secretary, in conjunction with the Assistant Secretary of Defense (Comptroller) shall maintain a listing of programs for which Selected Acquisition Reports (SARs) are required.

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### 3. Milestone 0 Documentation

#### a. Mission Element Need Statement (MENS)

(1) Purpose. A MENS is the document upon which the Milestone 0 decision is based. It identifies and defines: (a) a specific deficiency or opportunity within a mission area; (b) the relative priority of the deficiency within the mission area; (c) the Defense Intelligence Agency (DIA) validated threat forecast or other factor causing the deficiency; (d) the date when the system must be fielded to meet the threat; and (e) the general magnitude of acquisition resources that the DoD Component is willing to invest to correct the deficiency. A MENS is required for each acquisition, including system modifications and additional procurement of existing systems, which the DoD Component anticipates will cost in excess of \$100 million (FY 1980 dollars) in research, development, test and evaluation (RDT&E) funds or \$500 million (FY 1980 dollars) in procurement funds. A MENS is not required for programs, regardless of size, directed toward developing and maintaining a viable technology base.

(2) Scope. The deficiency or opportunity identified in a MENS should be defined as narrowly as possible to allow a reasonable probability of correcting the deficiency by acquiring a single system. Defining a broad architecture of systems to counter projected threats in a mission area is part of the ongoing analysis of mission areas rather than a part of a specific acquisition program. Though the scope of the deficiency identified in a MENS shall be narrowly defined, solutions to the problem shall not be specified. Alternative concepts and associated risks shall be evaluated in the Concept Exploration phase.

(3) Format. Enclosure 2 contains the format of a MENS along with explanatory information regarding its preparation.

#### (4) Processing

(a) DoD Components shall identify all new acquisition starts in the yearly submission of the Program Objective Memoranda (POM). These submissions shall identify those new acquisitions that are likely to exceed dollar thresholds specified above for a MENS. New system acquisitions exceeding the dollar thresholds specified above that have not previously had a MENS reviewed and approved must have a MENS submitted to the DAE no later than POM submission date. Review and approval of MENS before POM submission are encouraged.

(b) The DoD Component shall forward a draft MENS, along with a recommendation as to whether the program should be designated as a major system, to the DAE who shall solicit comments from the OSD staff, OJCS, the other Military Departments and the DIA.

1 When the DAE plans to recommend designation as a major system, comments on the MENS shall be provided to the DoD Component

within 20 workdays of receipt of the draft MENS. Upon receipt of OSD comments, the DoD Component shall revise the MENS and return it to the DAE within 20 workdays for approval action.

2 When the DAE does not recommend designation as a major system, the MENS shall be returned to the appropriate DoD Component or functional organization for milestone decision responsibility on the program.

b. Secretary of Defense Decision Memorandum (SDDM)

(1) When the DAE plans to recommend approval of the MENS and designation of a system as major, the action officer shall prepare a SDDM. The DAE shall forward the SDDM to the Secretary of Defense after formal coordination. The SDDM shall be coordinated with the DSARC permanent members and any advisors the DAE considers appropriate. The Milestone 0 SDDM shall also establish when the next milestone review shall occur.

(2) Upon approval of the MENS by a SDDM and designation of a system as major, the DoD Component may take necessary programing action to incorporate required resources into the Planning, Programing, and Budgeting System (PPBS). Programing action may be taken in parallel with preparation of the MENS. If the requirement is urgent, the MENS should be submitted with a request for reprograming action.

4. Defense Systems Acquisition Review Council (DSARC). The DSARC, acting as the top level DoD corporate body for system acquisition, shall provide advice and assistance to the Secretary of Defense. The following paragraphs set forth organizational and procedural elements of the DSARC process.

a. DSARC Permanent Members and Principal Advisors

(1) Permanent Members

(a) Defense Acquisition Executive.

(b) Under Secretary of Defense for Policy or a representative designated by the Under Secretary of Defense for Policy.

(c) Under Secretary of Defense for Research and Engineering or a representative designated by the Under Secretary of Defense for Research and Engineering.

(d) Assistant Secretary of Defense (Comptroller).

(e) Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

(f) Assistant Secretary of Defense (Program Analysis and Evaluation).

(g) Chairman, Joint Chiefs of Staff, or a representative designated by the Chairman, Joint Chiefs of Staff.

(2) Principal Advisors

(a) For communications, command, control, and intelligence (C<sup>3</sup>I) research, engineering, and program matters: Assistant Secretary of Defense (Communications, Command, Control, and Intelligence) (ASD(C<sup>3</sup>I)).

(b) For NATO affairs: Advisor to the Secretary of Defense and Deputy Secretary of Defense on NATO Affairs.

(c) For producibility and acquisition strategy matters: Deputy Under Secretary of Defense for Research and Engineering (Acquisition Policy).

(d) For program matters: Appropriate Deputy Under Secretary of Defense for Research and Engineering.

(e) For defense policy and related operational requirements matters: Appropriate Deputy Under Secretary of Defense Policy.

(f) For threat assessment and substantive intelligence matters: Director, DIA.

(g) For test and evaluation (T&E) matters: Director of Defense Test and Evaluation.

(h) For cost matters: Chairman of the Cost Analysis Improvement Group.

(i) For Logistics Support: Director, Weapons Support Improvement Group.

b. DSARC Reviews. The DAE is responsible for convening formal meetings to facilitate the decision process. Principal advisors shall not attend unless invited by the DAE. Formal DSARC reviews shall normally be held at Milestones I, II and III. In addition, any DoD Component head or DSARC member may request the Chair to schedule a meeting of the DSARC to consider significant issues at any point in the acquisition process for any major system. The Secretary of Defense may, upon the recommendation of the DAE, choose to make his decision and issue a SDDM without a formal council review. Dispensing with the formal review shall be considered by the DAE when the OSD staff review, preliminary to a scheduled review, indicates that there are no substantial issues that would require a DSARC meeting. In this case, the SDDM shall be prepared by the action officer and coordinated in accordance with subparagraph C.4.e.(4). before it is forwarded to the Secretary of Defense for his decision.

c. Milestone Review Process

(1) Milestone Planning Meeting. A planning meeting shall be scheduled by the Executive Secretary and chaired by the action officer six months in advance of each DSARC meeting. The purpose of the Milestone Planning Meeting is to identify the system and program alternatives and the issues and items to be emphasized in the Decision Coordinating Paper (DCP) and the Integrated Program Summary (IPS). DSARC members, DSARC advisors, DoD Components, and the program manager shall be represented at the meeting. After the meeting, the action officer shall prepare a memorandum recording the issues and responsibilities and distribute it to DoD Components, DSARC members, and DSARC principal advisors.

(2) For Comment DCP and IPS. The For Comment DCP and the IPS shall be submitted together by the DoD Component to the DAE three months before to a DSARC meeting. The action officer shall ensure that copies are made available to DSARC members and advisors and to their staffs for review and discussion with the DoD Components. The action officer shall prepare and transmit formal comments to the DoD Component two months in advance of the scheduled DSARC meeting. Every effort shall be made to resolve major issues before the DSARC meeting.

(3) Final DCP and IPS Update. A Final DCP and an update to the IPS shall be submitted by the DoD Component to the Secretary of Defense through the DAE 15 workdays before a scheduled DSARC meeting. The action officer shall provide copies of the Final DCP and the update to the IPS to each DSARC member and advisor.

(4) Pre-Brief Meeting. The position of each DSARC member and advisor on the DCP shall be determined by their staff representatives in time to prepare a presentation to be given to the DAE at the Pre-Brief Meeting. Attendees at the Pre-Brief Meeting shall be prepared to discuss the DCP and to provide specific program recommendations. Following the Pre-Brief Meeting, the action officer shall prepare a recommended position paper and provide copies to the members and principal advisors to the DSARC so that final action can be taken at the executive session after the formal DSARC meeting. Members and principal advisors who have dissenting positions shall be prepared to submit them at the executive session for final resolution.

(5) Post DSARC Action. Within five workdays following the DSARC meeting, the DAE shall submit the SDDM, together with any dissenting positions, to the Secretary of Defense. Normally, the SDDM shall be issued to the DoD Component within 15 workdays following the DSARC meeting.

d. Milestone Planning Schedule

Event	Schedule in Relation to Date of DSARC Meeting
Milestone Planning Meeting	- 6 months
For Comment DCP and IPS	- 3 months
DCP Comments to DoD Components	- 2 months
Final DCP and Update to IPS	- 15 workdays
OSD Cost Analysis Improvement Group (CAIG) Briefing	- 15 workdays
OSD Test and Evaluation (T&E) Briefing	- 15 workdays
OSD Manpower and Logistics Analysis (M&LA) Briefing	- 15 workdays
DIA Report to DSARC Chair	- 10 workdays
DSARC Chair's Pre-Brief Meeting (OSD Staff Only)	- 5 workdays
CAIG Report	- 3 workdays
T&E Report	- 3 workdays
M&LA Report	- 3 workdays
DSARC Meeting	0
SDDM issued to DoD Component	+ 15 workdays

e. Milestone I, II and III Documentation

(1) Decision Coordinating Paper (DCP). The DCP provides the primary documentation for use by the DSARC in arriving at the milestone recommendation. It summarizes the program and the acquisition strategy, the alternatives considered, and the issues. The format of the DCP is in enclosure 3. Notwithstanding any other DoD issuance, additional requirements for information in the DCP shall be issued only by the DAE.

(2) Integrated Program Summary. The IPS summarizes the implementation plan of the DoD Component for the life cycle of the system. The IPS provides information for a management overview of the entire

program. The format of the IPS is in enclosure 4. Notwithstanding any other DoD issuance, additional requirements for information in the IPS shall be issued only by the DAE.

(3) Milestone Reference File (MRF). A MRF shall be established at each milestone to provide a central location for existing program documentation referenced in the DCP and IPS. This working file shall be provided by the DoD Component to the DSARC Executive Secretary at the time the For Comment DCP and IPS are submitted. It shall be used by DoD personnel who need more detailed information.

(4) Secretary of Defense Decision Memorandum (SDDM)

(a) The SDDM documents the Secretary of Defense's milestone decision including approval of goals and thresholds for cost, schedule, performance, and supportability, exceptions to the acquisition process, and other appropriate direction. Before forwarding the SDDM to the DAE, the action officer shall obtain coordination from the DSARC permanent members and such advisors as the DAE considers appropriate for the action. The DAE shall forward the SDDM to the Secretary of Defense for signature.

(b) The action officer shall prepare and coordinate a SDDM to reflect revised thresholds and updated program direction resulting from threshold breaches or projected breaches reported by the DoD Component. The action officer shall also prepare and coordinate a SDDM when programing or budgeting decisions (including congressional direction) affect thresholds or program direction contained in the previous SDDM. This shall be done within 40 workdays after submission of the Presidential Budget to Congress. In the case of congressional direction, the SDDM shall be prepared and coordinated 40 workdays after the legislation is enacted.

f. DSARC Executive Secretary. The DAE shall designate a permanent Executive Secretary who shall administer and coordinate the DSARC process and:

- (1) Maintain and distribute periodic status reports.
- (2) Make administrative arrangements for Milestone Planning Meetings, Pre-Brief Meetings, and DSARC meetings.
- (3) Assemble and distribute necessary documentation.
- (4) Maintain a central reference file for current DCPs, IPSs, and SDDMs.
- (5) Hold the MRF until a SDDM is issued.
- (6) Control attendance at Pre-Brief Meetings and DSARC meetings.

g. Action Officers. The action officer appointed by the DAE for each major system is the lead OSD staff person in the DSARC process and must coordinate both OSD issues and DoD Component positions. Action

officers may be appointed from any OSD functional organization. For example, they may be from the Office of the Under Secretary of Defense for Research and Engineering for systems involving research, development, and production, from the Office of the Assistant Secretary of Defense (Comptroller) for general purpose ADP systems, or from the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics) for military construction that is designated as a major system. They shall:

- (1) Conduct the Milestone Planning Meeting for assigned major systems.
- (2) Process the DCP and IPS in accordance with this Instruction.
- (3) Present the DSARC Chair's Pre-Brief Meeting.
- (4) Monitor the milestone planning schedule.
- (5) Draft, coordinate, and obtain approval of all SDDMs including those necessitated by PPBS or congressional action.

#### D. DEFENSE ACQUISITION REGULATORY SYSTEM (DARS)

DoD directives, regulations, and instructions that relate to the acquisition process are part of the DARS as stipulated by DoD Directive 5000.35 (reference (c)). The object of this system is to provide detailed functional regulations required to govern DoD acquisition of materials, supplies, and equipment. Program managers shall tailor their programs to DoD issuances that are part of DARS. Principal issuances that relate to major system acquisitions are listed in enclosure 5.

#### E. ACQUISITION PLANNING

Special attention in the development of acquisition planning shall be given to the following matters.

1. Mission Analysis. Mission analysis is any assessment of current or projected U.S. military capability to perform assigned missions. Mission analysis shall normally evaluate the interplay of threat, capability, operations concepts, survivability, and other factors such as environmental conditions which bear on the missions of the various Components of the Department of Defense. The primary objective of mission analysis is the identification of deficiencies, so that appropriate corrective action can be initiated. The scope may vary from a very narrow subject, such as the survivability of a Minuteman silo attacked by a single reentry vehicle, to a very broad subject, such as the ability of the United States to maintain overall strategic deterrence.

2. Operational Requirements. Materials, supplies, and equipment acquired by the Department of Defense shall contribute to or support the operational requirements of the military forces in execution of missions

essential to the current national military strategy or enhance future capabilities of the military forces to achieve national and defense policy objectives. Department of Defense operational requirements should be prioritized based on their effectiveness in furthering policy objectives and strategic and operational concepts, in consideration of threat and other factors, such as environmental conditions, which bear on the missions of the various Components of the Department of Defense.

3. Threat. The effectiveness of a proposed weapon system in its intended threat environment is a fundamental concern of the acquisition effort and shall be considered by the program manager from the outset. An interactive analysis, that is, a study of the system-threat interaction, shall be conducted before Milestone I and shall be updated in greater specificity before each subsequent milestone. The intelligence used for the interactive analysis shall be provided by the DoD Component intelligence organization directly to the program manager and to DIA. Analyzing system concepts and specific systems in this manner allows program managers to identify threat parameters, such as numbers, types, mix, or characteristics of projected enemy systems, that are most critical to the effectiveness of the U.S. system. These Critical Intelligence Parameters (CIPs) shall be provided to the DIA through the DoD Component intelligence organization. The Director, DIA, shall validate threat data before its use in the interactive analysis, review CIPs output, and report the findings and conclusions in writing to the DAE 10 workdays before the DSARC meeting. The DoD Component shall confirm the effectiveness of the U.S. system in its intended threat environment at Milestones II and III.

#### 4. Acquisition Strategy

a. Acquisition strategy is the conceptual basis of the overall plan that a program manager follows in program execution. It reflects the management concepts that shall be used in directing and controlling all elements of the acquisition in response to specific goals and objectives of the program and in ensuring that the system being acquired satisfies the approved mission need. Acquisition strategy encompasses the entire acquisition process. The strategy shall be developed in sufficient detail, at the time of issuing the solicitations, to permit competitive exploration of alternative system design concepts in the Concept Development phase. Additionally, sufficient planning must be accomplished for succeeding program phases, including production, for those considerations that may have a direct influence on competition and design efforts by contractors. The acquisition strategy shall evolve through an iterative process and become increasingly definitive in describing the interrelationship of the management, technical, business, resource, force structure, support, testing, and other aspects of the program.

b. Development of the initial program acquisition strategy shall be completed by the cognizant DoD Component as soon as possible after Milestone 0. The program acquisition strategy is unique for each program and should be tailored by the program manager to the circumstances surrounding the program. Intended exceptions to applicable DoD Directives

and Instructions should be noted in the acquisition strategy summary. Advice and assistance should be sought from business and technical advisors and experienced managers of other major system programs.

c. While the acquisition strategy developed is not a document requiring DAE approval, the program manager shall be required to keep all management levels informed on strategy and shall be required to summarize certain aspects of it at the milestone decision points. At the earliest practical date and no later than Milestone II, the program manager shall be required to have a comprehensive strategy for full-scale development, test and evaluation, and production. The strategy for production shall be updated at Milestone III.

## 5. Management

a. Management Information. Management information shall be limited in all areas of activity to information essential to effective control. Normally, the required information shall be provided from the same data base used by the contractor for management decision making. A realistic work breakdown structure that is limited to the minimum number of levels necessary shall be developed for each program as a framework for planning and assignment of responsibilities, reporting progress, and as a data base in making cost estimates for other systems. A configuration management plan, that is consistent with the work breakdown structure, shall be developed for each program.

b. Programing and Budgeting. Secretary of Defense milestone decisions are based upon review of details of one particular program and reflect the readiness of that system to progress to the next acquisition phase. The program must compete for funds with other programs in the PPBS process. The Secretary of Defense milestone decision is based on specific schedule, cost and operational effectiveness estimates which, if changed significantly, might alter the Secretary of Defense milestone decision. PPBS actions by the DoD Components and the OSD staff, that cause the schedule and cost estimates to change significantly enough to call into question the last milestone decision, shall be explained by the DoD Component or OSD staff element proposing the change in the PPBS document.

c. Estimates. The validity of decisions reached at each milestone depends upon the quality of cost, schedule, performance, and supportability estimates presented at the milestone reviews. Although there is considerable uncertainty early in the acquisition process, every effort must be made to use the best available data and techniques in developing estimates. Bands of uncertainty shall be identified for point estimates. Broad bands of uncertainty shall be expected early in the acquisition process, with smaller bands developed as the program matures and uncertainty decreases. Traceability of successive cost estimates, to include adjustments for inflation and to segregate estimating error from program changes, shall be maintained starting with program cost estimates approved at Milestone I.

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(1) A life-cycle cost estimate shall be prepared at Milestone I, using the best available data and techniques. An updated life-cycle cost estimate shall be provided for each subsequent milestone. These cost estimates shall be developed as soon as ongoing development activities permit to eliminate unnecessary delays in the milestone decision process.

(2) Milestone I cost, schedule, performance, and supportability goals shall not inhibit tradeoffs among these elements by the program manager in developing the most cost-effective solution to the mission need.

(3) Goals and thresholds for cost, schedule, performance, and supportability shall be documented in the SDDM. At Milestone II, firm design-to-cost goals shall be established for the system or systems selected for full-scale development. Program accomplishments shall be evaluated against cost, schedule, and supportability goals with the same rigor as the evaluation of technical performance.

d. Thresholds. Threshold values shall be proposed at Milestones I, II, and III by the DoD Component and approved by the Secretary of Defense for cost, schedule, performance, and supportability. These values shall reflect reasonable variances that are acceptable for the goals proposed in the DCP. At Milestone I, threshold values shall be established for only a few items and the distance between the goal and the threshold for individual items may be larger than at subsequent milestones. Program managers are responsible for reporting actual and projected threshold breaches immediately to each line official and the DAE. Following this initial report, the DoD Component shall provide the DAE with an assessment of the problem, a description of the action to be taken to resolve the problem and, if required, a recommendation to establish new threshold values. Approved changes to thresholds shall be documented in a SDDM.

e. Selected Acquisition Reports (SAR). SARs shall be submitted for all major systems in accordance with DoD Instruction 7000.3 (reference (d)). The SAR baseline (Development Estimate) shall be extracted from the goals approved in the SDDM at Milestone II.

f. Use of Government or Not-For-Profit Organizations. When Government laboratories, federally funded research and development centers, educational institutions, and other not-for-profit organizations submit alternative major system design concepts for consideration, care shall be taken to exclude such proposing organizations from participating in the evaluation process on those systems. If further exploration of an alternative system design concept submitted by one of these organizations is appropriate, that concept may be made available to industry to propose on the continued development stages. In selected cases where no capability exists in the private sector or when it may be in the best interest of the Government to do so, DoD research and development centers may be assigned development tasks to complement a major system development. DoD research and development centers may be used as a technical arm of the program management office, especially in matrix management organizations. Typical

assignments may include actions such as studies, analysis, technology development, systems engineering, risk and cost reduction efforts, and development test and evaluation.

g. Affordability

(1) Affordability, the ability to provide adequate resources to acquire and operate a system, is principally a determination of the PPBS process. The ability to provide sufficient resources to execute a program in an efficient and effective manner is a fundamental consideration during milestone reviews. Requests or proposals to proceed into the next acquisition phase shall be accompanied by assurance that sufficient resources are or can be programed to execute the program as directed by the Secretary of Defense.

(2) The DoD Component shall describe in the MENS the general magnitude of resources it is prepared to commit to acquire a system to satisfy the need. At Milestone I, affordability considerations shall be used as a factor in determining the selection of alternative concepts. At Milestones II and III, a favorable decision shall not be made unless the system's projected life-cycle costs, including product improvement and other modifications, are within the amounts reflected in the latest Five Year Defense Plan/Extended Planning Annex (FYDP/EPA) or unless compensating changes are made to other items in the defense program.

(3) The DoD Component briefing presented to the DSARC at Milestones I, II, and III shall include the following affordability considerations:

(a) Comparison of program resource estimates with latest PPBS projections (including the extended planning annex).

(b) Identification of the relative ranking for this system and the DoD Component's other major systems in the same mission area and general time frame in the latest program or budget submission.

(c) Analysis of variation in unit cost (recurring hardware, flyaway, and procurement) with production rate (Milestones II and III).

(d) Identification of potential offsets necessary to provide the resources to execute the remaining phases of the program where program cost estimates provided to the DSARC exceed latest budget projections. Where joint programs are involved, offset identifications shall not be limited to the lead DoD Component.

h. Timeliness. An objective of any acquisition is to achieve Initial Operational Capability (IOC) within the time dictated by the need or threat. When technical, cost, and supportability risks are low or when the urgency to counter a threat transcends high technical, cost, and supportability risks, DoD Components should give consideration to minimizing acquisition cycle time by planned concurrency. This may include

increasing funding, overlapping, combining, or omitting the phases of the acquisition process or overlapping or combining development T&E with operational T&E. The amount or degree of such concurrency should be based on the extent of potential savings in acquisition time balanced against technical, cost and supportability risks and national urgency in each acquisition program. To achieve timely deployment, consideration may also be given to accepting system performance growth after deployment. When any of the foregoing actions are planned, the risks associated therewith will be discussed in the documentation provided to the DSARC. Further, when tailoring of the acquisition process includes modification or reduction of the number of milestone reviews by the Secretary of Defense, the planned approach must be approved in a SDDM.

i. Joint Programs. When system acquisition programs involve more than one DoD Component, the SDDM shall specify the lead DoD Component and provide explicit guidance on the responsibilities of the participating DoD Components, including threat support. The lead DoD Component shall assign the program manager and request the other participating DoD Components to assign deputy program managers. The lead DoD Component shall also establish the program's objectives by promulgating a program charter after coordination with the other participating DoD Components.

## 6. Competitive Concept Development

a. Alternative Concept Solutions. Alternative concept solutions to the mission need shall be obtained competitively unless the Secretary of Defense, in approving the MENS, has approved pursuing a single concept. Even when pursuing a single concept, competition should be considered in development of that concept. The widest possible range of acquisition and support alternatives to satisfy the mission need shall be considered. Foreign contractors should be included in solicitations, when feasible and when not prohibited by National Disclosure Policy. At a minimum, solicitations shall outline the need in mission terms, schedule objectives and constraints, system cost objectives, and operating and deployment constraints.

b. Standards and Specifications. Maximum use should be made of architectural standards and functional specifications that include only minimum requirements. Specifications stated in detailed or how to language should be avoided, when possible. The number of government specifications and standards specified or referenced in solicitations shall be minimized. Solicitations should normally not specify standard support concepts. If nonstandard support concepts are proposed, they shall be accompanied with estimates of the cost to implement them.

## 7. Contracting

a. Pre-Proposal Briefings. Program managers should conduct orientation briefings for all interested participants and, where appropriate,

allow industry to comment on acquisition strategy and drafts of solicitations. The objectives are to remove inhibitors to innovative solutions and to improve the approach to achieving all system objectives.

b. Competition. Competition should be introduced in the Concept Exploration phase and maintained throughout the acquisition cycle as long as economically practical. In addition, both the government and its contractors shall break out components for competition throughout the acquisition cycle to the maximum extent possible. Techniques and procedures that result in cost auctioning between prospective contractors or where technical ideas or data are shared with other contractors without prior authorization of the source are prohibited.

c. Socioeconomic Program Implementation. Government socioeconomic programs must be considered throughout the system acquisition process. Particular emphasis shall be placed on contracting with small and disadvantaged business firms.

## 8. Design Considerations

a. Standardization in Engineering Design. Standardization shall be applied in design during the Demonstration and Validation phase and the Full-Scale Development phase, as appropriate, to reduce cost of production and operational support and to accelerate timely operational readiness through optimum utilization of existing or codeveloped subsystems, equipment, components, parts, and materials common to other systems and available in supply. Standardization shall be optimized to enhance nuclear and nonnuclear survivability and endurance, quality, reliability, maintainability, supportability, and life-cycle cost but shall not compromise essential performance or excessively inhibit the application of new technology and innovative, advanced design. A standardization program, including a parts control program, shall be applied in accordance with methods and objectives described in DoD Directive 4120.3 (reference (e)) and DoD Instruction 4120.19 (reference (f)).

b. Production Planning. From the early phases of the program, consideration shall be given to the costs of production, including total government investment required to ensure adequate production facilities, availability of critical materials, and capability. Affordability must be considered in production planning. The program manager shall also consider means to increase the possibilities for competition during production. When the program requires production of conventional ammunition, early coordination is required with the single manager for conventional ammunition to ensure that the ammunition production plan considered at Milestone II can be executed. Refer to DoD Directive 5160.65 (reference (g)).

c. Operational Concept. The operational concept specifies how the system shall be integrated into the force structure and deployed and operated in peacetime and wartime to satisfy the mission need set forth in the MENS. It establishes required readiness and activity rates and provides the basis for further integrated logistics support planning. An initial

operational concept and system readiness objective must be developed by Milestone I for each alternative and finalized by Milestone II. The operational concept and system readiness objective shall be maintained throughout the program.

d. Manpower and Training

(1) New systems shall be designed to minimize both the numbers and the skill requirements of people needed for operation and support, consistent with system availability objectives. Manpower and personnel factors, to include numbers, occupations, and skill levels of manpower required, shall be included as considerations and constraints in system design. Integration of manpower and personnel considerations with the system shall start with initial concept studies and shall be refined as the system progresses to form the basis for crew station design, personnel selection and training, training devices and simulator design, and other planning related to manpower and personnel.

(2) Where applicable, planning for training shall consider provisions for unit conversion to the fielded system and training of reserve component personnel. Such planning shall consider tradeoffs conducted among equipment design, technical publications, formal training, on-the-job training, unit training, and training simulators and shall develop a cost-effective plan for attaining and maintaining the personnel proficiency needed to meet mission objectives.

(3) After Milestone 0, manpower requirements shall be subjected to tradeoffs with system characteristics and support concepts. Manpower goals and thresholds consistent with projected activity levels, maintenance demands, and support concepts shall be identified by Milestone II. Tradeoffs for maintenance effectiveness among manpower (numbers, occupations, and skill levels), support equipment, system design, and the support structure shall be conducted. The manpower and training requirements to support peacetime readiness objectives and wartime employment shall be developed by Milestone III. These requirements shall be based upon considerations that include available Operational Test and Evaluation results and current field experiences with similar equipment.

e. System Energy Requirements. Energy requirements shall be considered in system selection and design. Major considerations shall be minimum energy usage and the substitution of other energy sources for petroleum and natural gas.

f. Electromagnetic and Other Spectrum Allocation. Planning and coordination for spectrum allocation, compatibility, and use with other systems having related spectra shall be conducted as early as possible for all systems involving intentional radiation or reception of electromagnetic energy, optical energy, acoustic energy, or other types of energy.

g. Deployment Requirements. When deployment is a requirement, transportability shall be a system selection and design factor. The

transportability of individual systems and components and units equipped with such systems in programmed military and Civil Reserve Air Fleet aircraft or other transportation modes shall be evaluated. Tradeoffs between transportability and combat effectiveness may be appropriate. Both inter-theatre and intratheatre transportability shall be considered.

h. Safety and Health. System safety engineering and management programs shall be in accordance with the criteria and procedures in DoD Instruction 5000.36 (reference (h)) to ensure that the highest degree of safety and occupational health, consistent with mission requirements and cost effectiveness, is designed into DoD systems.

i. Environment. Environmental consequences of system selection, development, production, and deployment shall be assessed at each milestone, and environmental documentation, prepared in accordance with DoD Directive 6050.1 (reference (i)).

j. Quality. A quality program shall be implemented in accordance with the criteria and procedures set forth in DoD Directive 4155.1 (reference (j)) to ensure user satisfaction, mission and operational effectiveness, and conformance to specified requirements.

k. Security. Physical security requirements shall be incorporated into the design of any system in which security of the system or of its operating or supporting personnel is essential to the readiness and survivability of the system. Deployment of the physical security subsystem shall take into account the requirements of DoD Directive 3224.3 (reference (k)).

9. Reliability and Maintainability (R&M). Goals and thresholds shall be proposed in the DCP at Milestone II for system R&M parameters directly related to operational readiness, mission success, nuclear and nonnuclear survivability and endurance, maintenance manpower cost, and logistic support cost. R&M goals and thresholds shall be defined in operational terms and shall include both contractor furnished equipment (CFE) and government furnished equipment (GFE) elements of the system.

a. R&M goals shall be realistically achievable in service. When possible, operational R&M deficiencies shall be precluded by design of CFE, by careful selection of GFE, and by tailoring of R&M-related operating and support concepts, policies, and planning factors.

b. The R&M thresholds recommended at Milestone II shall be the minimum operational values acceptable to the DoD Component. Thresholds approved in the SDDM at Milestone II shall be achieved before Milestone III. Thresholds approved in the SDDM at Milestone III shall be achieved during initial deployment.

c. R&M growth shall be predicted and graphically displayed in the IPSs prepared for Milestones II and III. The SDDM shall include threshold

values, with specified confidence levels, at interim review points. A threshold breach shall be reported at these points if these threshold values are not achieved.

d. Resources shall be identified for incorporation and verification of R&M design corrections during full-scale development and initial deployment. Assessment of current R&M values and timely corrective action are required until all R&M thresholds approved at Milestone III have been achieved in service or approved by waiver.

10. Test and Evaluation. Test and evaluation shall commence as early as possible. An estimate of operational effectiveness and operational suitability, including logistic supportability, shall be made prior to a full-scale production decision. The most realistic test environment will be chosen to test an acceptable representation of the operational system. Refer to DoD Directive 5000.3 (reference (l)).

11. Logistics. Integrated logistic support plans and programs, including NATO or bilateral allied support, shall be structured to meet peacetime readiness and wartime employment system readiness objectives tailored to the specific system. Beginning early in the system development process, both Department of Defense and industry shall consider innovative manpower and support concepts. Alternative maintenance concepts shall be assessed during concept development and at other appropriate points of the life cycle. Readiness problems and support cost drivers of current systems shall be analyzed to identify potential areas of improvement to be addressed during concept formulation. Program goals shall be based on quantitative analysis and established by Milestone II. Detailed support planning shall be initiated during full-scale development, and firm requirements shall be established before Milestone III. The supportability of a system's nuclear hardness design shall receive explicit consideration. Logistics and manpower planning shall be adjusted based on follow-on T&E and other appropriate reviews. Before Milestone III, the acquisition strategy shall be updated to include follow-on support in accordance with DoD Directive 4100.35 (reference (m)).

12. Computer Resources. Acquisition of embedded computer resources for operational military systems (including command and control systems) shall be managed within the context of the total system.

a. Requirements for interfaces between computers and plans to achieve that interface must be identified early in the life cycle. Plans for software development, documentation testing, and update during deployment and operation require special attention.

b. Computer resource planning shall be accomplished before Milestone II and continued throughout the system life cycle.

c. Computer hardware and software shall be specified and treated as configuration items. Baseline implementation guidance is contained in DoD Instruction 5010.19 (reference (n)).

### 13. Command and Control Systems

a. The major characteristics of command and control systems that require special management procedures are a rapidly evolving technological base, multiple requirements for internal and external interfaces, and reliance on automatic data processing hardware and related software. Such command and control systems differ from other weapon systems: they are acquired in small numbers, in some cases only one of a kind; their operational characteristics are largely determined by the users in an evolutionary process; and commercial equipment exists that can emulate the function. For command and control systems meeting the above criteria, acquisition management procedures should allow early implementation and field evaluation of a prototype system using existing commercial or military hardware and software.

b. Upon the recommendation of the appropriate using command, the DoD Component or the ASD(C<sup>3</sup>I), an alternate acquisition procedure shall be presented for approval by the Secretary of Defense. Following the documentation of a command and control major system requirement in a MENS approved by the Secretary of Defense in a SDDM, the design and testing of such systems should, in most cases, be accomplished in an evolutionary manner. These command and control systems shall be configured initially as prototypes using existing military or commercial equipment to the maximum extent possible and with a minimum of additional software. The designated users should be tasked to test various configurations in an operational environment using prototype and laboratory or test bed equipment and to assume the major responsibility for the Demonstration and Validation phase. In these cases, it shall be necessary for the DoD Component to recommend in the MENS that the Concept Exploration phase be combined with the Demonstration and Validation phase. The end result of combining these phases shall be a definition of a command and control system, including operational software, tailored to meet the commander and user needs and the documentation necessary for operational employment. When these objectives are achieved, the DoD Component shall normally recommend that the system be procured in sufficient numbers for initial fielding. In other cases, the DoD Component may decide to use the results of the test bed to initiate a competitive Full-Scale Development phase.

c. The procedures described in this paragraph are equally applicable to those non-major command and control systems that meet the criteria described above. Developers of such systems should be encouraged to pursue these alternative procedures when appropriate.

14. International Programs: NATO Rationalization, Standardization and Interoperability (RSI). DoD Components shall take action on the following areas and report progress at all milestone reviews.

a. Consider NATO country participation throughout the acquisition process. This includes standardization and interoperability with other NATO weapons systems.

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b. Consider NATO doctrine and NATO member threat assessments. In development of MENS, mission needs of NATO members shall be considered. In general, data that cannot be disseminated to foreign nations shall not be included in MENS.

c. Solicit NATO member contractors for bids and proposals on U.S. systems and components when such an opportunity is not precluded by statute or by the National Disclosure Policy.

d. During the evaluation of alternative system concepts, the DoD Component shall:

(1) Consider all existing and developmental NATO member systems that might address the mission need. Identify any performance, cost, schedule, or support constraints that preclude adoption of a NATO system.

(2) Determine testing requirements for NATO member candidate systems recommended for further development or acquisition.

(3) Determine whether a waiver of "Buy American" restrictions is appropriate, when a Secretary of Defense determination has not been made.

(4) Develop plans for further international cooperation in subsequent phases of the acquisition cycle for items such as cooperative development, coproduction, subcontracting, and cooperative testing or exchange of test results.

(5) Recommend U.S. position on third-country sales, recoupment of research and development costs or sharing research and development costs, and release of technology.

e. In subsequent phases of the acquisition cycle, DoD Components shall:

(1) Continue to expand and refine plans for international cooperation.

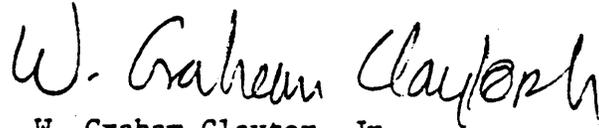
(2) Develop plans for host nation initial or joint logistics support, if applicable.

#### F. ORDER OF PRECEDENCE

The provisions of DoD Directive 5000.1 (reference (b)) and this Instruction are first and second in order of precedence for major system acquisition except where statutory requirements override. Any Department of Defense issuance in conflict with DoD Directive 5000.1 (reference (b)) or this Instruction shall be changed or canceled. Conflicts remaining after 90 days from issuance of this Instruction shall be brought to the attention of the originating office and the DAE.

**G. EFFECTIVE DATE AND IMPLEMENTATION**

This Instruction is effective immediately. Forward one copy of implementing documents to the Under Secretary of Defense for Research and Engineering within 120 days.



W. Graham Claytor, Jr.

Deputy Secretary of Defense

**Enclosures - 5**

1. References
2. Mission Element Need Statement (MENS) - Format
3. Decision Coordinating Paper (DCP) - Format
4. Integrated Program Summary (IPS) - Format
5. DoD Policy Issuances Related to Acquisition of Major Systems

REFERENCES, Continued

- (d) DoD Instruction 7000.3, "Selected Acquisition Reports (SARs)," April 4, 1979
- (e) DoD Directive 4120.3, "Defense Standardization and Specification Program," February 10, 1979
- (f) DoD Instruction 4120.19, "Department of Defense Parts Control System," December 16, 1976
- (g) DoD Directive 5160.65, "Single Manager Assignment for Conventional Ammunition," November 26, 1975
- (h) DoD Instruction 5000.36, "System Safety Engineering and Management," November 6, 1978
- (i) DoD Directive 6050.1, "Environmental Effects in the United States of DoD Actions" July 30, 1979
- (j) DoD Directive 4155.1, "Quality Program," August 10, 1978
- (k) DoD Directive 3224.3, "Physical Security Equipment: Assignment of Responsibility for Research, Engineering, Procurement, Installation, and Maintenance," December 1, 1976
- (l) DoD Directive 5000.3, "Test and Evaluation," December 26, 1979
- (m) DoD Directive 4100.35, "Development of Integrated Logistic Support for Systems/Equipments," October 1, 1970
- (n) DoD Instruction 5010.19, "Configuration Management," May 1, 1979
- (o) DoD Directive 5000.34, "Defense Production Management," October 31, 1977
- (p) DoD Directive 5000.19, "Policies for the Management and Control of Information Requirements," March 12, 1976
- (q) DoD Directive 4120.21, "Specifications and Standards Application," April 9, 1977
- (r) Military Standard 881A, "Work Breakdown Structures for Defense Materiel Items," April 25, 1975
- (s) DoD Directive 5000.28, "Design to Cost," May 23, 1975
- (t) DoD Instruction 7000.2, "Performance Measurement for Selected Acquisitions," June 10, 1977
- (u) DoD Instruction 5000.33, "Uniform Budget/Cost Terms and Definition," August 15, 1977

MISSION ELEMENT NEED STATEMENT (MENS)  
FORMAT

Prepare MENS in the format shown below. Do not exceed 5 pages, including annexes. Reference supporting documentation.

A. MISSION

1. Mission Areas. Identify the mission areas addressed in this MENS. A need can be common to more than one mission area. When this is the case, identify the multiple mission areas.

2. Mission Element Need. Briefly describe the nature of the need in terms of mission capabilities required and not the characteristics of a hardware or software system.

B. THREAT OR BASIS FOR NEED

Summarize the basis for the need in terms of an anticipated change in the projected threat, in terms of an exploitable technology or in terms of nonthreat related factors (e.g., continuing requirements for new pilots). When the need is based on a threat change, assess the projected threat over the period of time for which a capability is required. Highlight projected enemy force level and composition trends, system capabilities or technological developments that define the quantity or quality of the forecast threat. Include comments by the DIA and provide specific references from which the threat description is derived. Quantify the threat in numbers and capability. If nuclear survivability and endurance are required mission capabilities, include an explicit statement of this fact. When the need is based on exploitation of developing technology, describe the benefits to mission performance.

C. EXISTING AND PLANNED CAPABILITIES TO ACCOMPLISH THIS MISSION

Briefly summarize the existing and planned DoD or allied capabilities to accomplish the mission. This must not be a narrow, one-Service view when looking across a multi-Service or an overlapping mission area, such as air defense. Reference existing documentation, such as force structure documents.

D. ASSESSMENT OF NEED

The most important part of the MENS is the evaluation of the ability of current and planned capabilities to cope with the projected threat. Base the evaluation on one or more of the following factors:

1. Deficiency in the existing capability, such as excessive manpower, logistic support requirements, ownership costs, inadequate system readiness or mission performance.

2. Exploitable technological opportunity.

3. Force size or physical obsolescence of equipment.
4. Vulnerability of existing systems.

E. CONSTRAINTS

Identify key boundary conditions for satisfying the need, such as:

1. Timing of need.
2. Relative priority within the mission area.
3. The order of magnitude of resources the DoD Component is willing to commit to satisfy the need identified. This resource estimate is for initial reconciliation of resources and needs. It is not to be considered as a program cost goal or threshold.
4. Logistics, safety, health, energy, environment, and manpower considerations.
5. Standardization or interoperability with NATO, and among the DoD Components.
6. Potentially critical interdependencies or interfaces with other systems, and technology or development programs.

F. RESOURCE AND SCHEDULE TO MEET MILESTONE I

Identify an approximate schedule and an estimate of resources to be programed along with the approach proposed for developing alternative concepts for presentation to the Secretary of Defense at Milestone I.

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DECISION COORDINATING PAPER (DCP)  
FORMAT

Prepare DCP in the format shown below. Do not exceed 10 pages, including annexes. Reference supporting documentation.

Part I: State the direction needed from the Secretary of Defense, including deviations from the acquisition process contained in DoD Directive 5000.1 (reference (b)) and this Instruction.

Part II: Describe the overall program. The Description and Mission statement contained in the "Congressional Data Sheets" may satisfy this requirement.

Part III: Revalidate the need for the program.

Part IV: Summarize system and program alternatives considered and the reasons why the preferred alternative was selected.

Part V: Summarize the program schedule and acquisition strategy with emphasis on the next phase. The degree of competition should be addressed.

Part VI: Identify and assess issues affecting the Secretary of Defense's milestone decision.

**ANNEXES**

- A. Goals and Thresholds
- B. Resources - Preferred Alternative
- C. Life-Cycle Cost

DCP ANNEX A  
GOALS AND THRESHOLDS

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5000.2 (Annex A to Encl 3)

	Last Approved by SECDEF 1		Current Estimate	Recommended to SECDEF At This Milestone 2	
	Goal (a)	Threshold (b)		Goal (d)	Threshold (e)
<u>COST 3 4</u>					
RDT&E 5 Procurement Flyaway					
<u>SCHEDULE 4 6</u>					
Next Milestone IOC					
<u>PERFORMANCE 7</u>					
Operational Availability 8 9					
Mission Survivability and Reliability 9 10					
Weight					
Range					
Speed					
Sortie Rate 11					
<u>SUPPORTABILITY AND MANPOWER 7</u>					
Manning 12					
Maintenance-related R&M 9 13					
Petroleum, Oil, Lubricant Consumption					
Spares 14					

- 1 Provide goals and thresholds from last SDDM.
- 2 Explain any changes from columns (a) and (b) in a footnote.
- 3 Provide values for total RDT&E and procurement appropriations and for flyaway/rollaway/sailaway cost. Additional cost elements may be appropriate for individual systems. All cost goals and thresholds will be in constant, base year dollars.
- 4 Add additional stubs as appropriate. The stubs indicated are mandatory.
- 5 Provide both a total RDT&E program goal and threshold. Fiscal year thresholds shall be displayed in a footnote to this Annex and shall total to the overall RDT&E threshold.
- 6 Provide projected date for next milestone and for Initial Operational Capability (IOC). Define IOC by footnote. Additional schedule elements may be added, as appropriate.
- 7 Select appropriate parameters that drive system effectiveness and costs. The stubs indicated are only examples.
- 8 Use readiness-related R&M parameters that constitute operational availability if more appropriate.
- 9 Provide goals and thresholds to be achieved by the next milestone. Predicted survivability growth and R&M growth shall be displayed in a footnote to this annex as a series of intermediate thresholds capable of being measured during development, production, and deployment.
- 10 Include mission maintainability if maintenance will be performed during the mission.
- 11 Include combat utilization rate if different from peacetime utilization rate.
- 12 Include both operators and maintenance personnel.
- 13 Include separate parameters for depot maintenance.
- 14 Use logistic-related R&M parameters, if appropriate.

	FY 19 PRIOR	FY 19	TO COMPLETION	TOTAL PROGRAM							
Acquisition Quantities Development Production Deliveries											
DEVELOPMENT Validation Phase Full-Scale Development Total Development Cost 1 RDT&E Funding (Approved FYDP)											
PRODUCTION System Cost 2 (Long Lead Requirements) Initial Spares Total Procurement Cost 1 Procurement Funding (Approved FYDP)										( ) ( ) ( ) ( ) ( ) ( )	( ) ( ) ( ) ( ) ( ) ( )
MILCON During Development During Production Total MILCON MILCON Funding (Approved FYDP)											
Total Program Acquisition Cost 1 RDT&E, Procurement and MILCON Funding (Approved FYDP) (Difference)											
Estimated Other Resources Requirements 3 During Development During Production											
OPERATING AND SUPPORT O&M MILPERS Procurement 4 Total Operating and Support Cost 1											
Total Life Cycle Requirements											

1 Definitions should be in accordance with DoD Instruction 5000.33 (reference (u)).  
 2 Equal to Weapon System Cost as defined in DoD Instruction 5000.33 (reference (u)); for Shipbuilding, Outfitting and Post Delivery Costs will be included.  
 3 Other Life Cycle related costs (i.e., Installation, Project Manager Office, Civilian Salaries, etc.) funded by other appropriations; e.g., O&M & MILPERS during Development and/or Production phase. Also, Production Base Support (Industrial Facilities), shore-based training facilities, 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 the content of this entry.  
 4 Procurement costs associated with operating and owning a weapon system such as modifications, replenishment spares, ground equipment, etc.

DCP ANNEX C  
LIFE CYCLE COST

CONSTANT DOLLARS (IN MILLIONS)

<u>ALTERNATIVE</u>	<u>DEVELOPMENT</u>	<u>PRODUCTION</u>	<u>OPERATING AND SUPPORT</u>	<u>TOTAL</u>
A 1				
A 2				
A 3				
o				
o				
o				

CURRENT DOLLARS (IN MILLIONS)

<u>ALTERNATIVE</u>	<u>DEVELOPMENT</u>	<u>PRODUCTION</u>	<u>OPERATING AND SUPPORT</u>	<u>TOTAL</u>
A 1				
A 2				
A 3				
o				
o				
o				

INTEGRATED PROGRAM SUMMARY (IPS)  
FORMAT

The IPS summarizes the implementation plan of the DoD Component for the complete acquisition cycle with emphasis on the phase the program is entering. Limit the IPS to 60 pages (inclusive of all annexes except Annex B) with no more than two pages required per topic. When further detail is available in a published study or plan, reference these documents in the IPS and provide them for inclusion in the Milestone Reference File (MRF). Do not classify the IPS higher than SECRET. When possible, display data in numerical or tabular format. The following annexes are mandatory:

- A. Resources - Cost Track Summary
- B. Resources - Funding Profile
- C. Resources - Summary of System Acquisition Costs
- D. Manpower
- E. Logistics

Include the topics indicated below in the IPS. If a specific item cannot be discussed due to the nature or timing of the acquisition process, provide a statement and explanation to that effect.

1. Program History. Summarize previous milestone decisions and guidance, PPBS decisions, and significant Congressional actions affecting the program.

2. Program Alternatives. In addition to the program proposed by the DoD Component in the DCP, briefly describe each DCP alternative program, including its advantages and disadvantages. Do not duplicate data in the IPS annexes.

3. Cost Effectiveness Analysis. Summarize the assumptions, methodology, status, and results of any cost-effectiveness analyses prepared in support of the milestone decision. This section shall contain specific discussions of those aspects of the analyses that relate to the issues identified at the Milestone Planning Meeting. If the analysis supporting the recommended milestone decision is not complete at the time the IPS is submitted, describe the analytical and coordination tasks remaining and provide a schedule for completion of the analysis before the scheduled DSARC meeting.

4. Threat Assessment. Provide an up-to-date summary of the threat, including discussion of CIPs. At Milestones I, II, and III, a reaffirmation of program need shall be included.

5. System Vulnerability. Describe vulnerability to detection, interference, and attack and program actions to minimize these vulnerabilities. Nuclear and nonnuclear survivability and endurance information shall be summarized.

6. Organizational and Operational Concept. Describe the organizational structure associated with the system and the general system operational concept. Describe a typical mission profile or profiles and activity rates (wartime and peacetime).

7. Overview of Acquisition Strategy. Describe the overall strategy to acquire and deploy a system to satisfy the mission need, referring to but not repeating other sections of the IPS. Discuss the rationale for any deviations from acquisition process prescribed in DoD Directive 5000.1 (reference (b)) and this Instruction. Emphasis should be on the next phase of the acquisition process.

8. Technology Assessment. Summarize the degree to which technology planned for use in this program has been demonstrated. Identify technology risks and activities planned to reduce these risks. Discuss nuclear hardening technology and associated risks, as appropriate.

9. Contracting. Provide a summary of information in the contracting plan. At a minimum, include: (a) the overall program contracting plan (introduction and maintenance of competition throughout the system life-cycle and plans for competitive breakout of components by both the government and the contractors); (b) contractor performance under contracts in the current program phase; and (c) major contracts to be awarded in the next program phase (summary of workscope, contract types, sources solicited and selected, scheduled award dates, special terms or conditions, data rights, warranties, estimated cost or price including incentive structures). When appropriate, reference other portions of the IPS or documents in the MRF for additional detail. Do not include contractor sensitive data in this paragraph.

10. Manufacturing and Production. Summarize the system's production plan concentrating on those areas appropriate to the next phase. Refer to DoD Directive 5000.34 (reference (o)). Additionally:

a. At Milestone I. Identify new manufacturing technology needed for each concept considered for demonstration and validation. Also identify deficiencies in the U.S. industrial base and availability of critical materials.

b. At Milestone II. Describe areas of production risk and provisions for attaining a producible design during the Full-Scale Development phase and identify requirements for parts control, long lead procurement, and limited production.

c. At Milestone III. Summarize the results of the production readiness review and address the existence of a manufacturing design. Include nuclear hardening design in the summary, if appropriate. If the review is not complete at the time the IPS is submitted, describe the tasks remaining and provide a schedule for completion prior to the scheduled DSARC meeting.

11. Data Management. Discuss how general engineering and data requirements imposed on contractors shall be selected and tailored to fit the particular needs of the program and the program manager and the degree of configuration management that shall be applied to the program.

a. Application. Identify exceptions to use of approved specification, standards, their related technical and engineering data, special reports, terminology, data elements and codes to be used for program management. Refer to DoD Directive 5000.19 (reference (p)) and to DoD Directive 4120.21 (reference (q)).

b. Work Breakdown Structure (WBS). Identify and explain any deviations from MILSTD 881A (reference (r)).

c. Contractor Data Base. Discuss how the contractor's internal data base shall be validated and used to provide essential information. Discuss also whether or not contractor data products can be used as substitutes for DoD required reports.

d. Levels of Details. Discuss how reporting burdens shall be minimized by using the highest level of the WBS that can serve management needs.

12. Configuration Management. Identify interfacing systems and discuss the degree of configuration management planned for each phase. Also, explain any intended deviations from DoD Directive 5010.19 (reference (n)).

13. Test and Evaluation. Describe test results to date and future test objectives. Based on the Test and Evaluation Master Plan, include a narrative description of the overall test strategy for both Development Test and Evaluation and Operational Test and Evaluation. Refer to DoD Directive 5000.3 (reference (l)).

14. Cost. Address the elements listed below. Make the discussion consistent with Annexes A, B, and C and address such displays in expanded detail, if appropriate.

a. Life-Cycle Cost. Discuss the underlying assumptions pertaining to the life-cycle cost estimates, including the impact of Foreign Military Sales, cooperative development or production, planned production rates, and learning curves for each of the alternatives in the DCP.

b. Cost Control. Discuss cost control plans to include the following items:

(1) Assumptions on which the proposed program cost thresholds were determined.

(2) Proposed Design-to-Cost goals and how they shall be implemented at the contract level. Refer to DoD Directive 5000.34 (reference (o)) and to DoD Directive 5000.28 (reference (s)).

(3) Exceptions to implementation of Cost/Schedule Control Systems Criteria and alternative cost control procedures to be used. Refer to DoD Instruction 7000.2 (reference (t)).

c. Production

(1) Milestone I. Discuss the economics for establishing a second production source for the preferred alternative. Estimate the increased costs or savings from competitive production sources. Production quantities and production rates for this estimate shall be determined at the Milestone Planning Meeting.

(2) Milestones II and III. Provide an analysis of variation in unit cost with production rate which identifies efficient production rates.

d. Programing and Budgeting. Discuss the sources and applications of funds, as necessary, to explain IPS Resource Annex C.

15. Logistics. Summarize information contained in the Integrated Logistics Support Plan and present related management issues and risk areas. Display backup data in Annex E. Refer to DoD Directive 4100.35 (reference (m)). Additionally:

a. At Milestone I

(1) Identify mission requirements (including any NATO member requirements) that significantly impact upon system design features and support concepts.

(2) Identify subsystems and logistic elements that drive support cost and readiness of similar current systems and identify areas for improvement in new system design efforts.

(3) Identify subsystems and major items of equipment that are common to other programs and systems and describe standardization approach.

(4) Define the support concept alternatives to be considered, including the levels of maintenance for each alternative.

(5) Identify major support equipment requiring new development.

(6) Identify new technology items that require advances in repair technology.

(7) Identify all estimated RDT&E funding to be allocated to support planning and analysis by program phase.

b. At Milestones II and III. Update the information provided at the previous milestone. Additionally:

(1) Identify R&M test results to date and the quantitative effect on support resource requirements, such as manpower, spares, depot maintenance, to meet readiness objectives.

(2) Estimate the capability of current and planned support systems to meet logistic objectives, such as resupply time, maintenance turn-around-time, and automatic test equipment production rate and capacity.

(3) Identify contract provisions for logistics support, such as parts control and interim contractor support. Do not repeat information contained in the Contracting section of the IPS.

(4) Identify any subsystems considered for long-term contractor support and the analysis leading to contractor support decisions.

(5) Provide a reference to the document that includes the leadtimes and activation dates for each level of organic support capability.

16. Reliability and Maintainability. Define each R&M parameter that applies to the system proposed in the DCP and summarize R&M achievements of the preceding phase. Describe R&M requirements for the next phase. Additionally:

a. At Milestone I. Establish a tentative design goal (or a range of values) at the system level for each applicable R&M parameter. These goals shall be responsive to projected needs of the mission area and realistic in comparison to measured R&M values of similar systems.

b. At Milestone II

(1) Show that operational R&M problems, typical of similar systems, have been addressed in design, by careful selection of GFE, and by tailoring operating and support concepts.

(2) Identify major GFE elements of the new system and provide some indication of how reliable and maintainable they are in similar applications. State the source of this information.

(3) Establish a specific goal and threshold for each applicable R&M parameter to be attained prior to Milestone III.

(4) Display predicted R&M growth as a series of intermediate points associated with thresholds for full-scale development.

c. At Milestone III. Display predicted R&M growth as a series of intermediate points associated with thresholds for production and deployment.

17. Quality. Summarize the independent quality assessments required by DoD Directive 4155.1 (reference (j)) and provide the status of action taken or in process as a result of the recommendations contained in the independent quality assessments.

18. Manpower. Specify the system activity level used to estimate and compute the system manpower requirements presented in the annex. Indicate whether this activity represents a combat surge, sustained combat, pre-combat readiness, or other posture (specify). Also specify the available hours per person, per month used to compute numbers of people from workload estimates (not required at Milestone I). List any other critical assumptions that have a significant bearing on manpower requirements. Discussion of manpower requirements shall be consistent with Annex D and provide supporting detail as appropriate. Additionally:

a. At Milestone I

(1) Summarize manpower sensitivity to alternative employment concepts being considered.

(2) Identify parameters and innovative concepts to be analyzed during the next phase such as: new maintenance concepts and organization; new concepts or technologies to improve personnel proficiency and performance.

b. At Milestone II

(1) Summarize the significant manpower implications of trade-offs conducted among hardware design, support characteristics, and support concepts.

(2) Explain briefly significant manpower differences in comparison with a reference system, considering design, support concept, and employment objective. The reference system should be one that is being replaced by the new system, performs a similar function, or has similar technological characteristics.

(3) Quantify the sensitivity of manpower requirements to the proposed maintenance related reliability and maintainability goals and to system activity rates.

(4) Describe the sources of manpower for the new system. Summarize projected requirements versus projected DoD Component assets in critical career fields. Identify new occupations that may be required.

(5) Include schedules for:

(a) Further trade-off analyses among design and support elements impacting manpower,

(b) Job task identification,

(c) The manpower analyses planned during full-scale development, and

(d) Planned T&E to verify the manpower estimates and underlying assumptions.

c. At Milestone III

(1) Explain changes from manpower estimates presented at the previous milestone. Quantify manpower sensitivity to the maintenance related reliability and maintainability levels demonstrated, to those proposed, and to system activity levels (including wartime surge).

(2) Identify shortfalls in meeting requirements by occupation. Assess the impact on system readiness of failure to obtain required personnel. Identify new occupations not yet approved and programed into DoD Component personnel and training systems.

(3) Summarize plans for evaluating manpower requirements during follow-on test and evaluation.

19. Training

a. At Milestone I. Identify any significant differences in the training implications of the alternative system considered.

b. At Milestone II and III

(1) Summarize plans for attaining and maintaining the required proficiency of operating and support personnel, quantifying the scope and duration of formal training, time in on-the-job and unit training, use of simulators and other major training devices in formal and unit training and use of other job performance and training aids. Identify anticipated savings from use of simulators or other training devices.

(2) Provide a summary by fiscal year and occupation of all formal training requirements for the proposed system, identifying numbers of personnel trained and training costs (including facility modifications). Separately identify the net impact on special emphasis training programs such as undergraduate flight training.

c. At Milestone III Also

(1) Summarize plans and additional resources required to train the initial component of operating and support personnel for unit conversion to fielded systems.

(2) Summarize plans for training reserve component personnel whose mission requires operation or support of the system.

(3) Reference plans for validation of proficiency criteria and personnel performance.

20. Facilities. Describe any new government or industry facilities required for production or support of the system. Summarize how these facilities are to be made available. Identify cost and schedule constraints, such as training, testing or maintenance, imposed by facilities limitations.

21. Energy, Environment, Health and Safety. Summarize the environmental and energy impacts of developing, producing, and operating the DCP systems alternatives.

a. Specifically, for energy considerations:

(1) At Milestone I. Establish tentative design goals, or range of values, for energy efficiency and substitution at the system level that are responsive to projected needs of the mission area. These goals should be shown in comparison to energy efficiency and substitution capability of similar systems.

(2) At Milestone II. Establish firm energy related goals when appropriate and state trade-offs made between the design, operating concepts, simulators, and any substitution objectives.

(3) At Milestone III. Review energy consumption projections and efficiencies and their sensitivities to system populations.

b. Additionally, prior to the Milestone II and III decisions, summarize the results of system health and safety analyses and assessments and specify actions pending on any unresolved significant system health or safety hazards. Cite management decisions, if any, to accept the risks associated with significant identified hazards.

c. List environmental documentation prepared in accordance with DoD Directive 6050.1 (reference (i)).

22. Computer Resources. Address the following factors:

(a) Interface requirements.

(b) Computer programs and documentation required to support the development, acquisition, and maintenance of computer equipment and other computer programs.

(c) Plans for maintenance and update of software after initial system operating capability has been achieved.

23. International Programs. Summarize action taken with regard to NATO RSI considerations listed in paragraph E.14. of the basic Instruction and identify approved, pending, and potential Foreign Military Sales.

RESOURCES - COST TRACK SUMMARY 1  
(Millions of Dollars)

5000.2 (Annex A to Encl 4)

	FY Constant (Base Year) \$			Escalated \$
	Planning/ Development Estimate <sup>2</sup>	SDDM (Date) <sup>3</sup>	Current Estimate <sup>4</sup>	Current Estimate <sup>4</sup>
<b>DEVELOPMENT PHASE</b>				
RDT&E				
Validation Phase				
Full Scale Development				
Contractors				
(Provide one level of WBS indenture based on program requirements)				
In-House				
(Provide one level of WBS indenture based on program requirements)				
Contingency (Service)				
TOTAL RDT&E APPROPRIATION				
MILCON				
O&M <sup>5</sup>				
MILPERS <sup>5</sup>				
TOTAL DEVELOPMENT PHASE				
<b>PRODUCTION PHASE</b>				
PROCUREMENT				
System Cost <sup>7</sup>				
Flyaway	( ) <sup>6</sup>	( ) <sup>6</sup>	( ) <sup>6</sup>	( ) <sup>6</sup>
(Provide one level of WBS indenture based on program requirements)				
Other System Costs				
Initial Spares				
Other Line Item Procurement <sup>8</sup>				
TOTAL PROCUREMENT APPROPRIATION				
MILCON				
O&M <sup>5</sup>				
MILPERS <sup>5</sup>				
TOTAL PRODUCTION PHASE				
<b>TOTAL OPERATING &amp; SUPPORT PHASE</b>				
<b>TOTAL LIFE CYCLE REQUIREMENTS</b>				
<b>AVERAGE ANNUAL SYSTEM O&amp;S COSTS</b>				
No. of Systems:	No. of Years:			

- 1 Apply footnotes as required to explain the chart. Adjustments to format are authorized to accommodate program; stub entries will be decided on at the initial Milestone Planning Meeting. Definitions should be in accordance with DoD Instruction 5000.33 (reference (u)).
  - 2 Identify basis for estimate and date of SDDM.
  - 3 Add columns as necessary for each SDDM revision.
  - 4 The preferred alternative or the latest approved baseline cost estimate contained in the SDDM will be shown in both constant and current (escalated) estimate columns.
  - 5 Other Life Cycle related costs (i.e., Installation, Project Manager Office, Civilian Salaries, etc.) funded by O&M and MILPERS during Development and/or Production phase.
  - 6 Enter Quantity.
  - 7 Equal to Weapon System Cost as defined in DoD Instruction 5000.33 (reference (u)).
  - 8 Production Base Support (Industrial Facilities), shore-based training facilities, 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 the content of this entry.
- NOTE:** Reasons for significant variations in estimate should be explained by footnote (e.g., schedule slippage, Congressional funding, etc.).

Mar 19, 80  
 5000.2 (Annex B to Encl 4)  
 Annex to be completed for each alternative:  
 1) In Constant (base) year dollars  
 2) In Escalated dollars using current  
 FYDP rates and ground rules

IPS ANNEX B  
 RESOURCES - FUNDING PROFILE 1  
 (Dollars in Millions)

	FY 19	TOTAL PROGRAM							
	PRIOR								
Acquisition Quantities to be Procured 2 Development Production Deliveries									
DEVELOPMENT PHASE									
ROUTE									
Validation Phase									
Full Scale Development Phase									
Other System Costs									
TOTAL ROUTE APPROPRIATION									
MILCON 3									
O&M 3									
MILPERS 3									
TOTAL DEVELOPMENT PHASE									
PRODUCTION PHASE									
PROCUREMENT 4									
System Cost 5									
Flyaway, Rollaway, Sallaway									
Other System Costs									
Initial Spares									
Other Line Item Procurement 6									
TOTAL PROCUREMENT APPROPRIATION									
MILCON 3									
O&M 3									
MILPERS 3									
TOTAL PRODUCTION PHASE									
OPERATING AND SUPPORT PHASE									
MILPERS									
O&M									
Procurement 7									
TOTAL OPERATING AND SUPPORT PHASE									

1 Apply footnotes as required to explain the chart. Adjustments to format are authorized to accommodate program; stub entries will be decided on at the initial Milestone Planning Meeting. Definitions should be in accordance with DoD Instruction 5000.33 (reference (u)). Use as many columns as necessary to show every year of acquisition funding and operation and support funding until steady state operations are achieved.

2 Identify the number of Development and Production units to be acquired by fiscal year.

3 Other Life Cycle related costs (i.e., Installation, Project Manager Office, Civilian Salaries, etc.) funded by other appropriations; e.g., O&M and MILPERS during Development and/or Production phase.

4 Enter the costs by appropriation; e.g., Aircraft Procurement, Missile Procurement, Ship Construction Navy, or Other Procurement. If more than one applies, identify it separately.

5 Equal to Weapon System Cost as defined in DoD Instruction 5000.33 (reference (u)).

6 Production Base Support (Industrial Facilities), shore-based training facilities, 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 the content of this entry.

7 Procurement costs associated with operating and owning a weapon system such as modifications, replenishment spares, ground equipment, etc.

IPS ANNEX C  
RESOURCES - SUMMARY OF SYSTEM ACQUISITION COSTS <sup>1</sup>

<u>SOURCES OF FUNDING</u>	<u>CURRENT DOLLARS (MILLIONS)</u>
Department of the Army	\$XXXXXX
Program Element XXXXX	\$XXXXXX
Program Element XXXXX	<u>XXXXX</u>
Department of the Navy	XXXXXX
Program Element XXXXX	<u>\$XXXXXX</u>
Department of the Air Force	XXXXXX
Program Element XXXXX	<u>\$XXXXXX</u>
Defense Agencies	XXXXXX
Program Element XXXX	<u>\$XXXXXX</u>
Other U.S. Government	XXXXXX
Other Foreign	<u>XXXXXX</u>
<b>TOTAL FUNDING</b>	<b>\$XXXXXX</b>

<u>APPLICATIONS</u>	<u>CURRENT DOLLARS (MILLIONS)</u>
Major System Equipment	\$XXXXXX
System Project Manager	XXXXXX
System Test and Evaluation	XXXXXX
Peculiar Support Equipment	XXXXXX
Training	XXXXXX
Data	XXXXXX
Operational Site Acquisition	XXXXXX
Industrial Facilities	XXXXXX
Common Support Equipment	XXXXXX
Initial Spares and Repair Parts	<u>XXXXXX</u>
<b>TOTAL FUNDING</b>	<b>\$XXXXXX</b>

<sup>1</sup> Refer to DoD Instruction 5000.33 (reference (u)).

IPS ANNEX D  
MANPOWER

The IPS will have a one page Manpower annex including the following:

A. Current manpower estimate for military force structure:<sup>1</sup>

<sup>2</sup> UNIT TYPE	UNIT MANNING <sup>3</sup>		NO. OF UNITS <sup>4</sup>	PROGRAM TOTALS <sup>5</sup>		
	PROGRAM ALTERNATIVE	REFERENCE SYSTEM		ACTIVE MILITARY	RESERVE COMPONENT	OTHER

B. Contractor support and depot workload (Annual manhours per end item deployed)<sup>6</sup>:

DSARC System      Reference System

Contractor Support (below depot)

Depot Level Workload

C. Net Change in Total Force Manpower associated with the proposed system deployment:

Active Forces      Reserves      DoD Civilians

Number of Authorizations

- 1 Not required at Milestone 1.
- 2 List each unit type that will operate the system/primary system elements, including unit types that provide intermediate maintenance of system components. Examples of unit types are "Tank Battalion," "Munitions Maintenance Squadron," "Avionics Intermediate Maintenance Department."
- 3 For each unit type, show the manning required to satisfy the most demanding mission (normally combat employment, but may be pre-combat readiness for certain naval vessels and systems on alert). Show total unit manning for operating units, organizational level direct support units, and dedicated intermediate support units. For units that provide intermediate level support to many primary systems, such as naval shore based intermediate maintenance departments, show manning equivalent of the man years of work attributable to program the alternative. Denote manning equivalents with an asterisk.

- 4 Number of units of each type in the planned force structure for the program alternative.
- 5 Multiply number of units by unit manning, and equivalent manning by quantity of systems deployed, to obtain total manning required for units operating and/or supporting the program alternative system. Show how these requirements are expected to be satisfied as: active military authorizations, reserve component authorizations, and/or other to be identified in footnote. Unprogramed requirements must be shown as "other."
- 6 Annual man years of below-depot contractor support divided by the planned quantity of the system in the force structure, and the annual man years for depot level maintenance of the system and its components divided by the planned quantity of the system in the force structure. Not required at Milestone I.

IPS ANNEX E  
LOGISTICS

The IPS will have a one-page Logistics Annex. The following provides general format guidance, but should be tailored to meet the needs of each new system.

	New System <sup>1</sup>			Current System <sup>2</sup>
	Alt. 1	Alt. 2	Alt. 3	
1. System Readiness Objectives				
Peacetime Readiness 3				
Wartime Employment 4				
<hr/>				
2. Design Parameters				
Reliability 5				
Maintainability 6				
Built-in-test Effectiveness 7				
<hr/>				
3. Logistics Parameters				
Resupply Time				
Spares Requirement 8				

- 1 Include one column for each program alternative. For each parameter provide an estimate at system maturity based on analyses and tests to date.
- 2 Identify a comparable system in current operation.
- 3 Appropriate peacetime measures such as Operational Readiness at peacetime utilization rate, supply and maintenance downtime rates.
- 4 Appropriate wartime measure for the system such as sortie generation rate, operational availability at combat utilization rate, station coverage rate.
- 5 Appropriate logistic-related reliability parameters such as mean time between maintenance actions or removals.
- 6 Appropriate maintainability measures for the system such as mean time to repair, maintenance manhours per maintenance action.
- 7 If applicable to the system, include fault detection, fault isolation, and false alarm rates.
- 8 Estimate of spares investment required to meet system readiness objectives at stated logistic-related reliability levels. May be stated as requirement per site or operating unit, or for entire fleet, as appropriate.

DOD POLICY ISSUANCES RELATED  
TO ACQUISITION OF MAJOR SYSTEMS

A. DEFENSE ACQUISITION REGULATION  
(FORMERLY ARMED SERVICES PROCUREMENT REGULATION)

B. ADMINISTRATION - GENERAL

- 4105.55 (D) Selection and Acquisition of Automatic Data Processing Resources
- 4275.5 (D) Acquisition and Management of Industrial Resources
- 5000.4 (D) OSD Cost Analysis Improvement Group
- 5000.16 (D) Joint Logistics and Personnel Policy and Guidance (JCS Publication No. 3)
- 5000.23 (D) System Acquisition Management Careers
- 5000.29 (D) Management of Computer Resources in Major Defense Systems
- 5100.40 (D) Responsibility for the Administration of the DoD Automatic Data Processing Program
- 5220.22 (D) Department of Defense Industrial Security Program
- 5500.15 Review of Legality of Weapons Under International Law
- 7920.1 (D) Life Cycle Management of Automated Information Systems (AIS)
- 7920.2 (D) Major Automated Information System Approval Process

C. ADMINISTRATION - STANDARDIZATION OF TERMINOLOGY

- 5000.8 Glossary of Terms Used in the Areas of Financial, Supply and Installation Management
- 5000.9 (D) Standardization of Military Terminology
- 5000.11 (D) Data Elements and Data Codes Standardization Program
- 5000.33 Uniform Budget/Cost Terms and Definition

D. COMMUNICATION/INFORMATION MANAGEMENT

- 5000.19 (D) Policies for the Management and Control of Information Requirements
- 5000.20 (D) Management and Dissemination of Statistical Information
- 5000.22 Guide to Estimating Cost of Information Requirements
- 5000.32 DoD Acquisition Management Systems and Data Requirements Control Program
- 5230.3 (D) Information Releases by Manufacturers
- C-5230.3 (D) Public Statements on Foreign and Military Policy and on Certain Weapons (U)
- 5230.4 (D) Release of Information on Atomic Energy, Guided Missiles and New Weapons
- 5230.9 (D) Clearance of Department of Defense Public Information
- 5400.4 (D) Provision of Information to Congress
- 5400.7 (D) Availability to the Public of Department of Defense Information

E. CONTRACT MANAGEMENT

- 1100.11 (D) Equal Employment Opportunity, Government Contracts
- 4000.19 (D) Basic Policies and Principles for Inter-service, Interdepartmental and Interagency Support
- 4105.60 Department of Defense High Dollar Spare Parts Breakout Program
- 4105.62 (D) Selection of Contractual Sources for Major Defense Systems
- 4140.41 Government-Owned Materiel Assets Utilized as Government-Furnished Materiel for Major Acquisition Programs
- 4160.22 (D) Recovery and Utilization of Precious Metals

- 5010.8 (D) DoD Value Engineering Program
- 7800.1 (D) Defense Contract Financing Policy

F. INTEGRATED LOGISTICS

- 4100.35 (D) Development of Integrated Logistic Support for Systems/Equipments
- 4130.2 (D) The Federal Catalog System
- 4140.19 Phased Provisioning of Selected Items for Initial Support of Weapons Systems, Support Systems, and End Items of Equipment
- 4140.40 (D) Basic Objectives and Policies on Provisioning of End Items of Materiel
- 4140.42 Determination of Initial Requirements for Secondary Item Spare and Repair Parts
- 4151.7 Uniform Technical Documentation for Use in Provisioning of End Items of Materiel
- 4151.15 Depot Maintenance Programming Policies
- 5100.63 Provisioning Relationships Between the Military Departments/Defense Agencies and Commodity Integrated Materiel Managers

G. INTERNATIONAL COOPERATION

- 2000.3 (D) International Interchange of Patent Rights and Technical Information
- 2000.9 (D) International Co-Production Projects and Agreements Between the U.S. and other Countries or International Organizations
- 2010.6 (D) Standardization and Interoperability of Weapon Systems and Equipment within the North Atlantic Treaty Organization (NATO)
- 2010.7 (D) Policy on Rationalization of NATO/NATO Member Telecommunication Facilities
- 2015.4 Mutual Weapon Development Data Exchange Program (MWDDEP) and Defense Development Exchange Program (DDEP)
- 2035.1 (D) Defense Economic Cooperation with Canada

2045.2                    Agreements with Australia and Canada for  
Qualification of Products of Non-Resident  
Manufacturers

2100.3    (D)            United States Policy Relative to Commitments  
to Foreign Governments Under Foreign Assistance  
Programs

2140.1                    Pricing of Sales of Defense Articles and  
Defense Services to Foreign Countries and  
International Organizations

2140.2    (D)            Recoupment of Nonrecurring Costs on Sales  
of USG Products and Technology

3100.3    (D)            Cooperation with Allies in Research and  
Development of Defense Equipment

3100.4    (D)            Harmonization of Qualitative Requirements  
for Defense Equipment of the United States  
and Its Allies

3100.8                    The Technical Cooperation Program (TTCP)

4155.19                    NATO Quality Assurance

5100.27   (D)            Delineation of International Logistics  
Responsibilities

5230.11   (D)            Disclosure of Classified Military Information  
to Foreign Governments and International  
Organizations

5230.17   (D)            Procedures and Standards for Disclosure of  
Military Information to Foreign Activities

5530.3    (D)            International Agreements

H. PLANS - CONSERVATION OF RESOURCES

4170.9                    Defense Contractor Energy Shortages and  
Conservation

6050.1    (D)            Environmental Effects on the United States  
of DoD Actions

I. PLANS - MATERIAL AVAILABILITY, WAR RESERVE AND MOBILIZATION

- 3005.5 (D) Criteria for Selection of Items for War Reserve
- 4005.1 (D) DoD Industrial Preparedness Production Planning
- 4005.3 Industrial Preparedness Production Planning Procedures
- 4005.16 (D) Diminishing Manufacturing Sources and Material Shortages (DMSMS)
- 4100.15 (D) Commercial or Industrial-Type Activities
- 4151.16 (D) DoD Equipment Maintenance Program
- 4210.1 Department of Defense Coded List of Materials
- 4210.7 Controlled Materials Requirements
- 4210.8 Department of Defense Bills of Materials
- 4410.3 Policies and Procedures for the DoD Master Urgency List (MUL)
- 4410.4 (D) Military Production Urgencies System
- 5160.54 (D) Industrial Facilities Protection Program - DoD Key Facilities List
- 5220.5 (D) Industrial Dispersal

J. PRODUCTION, QUALITY ASSURANCE, TEST AND EVALUATION

- 4155.1 (D) Quality Program
- 4200.15 Manufacturing Technology Program
- 5000.3 (D) Test and Evaluation
- 5000.34 (D) Defense Production Management
- 5000.38 (D) Production Readiness Reviews
- 5010.20 (D) Work Breakdown Structures for Defense Materiel Items

5160.65 (D) Single Manager Assignment for Conventional Ammunition

K. RESOURCE MANAGEMENT

7000.1 (D) Resource Management Systems of the Department of Defense

7000.2 Performance Measurement for Selected Acquisitions

7000.3 Selected Acquisition Reports (SAR)

7000.10 Contract Cost Performance, Funds Status and Cost/Schedule Status Reports

7000.11 Contractor Cost Data Reporting (CCDR)

7041.3 Economic Analysis and Program Evaluation for Resource Management

7045.7 The Planning, Programming and Budgeting System

7200.4 (D) Full Funding for DoD Procurement Programs

L. TECHNICAL MANAGEMENT - GENERAL

1130:2 (D) Management and Control of Engineering & Technical Services

4630.5 (D) Compatibility and Commonality of Equipment for Technical Command and Control, and Communications

5010.12 Management of Technical Data

5010.19 (D) Configuration Management

5100.30 (D) Worldwide Military Command and Control Systems (WWMCCS)

5100.36 (D) Department of Defense Technical Information

5100.38 Defense Documentation Center for Scientific and Technical Information (DDC)

5100.45 Centers for Analysis of Scientific and Technical Information

5200.20 (D) Distribution Statements on Technical Documents

5200.21 Dissemination of DoD Technical Information



