



*Cancelled  
19 March 1970*

January 18, 1977  
NUMBER 5000.1

DDR&E

## Department of Defense Directive

### SUBJECT

Major System Acquisitions

- Refs. : (a) DoD Directive 5000.1, "Acquisition of Major Defense Systems," December 22, 1975 (hereby cancelled)
- (b) OMB Circular A-109, "Major System Acquisitions," April 5, 1976
- (c) DoD Directive 5000.2, "Major System Acquisition Process," January 18, 1977
- (d) DoD Directive 5000.30, "Defense Acquisition Executive," August 20, 1976
- (e) DoD Directive 7045.7, "Planning, Programming and Budgeting Systems," October 29, 1969
- (f) Armed Services Procurement Regulations
- (g) DoD Instruction 7000.3, "Selected Acquisition Report (SAR)," September 23, 1975
- (h) DoD Directive 5000.3, "Test and Evaluation," January 1, 1973

### I. REISSUANCE AND PURPOSE

This Directive reissues reference (a) to implement reference (b) and updates DoD policy for the management of major system acquisitions. Reference (a) is hereby cancelled.

### II. APPLICABILITY AND SCOPE

- A. The provisions of this Directive apply to the Office of the Secretary of Defense and the Organization of the Joint Chiefs of Staff and to the Military Departments and the Defense Agencies (hereinafter referred to as "DoD Components"). As used herein the term "Services" refers to the Army, the Navy and the Air Force.

- B. The provisions of this Directive apply to programs designated by the Secretary of Defense as major system acquisition programs. The designation shall be determined on the recommendations of the DoD Component Head and OSD Officials. System programs involving an anticipated cost of \$75 million in research, development, test and evaluation (RDT&E) or \$300 million in production shall be considered for designation as major system acquisitions. The management of system programs not designated as major system acquisitions will be guided by the provisions of this Directive.

### III. DEFINITIONS

A definition of terms as used in this Directive is shown in enclosure 1.

### IV. POLICY

- A. The system acquisition process is a sequence of specified phases of program activity and decision events directed to the achievement of established program objectives in the acquisition of Defense systems. The process is initiated with the approval of a mission need and extends through successful completion of development, production and deployment of the Defense system or termination of the program.
- B. Successful management of system acquisition depends upon competent people, defined responsibilities and authority, realistic objectives, rational priorities and recognition that programs are different and require management flexibility. Responsibility for the management of system acquisition programs shall be decentralized to the DoD Components except for the decisions retained by the Secretary of Defense.
- C. DoD Components are responsible for a continuing analysis of mission areas to identify mission needs and to define, develop, produce and deploy systems to satisfy those needs. Mission needs shall be stated in terms of the operational task to be accomplished and not in terms of performance or characteristics of systems to accomplish the mission.
- D. The Secretary of Defense shall make the decisions to initiate, increase, decrease, redirect or terminate program commitments with each decision supported by formal action as outlined in this Directive and in reference (c). DoD Component Heads are accountable to the Secretary of Defense to execute

approved system acquisition programs in accordance with the Secretary's decisions and to keep the Secretary informed on the current status. Program exceptions and variances requiring Secretary of Defense decisions, other than the four decision points, shall be resolved with the OSD staff having primary functional responsibility. The four key Secretary of Defense decision points identified with the separate phases of program activity are structured as follows:

1. Milestone 0 - Program Initiation

- a. At such time as the Secretary of Defense requests or a DoD Component Head perceives a mission need to exist and determines that a new capability is to be acquired to meet the need, the DoD Component Head shall submit a statement of the mission need to the Secretary of Defense and request approval to proceed to identify and explore alternative solutions to the mission need. The considerations to support the determination of the mission need shall be documented in the Mission Element Need Statement (MENS), reference (c).
- b. When a mission need is determined to be essential and reconciled with other DoD capabilities, resources and priorities, the Secretary of Defense will approve the mission need and direct one or more of the DoD Components to systematically and progressively explore and develop alternative system concepts to satisfy the approved need.

2. Milestone I - Demonstration and Validation

- a. When the DoD Component completes the competitive exploration of alternative system concepts to the point where the selected alternatives warrant system demonstration, the DoD Component Head shall request approval to proceed with the demonstration and validation effort. The recommendations shall be documented in a Decision Coordination Paper (DCP), and reviewed by the Defense System Acquisition Review Council (DSARC) and the (Service) System Acquisition Review Council ((S)SARC) prior to the Secretary of Defense decision as outlined in reference (c).
- b. The Secretary of Defense action will reaffirm the mission need and approve one or more selected alternatives for

competitive demonstration and validation.

3. Milestone II - Full-Scale Engineering Development

- a. When the demonstration and validation activity has been completed and the Component Head is prepared to recommend the preferred systems for full-scale engineering development, the recommendations shall be documented in an updated DCP and reviewed by the DSARC and (S)SARC prior to the Secretary of Defense decision.
- b. The Secretary of Defense will reaffirm the mission need, and approve the selection of a system for full-scale engineering development, including procurement of long-lead production items and limited production for operational test and evaluation.

4. Milestone III - Production and Deployment

- a. When the Component Head is prepared to recommend production of the system, the recommendations shall be documented in an updated DCP and reviewed by the DSARC and (S)SARC prior to the Secretary of Defense decision. The Secretary of Defense will reaffirm the mission need, confirm the system ready for production, approve the system for production and authorize the Component to deploy the system to the using activity.
- b. Following a Milestone III decision, the DoD Component Head shall make quarterly reports to the Secretary of Defense on key program issues. The DoD Component shall keep the Defense Acquisition Executive and the OSD staff informed on key program actions as the program progresses.
- c. The DoD Component Head shall decide when the system is ready to be deployed to the using activities and shall advise the Secretary of Defense.

E. The Defense Acquisition Executive, reference (d), is the focal point in OSD for system acquisition matters.

F. Mission needs shall be satisfied through the use of existing or commercial hardware and software wherever feasible. When a new development or modification is essential, the mission needs of other DoD Components and NATO shall be considered including the requirement for NATO standardization and interoperability.

- G. The ability to achieve required system capabilities within acceptable risk and cost is dependent upon a strong and usable technology base. The Head of each DoD Component is responsible for assuring continued technology advancement both in product and in manufacturing technology to support future system developments. This technology base shall be maintained by the DoD Components and performed by industry, universities and government in-house organizations with the major emphasis on industry and universities. DoD Components shall interact to support their mutual technology interests and eliminate unnecessary overlap of effort.
- H. Competent industry and educational institutions regardless of size shall be the primary sources for the exploration of competitive system design concepts to satisfy approved mission needs. Government laboratories, federally funded research and development centers and other not-for-profit organizations may also be considered as sources. Concepts and technology developed by the Government or Government contracts may be made available to private industry for use in developing competitive system design concepts.
- I. When the Secretary of Defense approves program initiation at Milestone 0, the DoD Component shall assign the program manager for a major system acquisition. The program manager shall be given necessary assistance to establish a strong system program office to achieve the program objectives. He shall be given a charter approved by the DoD Component Head stating the program manager's responsibility, authority and accountability for program objectives. When system acquisition programs involve more than one DoD Component, the Component designated by the Secretary of Defense as the lead Component shall assign the program manager and request the other participating Component to assign the deputy program manager.
- J. The assignment and tenure of a program manager shall be of concern to the DoD Component Head. Career incentives shall be established to attract, retain, motivate and reward competent program managers. A change in program managers shall not be made prior to Milestone I or during full-scale engineering development prior to the Milestone III decision, except by specific action of the Component Head or his designee. Changes in program managers shall be held to a minimum and overlap between the two managers should be provided during the transition.
- K. The DoD Component Head shall define the line of authority and reporting channels between the program manager and the Component

Head in the program manager charter. Layers of line authority shall be held to a minimum. When a line official above the program manager exercises decision authority on program matters, the decision shall be documented as official program direction to the program manager. The line official shall be held accountable for the decision. The role of staffs as functional advisors does not include the authority, responsibility or accountability for program decisions.

- L. Secretary of Defense Milestone decisions to initiate system acquisitions or to redirect the program do not authorize the commitment of funds. Appropriate action will be taken to reflect the decisions in the Planning, Programming and Budgeting System (PPBS) documentation for budget approval and funding, reference (e).
- M. A major task of the program manager, following Milestone 0 approval, is to develop and tailor an acquisition strategy for the total program. The strategy shall be directed to program execution and the achievement of program objectives in an economical, effective and efficient manner. Technical, business and management areas shall be addressed in the strategy to provide a basis for the integration of these areas in achieving the program objectives. The strategy shall be expanded and refined as the program progresses and provide the basis for direction of the program and for assessment of program successes in achieving the established goals and objectives.
- N. Contract actions shall be a major responsibility of the program manager. He shall direct the program to include maximum use of effective competition for achieving program objectives throughout the system acquisition process. The program manager shall ensure that contract types are consistent with program characteristics including the risk to be shared by the contractor and the government and that the investment of resources to accomplish successive program objectives is based on demonstrated achievement and acceptable risk, reference (f).
- O. Programs shall be structured and resources allocated to ensure that the successful demonstration of program objectives is the pacing activity. Schedules and funding plans shall be prepared to accommodate areas of program uncertainty and risk. Schedules shall be subject to trade-off as much as any program constraint to permit task accomplishment without unnecessary concurrency.
- P. Program management constraints shall be established at Milestone I by the DoD Component and approved by the Secretary of

Defense for selected program factors to include each alternative recommended for demonstration and validation. The program management constraints shall establish the basis for continuing the demonstration and validation effort for a particular alternative. At such time as a constraint established for a selected factor is projected to be exceeded, the DoD Component Head shall provide the Secretary of Defense with an assessment of the problem and issues and the recommended action.

- Q. Performance, cost and schedule estimates shall not be formalized or considered firm prior to the Milestone II decision since systems are not adequately defined and the values for these system parameters remain uncertain during the early phases of the system acquisition process. Resource projections shall be stated only in terms of program objectives and constraints for each phase of activity through to the next milestone until the DoD Component Head is prepared to recommend the selection of a system for full-scale engineering development. At such time as this selection is made, firm estimates for performance, cost and schedule shall be committed to documentation in the DCP.
- R. Management thresholds shall be established at Milestone II by the DoD Component and approved by the Secretary of Defense for selected performance, cost and schedule parameters to reflect reasonable variances for the estimates documented in the DCP. Threshold values shall be established for the selected parameters to reflect estimates of probable variances at program completion (identified as program thresholds). In addition, threshold variance values shall be established for the same cost and schedule parameters to reflect acceptable variances at the end of each fiscal year through program completion (identified as fiscal year thresholds).
- S. Program managers are singularly responsible to immediately report significant program exceptions including projected threshold breaches to the DoD Component Head, Secretary of Defense and each line official. The reports shall be sent concurrently to avoid delays and shall be referenced to the most recent Selected Acquisition Report (SAR), reference (g). Following this initial report, the DoD Component Head shall provide the Secretary of Defense, without delay, 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. Changes to thresholds shall be by approval of the Secretary of Defense.
- T. Production planning and engineering and industrial preparedness

planning shall be emphasized. Producibility considerations shall be included in the evaluation of alternative design concepts to determine production risks and the actions necessary to eliminate the risks. Producibility of the system selected for full-scale development shall be a consideration in the decision. A production readiness review shall be completed prior to release for initial or limited production.

- U. Test and evaluation shall commence as early as possible. An estimate of military utility and of operational effectiveness and operational suitability including logistic support requirements, shall be made prior to large-scale production commitments. The most realistic test environment possible and an acceptable representation of the future operational system will be used in the testing, reference (h).
- V. Logistic support planning including reliability and maintainability shall be consistent with the key program decisions and phases of activity. Alternative maintenance concepts shall be considered during the exploration of alternatives to identify the impact on system design and resources. Detailed logistics planning shall be initiated with full-scale engineering development and firm requirements established early in the phase. The adequacy of logistics plans, and resources to meet readiness objectives will be reviewed as part of the Milestone III production decision.
- W. The number and skill levels of personnel required and human engineering factors shall be included as constraints in system design. The integration of the human element and system shall start with initial concept studies and refined as the system program progresses to form the basis for personnel selection and training, training devices, simulators and planning related to human factors.
- X. Reports to the Secretary of Defense dealing with the quarterly, post-Milestone III status and threshold breaches shall be referenced to the most recent Selected Acquisition Report (SAR), reference (g).

#### V. EFFECTIVE DATE AND IMPLEMENTATION

- A. This Directive is effective immediately. Two copies of implementing regulations shall be forwarded to the Defense Acquisition Executive within 120 days.



Jan 18, 77  
5000.1

B. DoD Directive 5000.2 has been prepared in support of this Directive and to minimize the need for implementing documents to be issued by the DoD Components. Enclosure 2 identifies other DoD-related policy documents, for further reference, dealing with system acquisition subjects.

  
Deputy Secretary of Defense

**Enclosures - 2**

1. Definitions
2. Related Policy Documents



## DEFINITIONS

- A. Decision Coordinating Paper (DCP). The principal document to record essential system program information for use in support of the Secretary of Defense decision-making process at Milestones, I, II and III. (Reference DoD Directive 5000.2)
- B. Defense Acquisition Executive. The principal advisor and staff assistant to the Secretary of Defense and the focal point in OSD for system acquisitions. (Reference DoD Directive 5000.30)
- C. Defense Mission. The mission of the DoD as specified by the legislative authority.
- D. System Deployment. Delivery of the completed production system to the using activity.
- E. Defense System Acquisition Review Council (DSARC). An advisory body to the Secretary of Defense on major system acquisitions. The Council members are the OSD staff principals. (Reference DoD Directive 5000.2)
- F. Lead Component. The DoD Component designated by the Secretary of Defense to be responsible for management of a system acquisition involving two or more DoD Components in a joint program.
- G. Limited Production. The initial, low rate production of a system in limited quantity to be used in operational test and evaluation for verification of production engineering and design maturity and to establish a production base prior to a decision to proceed with production.
- H. Line Authority. DoD officials in the direct chain of authority from the Secretary of Defense to the program manager and excluding staffs.
- I. Logistics Annex. A brief description of the logistics considerations essential to program planning and decisions at Milestones I, II and III.
- J. Logistics Support. The supply and maintenance of materiel essential to proper operation of a system in the force.

- K. Major System Acquisition. A system acquisition program designated by the Secretary of Defense to be of such importance and priority as to require special management attention.
- L. Mission Area. A segment of the defense mission as established by the Secretary of Defense.
- M. Mission Element. A segment of a mission area critical to the accomplishment of the mission area objectives and corresponding to a recommendation for a major system capability as determined by a DoD Component.
- N. Mission Element Need Statement (MENS). A statement prepared by a DoD Component to identify and support the need for a new or improved mission capability. The mission need may be the result of a projected deficiency or obsolescence in existing systems, a technological opportunity, or an opportunity to reduce operating cost. The MENS is submitted to the Secretary of Defense for a Milestone 0 decision. (Reference DoD Directive 5000.2)
- O. Operational Test and Evaluation (OT&E). Test and evaluation conducted to estimate the system's military utility, operational effectiveness and operational suitability. (Reference DoD Directive 5000.3)
- P. Program Manager. The individual in the DoD chartered to manage a major system acquisition program.
- Q. Program Manager Charter. A document approved by the DoD Component Head stating the program manager's responsibility, authority and accountability in the management of a major system acquisition program.
- R. (Service) System Acquisition Review Council ((S)SARC). A Council established by the Head of a Military Department as an advisory body to him and through him to the Secretary of Defense on major system acquisitions. The (S)SARC is chaired by the Secretary/Under Secretary of the Military Department and is similar in functional composition, responsibilities and operation to the DSARC. In application the term (Service) is replaced by the designation of the applicable Military Department, i. e., ASARC, NSARC and AFSARC. (Reference DoD Directive 5000.2)
- S. System Acquisition Process. A sequence of specified decision events and phases of activity directed to achievement of established program objectives in the acquisition of Defense systems and

extending from approval of a mission need through successful deployment of the Defense system or termination of the program.

- T. System Program Office. The office of the program manager and the single point of contact with industry, Government agencies and other activities participating in the system acquisition process.
- U. Technology Assessment Annex. A one page description of technological risks remaining in a system program and the plans to address these risks.



RELATED POLICY DOCUMENTS

The listed DoD documents contain policy in specific functional areas dealing with system acquisitions. Responsible OSD staffs will ensure these documents reflect current policies as set forth in DoD Directive 5000.1 and DoD Directive 5000.2

<u>Document</u>	<u>Number</u>	<u>Subject</u>
DoD Instruction	4005.3	Industrial Preparedness Production Planning Procedures
DoD Manual	4005.3M	Industrial Preparedness Planning Manual
DoD Directive	4100.35	Logistic Support
DoD Directive	4105.62	Proposal Evaluation and Source Selection
DoD Directive	4120.3	Standardization
DoD Directive	4155.3	Quality Assurance
DoD Instruction	4200.15	Manufacturing Technology
DoD Instruction	4400.1	Priorities and Allocations
DoD Directive	C4600.3	Electronic Counter-Countermeasures (ECCM)
DoD Directive	5000.3	Test and Evaluation
DoD Directive	5000.4	Cost Analysis Improvement Group
DoD Directive	5000.23	Management Careers, System Acquisition
DoD Directive	5000.28	Design to Cost
DoD Directive	5000.30	Defense Acquisition Executive
DoD Instruction	5010.8	Value Engineering
DoD Instruction	5010.12	Data, Acquisition of
DoD Instruction	5010.29	Data, Acquisition of
DoD Directive	5100.40	Responsibility for the Administration of the DoD Automatic Data Processing Program
DoD Directive	6015.1	Environmental Considerations in DoD Actions
DoD Directive	7000.1	Resource Management Systems of the DoD
DoD Instruction	7000.2	Cost/Schedule Control System
DoD Instruction	7000.3	Selected Acquisition Report (SAR)
DoD Instruction	7000.6	Management System Control
DoD Instruction	7045.7	The Planning, Programming and Budgeting System
DoD Manual ASPR	7110-1-M	DoD Budget Guidance Manual Armed Services Procurement Regulations