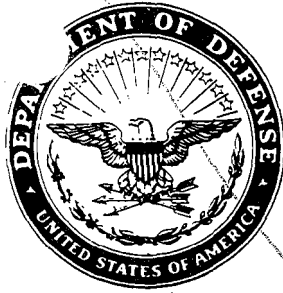


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DDR&E

Department of Defense Directive

SUBJECT Acquisition of Major Defense Systems

Reference: (a) DoD Directive 5000.1, "subject as above," July 13, 1971 (hereby cancelled)

I. REISSUANCE AND PURPOSE

This Directive reissues reference (a) which establishes policy for major Defense system acquisition in the Military Departments and Defense Agencies (referred to as "DoD Components"). Reference (a) is hereby superseded and cancelled.

II. APPLICABILITY

The provisions of this Directive apply to major programs, so designated by the Secretary of Defense/Deputy Secretary of Defense (referred to as "SecDef"). This designation shall consider (a) dollar value (programs which have an estimated RDT&E cost in excess of 50 million dollars, or an estimated production cost in excess of 200 million dollars, all in FY 72 dollars); (b) national urgency; and (c) recommendations by DoD Component Heads or Office of Secretary of Defense (OSD) officials. In addition, the management principles in this Directive are applicable to all programs.

III. POLICY

A. Mode of Operation. Successful development, production and deployment of major Defense systems are primarily dependent upon competent people, rational priorities and clearly defined responsibilities. Responsibility and authority for the acquisition of major

Defense systems shall be decentralized to the maximum practicable extent consistent with the urgency and importance of each program. The development and production of a major Defense system shall be managed by a single individual (program manager) who shall have a charter which provides sufficient authority to accomplish recognized program objectives. Layers of authority between the program manager and his Component Head shall be minimum. For programs involving two or more Components, the Component having dominant interest shall designate the program manager, and his charter shall be approved by the cognizant official within OSD. The assignment and tenure of program managers shall be a matter of concern to DoD Component Heads and shall reflect career incentives designed to attract, retain, and reward competent personnel.

1. The DoD Components are responsible for identifying needs and defining, developing and producing systems to satisfy those needs. Component Heads are also responsible for contractor source selection unless otherwise specified by the SecDef on a specific program.
2. The OSD is responsible for (a) establishing acquisition policy, (b) assuring that major Defense system programs are pursued in response to valid needs, and (c) evaluating policy implementation on each approved program.
3. The OSD and DoD Components are responsible for program monitoring, but will place minimum demands for formal reporting on the program manager. Non-recurring needs for information will be kept to a minimum and handled informally.
4. The SecDef will make the decisions which initiate program commitments or increase those commitments. He may redirect a program because of an actual or threatened breach of a program threshold in an approved Decision Coordinating Paper (DCP). The DCP and the Defense Systems Acquisition Review Council (DSARC) will support the SecDef decision-making. These decisions will be reflected in the next submission of the Program Objective Memorandum (POM) by the DoD Component.

- B. Conduct of Program. Because every program is different, successful program conduct requires that sound judgment be applied in using the management principles of this Directive. Underlying specific Defense system developments is the need for a strong and usable

technology base. This base will be maintained by conducting research and advanced technology effort independent of specific Defense systems development. Advanced technology effort includes prototyping, preferably using small, efficient design teams and a minimum amount of documentation. The objective is to obtain significant advances in technology at minimum cost.

1. Program Initiation

- a. Early conceptual effort is normally conducted at the discretion of the DoD Component until such time as the DoD Component determines that a major Defense system program should be pursued. It is crucial that the right decisions be made during this conceptual effort; wrong decisions create problems not easily overcome later in the program. Therefore, each DoD Component will designate a single individual, such as the Assistant Secretary for Research and Development, to be responsible for conceptual efforts on new major programs.
- b. The considerations which support the determination of the need for a system program, together with a plan for that program, will be documented in the DCP. The DCP will define program issues, including special logistics problems, program objectives, potential benefits in context with overall DoD strategy and fiscal guidance, program plans, performance parameters, areas of major risk, system alternatives and acquisition strategy. The DCP will be prepared by the DoD Component, following an agreement between OSD and that Component on a DCP outline. The Chairman of the DSARC has the basic responsibility for coordination of inputs for the DCP and its submittal to the DSARC for consideration and to the SecDef for subsequent decision. If approved, the program will be conducted within the DCP thresholds.

2. Full-Scale Engineering Development. When the DoD Component is sufficiently confident that program worth and readiness warrant commitment of resources to full-scale engineering development, it will request a SecDef decision to proceed. At that time, the DCP will be updated and the DSARC will normally review program progress and suitability to enter this phase and will forward its recommendations to the SecDef for final decision. Such review will confirm (a) the

need for the selected Defense system in consideration of threat, system alternatives, special logistics needs, estimates of development costs, preliminary estimates of life cycle costs and potential benefits in context with overall DoD strategy and fiscal guidance; (b) that development risks have been identified and solutions are in hand; and (c) realism of the plan for full-scale engineering development.

3. Production/Deployment. When the DoD Component is sufficiently confident that engineering is complete and that commitment of substantial resources to production and deployment is warranted, it will request a SecDef decision to proceed. At that time, the DCP will be updated and the DSARC will again review program progress and suitability to enter substantial production/deployment and forward its recommendations to the SecDef for final decision. Such review will confirm (a) the need for producing the Defense system in consideration of threat, estimated acquisition and ownership costs and potential benefits in context with overall DoD strategy and fiscal guidance; (b) that a practical engineering design, with adequate consideration of production and logistics problems is complete; (c) that all previously identified technical uncertainties have been resolved and that operational suitability has been determined by test and evaluation; and (d) the realism of the plan for the remainder of the program. Some production funding for long lead material or production planning effort may be required prior to the production decision. In such cases, the SecDef will decide whether a DSARC review and revised DCP are required. In any event, full production go-ahead will be authorized by approval of the DCP.

C. Program Considerations

1. System need shall be clearly stated in operational terms, with appropriate limits, and shall be challenged throughout the acquisition process. Statements of need/performance requirements shall be matched where possible with existing technology. Wherever feasible, operational needs shall be satisfied through use of existing military or commercial hardware. When need can be satisfied only through new development, the equivalent needs of the other DoD Components shall be considered to guard against unnecessary proliferation.

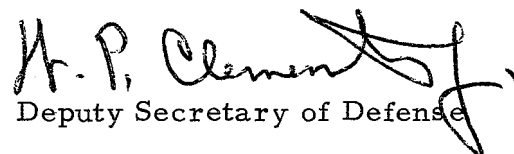
2. Cost parameters shall be established which consider the cost of acquisition and ownership; discrete cost elements (e.g, unit production cost, operating and support cost) shall be translated into "design to" requirements. System development shall be continuously evaluated against these requirements with the same rigor as that applied to technical requirements. Practical tradeoffs shall be made between system capability, cost and schedule. Traceability of estimates and costing factors, including those for economic escalation, shall be maintained.
3. Logistic support shall also be considered as a principal design parameter with the magnitude, scope and level of this effort in keeping with the program phase. Early development effort will consider only those parameters that are truly necessary to basic Defense system design, e.g., those logistic problems that have significant impact on system readiness, capability or cost. Premature introduction of detailed operational support considerations is to be avoided.
4. Programs shall be structured and resources allocated to ensure that the demonstration of actual achievement of program objectives is the pacing function. Meaningful relationships between need, urgency, risk and worth shall be thereby established. Schedules shall be subject to trade-off as much as any other program constraint. Schedules and funding profiles shall be structured to accommodate unforeseen problems and permit task accomplishment without unnecessary overlapping or concurrency.
5. Technical uncertainty shall be continually assessed. Progressive commitments of resources which incur program risk will be made only when confidence in program outcome is sufficiently high to warrant going ahead. Models, mock-ups and system hardware will be used to the greatest possible extent to increase confidence level.
6. Test and evaluation shall commence as early as possible. A determination of operational suitability, including logistic support requirements, will be made prior to large-scale production commitments, making use of the most realistic test environment possible and the best representation of the future operational system available. The results of this operational testing will be evaluated and presented to the DSARC at the time of the production decision.

7. Contract type shall be consistent with all program characteristics including risk to the contractor and the government. Normally, the precise production cost of a new complex Defense system cannot be determined prior to development and this creates a situation of risk such that:
 - a. The total package procurement concept will not be used.
 - b. Firm or ceiling priced production options shall not be used in development contracts. However, when development of major systems has proceeded to a point that technical and performance uncertainties have been minimized and realistic estimates of their cost identified, firm or ceiling priced production options for limited quantities may be included in the development contract. Such options may be appropriate, for instance, when prototyping or other forms of technical and cost verification of concepts has occurred.
 - c. Cost type prime and subcontracts are preferred where substantial development effort is involved.
 - d. When risk is reduced to the extent that realistic pricing can occur, fixed price type contracts should be issued.
 - e. Letter contracts shall be minimized.
 - f. Changes shall be limited to those that are necessary or offer significant benefit to the DoD. When change orders are necessary, they shall be contractually priced or subject to an established ceiling before authorization, except where this is impractical.
8. The source selection decision shall take into account the contractor's capability to develop a necessary Defense system on a timely and cost-effective basis. The DoD Component shall have the option of deciding whether or not the contract will be completely negotiated before a program decision is made. Solicitation documents shall require contractor identification of uncertainties and specific proposals for their resolution. Solicitation and evaluation of proposals should be planned to minimize contractor expense. Proposals for cost-type or incentive contracts may be penalized during evaluation to the degree that the proposed cost is unrealistically low.

9. Management information/program control requirements shall provide information which is essential to effective management control. Such information should be generated from data actually utilized by contractor operating personnel and provided in summarized form for successively higher level management and monitoring requirements. A single, realistic work breakdown structure (WBS) shall be developed for each program to provide a consistent framework for (a) planning and assignment of responsibilities, (b) control and reporting of progress, and (c) establishing a data base for estimating the future cost of Defense systems. Contractor management information/program control systems, and reports emanating therefrom, shall be utilized to the maximum extent practicable. Government-imposed changes to contractor systems shall consist of only those necessary to satisfy established DoD-wide standards. Documentation shall be generated in the minimum amount to satisfy necessary and specific management needs.

IV. EFFECTIVE DATE AND IMPLEMENTATION

- A. This Directive is effective immediately. Two copies of implementing regulations shall be forwarded to the Secretary of Defense within 90 days.
- B. The number of implementing documents shall be minimized and necessary procedural guidance consolidated to the greatest extent possible. Selected subjects to be covered by DoD Directives/Instructions or Joint Service/Agency documents in support of this Directive are listed in enclosure 1. Each DoD Component shall forward the Joint Service/Agency documents for which it is responsible to the Secretary of Defense for approval prior to issuance.


Deputy Secretary of Defense

Enclosure - 1
Related Policy

RELATED POLICY

Responsibility for the following policy documents is assigned to the Cognizant Office indicated. In each case, the Cognizant Office shall (a) generate the policy, or (b) delegate authority to a lead DoD Component for preparation and subsequent issue of a joint Service/Agency regulation, agreement or guide after approval by OSD.

<u>Policy Subject</u>	<u>Cognizant Office</u>	<u>Document</u>
Cost Analysis Improvement Group	ASD (PA&E)	DoD Directive 5000.4
Cost/Schedule Control Systems	ASD (C)	DoD Instruction 7000.2
Design to Cost	DDR&E	DoD Directive 5000.28
Data, Acquisition of	ASD (I&L)	DoD Instruction 5010.12 DoD Instruction 5010.29
The DCP and the DSARC Process	DDR&E	DoD Instruction 5000.2
DSARC Charter	DDR&E	DoD Directive 5000.26
Industrial Preparedness Production Planning Procedures	ASD (I&L)	DoD Instruction 4005.3
Industrial Preparedness Planning Manual	ASD (I&L)	DoD 4005.3M
Logistic Support	ASD (I&L)	DoD Directive 4100.35
Management Careers, Systems Acquisition	ASD (PA&E)	DoD Directive 5000.23
Management Systems Control	ASD (C)	DoD Instruction 7000.6
Manufacturing Technology	ASD (I&L)	DoD Instruction 4200.15
Priorities and Allocations	ASD (I&L)	DoD Instruction 4400.1
Quality Assurance	ASD (I&L)	DoD Directive 4155.1
Standardization	ASD (I&L)	DoD Directive 4120.3
Test and Evaluation	DDR&E	DoD Directive 5000.3
Value Engineering	ASD (I&L)	DoD Instruction 5010.8
Proposal Evaluation and Source Selection	ASD (I&L) / DDR&E	DoD Directive 4105.62