



Defense Acquisitions: How DOD Acquires Weapon Systems and Recent Efforts to Reform the Process

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January 2, 2013

Congressional Research Service

7-5700

www.crs.gov

RL34026

Summary

The Department of Defense (DOD) acquires goods and services from contractors, federal arsenals, and shipyards to support military operations. *Acquisition* is a broad term that applies to more than just the purchase of an item or service; the acquisition process encompasses the design, engineering, construction, testing, deployment, sustainment, and disposal of weapons or related items purchased from a contractor.

As set forth by statute and regulation, from concept to deployment, a weapon system must go through a three-step process of identifying a required (needed) weapon system, establishing a budget, and acquiring the system. These three steps are organized as

1. The Joint Capabilities Integration and Development System (JCIDS)—for identifying requirements,
2. The Planning, Programming, Budgeting, and Execution System (PPBE)—for allocating resources and budgeting, and
3. The Defense Acquisition System (DAS)—for developing and/or buying the item.

Step three, the Defense Acquisition System, uses “milestones” to oversee and manage acquisition programs. At each milestone, a program must meet specific statutory and regulatory requirements before the program can proceed to the next phase of the acquisition process. There are three milestones:

- Milestone A—initiates technology development,
- Milestone B—initiates engineering and manufacturing development, and
- Milestone C—initiates production and deployment.

Both Congress and DOD have been active in trying to improve defense acquisitions. A comprehensive legislative effort to improve weapon system acquisition occurred in May 2009, when Congress passed and the President signed into law the Weapon Systems Acquisition Reform Act of 2009 (S. 454/P.L. 111-23). Key provisions in the act include appointment of a Director of Cost Assessment and Program Evaluation within DOD to establish guidance on cost estimating; appointment of a Director of Developmental Test and Evaluation to develop policies and guidance for conducting developmental testing and evaluation; appointment of a Director of Systems Engineering to develop policies and guidance for the use of systems engineering; and a requirement that the Director of Defense Research and Engineering periodically assess technological maturity of Major Defense Acquisition Programs.

One of DOD’s main efforts to improve acquisitions is the *better buying power* initiative. In 2010, DOD issued a memorandum *Better Buying Power: Guidance for Obtaining Greater Efficiency and Productivity in Defense Spending*. In November 2012, DOD launched the “Better Buying Power 2.0” initiative, an update to the original effort. The update included some modifications of the original memorandum. For example, the original effort called for increased use of fixed-price contracts; the new version emphasizes the use of an appropriate contract type, depending on the circumstances. Perhaps the most significant change is the added emphasis on improving and professionalizing the acquisition workforce.

An oversight issue for the 113th Congress is the extent to which the Weapon System Acquisition Reform Act and the Better Buying Power initiative are having a positive effect on DOD acquisitions.

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Introduction

This report provides an overview of the process by which DOD acquires weapon systems. This report also briefly discusses recent major efforts by Congress and the Department of Defense to improve the performance of the acquisition system. For a discussion on the process for dealing with significant cost growth in weapon systems, see CRS Report R41293, *The Nunn-McCurdy Act: Background, Analysis, and Issues for Congress*, by Moshe Schwartz.

Background

The Department of Defense (DOD) acquires goods and services from contractors, federal arsenals, and shopyards to support military operations. *Acquisition* is a broad term that applies to more than just the purchase of an item or service; the acquisition process encompasses the design, engineering, construction, testing, deployment, sustainment, and disposal of weapons or related items purchased from a contractor.¹ From a policy perspective, federal regulations and federal law generally use the terms *acquisition* and *procurement* interchangeably.² This is not to be confused with the budget definition of procurement that generally references the Procurement budget account—a funding stream that is distinct from Research and Development, Operations and Maintenance, and other budget categories.

DOD's acquisition system is highly complex (see **Appendix A**), and it does not always produce systems that meet estimated cost or performance expectations. Congress has been concerned with the structure of the defense acquisition system for many years. For example, the House Armed Services Committee's report of the FY2007 defense authorization bill stated

Simply put, the Department of Defense (DOD) acquisition process is broken. The ability of the Department to conduct the large scale acquisitions required to ensure our future national security is a concern of the committee. The rising costs and lengthening schedules of major defense acquisition programs lead to more expensive platforms fielded in fewer numbers. The committee's concerns extend to all three key components of the Acquisition process including requirements generation, acquisition and contracting, and financial management.³

¹ The Federal Acquisition Regulation states that "Acquisition begins at the point when agency needs are established and includes the description of requirements to satisfy agency needs, solicitation and selection of source, award of contracts, contract financing, contract performance, contract administration, and those technical and management functions directly related to the process of fulfilling agency needs by contract." See FAR 2.101.

² In the section of the Federal Acquisition Regulation that defines terms (2.101), the entry for the definition of Procurement states "(see 'acquisition')."

Title 10, Chapter 137 (Procurement Generally) adheres to a definition of *procurement* that "includes all stages of the process of acquiring property or services, beginning with the process for determining a need for property or services and ending with contract completion and closeout." See §2302, referencing Title 41, §111. Title 41, §131 defines *acquisition* as "the process of acquiring, with appropriated amounts, by contract for purchase or lease, property or services (including construction) that support the missions and goals of an executive agency, from the point at which the requirements of the executive agency are established..." and includes development, solicitation, contract award, and contract performance, through final delivery and payment.

³ H.Rept. 109-452. *Report of the Committee on Armed Services, House of Representatives on H.R. 5122*. May 5, 2006, p. 350.

Over the decades, congressional oversight has focused on many aspects of the acquisition process, from “micro-level” practices, such as characteristics of a particular contract, to “macro-level” practices, such as management and execution of the Joint Strike Fighter and other Major Defense Acquisition Programs (MDAPs).⁴ In response to these concerns, Congress has legislated many changes in an effort to improve the defense acquisition structure and its practices.⁵

Statutory and Regulatory Foundation

Title 10 of the United States Code governs the organization, structure, and operation of the Armed Forces of the United States. Several sections within the title charge the secretaries of the military departments (Army, Navy, and Air Force) with responsibility to “equip” the armed forces. General procurement provisions, many of which apply to MDAPs and MAISs (Major Automated Information Systems), are spread throughout the title, including assignment of responsibilities, establishment of acquisition procedures, and requirements for reporting to Congress. The annual National Defense Authorization Acts are one of the principle mechanisms by which Congress modifies the defense acquisition structure, which is also set forth in Title 10.

DOD procurement activities are generally governed by three sets of federal government regulations:

- The first set of regulations, which applies to the entire federal government (including DOD unless stated otherwise), are found in the Federal Acquisition Regulation (FAR).
- The second set of regulations applies only to DOD and is found in the Defense Federal Acquisition Regulation Supplement.
- The third set of regulations applies only to individual DOD components and is found in component-unique FAR Supplements.⁶

Procurement actions in DOD must adhere to the various regulations, and program managers must take the regulations into account during the planning and execution of their programs.

The Organizational Structure

Every weapon system in the U.S. arsenal is created to satisfy a specific military need (often referred to as a *requirement*), must be paid for by the federal *budget*, and is designed and built within an *acquisition system*. From concept to deployment, a weapon system must go through the

⁴ MDAPs are the Department’s most expensive acquisition programs. MDAPs are statutorily defined in 10 U.S.C. 2430 as DOD acquisition programs whose value based on FY1990 constant dollars exceeds \$300 million of Research, Development, Test and Evaluation funding (approximately \$442 million in FY2009 dollars), \$1.8 billion of Procurement funding (approximately \$2.578 billion in FY2009 dollars), or are designated MDAPs by the Under Secretary of Defense for Acquisition, Technology, and Logistics.

⁵ Congress’s authority to reorganize the defense acquisition process stems primarily from Article I, Section 8 of the Constitution, which vests the legislature with the power to “To raise and support Armies... provide and maintain a Navy... [and] make Rules for the Government and Regulation of the land and naval Forces.”

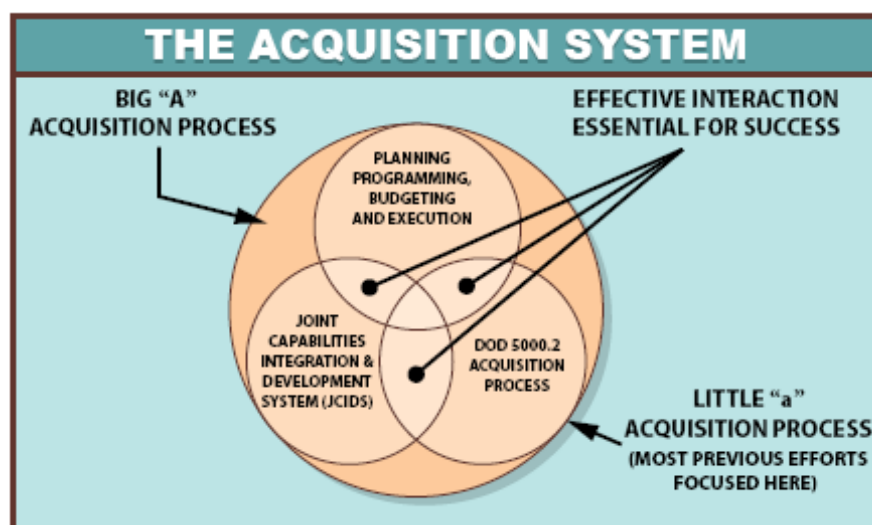
⁶ The Army, Air Force, Navy and Marine Corps, Defense Logistics Agency, and U.S. Special Operations Command each have unique supplements.

three-step process of identifying the required weapon system, establishing a budget, and acquiring the system. These three steps are organized as

4. The Joint Capabilities Integration and Development System (JCIDS)—for identifying requirements,
5. The Planning, Programming, Budgeting, and Execution System (PPBE)—for allocating resources and budgeting, and
6. The Defense Acquisition System (DAS)—for developing and/or buying the item.

These three steps (each of which is a system unto itself), taken together, are often referred to as “Big ‘A’” acquisition, in contrast with the Defense Acquisition System which is referred to as “little ‘a’” acquisition) (see **Figure 1**).

Figure 1. DOD’s Defense Acquisition Structure



Source: Defense Acquisition Performance Assessment Report, February 2006, p. 4.

The Requirements Process: *Joint Capabilities Integration and Development System (JCIDS)*

JCIDS is the process by which DOD identifies, assesses, and prioritizes what capabilities the military requires to fulfill its mission. As such, JCIDS is often referred to as the requirements generation process. Requirements identified through JCIDS can be addressed in a number of ways, including changes in doctrine, training, organization, or the acquisition of a new system, such as a weapon system.

The JCIDS process was created in 2003 in an effort to fundamentally change the way the Department of Defense developed requirements. Prior to 2003, DOD used a threat-based approach to identifying warfighter requirements.⁷ With the advent of JCIDS, DOD shifted to a capabilities-based approach to identifying warfighter needs. In other words, instead of

⁷ This threat-based approach was known as the Requirements Generation System (RGS).

developing, producing and fielding systems based on specific perceived threats to the nation, DOD adopted a policy of identifying what capabilities it needed to meet the strategic direction and priorities set forth in high-level strategy and guidance documents, such as the National Military Strategy (NMS), National Defense Strategy (NDS), and Quadrennial Defense Review.⁸

Many analysts suggest that under the threat-based approach, each military service identified a threat, and in response to the threat developed its own independent weapon system. The shift to a capabilities-based approach served to promote a more collaborative method to identifying capability gaps across services, instead of each service developing its own response. The impact was an increase in systems being developed jointly among services.

JCIDS is governed by *Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01H* (dated January 10, 2012) and utilizes the procedures described in the *Manual for the Operation of the Joint Capabilities Integration and Development System* (updated February 2009).⁹ According to CJCSI 3170.01H, the first step in the process is conducting a Capabilities Based Assessment (CBA), which analyzes the military's capability needs and gaps, and recommends both materiel¹⁰ and non-materiel ways to address the gaps.¹¹ If, as a result of a CBA, a materiel solution (such as a weapon system) is considered, an Initial Capabilities Document (ICD) is prepared.¹² The ICD justifies the need for a materiel solution to satisfy the identified capability gap.

The Joint Requirements Oversight Council (JROC), the organization responsible for identifying and prioritizing warfighter requirements, must approve the ICD.¹³ To approve the ICD, the JROC reviews and validates the

1. capabilities required to perform the defined mission,
2. gap in capabilities required to perform the mission, and
3. need to address the capability gap.

The JROC may approve an ICD and recommend a non-materiel solution to meeting the military need, such as a change to strategy or tactics. If the JROC approves the pursuit of a materiel solution, the program enters the Defense Acquisition System (DAS, or "little 'a'"). Documentation developed during the JCIDS process is used throughout the acquisition process.

⁸ Chairman of the Joint Chiefs of Staff Instruction 3170.01H, *Joint Capabilities Integration and Development System* p. A-2.

⁹ The manual can be found at <https://dap.dau.mil/policy/Documents/2012/JCIDS%20Manual%2019%20Jan%202012.pdf>.

¹⁰ A materiel item is any item "(including ships, tanks, self-propelled weapons, aircraft, etc., and related spares, repair parts, and support equipment, but excluding real property, installations, and utilities) necessary to equip, operate, maintain, and support military activities without distinction as to its application for administrative or combat purposes". See also equipment; personal property. See DOD Dictionary of Military Terms, <http://www.dtic.mil/doctrine/jel/doddict/>.

¹¹ CJCSI 3170.01H, page A-2.

¹² Urgent or emergency operational needs may result in an Urgent Operational Need or Emergency Operational Need document instead of an ICD.

¹³ The JROC is a statutorily established council, defined in 10 U.S.C. 181.

The Budgeting Process: *Planning, Programming, Budgeting and Execution System (PPBE)*

The Planning, Programming, Budgeting and Execution System (PPBE) develops DOD's proposed budget for all acquisitions, including MDAPs.¹⁴ According to DOD, the PPBE is intended to provide combatant commanders the best mix of forces, equipment, and support within fiscal constraints.¹⁵

The PPBE process consists of four stages: planning, programming, budgeting, and execution.

- **Planning:** During the planning stage, the needs of combatant commands are analyzed and the findings are published in the Joint Programming Guidance document, which guides the DOD components' efforts to propose acquisition programs.¹⁶
- **Programming:** During the programming stage, proposed programs are fleshed out and the Program Objective Memorandum (a document that outlines the anticipated missions and objectives of the proposed weapon system and anticipated budget requirements) is submitted to propose these programs. These memoranda are reviewed and, as deemed appropriate, integrated into an overall Defense program.
- **Budgeting:** Budgeting occurs concurrently with the programming stage. Proposed budgets are reviewed in a different manner than proposed programs. Upon completion of a program decision or as a result of a budget review, Program Budget Decisions are issued.
- **Execution:** Execution occurs simultaneously with the program and budget reviews. During execution, programs are evaluated and measured against established performance metrics, including the rates of funding obligations and expenditures.

The Defense Acquisition System (DAS)

The Defense Acquisition System (DAS) is the management process by which DOD develops and buys weapon and other systems.¹⁷

¹⁴ For additional detail, see CRS Report RL30002, *A Defense Budget Primer*, by Mary T. Tyszkiewicz and Stephen Daggett. Additionally, DAU offers an online course on PPBE at <https://learn.dau.mil/html/clc/Clc.jsp>.

¹⁵ Department of Defense Directive 7045.14, *The Planning, Programming, and Budgeting System (PPBS)*, May 22, 1984, certified as current November 21, 2003, p 2.

¹⁶ DOD components include the Office of the Secretary of Defense (OSD); the Military Departments; the Chairman, Joint Chiefs of Staff (CJCS) and Joint Staff; the Unified Combatant Commands (UCCs); the Defense Agencies; and DOD field activities.

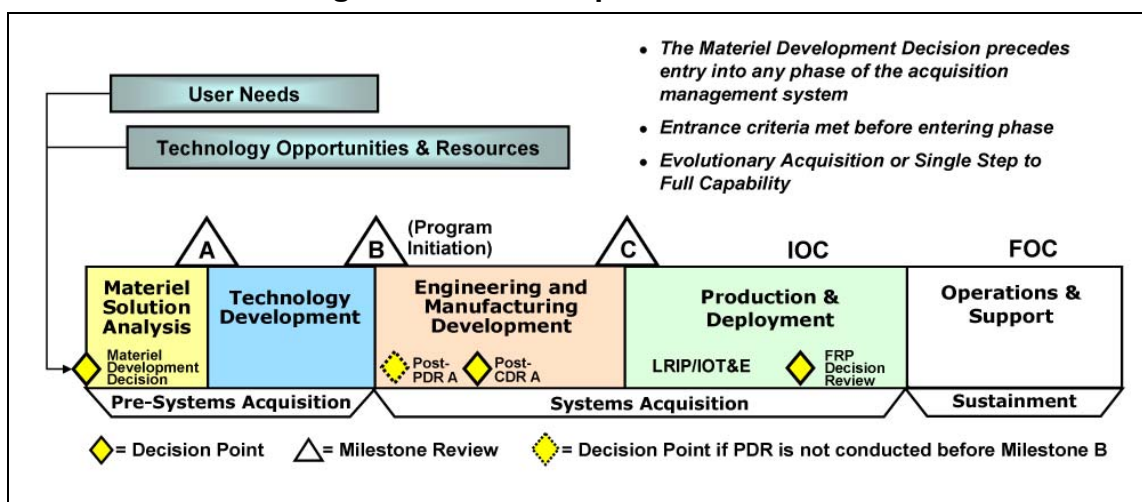
¹⁷ The policies and regulations governing the defense acquisition process are set forth in Department of Defense Directive 5000.01, *The Defense Acquisition System* (a 10-page document that describes the overarching principles of the acquisition system), and the more detailed Department of Defense Instruction (DODI) 5000.02, *Operation of the Defense Acquisition System* (an 80-page document that describes the process and requirements associated with acquisitions). The Defense Acquisition Guidebook serves as a reference for acquisition professionals, and contains best practices, detailed guidance, and additional background information. Whereas Directive 5000.01 (issued May 12, 2003) and Instruction 5000.02 (issued December 8, 2008) are static documents, the Defense Acquisition Guidebook is constantly updated to reflect best practices and updated guidance. As of January 10, 2012, the guidebook was more (continued...)

Each acquisition program, such as the programs for the F-35, Littoral Combat Ship, or Expeditionary Fighting Vehicle, is managed by an acquisition program office. The program office is headed by a Program Manager. Program Managers can be military officers or federal civil servants. They are usually supported by a staff that can include engineers, logisticians, contracting officers and specialists, budget and financial managers, and test and evaluation personnel. Program managers usually report to a Program Executive Officer.¹⁸ Program Executive Officers can have many Program Managers who report to them. Program Executive Officers can also be military officers or federal civil servants. They report to a Component Acquisition Executive.¹⁹ Most Component Acquisition Executives report to the Under Secretary of Defense for Acquisition, Technology, and Logistics, who also serves as the Defense Acquisition Executive (DAE).²⁰

The Defense Acquisition System uses “milestones” to oversee and manage acquisition programs (see **Figure 2**). At each milestone, a program must meet specific statutory and regulatory requirements before the program can proceed to the next phase of the acquisition process. There are three milestones:

- Milestone A—initiates technology development,
- Milestone B—initiates engineering and manufacturing development, and
- Milestone C—initiates production and deployment.

Figure 2. Defense Acquisition Milestones



Source: DODI 5000.02, page 12.

(...continued)

than 900 pages.

¹⁸ Some PMs are labeled “Direct Reporting Program Managers” (DRPMs), who report directly to the Component Acquisition Executive or Milestone Decision Authority.

¹⁹ A Service Acquisition Executive (SAE) is the CAE for a military department.

²⁰ DODD 5000.1 states that the DAE takes precedence on all acquisition matters after the Secretary and the Deputy Secretary of Defense. Examples of some other reporting chains include the Defense Information Systems Agency (DISA), who reports to the Director of DISA and the Special Operations Command (SOCOM) Acquisition Executive, who reports to the SOCOM Commander.

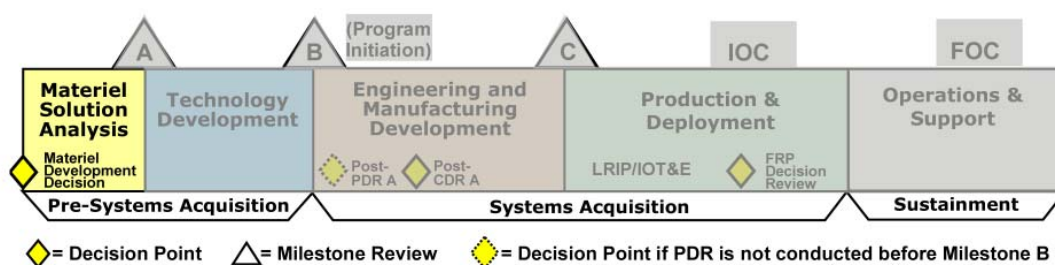
The official responsible for deciding whether a program meets the milestone criteria and may proceed to the next phase of the acquisition process is referred to as the Milestone Decision Authority (MDA). Depending on the program, the MDA can be the Under Secretary of Defense (Acquisition, Technology, & Logistics), the head of the relevant DOD component, or the Component Acquisition Executive.

To enter the Defense Acquisition System, a Materiel Development Decision review is held. A Materiel Development Decision review is where the determination is made whether a new weapon system is required to fill the identified gap or whether a non-materiel solution, such as a change in training or strategy, is sufficient. If a materiel solution is recommended, an Initial Capabilities Document is created.

Once the decision is made to develop a material solution, a program can enter the acquisition system at any point in the process as long as the program meets the requirements for that phase of the system. For example, a program can begin at Milestone B if

4. a Materiel Development Decision is made,
5. the program meets the criteria for entering into Milestone B as set forth by statute and DOD policy, and
6. the MDA authorizes the program to enter at Milestone B.

Figure 3. Defense Acquisition Milestones: Materiel Solution and the Pre-Milestone Phase

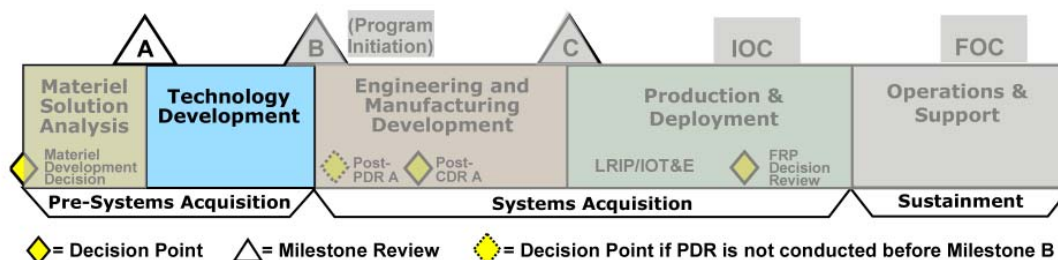


The Materiel Solution Analysis Phase assesses potential materiel solutions for a military need, and begins only after an Initial Capabilities Document has been approved by the JROC. During this phase, an Analysis of Alternatives is conducted and a Technology Development Strategy is created. The purpose of the Analysis of Alternatives is to explore alternative methods of meeting the identified requirement. The analysis should include the comparative effectiveness, cost, schedule, concepts of operations, overall risks, and critical technologies associated with each proposed alternative, including the sensitivity of each alternative to possible changes in key assumptions or variables. The Analysis of Alternatives also address the fully burdened cost of fuel for each alternative, when appropriate.

This phase encompasses the Materiel Development Decision review. At the review, JROC recommendations are presented by the Joint Staff, and the relevant component presents the Initial Capabilities Document, which details the operational need for a materiel solution. The materiel solution phase ends when the Analysis of Alternatives is completed, the lead component

recommends materiel solutions identified by the Initial Capabilities Document, and the program meets the criteria for the milestone where the program will enter the acquisition system.

Figure 4. Milestone A: The Technology Development Phase



To enter the Technology Development phase of the acquisition system, a program must have an approved AoA, full funding for the technology development phase, and pass Milestone A. To pass Milestone A, the lead component must submit a cost estimate for the solutions identified in the AoA,²¹ and the MDA must approve the materiel solution and the Technology Development Strategy.²²

During this phase, technologies are developed, matured, and tested. To be considered mature enough for product development, technologies must be tested and demonstrated in a ‘relevant’—or preferably, ‘operational’—environment. In addition, a Capability Development Document²³ and Reliability, Availability, and Maintainability strategy²⁴ must be developed. This phase is also where competitive prototyping occurs, which is when competing industry teams develop competing prototypes of a required system.

The Technology Development Phase is complete when, among other things, an affordable program (or increment) is identified and the technology and manufacturing processes have been demonstrated in a relevant environment.

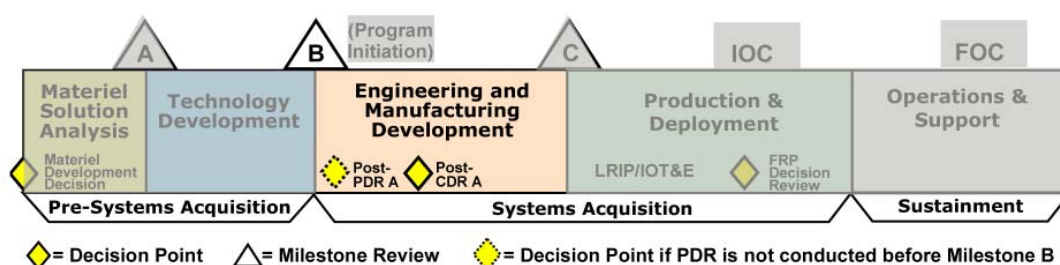
²¹ The MDA could require the Cost Analysis Improvement Group to submit an independent cost estimate.

²² A Technology Development Strategy (TDS) must include, among other things, a discussion on whether the program is pursuing an evolutionary or single-step strategy for technology development, a preliminary acquisition strategy, and specific cost, schedule, and performance goals for technology development.

²³ A Capability Development Document details the operational performance parameters for the anticipated system.

²⁴ Reliability, Availability, and Maintainability (RAM) refers to the reliability, availability, and maintainability of a system. Reliability is the probability of a system performing a specific function under stated conditions for a specified time. Availability is the measure of time a system is operable and able to be committed to a mission. Maintainability is the extent to which a system can be kept in or restored to a specific operating condition. See Department of Defense, *DOD Guide for Achieving Reliability, Availability, and Maintainability*, August 3, 2005, p. 1-1, at http://www.acq.osd.mil/sse/docs/RAM_Guide_080305.pdf.

Figure 5. Milestone B: The Engineering and Manufacturing Development Phase



The Engineering and Manufacturing Development Phase is where a system is developed, all technologies and capabilities are fully integrated into a single system (full system integration), and preparations are made for manufacturing (including developing manufacturing processes, designing for mass production, and managing cost). To enter this phase of the acquisition system, a program must have mature technology,²⁵ approved requirements,²⁶ full funding, and pass Milestone B. To pass Milestone B, the MDA must, among other things, approve the Acquisition Strategy, the Acquisition Program Baseline,²⁷ and the type of contract that will be used to acquire the system. Most programs begin at Milestone B.²⁸

Engineering and Manufacturing Development consists of two sub-stages: system integration (known as Integrated System Design) and system demonstration (known as System Capability & Manufacturing Processes Demonstration). During system integration, the various subsystems are integrated into one system and a development model or prototype is produced. For example, on an aircraft carrier, system integration would be when the aircraft launching system, radar, nuclear reactor, and other subsystems are all integrated onto the ship.

To move from system integration to system demonstration, the MDA must complete a Post-Preliminary Design Review (PDR) and Post-Critical Design Review (CDR) Assessment. These assessments review the extent to which the system meets requirements and the overall design is mature (sufficiently complete), respectively.

²⁵ Not all technologies intended for the system are required to be mature to proceed to Milestone B. Some technologies that are still immature may remain in technology development while others proceed to Milestone B as long as the technologies proceeding to Milestone B provide an affordable, militarily useful capability. DOD's approach to proceeding with detailed design and integration of mature technologies while continuing risk reduction of other less mature technologies that will be integrated later is called Evolutionary Acquisition.

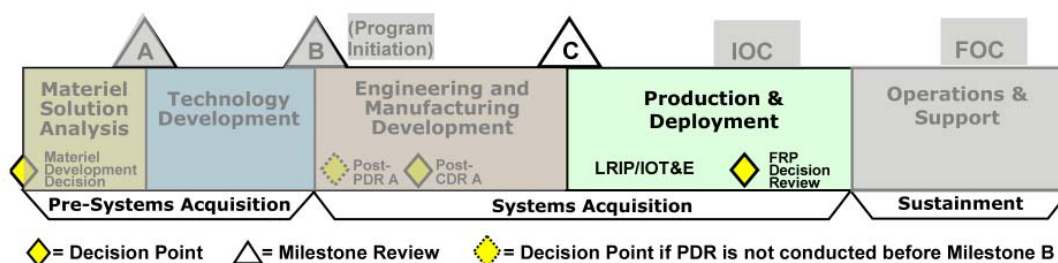
²⁶ Before Engineering and Manufacturing Development can occur, a program must have approved Key Performance Parameters (KPPs). These KPPs can be amended later.

²⁷ The Acquisition Program Baseline (APB) details the performance, schedule, and cost goals of the program. The APB contains both objective (desired) and threshold (acceptable) values.

²⁸ First-in-class ships are usually authorized at Milestone B.

During system demonstration, the model or prototype enters into developmental testing to demonstrate its military usefulness (consistent with the Key Performance Parameters), and that the system can be supported through manufacturing processes. Much of the testing and evaluation of the system occurs in this phase. This phase is complete when, among other things, the system meets performance requirements as demonstrated by a model (that is similar to the expected final product) in an intended environment, and when manufacturing processes have been demonstrated.

Figure 6. Milestone C: The Production and Deployment Phase



The Production and Deployment phase is where a system is produced and deployed. To enter this phase, a program, among other things, must have

7. passed developmental testing and operational assessment,
8. demonstrated that it is interoperable with other relevant systems, and can be supported operationally,
9. shown that it is affordable,
10. be fully funded, and
11. pass Milestone C.

At Milestone C, the MDA authorizes the beginning of low-rate initial production, which is intended to both prepare manufacturing and quality control processes for a higher rate of production and provide test models for operational test and evaluation (OT&E). Upon completion of OT&E, demonstration of adequate control over manufacturing processes, and with the approval of the MDA, a program can go into full rate production. When enough systems are delivered and other pre-defined criteria are met, an Initial Operating Capability (IOC) can be attained, allowing for some degree of operations. Full Operational Capability (FOC) is achieved when the system is ready to operate as required (see the final stage in **Figure 6**)

Acquisition Categories

Programs are divided into acquisition categories (ACATs) based primarily on program value. Management and oversight of acquisition programs increases as the value of the program increases. The most significant DOD and Congressional oversight activities apply to MDAPs,²⁹

²⁹ A number of statutory reporting and oversight requirements applicable only to MDAPs are codified at 10 U.S.C. 144.

which are categorized as ACAT I programs.³⁰ **Table 1** illustrates the thresholds and decision authorities for all ACATs.

Table 1. Description of Acquisition Categories

Category	Reason For Acquisition Category (ACAT) Designation	Decision Authority
ACAT I	Program is a Major Defense Acquisition Program Value of program estimated by the Under Secretary of Defense (Acquisition, Technology, and Logistics) to require Research, Development, Technology, and Engineering in excess of \$365 million in Fiscal Year (FY) 2000 constant dollars or for procurement of more than \$2.19 billion in FY2000 constant dollars Milestone Decision Authority designates program as an ACAT I	ACAT ID: Under Secretary of Defense (Acquisition, Technology, and Logistics) ACAT IC: Head of DOD Component or, if delegated, the Component Acquisition Executive
ACAT IA ^a	Major Automated Information System (MAIS) - An Automated Information System^b that is estimated to have in excess of \$32 million in FY2000 constant dollars for all expenditures directly related to the system, incurred in any single year (including all increments); \$126 million in FY2000 constant dollars for all expenditures directly related to the system, incurred from the start of the Material Solution Analysis Phase through deployment at all sites (including all increments); or \$378 million in FY2000 constant dollars for all expenditures directly related to the system, incurred from the start of the Material Solution Analysis Phase through sustainment for the estimated useful life of the system (including all increments). Milestone Decision Authority designates program as an ACAT IA	ACAT IAM: Under Secretary of Defense (Acquisition, Technology, and Logistics) or delegate ACAT IAC: Head of the DOD Component or, if delegated, the Component Acquisition Executive
ACAT II ^c	Does not meet criteria for ACAT I Is a Major System Value of program estimated by DOD Component to require Research, Development, Technology, and Engineering in excess of \$140 million in FY2000 constant dollars or for procurement of more than \$660 million in FY2000 constant dollars Milestone Decision Authority Designates program as an ACAT I	Component Acquisition Executive or designee
ACAT III	Does not meet criteria for ACAT II Automated Information System that is not an Major Automated Information System	Designee of the Component Acquisition Executive

Source: Department of Defense Instruction 5.000.02, December 8, 2008.

- a. An ACAT IA program can meet the definition of a Major Defense Acquisition Program. The Milestone Decision Authority designates Major Automated Information System programs as ACAT IAM or ACAT IAC.

³⁰ Major Automated Information Systems (MAIS) have different dollar thresholds than MDAPs, as shown in **Table 1**.

- b. An Automated Information System is a system of computer hardware, computer software, data or telecommunications that performs functions such as collecting, processing, storing, transmitting, and displaying information. Some computer resources are excluded, including hardware and software systems that are an integral part of a weapon or weapon system.
- c. Major Automated Information System programs cannot be categorized as an ACAT II.

Acquisition Reform

Concerns over the acquisition system are not new. For more than 150 years Congress and the executive branch have been frustrated with the level of mismanagement and corruption in defense acquisitions, and have spent significant resources seeking to reform and improve the process. For example, in 1862, during the Civil War, President Abraham Lincoln requested the resignation of Secretary of War Simon Cameron, in large part because of contracting corruption and mismanagement in the War Department. That same year, the House Committee on Contracts issued a 1,100 page report that documented corruption and mismanagement in defense acquisitions that resulted in the government buying weapons that did not work, horses that were diseased, and food that was rotten.

More recently, concerns over defense acquisitions have centered around significant cost overruns, schedule delays, and an inability to get troops in the field the equipment they need when they need it. Many analysts believe that cost overruns and schedule delays have a debilitating effect on our military and threaten America's technological advantage and military capabilities.

Both Congress and DOD have been active in trying to improve defense acquisitions. Despite the numerous studies (more than 100 since the end of World War II), congressional hearings, and DOD reports that have often echoed the same themes and highlighted the same weaknesses in the acquisition process, acquisition reform efforts pursued over the last 30 years have been unable to rein in cost and schedule growth.

DOD Reform Efforts

In recent years, DOD has taken a number of steps to reform the process by which it buys major weapon and IT systems. On December 8, 2008, DOD issued an updated DOD Instruction 5000.2, which included a number of major systemic changes, including a mandatory requirement for competitive prototyping, greater emphasis on systems engineering and technical reviews, and a requirement that all programs go through a Materiel Development Decision process prior to entering the acquisition system. Under Secretary of Defense Frank Kendall has stated that 5000.02 is undergoing another rewrite to reflect changes in law and improved guidance and policy.

On March 1, 2009, DOD issued an updated Instruction, Joint Capabilities Integration and Development System (CJCSI 3170.01G). On January 10, 2012, DOD issued a new version of Joint Capabilities Integration and Development System, (renamed CJCSI 3170.01H).

In a press conference in May 2009, then Secretary Robert Gates announced additional steps to tackle the issue of cost and schedule growth in weapon system acquisitions. Specifically, he called for stopping programs that significantly exceed budget, do not meet current military needs, or do not have sufficiently mature technology. Addressing programs with significant cost growth, he called for the cancellation of a number of programs, including the VH-71 presidential

helicopter and the Air Force Combat Search and Rescue X (CSAR-X) program. He also called for the cancellation of programs for which he questioned the validity of their requirements and the maturity of the technology - such as the ground components of the Future Combat System and missile defense's Multiple Kill Vehicle (MKV). This action is consistent with his prior statements, in which he argued that in recent years, weapon systems have added unnecessary requirements and proceeded with immature technology - resulting in higher costs, longer acquisition schedules, and fewer quantities. These and other programs, such as the F-22, were cancelled or curtailed.

On September 4, 2010, then Under Secretary of Defense Ashton Carter issued the memorandum *Better Buying Power: Guidance for Obtaining Greater Efficiency and Productivity in Defense Spending*. In November 2012, Under Secretary of Defense Frank Kendall launched the "Better Buying Power 2.0" initiative, an update to the original Better Buying Power effort. While much of the original effort remains intact, the new version does contain some changes. For example, the original effort called for increased use of fixed-price contracts;³¹ the new version emphasizes the use of an appropriate contract type, depending on the circumstances. Perhaps the most significant change is the added emphasis on improving and professionalizing the acquisition workforce.

Congressional Reform Efforts

In recent years, the primary mechanism through which Congress has exercised its legislative powers to reform the defense acquisition structure has been the annual National Defense Authorization Acts (NDAAAs). Sections of the acts have prescribed requirements applicable to both specific acquisition programs and acquisition structure overall, the latter of which has typically been addressed in Section VIII of the acts, usually titled "Acquisition Policy, Acquisition Management, and Related Matters." Generally, the requirements prescribed in this section have focused on specific issues rather than a comprehensive overhaul of the entire defense acquisition structure. In the National Defense Authorization Acts for FY2008-2012, the Title dealing with acquisitions included more than 240 sections.³²

Occasionally Congress will pass defense acquisition reform as a stand-alone law. The most recent example of a stand-alone statute that had a significant impact on weapon system acquisitions occurred in May 2009, when Congress passed and the President signed into law the Weapon Systems Acquisition Reform Act of 2009 (S. 454/P.L. 111-23). Key provisions in the act include the following:

- appointment of a Director of Cost Assessment and Program Evaluation within DOD who will communicate directly with the Secretary of Defense and Deputy Secretary of Defense and who will issue policies and establish guidance on cost estimating and developing confidence levels for such cost estimates;
- appointment of a Director of Developmental Test and Evaluation who will be the principal advisor to the Secretary of Defense on developmental test and evaluation and will develop policies and guidance for conducting developmental testing and evaluation in DOD, as well as review, approve, and monitor such testing for each MDAP;

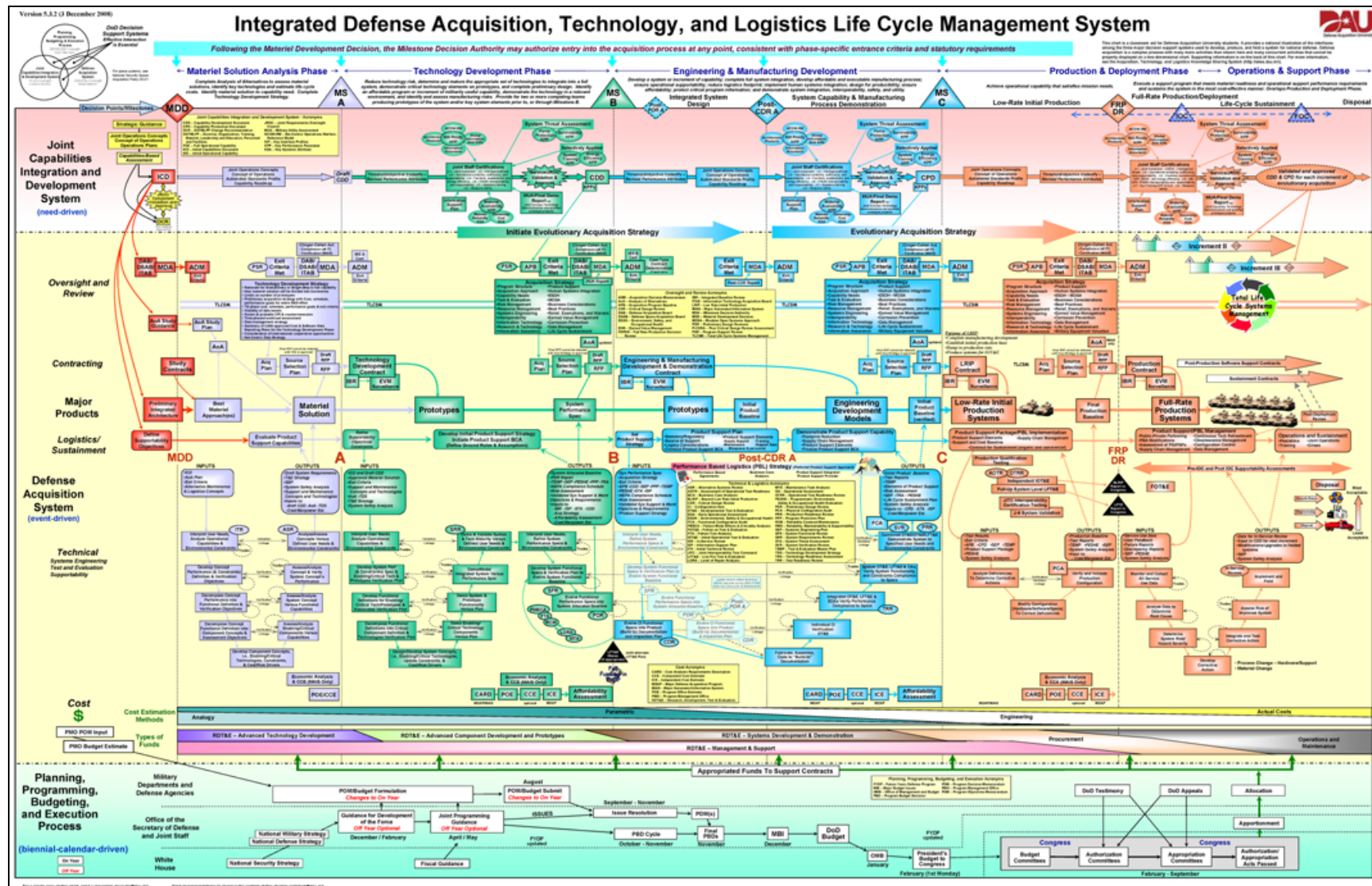
³¹ Page six.

³² Based on a CRS review of the National Defense Authorization Acts for FY2008-2012.

- appointment of a Director of Systems Engineering who will be the principal advisor to the Secretary of Defense on systems engineering and will develop policies and guidance for the use of systems engineering, as well as review, approve, and monitor such testing for each MDAP;
- a requirement that the Director of Defense Research and Engineering periodically assess technological maturity of MDAPs and annually report findings to Congress; requiring the use of prototyping, when practical;
- a requirement that combatant commanders have more influence in the requirements generation process;
- changes to the Nunn-McCurdy Act, including rescinding the most recent Milestone approval for any program experiencing critical cost growth; and
- a requirement that DOD revise guidelines and tighten regulations governing conflicts of interest by contractors working on MDAPs.

An oversight issue for the 113th Congress is the extent to which the Weapon System Acquisition Reform Act and the Better Buying Power initiative are having a positive impact on DOD acquisitions.

Appendix A. The Acquisition, Technology, and Logistics System



Source: Defense Acquisition University.

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