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Defense Acquisition and Acquisition Reform: A Study

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I. INTRODUCTION

*“By almost any measure, the system is broken.”*¹

In 2015, the Department of Defense’s major Acquisition programs were collectively \$468 billion over budget, and, on average, nearly two-and-a-half years behind schedule.² As the Pentagon’s then-Acquisition Executive recently noted, “The bureaucracy’s significant failing is that it does not always succeed in its purpose of preventing major problems.”³

How did this come to be? Why is an enterprise that encompasses more than one-third of the Defense budget consistently unable to meet its stated objectives?⁴

This paper examines Defense Acquisition from several vantage points in an effort to understand this problem. Beginning with a look at the history of Defense Acquisition, it proceeds through an examination of the current process, major stakeholders, particular challenges, and proposed solutions, in an effort to discover why the same shortcomings perennially assert themselves. The paper is therefore intended to provide readers with a complete picture of the Defense Acquisition process, and to examine the manner in which its many stakeholders seek to reform the system, both from the outside and from within.

¹ Weisgerber, M., *Slow and Steady is losing the {Defense Acquisition} Race*, Government Executive (undated). Retrieved from <https://www.govexec.com/feature/slow-and-steady-losing-defense-acquisition-race/> on 14 March 2019.

² Lineberger, R., *Program management in aerospace and defense: Still late and over budget*, Deloitte Center for Industry Insights (2016) at p. 8.

³ Kendall, F., *Five Myths About Pentagon Weapons Programs*, Defense One (2018). Retrieved from <https://www.defenseone.com/ideas/2018/03/five-myths-about-pentagon-weapons-programs/146803/> on 14 March 2019.

⁴ Data compiled from Forecast International’s U.S. DoD Defense Spending Portal. Percentage of FY19 RDT&E (\$92.6B) and Procurement (\$144.6B) funding, as a function of total budget (\$695.1B). Retrieved from <http://www.fi-aeroweb.com/Defense-Spending.html> on 14 March 2019.

II. HISTORY

While Defense Acquisition, in the most general sense, dates back to the American Revolution, the modern development processes originate at the end of the Second World War.⁵

This section discusses the development of the overall process from that historical lens: looking back to the origins of the Department of Defense and continuing through to the present day, focusing all the while on the change agendas and reforms that sought to improve Acquisition-related activities.

While none of these action plans was fully effective, each paved the way for successive reform efforts, and – more importantly for study purposes – each individually, and the whole collectively, allows for an examination of the common threads that have shaped defense acquisition.⁶ In a study of recent history, three types of reform efforts arise most frequently: anti-bureaucratic and streamlining processes; accountability efforts; and attempts to localize and re-orient power centers.⁷

a. NATIONAL SECURITY ACT (1947)

On the heels of the Second World War, the National Security Act instituted the modern-day National Military Establishment, headed by a civilian secretary of defense.⁸ The secretary coordinated the activities of the military services, which were organized into three

⁵ Converse, E., *Rearming for the Cold War 1945-1960*, Office of the Secretary of Defense: Historical Office (2012) at pp. v, 18.

⁶ See, e.g., Fox, J. Ronald, *Defense Acquisition Reform, 1960-2009: An Elusive Goal*, Center of Military History (2011) at pp. 189–93.

⁷ *Id.* at pp. 99, 120, 130.

⁸ Converse, E., *Rearming for the Cold War 1945-1960*, Office of the Secretary of Defense: Historical Office (2012) at p.5 (and see fn. 13).

departments—Army, Navy, and Air Force—each under the authority of an appointed civilian secretary.⁹



Figure 1. President Truman Signs the National Security Act of 1947 on July 26th, 1947. Retrieved from <https://bit.ly/2eQCSFf> on 22 April 2019.

The National Security Act also established the first modern, centralized acquisition framework, as two interdepartmental coordinating agencies for materiel procurement—the Research and Development Board, and the Munitions

Board—were placed under the secretary of defense.¹⁰

The secretary was also empowered with one of the most powerful mechanisms for acquisition oversight: budgetary control.¹¹ The defense secretary prepared the department's budget for submission to Congress, acting within guidelines prescribed by the President.¹²

b. THE BLUE RIBBON DEFENSE PANEL (1969-1970) AND THE CONGRESSIONAL COMMISSION ON GOVERNMENT PROCUREMENT (1972)

While a series of reform efforts took place in the years following the National Security Act, including Eisenhower's "New Look" strategy (1953), the Department of Defense Reorganization Act (1958), and the innovations of the McNamara Era (1961), major change was

⁹ *Id.*

¹⁰ *Id.* Note: 'Materiel' is distinguished from 'material', and refers to specifically-military materials and equipment.

¹¹ *Id.* at p. 63.

¹² *Id.* at p. 37.

not again undertaken until the late 1960s. With much of President Johnson’s defense policy focused on Vietnam, major acquisition changes did not again occur until the beginning of Nixon’s first term.

In 1969, Nixon’s defense secretary, Melvin Laird, conducted a one year study—the Blue Ribbon Defense Panel—and tasked it to review, among other concerns, defense research and development efforts, and department procurement policies and practices.¹³ In May, deputy secretary Packard implemented a series of reforms emanating from the Panel, notably establishing the Defense Systems Acquisition Review Council (DSARC), which to this day plays a significant role in advising the secretary of defense on military systems’ progress through the acquisition cycle.¹⁴

At the same time, Congress began paying increased attention to defense management, with a particular focus on government procurement.¹⁵ In 1970, the congressional Commission on Government Procurement began taking a systemic look at interagency issues effecting government spending and cost growth.¹⁶ The most-notable development from these efforts was the subsequent creation of the Office of Federal Procurement Policy in 1974.¹⁷ To this day, the Agency, nested within the Office of Management and Budget, works to promote “economy, efficiency, and effectiveness in acquisition processes.”¹⁸ As relates to Defense Acquisition, the

¹³ *Id.* at p. 46.

¹⁴ *Id.* at pp. 47–48.

¹⁵ See Fox, *Defense Acquisition Reform* at pp. 82.

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ See Mission Statement of the Federal Procurement Policy Office. Retrieved from <https://www.federalregister.gov/agencies/federal-procurement-policy-office> on 22 April 2019.

organization supervises efforts related to Federal Acquisition Regulations,¹⁹ the Chief Acquisition Officers Council,²⁰ and various Contractor performance indexes and metrics.²¹

c. THE PACKARD COMMISSION (1985) AND THE GOLDWATER-NICHOLS ACT (1986)

In the mid-1980s, Senators Goldwater, Nunn, and Grassley, as well as House Armed Services Committee Chairman Aspen, began issuing reports and holding hearings on problems endemic to the Defense Department, many directly related to its Acquisition practices.²² Responding to these charges and related public pressures, in 1985 President Reagan directed former-secretary Packard and the Blue Ribbon Defense Commission to seek reforms to the Department under a “Formula for Action” plan.²³ Among the Commission’s proposed reforms, nine were Acquisition specific.²⁴

Most of these were subsequently adopted, in whole or in part, through National Defense Authorization Acts executed between 1982 and 2015.²⁵ While the Goldwater-Nichols Defense Reorganization Act (1986) instituted only minor acquisition reform initiatives requested by the Commission, their impact was significant.²⁶ Notably, Congress acted on the recommendations of Goldwater-Nichols in creating the position of Under Secretary of Defense for Acquisition, empowering it with top procurement authority; established Army, Navy, and Air Force

¹⁹ See The Federal Acquisition Regulatory Council, information page. Retrieved from <https://www.acquisition.gov/far-council-members> on 22 April 2019.

²⁰ See CAOC Charter. Retrieved from <https://www.acquisition.gov/caoc-charter> on 22 April 2019.

²¹ See Office of Federal Procurement Policy Contractor Performance Information. Retrieved from https://obamawhitehouse.archives.gov/omb/procurement_index_contract_perf/ on 22 April 2019.

²² See Fox, *Defense Acquisition Reform* at p. 125.

²³ Bond, D., Davis, S., and Pearsall, A., *The Goldwater-Nichols Act of 1986: 30 Years of Acquisition Reform*, Naval Post Graduate School (2016) at p. 2.

²⁴ *Id.* at p. 22. The proposals included streamlining acquisition organization and procedures; using technology to reduce cost; balancing cost and performance; stabilizing programs; expanding the use of commercial products; increasing the use of competition; clarifying the need for technical data rights; enhancing the quality of acquisition personnel; and improving the capability for industrial mobilization.

²⁵ *Id.* at p. 21.

²⁶ *Id.*

Acquisition executives; and permitted service acquisition executives to appoint program executive officers, while also affording them direct authority and responsibility for program managers.²⁷ Contemporaneous with the Packard Commission and Goldwater-Nichols Act, Congressional members executed their own proactive reform efforts. Notably, the Senate established a Defense Acquisition Policy Subcommittee under the Armed Services Committee to better oversee and manage Departmental Acquisition efforts.²⁸

d. WEAPONS SYSTEMS ACQUISITION REFORM ACT (2009)

Though President Clinton and the Congress passed meaningful Acquisition legislation during the mid-1990s, including the Federal Acquisition Streamlining Act (1994) and the Federal Acquisition Reform Act (1996), more ambitious changes were not realized. With the majority of the George W. Bush Presidency consumed by wars in Iraq and Afghanistan, acquisition reform efforts did not again see significant attention until the beginning of the Obama Administration.

In 2009, Congress adopted the Weapons Systems Acquisition Reform Act, which sought to improve the defense department's approach to contracting and its purchase of major weapons systems.²⁹ Notably, the legislation established a Defense-level Office of Cost Assessment and Program Evaluation, tasked to analyze new program expenses while working to mitigate costs.³⁰ It also emphasized pre-production systems testing, both ensuring sufficiency of development and providing military commanders more authority over new programs.³¹

²⁷ *Id.*

²⁸ See Fox, *Defense Acquisition Reform* at p. 127.

²⁹ Edie, P., *The More Things Change, Acquisition Reform Remains the Same*, US Army War College (2011) at pp. 10–11.

³⁰ Armed Forces Comptroller, *CAPE: A New Name for an Enduring Role* (Spring 2010). Retrieved from <http://www.omagdigital.com/article/CAPE%3AA+New+Name+For+an+Enduring+Role/449118/42985/article.html> on 20 February 2019.

³¹ Holland, S. and Shalal-Esa, A., *Obama signs law to reform Pentagon weapons buying*, Reuters (May 22, 2009). Retrieved from <https://www.reuters.com/article/us-obama-pentagon/obama-signs-law-to-reform-pentagon-weapons-buying-idUSTRE54L3FR20090522> on 20 February 2019.

e. ACQUISITION REFORM IN THE TRUMP ERA (2017 – PRESENT)

During the Trump Administration, a series of novel acquisition reform efforts have taken place. Notably, in 2018, the USD(ATL)'s office was split into an Acquisition and Sustainment Office, and a Research and Development Office, in an effort to localize and prioritize



Figure 2. President Trump signs the 2018 National Defense Authorization Act in the Roosevelt Room on December 12th, 2017. Retrieved from <https://bit.ly/2UwVpWn> on 22 April 2019.

Acquisition-related efforts, as distinct from those strictly related to Research and Development.³² In addition, the current Under Secretary for Acquisition and Sustainment, Ellen Lord, is on record as expressing a desire to rewrite the primary guidebook on

defense acquisition, known as DoDI 5000.02.³³

Finally, government-wide efforts to reduce federal regulations have led the Defense department to begin eliminating nearly 50% of its regulatory Acquisition documents, collectively referred to as Defense Federal Acquisition Regulation Supplements, or DFARs.³⁴

³² Mehta, A., *The Pentagon's acquisition office is gone. Here's what the next 120 days bring.*, Defense News (Feb. 1, 2018). Retrieved from <https://www.defensenews.com/pentagon/2018/02/01/the-pentagons-acquisition-office-is-gone-heres-what-the-next-120-days-bring/> on 20 February 2019.

³³ Mehta, A., *Six things on the Pentagon's 2019 acquisition reform checklist*, Defense News (Dec. 27, 2018). Retrieved from <https://www.defensenews.com/pentagon/2018/12/27/six-things-on-the-pentagons-2019-acquisition-reform-checklist/> on 20 February 2019.

³⁴ Serbu, J., *Reform panel on track to cut DoD-specific acquisition regs by half*, Federal News Network (2018). Retrieved from <https://federalnewsnetwork.com/defense-main/2018/04/reform-panel-on-track-to-cut-dod-unique-acquisition-regs-by-half/> on 25 February 2019.

f. SUMMARY

Beginning with the National Security Act in 1947, members of the Executive Branch have sought to reform the Defense Acquisition process. Their activities tend to happen during peace time, as war efforts shift the President and the Department's focus. Attempts at reform are an ever-present reality of Defense Acquisition, and the initiatives across the decades are strikingly similar, focused heavily on streamlining established processes, improving accountability, and localizing and re-orienting power centers.

III. CURRENT PROCESS

In its current form, the Defense Budget process, like much of the rest of federal budgeting activities, takes place in three distinct phases: budget formulation, reconciling actions by Congress and the Executive, and execution.³⁵

As part of its Planning, Programming and Budgeting System (PPBS), the Department of Defense annually prepares a six-year forward-forecasted Future Years Defense Program (FYDP), with periodic updates.³⁶

Every year in March, the Department of Defense submits its Defense Fiscal Guidance (DFG) to the services, who return revised programmatic needs to the Department in May or June.³⁷ The services' primary mechanism for relaying this information is the Program Objective Memorandum (POM), which is then submitted to the Office of the Secretary of Defense (OSD) under a Program Decision Memorandum (PDM) in August or September.³⁸

³⁵ DiStasio, F., *Army Budget: An Analysis* (Appendix II – The Budget Process), Association of the United States Army (2009) at p. 96.

³⁶ *Id.* at p. 97.

³⁷ *Id.*

³⁸ *Id.*

Simultaneously, the services prepare budgetary requests to accompany their programmatic needs, subject to the Department's guidance.³⁹ These preparations produce Budget Execution Submissions (BESs), which are submitted to the Department for detailed review by early October.⁴⁰

From October to December, OSD and the Office of Management and Budget (OMB) work together, considering the services' programmatic and budgetary needs, and execute a series of separate and additional Program Decision Memoranda (PDM) under the guidance of a senior review panel, the Defense Resources Board.⁴¹

Subsequent to final review, OMB and the Executive consider the Secretary's recommendations, and begin incorporating the expressed needs into the President's Budget.⁴² Subject to the President's approval, the Department's budget requests – which now form a sizeable percentage of the President's Budget – are delivered (ideally) in early February.⁴³

At this point, Congress begins its own justification, review, and approval process.⁴⁴ Separately, the Congress determines the agencies that are responsible for defense, establishes their funding levels, and sets policies under which authorized money is to be spent through an annual National Defense Authorization Act.⁴⁵ The House and Senate Armed Services Committees assume conference authority for this bill, before it is voted on by the Congress and signed into law by the President.⁴⁶

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ McGarry, B., *Defense Primer: Navigating the NDAA*, Congressional Research Service: In Focus (2018).

⁴⁶ *Id.*

With an authorization in place, the House and Senate must next formally appropriate funds to the Department.⁴⁷ All Defense Appropriations are handled ultimately by the House and Senate Appropriations Committees, initially by their respective Subcommittees on Defense.⁴⁸ Appropriations for the Department are covered under separate Military Construction and Department of Defense Appropriations bills.⁴⁹ Included in the latter bill are Operations and Maintenance; Procurement; and Research, Development, Test & Evaluation (RDT&E) appropriations, all components of Defense Acquisition.⁵⁰ The Committees typically report their appropriations bills between May and July, with House and Senate resolutions completed in the fall.⁵¹

Subject to timely and passed authorization and appropriations bills, execution of the Defense Budget begins at the start of the fiscal year, on October 1st.⁵² As a final concern, however, all appropriated funds must be apportioned by OMB, with proper warrants issued from the Treasury.⁵³

IV. THE STAKEHOLDERS

Having looked at the overall process by which the Defense budget is brought to fruition, it is appropriate to consider the manner in which major stakeholders seek to advocate their own interests, specifically on the matter of defense acquisition and its related reforms.

⁴⁷ Tollestrup, J., *The Congressional Appropriations Process: An Introduction*, Congressional Research Service (2012) at pp. 3–4.

⁴⁸ *Id.* at pp. 1–2.

⁴⁹ DiStasio at pp. 97.

⁵⁰ *Id.*

⁵¹ Tollestrup at pp. 3–4.

⁵² DiStasio at pp. 97.

⁵³ *Id.*

a. THE EXECUTIVE

Article II, §2 of the Constitution states that “[t]he President shall be Commander in Chief of the Army and Navy of the United States, and of the Militia of the several States, when called into the actual Service of the United States.”⁵⁴ This power, when combined with the President’s authority to propose a budget,⁵⁵ his oversight of the various Administrative agencies,⁵⁶ and his appointment and removal powers at the Department of Defense (and elsewhere),⁵⁷ extend to the Executive an extraordinary level of authority in the Defense Acquisition process, to the extent that he chooses to exercise it.

i. THE PRESIDENT

Owing to its high political salience – largely as a function of American concerns for Troops in combat, as well as voters’ antipathy towards wasteful government spending – the Office of the President has often taken substantial interest in Defense Acquisition and its associated reform efforts.

Many of the most-significant Acquisition reform efforts have emanated from presidential responses to fraudulent or otherwise irresponsible procurement activities. Notably, President Regan’s Packard Commission was brought about by a series of “fraud, waste, and abuse” scandals that came to characterize the Department in the 1980s.⁵⁸

⁵⁴ U.S. Const., Art. II, §2

⁵⁵ See Rep. Lewis, J., *The Federal Budget Process*, The Office of Congressman John Lewis (2019). Retrieved from <https://johnlewis.house.gov/federal-budget-process> on 12 March 2019.

⁵⁶ *Executive Agencies*, JUSTIA (undated). Retrieved from <https://www.justia.com/administrative-law/executive-agencies/> on 12 March 2019.

⁵⁷ See U.S. Const., Art. II, §2, cl. 2; see also *The Removal Power*, JUSTIA: US LAW (Undated) for an extended discussion of the President’s Removal Power. Retrieved from <https://law.justia.com/constitution/us/article-2/28-the-removal-power.html#tc-574> on 12 March 2019.

⁵⁸ Eide, P. at p. 102.

At other times, Presidents have intervened to streamline federal bureaucracy, seeing the Department's excessive oversight as a curb on innovation and a source of cost growth and

The Joint Strike Fighter



Conceived in the early 1990s as a 5th Generation Fighter Jet replacement for Air Force, Navy, and Marine aircraft, the F-35 Joint Strike Fighter (JSF) was intended to combine fighter, strike, and ground attack capabilities into a tri-variant, multi-purpose platform.

Owing primarily to performance and safety issues, the aircraft is now 11 years behind schedule and billions of dollars over budget, with projected lifetime development and operational costs of \$1.5 *trillion*.

Critics have identified poor systems engineering practices, integration challenges, requirements creep, and design flaws as primary sources of the program's many problems. As one observer recently noted, "[f]or over two decades, the F-35 has been the symbol of everything that's wrong with mammoth defense contracts."

In recent years, the planes have been declared combat capable, as variants of the aircraft enter full-rate production. Yet many problems still persist. An F-35 sold to Japan crashed in April of 2019. The pilot has not been found.

inefficiency. Then-President Clinton enacted the Federal Acquisition Streamlining Act (1994) in an effort to encourage the Department to more-closely align with industry suppliers and best practices in conducting Acquisition. In February 2017, President Trump issued an Executive Order directing all agencies to perform regulatory reform, largely through the elimination of "unnecessary, burdensome and harmful" regulations.⁵⁹

As previously indicated, this Executive Order gave way to proposals intended to eliminate nearly 50% of the Department's guiding regulatory documents on Acquisition.⁶⁰

⁵⁹ Somers, M., *Trump orders agencies to create task forces to tackle regulation*, Federal News Network (2017). Retrieved from <https://federalnewsnetwork.com/management/2017/02/trump-orders-agencies-create-task-forces-tackle-regulations/> on 25 February 2019.

⁶⁰ Serbu, J., *Reform panel on track to cut DoD-specific acquisition regs by half*, Federal News Network (2018). Retrieved from <https://federalnewsnetwork.com/defense-main/2018/04/reform-panel-on-track-to-cut-dod-unique-acquisition-regs-by-half/> on 25 February 2019.

Still other Presidents have taken a more management-centric approach, looking for ways to reconfigure the overall Acquisition process in a way that more-effectively delivers equipment necessary to military personnel. The Department responded to then-President Bush's "loss of confidence" in the acquisition system with its Defense Acquisition Performance Assessment (DAPA) Project (2005), which sought to review all aspects of the Acquisition process in an effort to realize efficiencies.⁶¹ Similarly, then-President Obama signed the Weapons Systems Acquisitions Reform Act (2009), which sought to improve the defense department's approach to contracting and its purchase of major weapons systems.⁶²

Irrespective of the approaches that different Executives have brought to bear on Defense Acquisition and its reform, what is notable is the degree of interest that current and prior Presidents have shown in the system's effective function. While their efforts outside of high-cost, high-visibility acquisition programs may appear more limited in scope, it is worth noting that their collective actions have shaped many of the major Acquisition reform efforts over the last several decades. Presidents are much more interested in Defense Acquisition reform than one might otherwise expect, given the limited amount of press and attention typically afforded these projects.

ii. OFFICE OF MANAGEMENT AND BUDGET

The Office of Management and Budget, the Executive Office tasked to "assist the President in overseeing the preparation of the Federal budget and to supervise its administration in Executive Branch agencies,"⁶³ exercises influence over the Defense Acquisition process

⁶¹ Eide, P. at p. 104.

⁶² Edie, P., at pp. 10–11.

⁶³ *Clinton White House: OMB Role*, Archives. Retrieved from <https://clintonwhitehouse2.archives.gov/omb/organization/role.html> on 13 March 2019.

through four specific mechanisms: Resource Management Offices, the Annual Budget Review, its Legislative Program, and related Statutory Offices.⁶⁴

Resource Management Officers exercise a “regularized and pervasive form of agency control” over the Defense budget through a series of defense budget preparation and execution “levers,” which allow them generally to tell Department officials how they should formulate their annual budget requests, as well as the manner in which appropriated funds should be spent.⁶⁵ While the pervasiveness of their efforts is sometimes overstated, especially with a Department as large and influential as Defense, these OMB agents exercise considerable asymmetric say in the budget process, and so can advocate for Acquisition Reform initiatives indirectly through fiscal means.

Officers who conduct the annual Defense Budget Review are empowered to analyze trends in and consequences of aggregate budget policy.⁶⁶ As previously discussed, their work in constructing Program Decision Memoranda affords considerable authority.⁶⁷

The Legislative Reference Division of OMB works to articulate Administration positions on pending legislation.⁶⁸ Because they are empowered to review and validate all Administrative legislative proposals related to bills moving through Congress, their efforts afford them an ongoing say in Acquisition initiatives as they progress. Notably, because their responsibilities often include negotiation of policy positions related to Presidential priorities, they operate under the auspices of the Executive in articulating any Acquisition-related proposals.⁶⁹

⁶⁴ Pasachoff, E., *The President's Budget as Source of Agency Policy Control*, 125 Yale L.J. 2182, 2188 (2016).

⁶⁵ *Id.*

⁶⁶ Acquipedia, *Office of Management and Budget*, Defense Acquisition University (undated). Retrieved from <https://www.dau.mil/acquipedia/pages/articledetails.aspx#!133> on 26 February 2019.

⁶⁷ DiStasio, F., *Army Budget: An Analysis* (Appendix II – The Budget Process), Association of the United States Army (2009) at p. 97.

⁶⁸ Acquipedia, *Office of Management and Budget*

⁶⁹ *Id.*

The most-important OMB Statutory Office for purposes of Defense Acquisition priorities is the Office of Information and Regulatory Affairs (OIRA). Of greatest significance, the review process under Executive Order 12866 empowers OIRA to ensure Department compliance with Executive regulatory principles, and mandates fulfilment of the President’s policies and priorities.⁷⁰ Therefore, all Department rules that may impact Defense Acquisition or concern Acquisition reform are subject to a review and approval process directly managed by OMB.⁷¹

Finally, OMB can often directly influence Acquisition Reform by acting as an arm of the President, communicating Executive Budget priorities directly to the Department. As recently as October 2018, OMB Director Mulvaney informed then-Deputy Secretary Shanahan that the Department’s Fiscal Year 2020 budget would fall to \$700 billion, \$33 billion less than Defense’s anticipated request.⁷²

b. THE CONGRESS

The Congress exercises its primary authority over Defense Acquisition through its power of the purse, as outlined in the Appropriations Clause and Taxing and Spending Clause.⁷³ Because any Presidential Acquisition funding request requires Congressional approval, this power is also the legislative branch’s most significant check on the executive – to include Acquisition-related initiatives.⁷⁴ All related Congressional powers over defense acquisition flow from this central power to appropriate funding to the Department.

⁷⁰ DoD Open Government; *DoD Regulatory Program: OMB Approval Process*, US Department of Defense (undated). Retrieved from <https://open.defense.gov/Regulatory-Program/Process/OMBApproval/> on 26 February 2019.

⁷¹ *Id.*

⁷² Mehta, A., *It’s official: DoD told to take cut with FY20 budget*, Defense News (2018). Retrieved from <https://www.defensenews.com/pentagon/2018/10/26/its-official-dod-told-to-take-cut-with-fy20-budget/> on 26 February 2019.

⁷³ See U.S. Const., Art. I, §9, cl.7 and Art. I, §8, cl. 1, respectively.

⁷⁴ Stith, K., *Congress’ Power of the Purse*, Yale Law Journal (1988) at p. 1344 (quoting Iran-Contra Report).

i. THE POWER: NDAA, TITLE VIII (“ACQUISITION POLICY, ACQUISITION MANAGEMENT, AND RELATED MATTERS”)

Congress, with significant interest in defense acquisition, affects its legislative powers on related matters through Title VIII of the National Defense Authorization Act.⁷⁵ The Act, titled *Acquisition Policy, Acquisition Management, and Related Matters*, empowers the Congress to shape the department in five fundamental ways: through legislation related to Major Defense Acquisition Programs; changes to the acquisition workforce; concerns related to the use and procurement of commercial items; changes to the department’s Other Transaction Authority, an alternative purchasing vehicle; and shifts in contract types used by the department.⁷⁶

ii. THE COMMITTEES

The key Congressional players in these defense acquisition activities are the House and Senate Armed Services Committees, who serve as the primary authorizers for the defense



Figure 3. Senator McCain, Chairman of the Senate Armed Services Committee, sits with Senator Reed, the Panel's Ranking Member, before hearing testimony from Defense Secretary Carter and Joint Chiefs of Staff Chairman Dempsey, among others, on July 29th, 2015. Retrieved from <https://bit.ly/2UQKxHM> on 24 April 2019.

budget; the House and Senate Appropriations Subcommittees on Defense, who consider the defense department’s requested appropriations and approve department-specific levels; and the House and Senate Appropriations Committees, who consolidate the department-specific appropriations

⁷⁵ Schwartz, M., *Acquisition Reform in the FY2016-FY2018 National Defense Authorization Acts (NDAAs)*, CRS R45068 (2018) at p. 2.

⁷⁶ *Id.*

and seek to reach consensus on a budget for the entire federal government.

1. THE HOUSE AND SENATE ARMED SERVICES COMMITTEES

The House and Senate Armed Services Committees (HASC and SASC) exercise legislative oversight over the nation's military.⁷⁷ Where the HASC is responsible for the Department's funding and oversight,⁷⁸ the SASC is empowered to oversee activities as diverse as the "common defense" and "the Department[s]...generally."⁷⁹

The House and Senate Armed Services Committees have worked to reform the defense acquisition process, both by demanding accountability from top Pentagon officials, and by proposing reform-minded legislation aimed at improving the department's processes.

The Armed Services Committees often appeal directly to Pentagon officials, requesting their input and movement on issues as diverse as reform to the acquisition process itself, and investments in artificial intelligence.⁸⁰

Members of the Committees often move in the opposite direction as well, and work to direct legislative reform efforts through Congress, in the hope of making changes to the overall defense acquisition framework.⁸¹

⁷⁷ *Standing Rules of the United States Senate: Rule XXV.*

⁷⁸ *Rules of the Committee on Armed Services, 116th Congress*, House Armed Services Committee (2019). Retrieved from <https://armedservices.house.gov/committee-rules> on 12 March 2019.

⁷⁹ *Standing Rules of the United States Senate: Rule XXV.*

⁸⁰ McCleary, P., *Lawmakers Push Pentagon on Reforms, AI, New Missiles*, Breaking Defense (2018). Retrieved from <https://breakingdefense.com/2018/04/lawmakers-push-pentagon-on-reforms-ai-new-missiles/> on 28 February 2019.

⁸¹ Kreisher, O., *HASC Chair Thornberry Introduces Latest Defense Acquisition Reform Plan*, USNI News (2017). Retrieved from <https://news.usni.org/2017/05/18/thornberry-introduces-defense-acquisition-reform-plan> on 28 February 2019.

2. THE HOUSE AND SENATE APPROPRIATIONS COMMITTEES (AND SUBCOMMITTEES ON DEFENSE)

The Appropriations Committees function in a manner similar to the Armed Services Committees, operating with an eye towards calling the department to account where needed, while also bringing reform proposals to Congress. Notably, by virtue of their outsized control over the federal budget, they tend to exert substantial authority over the function of the department's acquisition processes.

Of particular interest, the Appropriations Committees can assess the acquisition-related demands of defense officials, and propose reform by means of adding or reducing funding for a particular program. As Senate Appropriations Committee Chairman Shelby announced after advancing the Defense Department's fiscal year 2019 funding bill, "...we conducted seven public and two classified hearings to better understand the request and the needs of the armed services."⁸²

Furthermore, through the markups that are central to appropriations, committee members can make late-stage changes to the overall process, reflecting their own priorities concerning specific programs and activities.⁸³ Like their larger budgetary counterpart, reform efforts can be initiated through the markup process as well, especially given the degree to which defense officials are included in these discussions.⁸⁴

⁸² Martin, N., *Senate Appropriations Committee Defense Component Advances FY 2019 DoD Funding Bill*, ExecutiveGov (2018). Retrieved from <https://www.executivegov.com/2018/06/senate-appropriations-committee-defense-component-advances-fy-2019-dod-funding-bill/> on 28 February 2019.

⁸³ McIntyre, J. and Tritten, T., *Defense budget rolls along as Senate committees announce markups*, Washington Examiner (2018). Retrieved from <https://www.washingtonexaminer.com/defense-budget-rolls-along-as-senate-committees-announce-markups> on 28 February 2019.

⁸⁴ *Id.*

3. THE SENATE SUBCOMMITTEE ON INVESTIGATIONS

Finally, the United States Senate Homeland Security Permanent Subcommittee on Investigations, which is tasked to serve as “the Senate’s primary oversight committee with broad jurisdiction over government operations generally,” has at times considered the need for defense acquisition reform, issuing reporting to that effect.⁸⁵ Notably, in 2014, Senators McCain and Levin released a bipartisan report on acquisition reform, titled “Defense Acquisition Reform: Where Do We Go From Here? A Compendium of Views by Leading Experts,” which sought input from more than two dozen defense experts on effective reform in the acquisition process.⁸⁶ The report was “intended to help develop a comprehensive record on shortcomings in the acquisition process that may inform congressional deliberations in the future.”⁸⁷

c. THE DEPARTMENT OF DEFENSE

The third, and perhaps most important, player in Defense Acquisition, the Department of Defense is tasked with executing funding appropriated by the Congress. Specifically, the RDT&E funding that the Department is authorized to disperse becomes the lifeblood of Defense Acquisition, and shapes the Department’s development and reform efforts. As previously noted, the Department of Defense receives its Acquisition authority from the Congress, through the National Defense Authorization Act and related defense appropriation bills.⁸⁸

⁸⁵ United States Senate Homeland Security Permanent Subcommittee on Investigations, *Jurisdiction and Rules* (undated). Retrieved from <https://www.hsgac.senate.gov/about/jurisdiction> on 28 February 2019.

⁸⁶ Rogers, B. and Tarallo, J., *Senators McCain and Levin Release Permanent Subcommittee on Investigations Report on Defense Acquisition Reform*, United States Senate Homeland Security Permanent Subcommittee on Investigations (2014). Retrieved from

<https://www.hsgac.senate.gov/subcommittees/investigations/media/senators-mccain-and-levin-release-permanent-subcommittee-on-investigations-psi-report-on-defense-acquisition-reform> on 28 February 2019.

⁸⁷ *Id.*

⁸⁸ Schwartz, M., *Acquisition Reform in the FY2016-FY2018 National Defense Authorization Acts (NDAAAs)*, CRS R45068 (2018) at p. 1.

All of the Department's Acquisition activities require the efforts of three external Department-level decision support systems, as well as the guidance of internal Program Management Offices (PMOs), by means of which the Services move programs through the Acquisition Development Lifecycle.⁸⁹

Internal to the Department, the Undersecretary of Defense for Acquisition and Sustainment, and the Service Acquisition Executives manage and oversee the Department's Acquisition priorities.

i. THE JOINT CAPABILITIES INTEGRATION AND DEVELOPMENT SYSTEM; PLANNING, PROGRAMMING, BUDGET, AND EXECUTION; AND THE DEFENSE ACQUISITION SYSTEM

The three external Department-level decisions support systems, called "Big A" in Department parlance, are the Joint Capabilities Integration and Development System (JCIDS); Planning, Programming, Budget, and Execution (PPBE); and the Defense Acquisition System.

The Department's Joint Requirements Oversight Council⁹⁰ (JROC) is authorized by U.S. Code to review Acquisition programs as designated of interest, and to support the acquisition review process in accordance with the law.⁹¹ As such, the JCIDS system provides the JROC and the Chairman of the Joint Chiefs of Staff (CJCS) with a systematic method to identify, assess, validate, and prioritize Joint military capability requirements.⁹² The efforts of the JROC and CJCS, as articulated in the JCIDS, are governed by CJCS Instruction 5123,01, which outlines the

⁸⁹ *The Defense Acquisition Guidebook*, Defense Acquisition University (2017) at p. 4 ("Ch 1–3. The External and Internal Acquisition Environment").

⁹⁰ The Joint Requirements Oversight Council is chaired by the Vice Chairman of the Joint Chiefs of Staff. Its other members are the Vice Chiefs of each military service.

⁹¹ 10 U.S.C. 181.

⁹² *The Defense Acquisition Guidebook* at p. 5 ("Ch 1 – 3.2 "Big A").

JROC's roles and responsibilities, and CJCS Instruction 3170, which details the policies and procedures for the requirements process.⁹³

The Planning, Programming, Budgeting, and Execution (PPBE) Process enables the

Future Combat Systems



First conceived in the late 1990s as a modernization program to replace the Abrams Tank and Bradley Fighting Vehicles platform, Future Combat Systems (FCS) was intended to field a composite of manned and unmanned vehicles, connected by an integrated and secure battlefield network.

The program quickly ran into a series of development challenges and associated scheduling delays, and began to experience competitive funding pressures brought on by the Wars in Iraq and Afghanistan, domestic initiatives, and budget decrements.

The systems' development was ultimately eliminated in 2009, as President Obama and Defense Secretary Gates elected to shift forward funding towards counter-terrorism efforts.

All told, the program expended \$32 billion in taxpayer dollars, and produced zero fielded systems.

Department to engage in strategic planning, program development, and resource determination for the Services, to include their materiel Acquisition needs.⁹⁴ The primary goal of the PPBE process is the development of plans and programs satisfying the demands of the National Security

⁹³ *Id.*

⁹⁴ *Id.*

Strategy, subject to resource constraints.⁹⁵ PPBE also serves as the DoD’s mechanism for resource allocation annually, within the quadrennial planning cycle.⁹⁶

The Department of Defense is authorized to oversee the Defense Acquisition process by means of the Defense Acquisition System (DAS), as outlined in DoD Instruction (“DoDI”) 5000.01, “The Defense Acquisition System,” and DoDI 5000.02, “Operation of the Defense Acquisition System.”⁹⁷ The DAS is fundamentally a management process, and allows the Department to acquire weapons systems, information systems, and related services.⁹⁸ A primary motive of the DAS is the centralization of Acquisition principle and policy formulation, coupled with a decentralization and streamlining in the execution of Acquisition activities.⁹⁹

ii. THE PROGRAM OFFICES

In order to ensure that Acquisition programs are managed in a way that “high quality, affordable, supportable, and effective systems” are produced “as quickly as possible,” the Department of Defense delegates authority through the Services to Program Executive Officers (PEOs) and Program Managers (PMs).¹⁰⁰

PEOs provide executive management for all acquisition programs assigned to their portfolio.¹⁰¹ Each PEO is responsible for the cost, schedule, and performance metrics related to an Acquisition program, and advises his or her Service Acquisition Executive on the movements of programs in development through the Acquisition Lifecycle.¹⁰²

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.* at p. 2 (“Forward”).

⁹⁸ *Id.* at p. 5 (“Ch 1 – 3.2 “Big A”).

⁹⁹ *Id.*

¹⁰⁰ *Id.* at pp. 15–16 (“CH 1–3.3.1 Program Executive Officer” and “CH 1–3.3.2 Program Manager”).

¹⁰¹ *Id.* at p. 15.

¹⁰² *Id.* at pp. 15–16.

Program Managers (PM), each of whom reports to a PEO, have responsibility and authority to accomplish program objectives for the development, production, and sustainment of a system.¹⁰³ Often times, the PM acts in a manner analogous to a PEO, but for only a single program or technology. As such, he or she will possess a more granular knowledge of the relevant capability, and will function as the point person for most important questions concerning the system and its development.

Both the PEO and PM responsibilities as concerns Acquisition programs can be organized into four categories: (1) Acquisition Management, the oversight of all relevant processes related to the movement of an Acquisition System through development; (2) Technical Management, the oversight of the specifications related to a system's proper functioning and performance; (3) Business Management, the oversight of all cost and budgetary concerns related to a system; and (4) Executive Leadership, the management of all personnel and office functions needed to manage systems in development.¹⁰⁴

iii. THE DEFENSE ACQUISITION EXECUTIVE AND COMPONENT ACQUISITION EXECUTIVE

The Defense Acquisition Executive (DAE), presently the Under Secretary of Defense for Acquisition and Sustainment,¹⁰⁵ operates as the principal staff assistant advisor to the Secretary of Defense for all matters related to Departmental Acquisition.¹⁰⁶ The DAE and any designated subordinates are responsible for acquiring all Department systems or platforms procured by the

¹⁰³ *Id.* at p. 16.

¹⁰⁴ *Id.*

¹⁰⁵ See Mehta, M., *Revealed: The new structure for the Pentagon's tech and acquisition offices*, Defense News (2018). Retrieved from <https://www.defensenews.com/pentagon/2018/07/17/revealed-the-new-structure-for-the-pentagons-tech-and-acquisition-offices/> on 5 March 2019.

¹⁰⁶ *Biography of Ellen M. Lord, Under Secretary of Defense for Acquisition and Sustainment*, U.S. Department of Defense. Retrieved from <https://dod.defense.gov/About/Biographies/Biography-View/Article/1281505/ellen-m-lord/> on 5 March 2019.

military under a Congressional appropriation.¹⁰⁷ In addition, the DAE serves as the Milestone Decision Authority (MDA) for all Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) programs.¹⁰⁸

The Component Acquisition Executives (CAEs) – traditionally Assistant Secretaries in the Departments of the Army, Navy, and Air Force – function in a manner similar to the DAE, with delegated authority from that Office.¹⁰⁹ Traditionally, they report to both the CAE and their Service Secretary. With oversight of programs specific to their Services, the CAEs are tasked to establish and maintain Program Management Offices for each category of related systems, and staff them with PEOs and PMs.¹¹⁰ In addition, they serve as the MDA for all programs delegated them by the DAE, which typically encompasses all Acquisition systems that are not MDAPs or MAIS.¹¹¹

d. SUMMARY

Each of the three major stakeholders in the Defense Acquisition process – the Executive, the Congress, and the Department – are empowered to shape and reform Acquisition. The Executive proposes an initial Defense Budget and, through the Office of Management and Budget, enforces related policies. Congressional Committees call the Department of Defense to account, and authorize and appropriate Defense funding. The Department itself spends appropriated funds, and manages programs in development.

¹⁰⁷ Gonzales, D. et al., *Are Law and Policy Clear and Consistent? Roles and Responsibilities of the Defense Acquisition Executive and the Chief Information Officer*, RAND National Defense Resource Institute (2010) at pp. xi.

¹⁰⁸ DoDI 5000.02, §4(a). Responsibilities: Defense Acquisition Executive, p. 2.

¹⁰⁹ *Id.*

¹¹⁰ *The Defense Acquisition Guidebook* at p. 16 (“CH 1–3.3.2.2 PM Assignment”).

¹¹¹ *Id.* at p. 12–13 (“CH 1–3.2.3.1 Acquisition Category Definition Criteria, Thresholds, and Reporting”).

V. THE DEFENSE ACQUISITION PROCESS

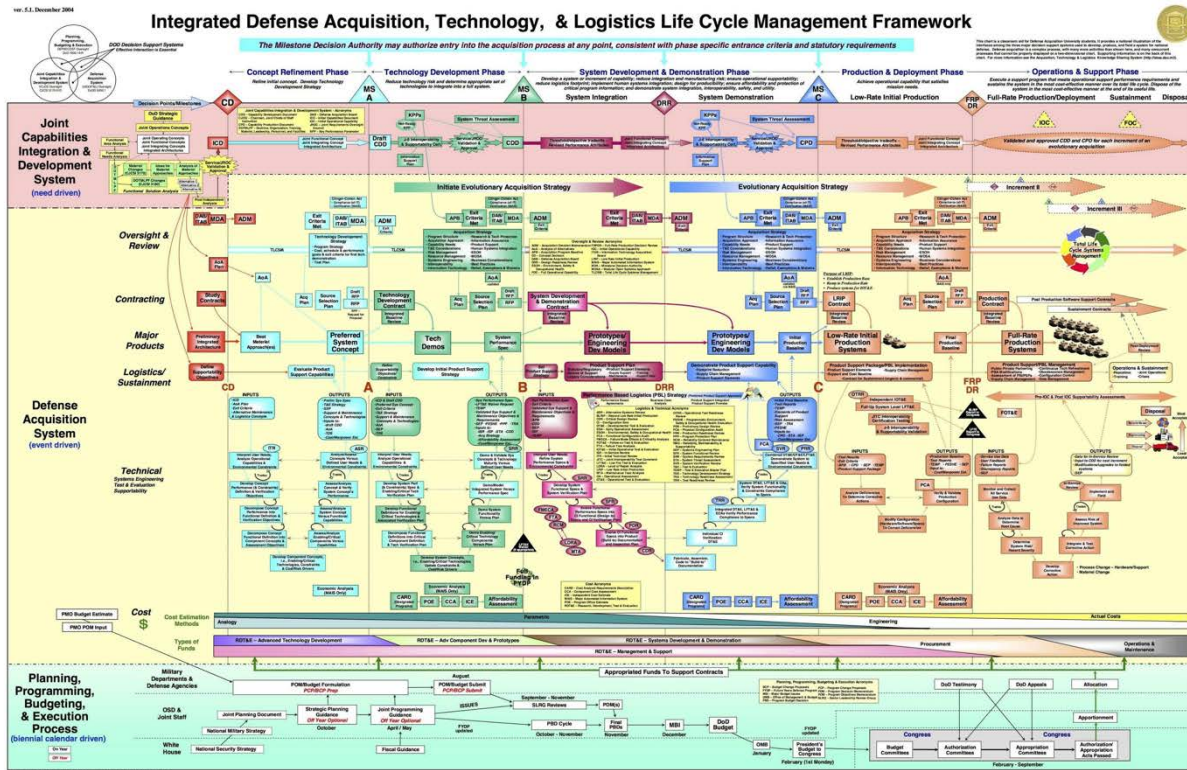


Figure 4. The Defense Acquisition Life Cycle Wall Chart, illustrating decision points, milestones, and phases essential to the Defense Acquisition System. Retrieved from <https://bit.ly/2UwMbcA> on 22 April 2019.

The Defense Acquisition Process (DAP) consists of three mechanics – Acquisition, Requirements, and Funding – needed to execute the Defense Acquisition System, as implemented in DoDI 5000.02.¹¹²

Within the DAP, two major procedural frameworks allow for proper management of Acquisition programs in development. The first, Acquisition Categories (ACATs), outlines the funding level and importance associated with each program.¹¹³ The second, the Acquisition Lifecycle, establishes specific development phases and program goals for each program.¹¹⁴ Each

¹¹² Manning, B., *Acquisition Process: Acquisition Process Overview*, AcqNotes (2018). Retrieved from <http://acqnotes.com/acqnote/acquisitions/acquisition-process-overview> on 7 March 2019.

¹¹³ *Id.*

¹¹⁴ *Id.*

phase is associated with regulations and governing statutes, as well as end-of-phase decision points (generally, “Milestone Reviews”), allowing for a determination as to whether a given program has met the requirements to continue in development.¹¹⁵

a. THE ACQUISITION CATEGORIES

The Defense Acquisition System separates acquisition programs into four categories as a function of a given program’s location in the Acquisition Process; its Research, Development, Test and Evaluation (RDT&E) funding; its total procurement costs; its Milestone Decision Authority (MDA); and its decision authority.¹¹⁶ Programs are divided into four (sometimes five) categories: Acquisition Categories I, IA, II, III, and sometimes IV.¹¹⁷ Details about the designations are included below.

i. ACAT I

Acquisition Category I programs, as defined in 10 U.S.C. 2430 (Ref. (h)), are those estimated to require a total RDT&E expenditure greater than \$480MM, and a total procurement cost exceeding \$2.79B.¹¹⁸ The programs are further subcategorized into ID and IC: the former is headed by the Undersecretary of Defense (Acquisition & Sustainment), who acts as the MDA; the latter is headed by the Department Component head, often the Component Acquisition Executive.¹¹⁹

¹¹⁵ *Id.*

¹¹⁶ Manning, B., *Acquisition Process: Acquisition Category (ACAT)*, AcqNotes (2018). Retrieved from <http://acqnotes.com/acqnote/acquisitions/acquisition-category> on 7 March 2019.

¹¹⁷ *Id.*

¹¹⁸ AiDA (Acquisition in the Digital Age), *Acquisition Category (ACAT)*, MITRE (2018). Retrieved from <https://aida.mitre.org/acat/> on 7 March 2019.

¹¹⁹ *Id.*

ii. ACAT IA

Acquisition Category IA programs, as defined in 10 U.S.C. 2445 (Ref. (h)), are Automated Information Systems (AIS) with costs expected to exceed either \$40MM in single Fiscal Year; \$165MM from Milestone A through deployment; or \$520MM in total lifecycle costs.¹²⁰ The programs are further subcategorized into IAM and IAC: the former headed by the USD(A&S); the latter by the CAE.¹²¹ At present, there are more than 140 ACAT I and IA programs in development.¹²²

iii. ACAT II

Acquisition Category II programs are statutorily defined as Major systems that do *not* meet the criteria for ACAT I.¹²³ Their costs are estimated to exceed \$185MM in RDT&E and \$835MM in procurement.¹²⁴ The CAE acts as the MDA, unless he or she delegates the authority.¹²⁵

iv. ACAT III

ACAT III programs are defined as those acquisition programs that do not meet the criteria for ACAT II, as well as any AIS programs that are not MAIS. The MDA is designated by the CAE, who gives delegated authority.

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² *Department of Defense Major Defense Acquisition Programs (MDAP) and Major Automated Information Systems (MAIS) List* (2018). Retrieved from https://www.acq.osd.mil/ara/documents/mdap_mais_program_list.pdf on 13 March 2019.

¹²³ AiDA (Acquisition in the Digital Age), *Acquisition Category* (ACAT), MITRE (2018). Retrieved from <https://aida.mitre.org/acat/> on 7 March 2019.; *see also* 10 U.S.C. 2302(d) (Ref. (h)).

¹²⁴ AiDA (Acquisition in the Digital Age), *Acquisition Category* (ACAT), MITRE (2018). Retrieved from <https://aida.mitre.org/acat/> on 7 March 2019.

¹²⁵ *Id.*

v. ACAT IV

Finally, ACAT IV programs are defined as those programs that are not ACAT III. There are two categories: Test (IVT) and Monitor (IVM). IVT programs require Operational Test & Evaluation; IVM programs do not.¹²⁶ The MDA for ACAT IV programs are PEOs or even PMs. Traditionally, this category was exclusive to the Navy and Air Force.¹²⁷ However, in 2018, the Army adopted this approach as well.¹²⁸

b. THE ACQUISITION LIFECYCLE

The Defense Acquisition Lifecycle is an events-based process that guides a materiel solution through development phases of increasing complexity.¹²⁹ Beginning with an initial identification of need, through detailed requirements formulation, and progressing into a series of testing and production phases, the system is designed to seamlessly guide a defense concept from idea to long-term reality.¹³⁰ The process itself is broken into five major phases: Materiel Solutions Analysis (MSA), Technology Maturation and Risk Reduction (TMRR), Engineering and Manufacturing Development (EMD), Production and Development (P&D), and Operations and Support (O&S).¹³¹

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ Higgins, J., *Army Acquisition Finds New Strategy in Navy and Marine Acquisition Methods*, DVIDSHUB (2018). Retrieved from <https://www.dvidshub.net/news/printable/279228> on 7 March 2019.

¹²⁹ Manning, B., *Acquisition Process: Acquisition Phases*, AcqNotes (2018). Retrieved from <http://acqnotes.com/acqnote/acquisitions/acquisition-category> on 11 March 2019.

¹³⁰ *Id.*

¹³¹ *Id.*

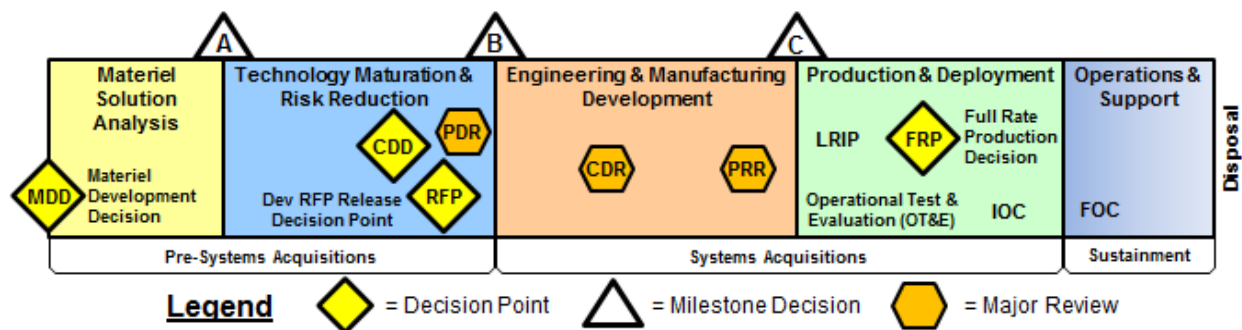


Figure 5. An overview chart highlighting the major phases, decision points, and reviews across the Defense Acquisition Lifecycle. Retrieved from <https://bit.ly/2KVivGI> on 22 April 2019.

Each phase is composed of a series of processes, milestones, and reviews from beginning to end.¹³² The MSA, TMRR, and EMD phases culminate in Milestone Reviews (A, B, and C, successively), which determine if the program has met the requirements necessary to continue.¹³³ As such, the success of a developmental program is never assured; PMs and PEOs are often under significant pressure to meet cost, schedule, and performance requirements.

i. MATERIEL SOLUTIONS ANALYSIS

In the MSA Phase, developers analyze all possible materiel solutions to an identified need.¹³⁴ The key activity of the MSA phase is an Analysis of Alternatives (AoA), wherein industry representatives pitch potential solutions to Defense stakeholders, who evaluate competing systems on measures of effectiveness, expected cost, schedule requirements, the concept of operations, and potential risk.¹³⁵ The AoA typically culminates with a down-select to a small number of possible alternative solutions, and a Milestone A evaluation of readiness to progress to TMRR.¹³⁶

¹³² Manning, B., *Acquisition Process: Acquisition Process Overview*, AcqNotes (2018). Retrieved from <http://acqnotes.com/acqnote/acquisitions/acquisition-category> on 11 March 2019.

¹³³ *Id.*

¹³⁴ Manning, *Acquisition Phases* (2018).

¹³⁵ *Id.*

¹³⁶ *Id.*

ii. TECHNOLOGY MATURATION AND RISK REDUCTION

In the TMRR phase, members of the Defense community work to reduce technology risks for the proposed solution, seeking to determine the appropriate set of technologies for integration into the future system.¹³⁷ Stakeholders seek to further reduce risk, develop a fixed set of requirements, and produce a “preliminary acquisition strategy” for commencement after a Milestone B decision, in the EMD phase.¹³⁸

iii. ENGINEERING AND MANUFACTURING DEVELOPMENT

In EMD, Defense acquisition professionals are tasked to develop the system capability through Integrated System Design (ISD) and System Capability and Manufacturing Process Demonstration (SC&MP).¹³⁹ Functionally, stakeholders are seeking to scale up the system’s engineering concept: both the products and the processes necessary to prepare the system for multi-unit production.¹⁴⁰ The phase terminates with a Milestone C review, which successful completion precipitates the P&D Phase.¹⁴¹

iv. PRODUCTION AND DEVELOPMENT

In the P&D Phase, stakeholders work to produce an operational capability, satisfactory to both the user community and the solution’s anticipated mission functions.¹⁴² The phase is constituted of two sub-phases: Low-Rate Initial Production (LRIP), in which the acquisition community produces a small quantity of materiel solutions for use in Initial Operational Test and

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *Id.*

Evaluation (IOT&E);¹⁴³ and Full-Rate Production Decision Review (FRPDR), in which an evaluation is conducted to determine if the system can be fully scaled to production quantities.¹⁴⁴

v. OPERATIONS AND SUPPORT

Finally, in the O&S Phase, fielded systems are deployed over an extended timeframe, ranging from years to decades.¹⁴⁵ The phrase is substantially longer than any of the other phases, and includes any modifications or upgrades to the existing system. The phase, and the system lifecycle as a whole, terminates after the final functioning system is disposed of, and any extant materiel is demilitarized.¹⁴⁶

c. SUMMARY

Acquisition categories, and the Acquisition lifecycle, allow the Department to organize programs as they move through development. Each category and lifecycle stage is accompanied by statutory requirements, which standardize and regulate the process.

VI. SOURCES OF OVERRUNS

In a 2016 study published by Deloitte, its Center for Industry Insights Group observed that, in 2015 dollars, Defense MDAPs were a combined \$468B over budget, and, on average, nearly two-and-a-half years behind schedule.¹⁴⁷ With multiple attempts made to identify the sources of these overruns, a general (though incomplete) picture emerges of key problem areas: challenges identifying, managing, scoping, and limiting requirements; issues managing technical

¹⁴³ Manning, B., *Acquisition Process: Low-Rate Initial Production (LRIP)*, AcqNotes (2017). Retrieved from <http://acqnotes.com/acqnote/acquisitions/low-rate-initial-production> on 11 March 2019.

¹⁴⁴ Manning, B., *Acquisition Process: Full-Rate Production Decision Review (FRPDR)*, AcqNotes (2018). Retrieved from <http://acqnotes.com/acqnote/acquisitions/full-rate-production-decision-review-frpdr> on 11 March 2019.

¹⁴⁵ Manning, B., *Acquisition Process: Acquisition Phases* (2018).

¹⁴⁶ Manning, B., *Acquisition Process: Disposal & Demilitarization Process*, AcqNotes (2018). Retrieved from <http://acqnotes.com/acqnote/acquisitions/disposal> on 11 March 2019.

¹⁴⁷ Lineberger, R., *Program management in aerospace and defense: Still late and over budget*, Deloitte Center for Industry Insights (2016) at p. 8.

changes and complexity; proper oversight of supply chains and production processes; and effective contractor and contracting management.¹⁴⁸

a. REQUIREMENTS

Capability requirements issues are a significant challenge to Defense Acquisition, and frequently contribute to cost and schedule overruns.¹⁴⁹ Notably, during the MSA phase, the Services often engage in “bureaucratic log-rolling...[that] leads to the gold-plating of desired capabilities, which can’t be executed.”¹⁵⁰ “Gold-plating,” as it is termed in the Defense



community, refers to the practice of defining maximalist systems, which become developmentally impractical when faced with technical, budgetary, and schedule limitations.

Figure 6. A political cartoon commenting on Secretary of Defense Hagel's nomination hearing before the Senate Armed Services Committee. Published on February 1st, 2013. Retrieved from <https://bit.ly/2Zsfe4Q> on 22 April 2019.

As the

Government

Accountability Office has observed, a program in development must be “capable of meeting its performance requirements while also meeting its cost and schedule commitments.”¹⁵¹ While

¹⁴⁸ See, e.g., Lineberger, *Program management*, Deloitte (2016); Clowney, P., *Colossal Collapses: An Analysis of 11 Department of Defense Acquisition Program Management Factors...*, The School of Engineering and Applied Science of The George Washington University (2016) at p. 4; *Defense Acquisitions: Assessments of Selected Weapons Programs*, US GAO: Report to Congressional Committees (2017) at pp. 8–56.

¹⁴⁹ Lineberger, *Program management*, Deloitte (2016) at p. 14.

¹⁵⁰ Fay, M. and Kirss, A., *Congressman Thornberry's Acquisition Problems*, RealClear Defense (2016). Retrieved from www.realcleardefense.com/articles/2016/03/30/congressman_thornberrys_acquisition_problems_109201.html on 11 March 2019.

¹⁵¹ *Defense Acquisitions: Assessments of Selected Weapons Programs*, US GAO: Report to Congressional Committees (2017) at p. 2.

many practitioners have offered a variety of reform proposals, all emphasize the importance of fully defining requirements early in the Acquisition lifecycle; managing changes through program management best practices; and avoiding, at all costs, gold-plating activities.¹⁵²

b. TECHNICAL RISK

Researchers in Defense Risk Management frequently point to the need to “manag[e] technical...risks under tight resource constraints.”¹⁵³ Often times, in an effort to produce on inadequately developed or unproven technologies, system developers both over promise solutions and neglect to adequately “analyze alternative[s] that leverage existing capabilities.”¹⁵⁴ When proposed technology solutions subsequently fail to mature at a rate necessary to incorporate into systems in development, the program unnecessarily assumes higher technical risk, and becomes more susceptible to decision point failures.

One of the primary mechanisms to address this challenge is competitive prototyping, which permits commercial, government, and academic sources to introduce early prototypes of weapons systems or critical subsystems into the acquisition process.¹⁵⁵ Another is the frequent revisiting of a program’s technical requirements,¹⁵⁶ primarily through technical risk assessments. Finally, a recognition of the role that technical complexity and the desire for technological innovations plays in inflating technical risk, especially given the limited agility of high volume,

¹⁵² Lineberger, *Program Management* at p. 14.

¹⁵³ Linkov, I., Trump, B., Pabon, N., and Collier, Z., *A Decision Analytic Approach for Department of Defense Acquisition Risk Management*, U.S. Army Engineering Research and Development Center (2012) at p. 57.

¹⁵⁴ Fay, M. et al., *Congressman Thornberry’s Acquisition Problems*, RealClear Defense (2016).

¹⁵⁵ Sullivan, M., *National Defense: Department of Defense’s Waiver of Competitive Prototyping Requirement for the Navy’s Fleet Replenishment Oiler Program*, U.S. Government Accountability Office (2014) at p. 1; *see also Defense Acquisitions: Assessments of Selected Weapons Programs*, US GAO: Report to Congressional Committees (2017) at p. 34.

¹⁵⁶ *Defense Acquisitions: Assessments of Selected Weapons Programs*, US GAO: Report to Congressional Committees (2017) at p. 31.

high cost, long-cycle MDAP development, should counsel and chasten developers against pursuing the latest and greatest technical solutions to their materiel needs.¹⁵⁷

c. SUPPLY CHAIN AND PROCESS MANAGEMENT

A recent Defense-related study identified five key production-related issues in the acquisition process: challenges with statistical process control; an inability to incorporate advanced materials, including composites, into programs in development; the use of out-of-date program management tools; global supply chain complexities; and late stage program requirements changes, and shifts in the regulatory space.¹⁵⁸ It is worth considering these five challenges in kind, as each points to issues that limit the effectiveness of Defense Acquisition, while also offering a path to reform-based improvement.

Statistical Process Control (SPC) is a mechanic used to ensure that all manufacturing processes are repeatable, sustainable, and capable of consistently producing products within standard specifications.¹⁵⁹ Its use is particularly important when shifting from limited to full-rate production.¹⁶⁰ Failure to use SPC can cause development problems when scaling production, leading to cost and schedule delays.

¹⁵⁷ Lineberger, *Program management*, Deloitte (2016) at p. 15.

¹⁵⁸ *Id.* at p. 17.

¹⁵⁹ *Defense Acquisitions: Assessments of Selected Weapons Programs*, US GAO: Report to Congressional Committees (2017) at p. 39.

¹⁶⁰ Lineberger at p. 17.

Advanced materials, including composites, are key to developing cutting-edge materiel solutions.¹⁶¹ Unfortunately, because these materials often exhibit unique structural properties,

Littoral Combat Ship



First envisioned in the late 1990s as a post-Cold War surface variant for near-shore operations, the Littoral Combat System (LCS) was intended to provide agile, stealth, and asymmetric threat capabilities in littoral zones.

By 2016, the Navy had spent over \$12 billion on 26 LCSs, with per-ship costs double their initial estimates. Affectionately derided as the “Little Crappy Ship,” the program has been plagued with operational and safety issues, to include major engineering malfunctions on four separate units over a twelve-month period.

At present, *none* of the Navy’s sixteen operational LCSs are deployed after more than fifteen years of development.

additional testing is required to demonstrate their performance and reliability.¹⁶² These added activities can contribute to cost and schedule delays, and have led producers to limit their presence in production systems, and delay production schedules.¹⁶³

Because many defense systems

compete with commercial products for components in a global economy, supply chain issues can cause significant production delays to acquisition programs.¹⁶⁴ The GAO has noted the importance of improving supply chain management as key to Defense Acquisition reform.¹⁶⁵

¹⁶¹ *Id.*

¹⁶² *Id.* at p. 14.

¹⁶³ Toh, M., *Comac reduces C919 composite use to speed up progress*, FlightGlobal (2013). Retrieved from www.flightglobal.com/news/articles/comac-reduces-c919-composite-use-to-speed-up-progress-386300 on 11 March 2019; Trimble, S., *Irkut president sets out MC-21 ambitions*, FlightGlobal (2015). Retrieved from www.flightglobal.com/news/articles/paris-irkut-president-sets-out-mc-21-ambitions-413204 on 11 March 2019.

¹⁶⁴ Lineberger at p. 12.

¹⁶⁵ *Defense Acquisitions: Assessments of Selected Weapons Programs*, US GAO: Report to Congressional Committees (2017) at pp. 31–32.

Finally, when program stakeholders make late-stage requirements changes, or when new federal regulations are introduced, Acquisition programs in development can experience compliance challenges, leading to schedule and cost overruns.¹⁶⁶ This can necessitate changes in the manufacturing process, itself an additional source of increased cost.¹⁶⁷

d. DEFENSE CONTRACTORS

Since the early 1990s, rapid consolidation in the defense industry, and an expanding “revolving door” between government and industry, has limited meaningful competition between contractors, indirectly contributing to cost growth.¹⁶⁸ These activities, combined with contract types that limit effective competition, insufficient recourse to commercial products, and an unwillingness to hold fully-open competitions during all development phases, have prevented the Defense Acquisition community from controlling contract-related costs proactively and effectively.¹⁶⁹

e. SUMMARY

Gold-plating requirements, overpromising technology, failing to manage supply chains and related processes, and inadequate management of contractors contributes to cost and schedule overruns. Reform to the Defense Acquisition requires changes to these practices.

VII. PROPOSED SOLUTIONS

The solution space for improving Defense Acquisition is vast in scope. Numerous initiatives, panels, and consortia of government and industry leaders have issued reform

¹⁶⁶ Lineberger at p. 17.

¹⁶⁷ *Id.* at p. 12

¹⁶⁸ Fay, M. et al., *Congressman Thornberry’s Acquisition Problems*, RealClear Defense (2016).

¹⁶⁹ Gansler, J. and Lucyshyn, W., *Eight Actions to Improve Defense Acquisition*, IBM Center for The Business of Government: Acquisition Series (2013) at pp. 6–9.

proposals in an effort to improve the overall process.¹⁷⁰ While no one set of solutions offers the best path to Acquisition improvement, some approaches carry more weight than others. To that end, the final section of this paper, “Proposed Solutions,” focuses on the work of a recently-established, Congressionally-mandated panel of Defense experts.¹⁷¹ Their most salient and constructive points merit due consideration, and are discussed below.



Figure 7. Section 809 panel report image illustrating Technicians maintaining materiel. Retrieved from <https://section809panel.org> on 22 April 2019.

In the 2016 NDAA, Congress authorized a Section 809 panel to make recommendations for the improvement of Defense Acquisition.¹⁷² Since that time, the panel has issued an interim report, followed by a succession of reports in three

volumes.¹⁷³ Collectively, the Panel operates under a mandate to “recommend changes to the way the Defense Department procures technology.”¹⁷⁴ While the proposals of the Panel do not represent the only solutions, their 98 recommendations, made by seasoned members of the government, the military, and the defense industry, provide a comprehensive look at best paths

¹⁷⁰ See, e.g., Fox, J. Ronald, *Defense Acquisition Reform, 1960-2009: An Elusive Goal*, Center of Military History (2011) at pp. 189–93.

¹⁷¹ *Section 809 Panel: Streamlining and Codifying Acquisition (About Us)*, Section 809 Panel (2019). Retrieved from <https://section809panel.org/about/> on 12 March 2019.

¹⁷² *Id.*

¹⁷³ Miller, J., *5 ‘bold’ recommendations to improve DoD Acquisition*, Federal News Network (2019). Retrieved from <https://federalnewsnetwork.com/acquisition/2019/01/5-bold-recommendations-to-improve-dod-acquisition/> on 12 March 2019.

¹⁷⁴ Magnuson, S., *Section 809 Panel Final Report: Put Defense Acquisition on ‘War Footing’*, National Defense (2019). Retrieved from <http://www.nationaldefensemagazine.org/articles/2019/1/15/section-809-panel-final-report-put-defense-acquisitions-on-war-footing> on 12 March 2019.

forward to reform the Acquisition process.¹⁷⁵ As such, consideration of several of their major reform proposals offers insight into mechanisms for improving the system as a whole.

a. INCREASED USE OF COMMERCIAL PRODUCTS

Central to the improvement of the procurement arm of Department Acquisition reform is a realignment towards commercial products and related procurement activities.¹⁷⁶ Because many Departmentally-necessary products already exist in the commercial space, the Panel recommends dividing all procurements into three types: readily available, available with modifications, and completely unique.¹⁷⁷ This general shift towards purchase of already-existing solutions and technologies prevents the “reinventing the wheel” mentality that sometimes pervades Acquisition, and which drives significant and unnecessary cost growth.

b. LIMITS ON PROTESTS

Bid protests are an ever-present element of most major Acquisition decisions, especially when the government down selects at the Analysis of Alternatives phase.¹⁷⁸ In the time period from FY 2008 to FY 2016, contractors made over 11,000 bid protests, delaying program development and costing the government the time and expense needed to adjudicate.¹⁷⁹ Section 809 proposals would limit the filing of bid protests to the Department itself, rather than the Government Accountability Office or Court of Federal Claims.¹⁸⁰ Finally, the Department would

¹⁷⁵ See Harper, J., *Section 809 Panel Proposes Major Restructuring of Acquisition Programs*, National Defense (2018). Retrieved from <http://www.nationaldefensemagazine.org/articles/2018/6/28/section-809-panel-proposes-new-capability-portfolio-management-concept> on 12 March 2019; see also Magnuson, S., *Section 809 Panel Final Report*.

¹⁷⁶ Harper, J., *Section 809 Panel Proposes Major Restructuring of Acquisition Programs*.

¹⁷⁷ Serbu, J., *Section 809 panel's final report prescribes 'revolutionary' changes to DoD buying*, Federal News Network (2019). Retrieved from <https://federalnewsnetwork.com/acquisition-policy/2019/01/section-809-panels-final-report-prescribes-revolutionary-changes-to-dod-buying/> on 12 March 2019.

¹⁷⁸ Arena, M. et al., *Assessing Bid Protests of U.S. Department of Defense Procurements*, RAND (2018) at p. xi.

¹⁷⁹ *Id.* at xv.

¹⁸⁰ Serbu, J., *Section 809 panel's final report prescribes 'revolutionary' changes to DoD buying*.

be more empowered to rely upon market research in adjudicating claims, rather than making internal judgments without a guiding framework.¹⁸¹

c. PORTFOLIO MANAGEMENT

Finally, the Panel recommended a “Portfolio Management” approach to Defense Acquisition.¹⁸² Rather than breaking up authority into discrete program categories, the Panel recommended empowering PEOs to oversee a collection of related capabilities, grouped into portfolios.¹⁸³ The realignment would also allow PEOs to operate with command authority over their programs and PMs.¹⁸⁴ It is believed that this approach would streamline related process activities, and locate power with those parties directly responsible for Acquisition systems in development.

d. SUMMARY

By increasing the use of commercial products, limiting bid protests, and adopting a portfolio management approach, the Defense Department can improve the Acquisition process, fixing some of its most significant shortcomings.

VIII. CONCLUSION

Tracing its earliest reform efforts to the National Security Act of 1947, the Department has seen significant Acquisition initiatives over regular intervals, especially during peace time. That these efforts were never fully successful is reflected in the reemergence of similarly-structured proposals over successive eras.

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ Magnuson, S., *Section 809 Panel Final Report: Put Defense Acquisition on ‘War Footing’*

¹⁸⁴ Serbu, J., *To streamline acquisitions, 809 Panel presses DoD to adopt portfolio management*, Federal News Network (2018). Retrieved from <https://federalnewsnetwork.com/defense-main/2018/06/to-streamline-acquisitions-809-panel-presses-dod-to-adopt-portfolio-management/> on 12 March 2019.

Acquisition reform, and, more generally, decision making authority for the Department, is spread across the Executive and Legislative branches, and the Department of Defense. While their powers are decentralized, each major stakeholder plays an essential role in the movement of programs through development, and is capable of enacting and participating in important reform initiatives.

Acquisition Categories and the Acquisition Lifecycle create a framework for Defense Acquisition, and provide regulations that manage systems through development.

In spite of this guiding framework, the Acquisition process often breaks down, typically owing to cost and schedule constraints. Any view to reform should consider four of the most-common Acquisition-related issues: requirements, technical risks, supply chain challenges, and limits on competition.

Though no one reform proposal is likely to resolve all issues, recent NDAA legislation has empowered a group of advocates to propose meaningful reform for the Department. While their efforts are not comprehensive, three of their major proposals stand out: increased use of commercial products, protest limits, and a new portfolio management approach.

The Defense Acquisition process is a complex, multi-faceted system, one carrying the burdens of a plenitude of interested parties and the bureaucratic challenges occasioned by their many needs. By fully understanding Defense Acquisition, and giving ample consideration to the desires of stakeholders and their related reform efforts, it is hoped that one can better comprehend these many activities and, in so doing, gain insight into best paths forward for the Department and the materiel needs of its members.