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WASHINGTON, DC 20301-1010

FEB - 7 2023

The Honorable Mike D. Rogers
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

House Report 117-397, page 133, accompanying H.R. 7900, the National Defense Authorization Act for Fiscal Year 2023 requires the Secretary of Defense to provide a briefing on the effectiveness of the Office of the Secretary of Defense, Cost Assessment and Program Evaluation (CAPE).

CAPE, established by Congress through the Weapon Systems Acquisition Reform Act of 2009, provides indispensable decision support to the Secretary of Defense in building the Joint Force. CAPE accomplishes this by providing independent analytic advice on all aspects of the defense program, developing and evaluating defense program alternatives, and assessing the cost-effectiveness of major weapon systems.

CAPE plays a unique and essential role in helping the Department invest in the right areas, buy down risk, and prioritize effectively to achieve our national security objectives. It ensures that the defense program is grounded in rigorous independent analysis and driven by the National Defense Strategy.

I am pleased to provide you with a detailed report on the invaluable role that CAPE has played and will continue to play within the Department of Defense. In this complex strategic landscape, it is vital to have an organization like CAPE that can help answer — in an unbiased, timely, and rigorous manner — the most challenging strategic questions facing the Department.

Sincerely,

A handwritten signature in black ink, appearing to read "Kathleen D. Hill".

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member

Office of the Secretary of Defense
Report to Congress



Effectiveness of the Office of Cost Assessment and
Program Evaluation
January 30, 2023

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Executive Summary

The Office of Cost Assessment and Program Evaluation (CAPE) in the Office of the Secretary of Defense (OSD) provides decision support to the Secretary of Defense and Deputy Secretary of Defense on all aspects of the Department's work. CAPE is the only independent advisor to the Secretary that conducts analyses on the efficacy and cost effectiveness of programs and plans across the Department, from weapons systems to force structure. As such, CAPE enables the U.S. military to be more lethal and cost-effective.

CAPE's origins date to 1961 with the establishment of the Office of Systems Analysis, which became the Office of Program Evaluation and Analysis in the mid-1970s. The office was tasked with analyzing and evaluating the Department of Defense's (DoD) plans, programs, and budgets in relation to U.S. defense objectives and projected threats. Congress formally established CAPE in statute through the Weapon Systems Acquisition Reform Act of 2009, as part of a broader effort to reform defense acquisition. Today, CAPE manages a greater set of responsibilities and delivers analysis to help the Secretary and Deputy Secretary build the optimum portfolio of joint military capabilities while efficiently and effectively using each taxpayer dollar. CAPE has three core functions through which it contributes to the Department's direction and prioritization: evaluation of the consolidated defense program—specifically, carrying out analysis to examine the trade space between requirements, costs, risks, and impacts on strategic objectives; rigorous analysis of the most challenging strategic questions facing the Department; and independent cost assessments of the Department's major weapon systems. At the heart of this work is CAPE's emphasis on fact-based, independent, and objective analysis.

1. Introduction

This report offers an overview of CAPE, reviews how the organization has changed over time, describes CAPE's core functions, and details the return on investment the Department receives from the organization. The appendices outline the statutes and authorities governing CAPE, recent legislative changes affecting the defense acquisition landscape, staffing and operations in CAPE, and a summary of recent CAPE engagements with the House and Senate Armed Services Committees.

1.1 Report to Congress Requirements

House Report 117-397, page 133, accompanying H.R. 7900, the National Defense Authorization Act for Fiscal Year 2023, requested that the Secretary of Defense provide a briefing to the House Committee on Armed Services on the effectiveness of CAPE:

The committee understands the Office of Cost Assessment and Program Evaluation (CAPE) provides the Department of Defense analysis on resource allocation and cost estimation problems related to the delivery of an optimum portfolio of military capabilities through efficient and effective use of each taxpayer dollar. However, in some instances the role of CAPE has lacked transparency and proactive discussions with Congress on issues with major budgetary implications have been infrequent.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than January 1, 2023, that includes the following:

- (1) an overview of CAPE staffing to include military, civilian, and contractor personnel;*
- (2) the cost of CAPE's operations, studies, and related programs;*
- (3) the return on investment the Department receives for CAPE's program assessment capabilities and how those are measured;*
- (4) the number of reviews and assessments the Department has completed on CAPE's performance both external to the Department if applicable and internal with any findings and recommendations over the last 20 years;*
- (5) a historical assessment on whether CAPE projects have increased in scope and complexity over the last 20 years and whether there is a prioritization issue because of lack of resources;*
- (6) a historical performance assessment of CAPE analysis relative to that produced by the military services in terms of the ability to accurately forecast future threats and requirements over the last 20 years;*
- (7) a list of outreach engagements that CAPE has conducted with the Senate Committee on Armed Services and the House Committee on Armed Services over the last 5 years; and*
- (8) a review of CAPE's internal reform efforts during the recent zero-based review.*

2. What is CAPE?

Formally established by Congress in the Weapon Systems Acquisition Reform Act of 2009 (WSARA), CAPE informs senior DoD leader decision making on issues such as platforms, including major capital investments; infrastructure, including basing and installations; sustainment and modernization; and healthcare and talent management. CAPE provides analytic decision-support directly to the Secretary of Defense and Deputy Secretary of Defense on all aspects of the defense program, including the size, shape, and capabilities of the future Joint Force, as well as the corresponding allocation of resources. CAPE has three core functions that support the Department, which are laid out in Title 10 of the U.S. Code and enumerated in DoD Directive 5105.8 (see Appendix A for a full list of statutes and issuances governing CAPE).¹

First, CAPE supports the Secretary of Defense and Deputy Secretary of Defense in reviewing and recommending adjustments to the Future Years Defense Program (FYDP)—a five-year projection of the forces, resources, and programs to support DoD operations.² Through this process, CAPE leads the programming phase of DoD's Planning, Programming, Budgeting, and Execution (PPBE) system, which aligns resources to shape the Joint Force in service of the defense strategy. CAPE carries out analysis to examine the trade space between requirements, costs, risks, and impacts on strategic objectives. In doing so, CAPE collaborates with stakeholders from across the Department to surface all relevant facts and incorporate a wide

¹ Public Law 111-23 - Weapon Systems Acquisition Reform Act of 2009

² 10 U.S.C. § 139a; 10 U.S.C. § 221; DoD Directive 5105.84

variety of assumptions and viewpoints. This approach helps the Secretary and Deputy Secretary consider challenges through multiple perspectives to ultimately develop a robust defense program and by extension a truly Joint Force, aligned to the goals of the defense strategy, addressing gaps and redundancies that naturally occur in Military Service resourcing decisions.

Second, CAPE produces strategic and operational analysis that informs the development of strategic guidance such as the National Defense Strategy (NDS), the Defense Planning Guidance (DPG), and subsequent resourcing decisions.³ CAPE analysis is rigorous, robust, and transparent; it varies assumptions, considers multiple possible futures, and is subject to review by stakeholders across DoD. CAPE also provides leadership in developing DoD's analytic workforce, facilitating analytic transparency, and solving enterprise-wide analytic challenges.

Finally, CAPE supports the acquisition process through cost analysis.⁴ CAPE issues guidance on analyses of alternatives (AoA) for Major Defense Acquisition Programs (MDAPs), which is critical in supporting sound, unbiased cost estimating throughout the acquisition process. In developing detailed guidance for AoAs, CAPE helps ensure that the Department buys the right things to meet its capability needs in the most cost effective manner. CAPE also produces independent cost estimates (ICEs) to support MDAP milestone decisions, a new mission that Congress tasked to CAPE through WSARA in 2009. Throughout this work, CAPE engages with stakeholders across the cost analysis workforce to improve analytic skills, competencies, tools, and data in support of cost assessments, ultimately providing leadership and strategic direction for the entire DoD cost analysis community.

As an independent advisor to the Secretary of Defense and Deputy Secretary, CAPE has neither direct decision authority nor vested interest in specific programmatic outcomes. Rather, CAPE analyzes complex issues from all sides and describes the merits and risks of proposed solutions based on alignment to strategy. In this way, CAPE plays a critical role in fulfilling the principle of civilian control over the military. It ensures that senior leaders ask hard questions, consider alternative approaches and jointness, and make fully informed choices. CAPE is not concerned with protecting the institutional interests of any particular DoD component, and CAPE analysts do not face the same institutional limitations or pressures as other components. Rather, CAPE is focused on providing the Secretary and Deputy Secretary with objective, balanced alternatives—even if analytic results are contrary to presumed outcomes or preexisting approaches.

3. Evolution of CAPE

Congress established CAPE to provide DoD with timely, insightful, and unbiased analysis on resource allocation and cost estimation to enable the Secretary to independently evaluate Service resourcing positions, identify and address gaps or redundancies, and build an optimal Joint Force. As part of a broader effort by Congress to reform and improve defense acquisition, WSARA codified CAPE's responsibilities in conducting independent cost estimation and guiding AoAs, in addition to its roles in defense programming and analysis.

³ 10 U.S.C. § 139a; DoD Directive 5105.84

⁴ 10 U.S.C. § 139a; 10 U.S.C. § 3221; DoD Directive 5105.84

Since the enactment of WSARA, changes in the defense environment have significantly increased the complexity of CAPE’s work. The defense program has expanded in scope with the emergence of cyber and space as key domains, along with new capabilities and challenges in those domains. Notably, CAPE analysis directly contributed to the stand-up of the U.S. Space Force. In addition, recent legislation has significantly changed the landscape of acquisition and cost assessment policies, creating new responsibilities for CAPE (see Appendix B). This includes expanded guidance for the DoD cost analysis community and new procedures to ensure that rigorous cost estimation and cost data collection are maintained for new acquisition pathways.

This growing complexity is evident when considering the CAPE workforce. As part of the annual process of building the defense program, on average a CAPE analyst reviewed about \$19 billion and presented alternatives impacting over \$270 million in programmed Total Obligation Authority (TOA) (in FY23 dollars) in 2011. Ten years later, on average a CAPE analyst reviewed more than \$30 billion and presented alternatives impacting over \$1.5 billion in TOA (in FY23 dollars). Additionally, the number of direct Congressional study taskings to CAPE, in addition to existing statutory responsibilities, increased almost fivefold over that same ten-year period (Chart 1).

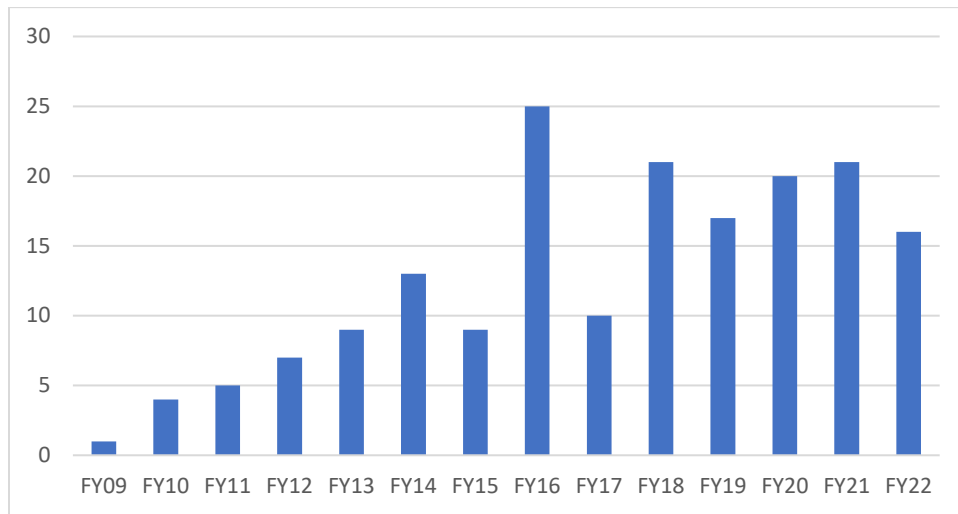


Chart 1. Congressionally Tasked Studies to CAPE

To meet the new responsibilities and missions of WSARA, the FY11 budget added 73 additional civilian billets to CAPE, with a goal of growing its civilian workforce to 210 full time equivalents (FTEs) by FY13 (Chart 2). The FY11 budget also included an additional \$12 million per year over the FYDP in mission Operations & Maintenance funding for contract support and an additional \$1 million per year over the FYDP in Research Development Test & Evaluation funding for studies. However, CAPE never achieved the workforce level envisioned to fully implement WSARA.

Between 2011 and 2016, budgetary pressures instead led to a reduction in CAPE manpower. Efficiency initiatives under former Secretary Gates reduced CAPE’s studies budget in FY12 by 25%, eliminated two Senior Executive Service (SES) positions, and reduced contractor support by 30%. CAPE cut additional FTEs as part of a 10% reduction to the Office of the Secretary of

Defense in FY13 and additional efficiency initiatives in FY14. In FY15, as part of former Secretary Hagel’s 20% reduction initiative, CAPE eliminated 17 civilian FTEs, 9 military billets, and roughly 30 contractor FTEs over the FYDP (FY15-FY19). The Department further reduced CAPE’s studies budget in FY15. These reductions diminished the Department’s capacity for joint analytic decision support to the Secretary of Defense.

Further, beginning in FY16, as a result of layering cuts and a Business Process Systems Review (BPSR), CAPE rebalanced its staff and sought further administrative efficiencies to mitigate risks resulting from previously planned reductions. The organization reduced the number of supervisors from 24 to 21, consolidated 16 SES-led divisions into 14, and eliminated one military-led division. In addition, CAPE slowed promotions and focused on hiring junior level analysts. Most recently, as part of the Defense Wide Review process in 2019, rationalization across OSD resulted in a reduction in funds used to produce specialized analyses—despite a growing demand for this type of work from both DoD leadership and Congress. Ultimately, Department-wide efficiency initiatives and reductions contributed to reducing the number of CAPE civilian analysts by 15 percent between 2011 and 2021. At the same time, an increasing number of tasks directed by Congress, the Secretary, and the Deputy Secretary drove additional workload.

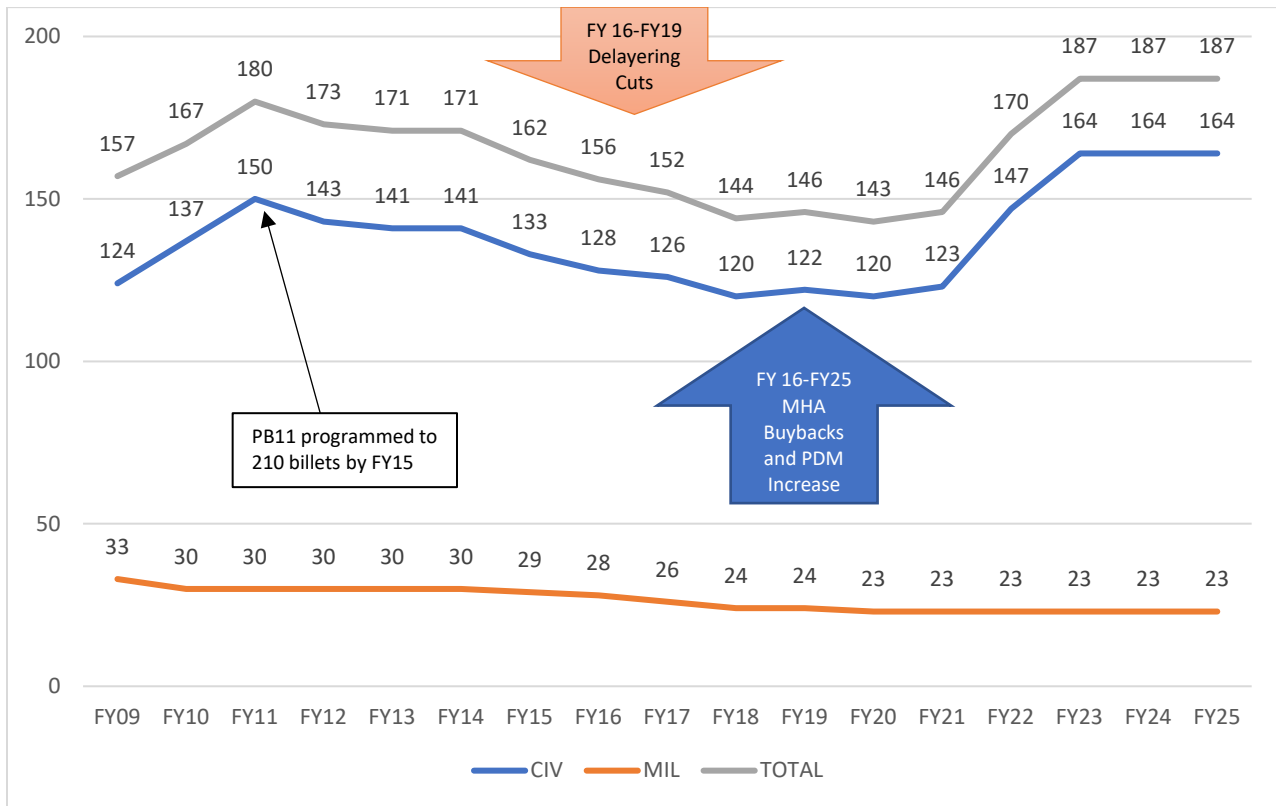


Chart 2. Authorized CAPE Manpower Since WSARA

These reductions and efficiencies left CAPE with below pre-WSARA levels of workforce and mission funds to address the organization’s expanded mission. This led to gaps in CAPE’s ability to develop new analytic methods and tools to support, for example, modeling and campaign analysis and cost data collection across the Department. Innovative analytic systems

that had previously been state of the art became outdated, and capability in the most in-demand methods for the strategic analytic community, such as campaign analysis, waned as a result. Funding reductions to CAPE's Cost Assessment Data Enterprise (CADE)—which collects the proprietary data that enables the cost estimating community to perform quality estimates—put the quality of cost estimates at risk. In addition, CAPE faced gaps in supporting emerging DoD growth areas including autonomous combat systems, mobility and logistics, and the command, control, intelligence, surveillance, reconnaissance, and targeting (C2ISRT) ecosystem.

Today, the demand for CAPE's decision support, especially in the current environment characterized by new threats, competing priorities, and fiscal pressures, continues to rise. As a result, the organization is taking on a number of new initiatives, including reforming the annual defense programming process to ensure that resourcing decisions are driven by strategy and supported by rigorous analysis. This effort ensures that senior leaders' time and attention are focused squarely on the issues and capabilities most critical to implementing the NDS. Second, CAPE is co-leading the Analysis Working Group (AWG), an effort established by the Deputy Secretary of Defense to strengthen the Department's strategic analytic capability. By charting a path to reinvigorate the Department's joint analytic enterprise—including through the development of new data, tools, and resources—the AWG is improving the Department's institutional ability to advance the Secretary's priorities. Finally, as required by the FY19 NDAA, CAPE is developing a comprehensive enterprise-wide sustainment cost database, which requires additional manpower. CAPE is working closely with the Military Services to improve the Department's understanding of the sustainment ecosystem.

CAPE's size and agility allow it produce rigorous and responsive analysis. Notably, CAPE analysts only make up roughly 10% of the strategic analysts across all of DoD. However, CAPE cannot fulfill its core tasks, nor lead new initiatives critical to the Department's success, absent sufficient manpower. For that reason, DoD leadership programmed modest growth in CAPE in recent years, and with Congress's help in the FY23 appropriation, CAPE is working to make up ground by moderately increasing resources and personnel in key areas. As a result, after reaching a low of 120 civilian FTEs in FY20, CAPE is projected to grow to a steady state of 164 civilian FTEs by FY23. CAPE's projected growth will directly strengthen decision support to the Secretary of Defense and help build DoD's analytic capacity. The following section of this report further details CAPE's unique support DoD leadership and the Joint Force.

4. CAPE's Core Functions

CAPE plays an instrumental role in ensuring that resource decisions in the Department are driven by strategy, grounded in robust analysis, and informed by realistic cost assessments. Through its core functions of supporting the defense program build, providing analytic leadership, and supporting the acquisition process, CAPE provides valuable decision support to senior DoD leaders.

4.1 Guiding and Evaluating the Defense Program

CAPE is responsible for producing programmatic guidance and leading the annual Program Review process through which the Secretary and Deputy Secretary build and adjust the FYDP. The FYDP is a resource allocation plan that supports the roles and missions of the Military Departments (MILDEPs) and defense agencies. CAPE ensures that the defense program is informed by timely, unbiased analysis and aligned to the Department's top priorities as laid out in the NDS. CAPE analysts assess and resolve 150-300 programmatic issues annually, carrying out objective analysis and making recommendations on hundreds of billions of dollars in FYDP adjustments to execute DoD strategy. CAPE also develops a three-year FYDP Defense Program Projection (DPP) to highlight the near, medium, and long-term implications of resourcing decisions on strategy implementation over time. By projecting the consequences of current decisions into the future, the DPP helps senior leaders understand where to direct their energy in the near-term to achieve long-term objectives. The following examples demonstrate CAPE's impact on the defense program over the last two decades through three lenses: building an effective and resilient Joint Force; defending the homeland; and taking care of the Department's people.

Building an Effective and Resilient Joint Force

CAPE analysis has consistently contributed to strengthening the Joint Force, even as strategic priorities have evolved over time to meet the changing threat environment. This includes enhancing warfighting capabilities and ensuring a robust domestic industrial base that can meet the needs of the warfighter.

During the height of Operation Iraqi Freedom in the late 2000s, the Department lacked a full understanding of new uncrewed and multi-intelligence airborne systems and their roles in the counterterrorism and countering violent extremist organization missions. CAPE led groundbreaking analysis that quantified their contributions to actual operations and prompted the Secretary of Defense to stand up the Intelligence, Surveillance, and Reconnaissance (ISR) Task Force to surge airborne ISR into theater. CAPE's strategic analysis helped to accelerate the multi-fold expansion of DoD's uncrewed aircraft system (UAS) capabilities from approximately 20 to 100 orbits, where it remained throughout the 2010s---supporting thousands of U.S. servicemembers forward in combat.

CAPE also conducted analysis on the emerging threats posed by small and medium UASs. In 2017, CAPE assessed the growing UAS threat, proposed a DoD-wide risk assessment methodology, and developed an enterprise-wide picture for countermeasure funding, resulting in \$440 million worth of investment to develop, align, and field various multi-modal detection and defeat systems. CAPE's analysis has ensured that the Department is better prepared for the challenges posed by small and medium UASs.

More recently, space has become an increasingly important domain as adversaries have dramatically enhanced their space capabilities, including threats to on-orbit satellite constellations. In response, CAPE provided the analytic basis and investment options to rapidly increase and transform DoD's space capabilities and resiliency. In 2015 and 2019, CAPE conducted Space Strategic Portfolio Reviews that led to decisions by DoD leadership to invest more than \$5 billion in new space capabilities for the warfighter. In recent Program Review cycles, CAPE analyses and options have helped to transform planned U.S. space architectures

from a fragile constellation with few satellites to a resilient architecture with hundreds of proliferated satellites. These advances are expected to make significant gains in U.S. military advantage over near-peer competitors.

CAPE analysis helps the Department invest resources needed to prevail in a conflict with a near-peer adversary. In 2014, a proposal was made to terminate new Tomahawk missile procurement due to affordability and limited demand for standoff munitions at the time. In response, CAPE analyzed the challenge posed by adversary's anti-access capabilities, demonstrating that a potential near-peer conflict would require significant inventories of standoff munitions. The analysis also highlighted that standoff weapon capacity shortfalls were especially dire in the anti-ship domain. To address this issue, CAPE proposed beginning the Maritime Strike Tomahawk (MST) variant, which has been supported in subsequent Navy programs. Additionally, CAPE analysis highlighted the need for additional investment in air-launched anti-ship munitions, which resulted in the initiation of the Long Range Anti-Ship Missile (LRASM) program. Both Tomahawk and LRASM have now delivered over 1,000 munitions that are in high demand in the Indo-Pacific and are cornerstones for the U.S. long-range strike portfolio. Meanwhile, CAPE led ground-breaking analysis on the tactical fighter force (TACAIR) mix required to meet the challenge of a near-peer, recognizing that the operational demands of Iraq and Afghanistan skewed our TACAIR mix to 4th generation aircraft with direct attack munitions, which are severely challenged by recent advances in adversary air-denial capabilities. CAPE's analysis in 2017-2018 highlighted the importance of 5th-generation fighter modernization and pioneered upgrades to the current TACAIR fleet.

The COVID-19 pandemic underscored DoD's requirement for secure, resilient, diverse supply chains to ensure the healthy development and sustainment of advanced military capabilities. CAPE developed options to strengthen key defense supply chain sectors, such as microelectronics, batteries, casting and forging, strategic materials, and select kinetic capabilities, and analyzed investments to support a competitive U.S. defense industrial base, domestic manufacturing, and supply chain resiliency. Even before the pandemic, CAPE recognized the strategic importance of microelectronics in driving the critical hardware that gives DoD an enduring technological advantage over our adversaries. Over the past six fiscal years, CAPE analysis informed \$11 billion worth of microelectronics resourcing decisions, putting the Department on a solid path toward the production of secure, advanced chips for critical systems.

While much of CAPE's support to the defense program takes place through DoD's annual programming process, senior leaders also look to CAPE for expertise and analytic advice outside of this cycle. In 2022, the Secretary of Defense tasked CAPE with developing a proposal for a future fuel posture plan in the Pacific, including a recommendation on the Red Hill Bulk Fuel Storage Facility (RHBFSF) in Hawaii following the contamination of drinking water on Oahu. CAPE assembled a DoD-wide team of experts from the Military Services, U.S. Indo-Pacific Command (INDOPACOM), U.S. Transportation Command, the Defense Logistics Agency, and OSD components. Through a month-long effort, CAPE employed a fact-based, transparent approach to build consensus among the stakeholders and develop a viable future Indo-Pacific fuel posture plan. These efforts informed a decision by the Secretary of Defense to close and defuel Red Hill and distribute the fuel to improve INDOPACOM's future readiness. CAPE also helped identify the need for and informed the Secretary's decision to establish the Joint Task

Force-Red Hill to safely and expeditiously defuel RHBFSF. Throughout this critical effort, CAPE leveraged analysis and collaboration to develop clear decision options for the Department and drive down risk.

Defending the Homeland

CAPE's analysis has consistently contributed to resourcing decisions that strengthen the defense of the homeland. Historically, the U.S. has maintained a nuclear triad to deter strategic attacks. However, this capability is rapidly aging, with many systems operating past their intended lifespan. As a result, the Department is facing a bow wave of required modernization funding and incurring operational risk because of minimal schedule margins for this transition. To ensure an effective nuclear deterrent, CAPE annually assesses whether the Air Force and Navy are fully funding modernization programs and legacy nuclear systems. In addition, CAPE works with the MILDEPs to identify cost-effective means of reducing transition risk, through options such as life extensions of legacy systems and the acceleration of modernized systems.

In another example of ensuring that the Department has the right tools to address potential threats to the homeland, CAPE's analysis paved the way for the air launched Mk-54 Mod 2 lightweight torpedo, which will begin serial production in FY26. In the mid-2010s, the Mk-50 torpedo reached its retirement age with no planned replacement in sight. The Mk-48 heavy weight torpedo remained the sole option against key threats but was limited to undersea-only launch from submarines. CAPE conducted an AoA that laid out options for funding for the Mk-54 starting in FY21.

CAPE's analysis on homeland defense also extends to the cyber domain—both cyber operations and cybersecurity measures. DoD created U.S. Cyber Command (USCYBERCOM) in 2010 with little to no precedent, no base of operational or programmatic data to support decision making, and no dedicated Title 10 force. Over the last 12 years, CAPE has helped to mature the Cyber Mission Force (CMF) as an institution by supporting the acceleration of a dedicated training program, analyzing the CMF's operational materiel requirements, and identifying risk mitigations. In recent years, CAPE has worked closely with USCYBERCOM to ensure that offensive cyberspace operations are more closely linked to resources, operational activities, and outcomes.

In 2016, CAPE's efforts challenged DoD's prior strategy of reliance on perimeter security tools by instead proposing a migration to Windows 10 and working with the National Security Agency, Defense Information Systems Agency, and DoD Chief Information Officer to assess end-point alternatives by evaluating security tools against adversary tactics. In 2017-2018, CAPE led an analysis of network vulnerabilities that identified limitations to DoD's cybersecurity concepts and recommended increasing the balance of resources devoted to securing data, streamlining cybersecurity capabilities, fielding cloud-based operations, and cybersecurity. In 2018, CAPE analysis contributed to the adoption of DoD's data centric, Zero Trust architecture. Most recently, in 2022, CAPE identified an opportunity for investment in an enterprise-wide, commercial cloud-based security and IT environment, which will improve performance, integrate cybersecurity, and improve capabilities to align to Zero Trust.

Taking Care of People

In the past decade, CAPE has played a leading role in analyzing potential impacts of personnel changes, developing affordable options to address readiness challenges, and implementing significant programmatic changes to take care of the Department's servicemembers, their families, and civilian personnel.

Beginning in 2013, CAPE economists led the cost team of the Military Compensation and Retirement Modernization Commission, resulting in the largest change in the history of the military retirement system. In 2015, CAPE led the analysis and cost assessment of proposals as part of Secretary Carter's Force of the Future Initiative, leading to Congressional approval of a new maternal leave policy for servicemembers. Beginning in 2021, CAPE conducted a multi-year review of the Department's childcare programs to identify key drivers of the shortfall in childcare supply by combining disparate data sources and producing novel insights on the supply and demand for childcare. These insights led to over \$700 million in resourcing adds to fund an additional 9,200 spaces in DoD childcare facilities and an additional 4,500 spaces in community-based programs, providing more affordable childcare options for military servicemembers. In 2021, CAPE developed metrics to compare programs across the Military Services and efficiently distribute \$3.5 billion in resources based on recommendations from the Independent Review Commission on Sexual Assault.

As an independent body, CAPE is frequently tasked with leading evaluation and reform efforts aimed at improving DoD management. In 2017, at congressional direction, CAPE published a report that defined the costs associated with general and flag officers (GO/FOs). The methodology became the standard approach for assessing such costs in the Department, and Congress leveraged CAPE's findings to direct a reassessment of GO/FO authorizations and reevaluation of pay caps.

4.2 Analytic Leadership

Analysis is the key link between strategy and resourcing. As an independent advisor to the Secretary and Deputy Secretary, CAPE conducts robust analysis to answer the critical questions needed to shape and implement the Department's priorities. From 2002 to 2019, analytic support to the Secretary and Deputy Secretary took the form of Support to Strategic Analysis (SSA), which was led by CAPE, the Office of the Under Secretary of Defense for Policy (OUSD(Policy)), and the Joint Staff—collectively known as the Tri-Chairs. The Tri-Chairs established a set of assumptions for various military threats to serve as a common baseline for Department analyses on potential approaches to address these threats. SSA was a much-needed change from the 1990s, when each Military Service developed its own analytic process, assumptions for assessing force structure needs, and justification for budget submissions. Over time, however, SSA became too process-oriented and inflexible, and as a result took years to generate, validate, and coordinate products that formed the analytic baseline for the Department. These products were overly detailed and led to point solutions, rather than providing a trade space of options and investments for leadership consideration. In 2018, the Joint Staff retired all the existing SSA concepts of operations because they were outdated and not aligned to the then-NDS, and CAPE subsequently ceased updating associated analytic products. As a result, joint strategic analysis in the Department atrophied.

In November 2018, the NDS Commission report “Providing for the Common Defense” found that “DoD lack[ed] the analytic ability, expertise, and processes to link objectives to operational concepts to programs and resources” and recommended that CAPE and the Joint Staff, working with OUSD(Policy), rebuild analytic decision support capability.⁵ Subsequently, a report by the Government Accountability Office in March 2019 identified a lack of *joint* analytic capabilities with the Department to assess force structure and highlighted the need for a new approach to comparing competing analyses, conducting *joint* analysis, and exploring *joint* tradeoffs and strategic risks.⁶

In response to these recommendations, the Deputy Secretary of Defense stood up the Analysis Working Group (AWG) in 2021. The mandate of the AWG, which is co-chaired by CAPE, OUSD(Policy), the Joint Staff, and the Chief Digital and Artificial Intelligence Officer, is to reform and reinvigorate DoD’s analytic expertise, set standards for joint analysis, and ensure that senior leaders have solid analytic foundations for resourcing decisions. In support of the AWG, CAPE immediately set about developing the analytic underpinning to support force planning across the Department, identifying enterprise reforms necessary to harness and improve the Department’s ability to analytically advance strategic priorities, and taking steps to build the skills of the Department’s analytic workforce. Indeed, the AWG made headway in fostering institutional change during calendar year (CY) 2022, both by establishing tangible, precedent-setting activities and by making more intangible inroads with leadership across the Department. These accomplishments include:

- *Establishing clear priorities and standards to focus analysis on decision support:* The AWG identified a need for robust and focused analysis to help DoD understand the implications of future warfighting and illuminate available trade space on policy choices, warfighting concepts, and capability options. It supported the Deputy Secretary’s issuance of analytic standards to guide successful analysis across the Department and emphasized top analytic priorities aligned with the NDS. The AWG also published a control case to serve as a starting point for strategic analysis, allowing components to better understand the impact of different assumptions and explore deviations through analytic experimentation. This contributed to more informed recommendations for strategic decision making in support of the annual Program Review process.
- *Improving transparency across the analytic community:* Better joint analysis requires close collaboration and transparency, and the AWG has made significant progress in shifting the culture of the analytic enterprise, both from the top-down and bottom-up. In mid-CY22, prior to the FY24 Program Review cycle, the AWG Principals, Service Secretaries, and Service Vice Chiefs regularly met at the 4-Star level to share analytic underpinnings and discuss best practices for analysis. At the staff level, the AWG started a seminar series for analysts across the Department to learn about methods, tools, and resources for high quality and robust analysis. Most notably, for the first time, all DoD

⁵ National Defense Strategy Commission, “Providing for the Common Defense: The Assessments and Recommendations of the National Defense Strategy Commission,” 13 November 2018, <https://www.usip.org/publications/2018/11/providing-common-defense>

⁶ Government Accountability Office, “Revised Analytic Approach Needed to Support Force Structure Decision Making,” March 2019. <https://www.gao.gov/assets/gao-19-385.pdf>.

components with analytic missions shared analytic plans for peer review through the AWG. This process resulted in the identification of new opportunities for collaboration in CY23, an outcome that would not have been possible a year earlier.

- *Improving quality of and expand access to data:* The AWG has identified several areas in which DoD lacks data or existing data sets require improvement. It is therefore developing a collection of data sets to baseline analytic efforts across the Department and working to make these data sets easily available to all components. The AWG is also leading an effort to improve data fluency throughout the Department by creating and improving training and development opportunities at all levels of the analytic community.
- *Evolving methods and tools used in strategic analysis:* The AWG quickly identified that current tools, data, models, and methodologies were insufficient to capture the complexity, nuance, and qualitative aspects of warfighting to accurately provide insights to senior leaders. It also found that analysts lack access to advanced computing power and networks to enable collaboration and rapid exploration of key parameters. To improve DoD's ability to conduct strategic analysis, the AWG identified courses of action for greater access to computing power and laid a path for improving the representation of emerging fields in campaign modeling. The AWG has also reached out to key industry leaders in modeling and simulation to identify techniques and technology trends DoD should consider in evolving its capabilities.
- *Developing a robust analytic workforce:* DoD headquarters staff reductions in recent years significantly impacted the Department's capacity for tactical and operational analysis. These manpower constraints also limited the development of alternatives to explore for the future warfight. In response, the AWG conducted an analytic workforce baseline assessment and is developing recommendations on the size and allocation of analytic staff for strategic analysis across the Department.

In CY23, CAPE will continue to drive increased transparency and robustness of analysis across the Department through the AWG while developing and evolving the tools the analytic community needs to do better joint analysis. In this way, CAPE will work to institutionalize the progress the AWG has made so far.

Another way in which CAPE demonstrates robust analytic output and leadership is through Strategic Portfolio Reviews (SPRs). SPRs, which were first commissioned in 2013, are cross-cutting analytic efforts on complex, strategic, and joint issues. They are directed annually by the Deputy Secretary of Defense to tackle the Department's most complicated strategic priorities. SPRs do not make programmatic recommendations, nor are senior leaders obligated to act upon SPR findings. CAPE has no independent decision or implementation authority regarding SPR findings. Moreover, because CAPE neither owns programs nor has a vested interest in their outcomes, SPR analysis is unbiased, independent, and joint. Given these merits, there is a track record of senior leaders using SPRs to inform major resource and policy decisions. They are a proven mechanism to help the Department make progress on its most difficult and consequential challenges.

SPRs are inherently collaborative. While led by CAPE, SPRs solicit broad community input from across the DoD enterprise to capture all relevant viewpoints, analysis, and data. In contrast to much of the Department's analytic enterprise, which is focused on individual programs or Service-specific collections of programs, SPRs explore the interaction of multiple Military Service capabilities, the contributions of allies and partners, and different operational perspectives. This joint perspective often results in different conclusions compared to Service studies that examine capabilities in isolation.

SPRs are designed to ensure that robust analysis, including programmatic-based options and trades, is in place going into each annual Program Review cycle. Drawing on analytic best practices, SPRs use a variety of approaches to understand how uncertainty drives analytic results. Rather than hewing to any single set of assumptions, SPRs analyze a range of potential futures and emphasize the use of multiple analytic models to ensure that findings are sensitive to forecasting errors or strategic shifts. Methodological improvements over time have also allowed CAPE to do more effective SPR analysis. For example, CAPE has developed specialized models and tools that allow it to examine hundreds or thousands, rather than only a handful, of cases in a relatively short amount of time.

A SPR's impact may extend over years as the intellectual foundation for long-term strategies or efforts. For example, the Stress on the Force SPR (2016) drove manpower adds, particularly for the Air Force, in the 2018 President's Budget to reduce stress and increase readiness. That SPR has exerted long-term influence on how DoD collects and uses readiness data. The Close Combat SPR (2017) spurred the creation of the Close Combat Lethality Task Force, a standing cross-functional team that integrates across OSD, Army, Marine Corps, and U.S. Special Operations Command and is dedicated to ensuring continued strategic focus on the frontline men and women of the Department.

More recently, the Long Range Fires SPR (2020) used novel analytic techniques to identify the mix of strike capabilities that would best allow the U.S. to achieve operational objectives in a conflict against a near-peer adversary. Findings from the SPR informed decisions by DoD leadership to invest billions of dollars to achieve the recommended weapons portfolio and directly informed the Department's official long-range fires strategy submitted to Congress the following year. The Base Defense SPR (2021) examined a range of potential attack scenarios and identified the most effective mix of strategies to defend U.S. sites against attacks from a near-peer. It highlighted the need for a fundamental shift in how the Department prioritizes missile defense of bases. These findings informed billions of dollars in investments and continue to be referenced by the Military Services, particularly the Air Force, as a guide for the development of base defense strategies, capabilities, and investments. Finally, that same year, the Global Demands SPR (2021) uncovered key linkages between strategy and force structure and played a direct role in the formation of the 2022 NDS.

4.3 Support to Acquisition

In an environment of growing threats and competing priorities, DoD must spend resources on the right things, in the right amounts, at the right time. CAPE plays a critical role in this process by overseeing AoAs and by preparing cost estimates that support resource allocation, acquisition,

and requirements generation. The Director of CAPE is the Principal Staff Assistant and advisor to the Secretary of Defense for independent cost estimation and cost analysis and helps to ensure sound, unbiased cost estimating throughout the acquisition process.

AoAs are an essential element of the defense acquisition process in which DoD components analytically compare operational effectiveness, suitability, and life-cycle costs of alternatives to meet capability needs. CAPE develops and issues AoA study guidance, approves study plans, provides analytic expertise, and produces sufficiency assessments of final AoAs. CAPE ensures that requirements are cost-effectively met by assessing whether AoAs clearly articulate capability gaps, whether baseline capability requirements are well understood, and whether analyses explore sensitivity in modeling and the trade space between different alternatives. CAPE also ensures that potential solutions are consistent with the Department's strategy. CAPE has issued guidance for and reviewed over two dozen AoAs since 2014, which has helped DoD make informed decisions about materiel solutions to close identified capability gaps. Examples include the Next Generation Air Dominance AoA, the Future Surface Combatant Force AoA, and the Offensive Anti-Surface Weapons AoA, all of which supported investment decisions for next generation platforms and weapons. In other cases, AoAs have highlighted areas in which proposed materiel solutions were not as cost effective as previously thought.

CAPE's cost estimation and analysis responsibilities include conducting ICEs, reviewing all cost estimates and cost analyses carried out in connection with MDAPs, reviewing cost analyses of major programs to be procured using multi-year contract authority, and prescribing policies and procedures for the conduct of cost estimation and analysis in DoD. CAPE also establishes policies and procedures for the reporting and collection of cost data from the defense industrial base and the collection of other related information for acquisition programs. In addition, CAPE is a leader in the education and training of cost communities in DoD and other government agencies. Finally, CAPE issues guidance relating to the full consideration of life-cycle management and sustainability costs for MDAPs—a portfolio of more than 80 programs with a total acquisition cost of more than \$1.6 trillion in FY21—and reviews those programs to ensure they are adequately funded.

Cost Assessments

ICEs are crucial to ensure program cost estimates are reasonable and consider cost, schedule, and technical risks, and that sufficient funding is available to execute a program without significant adjustments. In FY21, CAPE completed a dozen detailed ICEs for major defense programs. Other complex cost assessment activities completed in FY21 included highlighting potential savings of a two-ship buy proposal for the CVN 78 Gerald R. Ford class aircraft carrier; identifying risks and opportunities in advance of the release of the Optionally Manned Fighting Vehicle request for proposal; and identifying necessary investments in the Submarine Industrial Base including supplier development, shipbuilder infrastructure, strategic outsourcing, and workforce development to support improvements in submarine delivery rates to meet national security objectives.

Quality of Cost Estimates

Since the enactment of WSARA, CAPE, in partnership with the entire DoD cost community, has made considerable progress in improving the quality and accuracy of life-cycle cost estimates for

MDAPs by employing cost estimating best practices. CAPE has significantly improved the Department's systematic collection of actual cost information and ensured that data are available to all DoD organizations. Through these efforts, combined with improvements in methods and processes for preparing cost estimates, the Department has reduced the median variance between CAPE ICEs and Component Cost Positions (CCPs) over time from 6.9% to 2.1% (Chart 3).

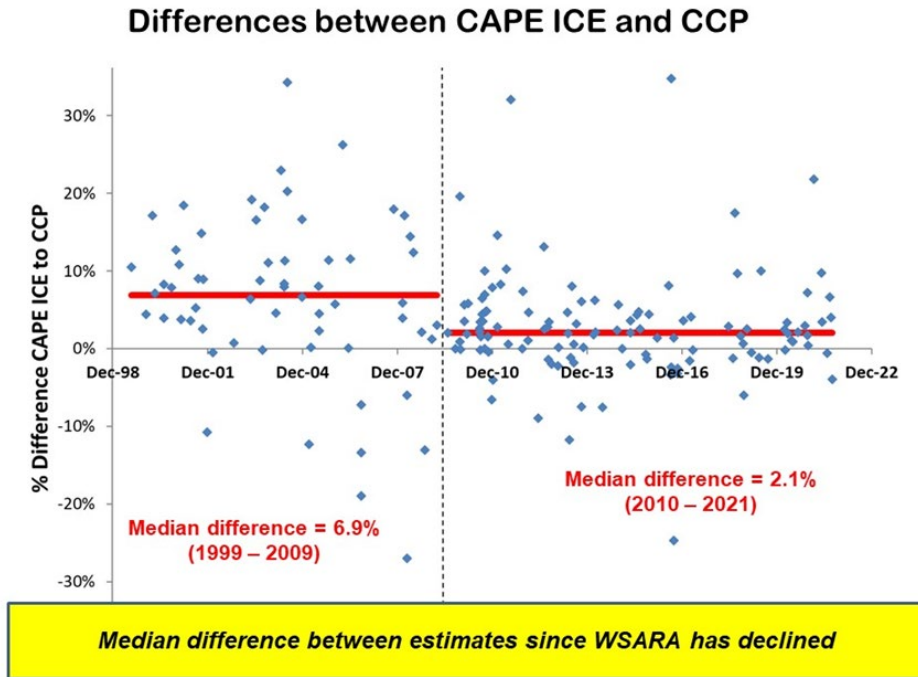


Chart 3. Comparison of CAPE ICEs to Component Cost Positions

The convergence of the Department's cost estimates has resulted in improvements in several important measures of program performance, including a reduction in the number of Nunn-McCurdy breaches from an average of 6.25 per year prior to WSARA to 2.27 per year afterwards (Chart 4).

Nunn-McCurdy Breaches (1997-2021)

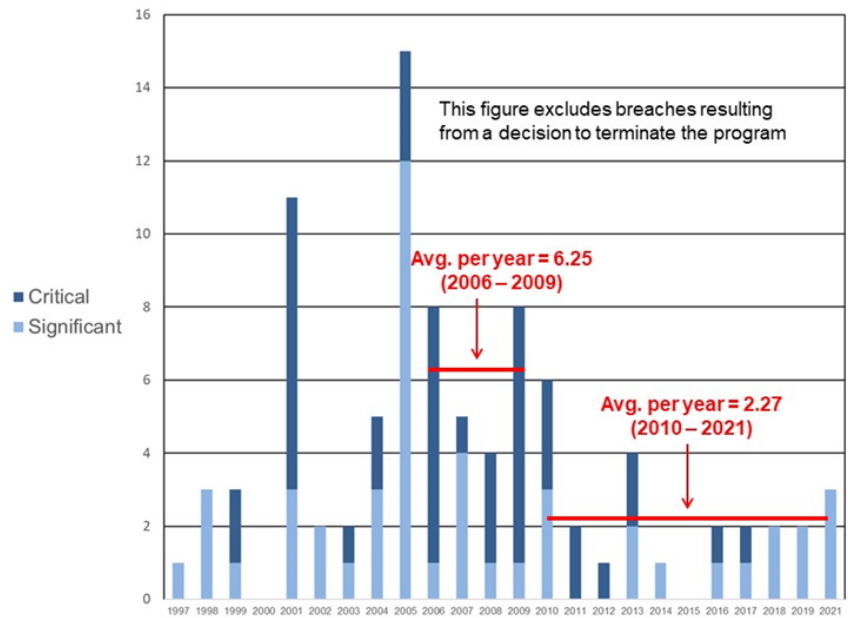
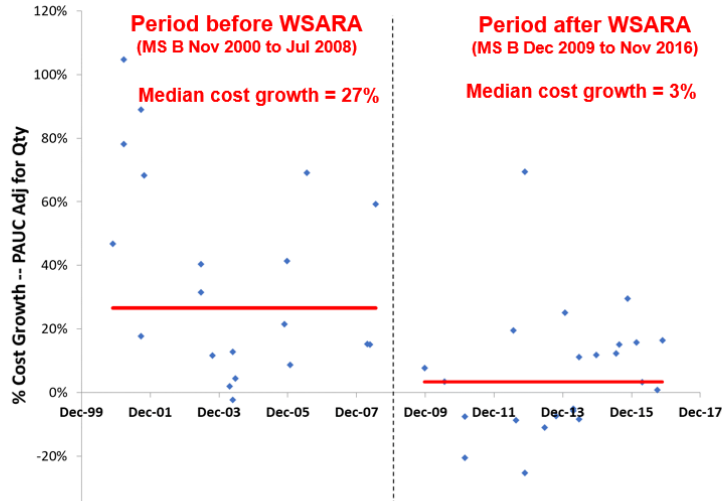


Chart 4. Number of Nunn-McCurdy Breaches per Year

Most importantly, post-WSARA policies and improvements in the Department’s cost estimates have resulted in a steep decline in the median acquisition cost growth incurred by MDAPs. As shown in Chart 5, the median growth in costs of MDAPs that achieved Milestone B approval during the ten years prior to the enactment of WSARA was 27%. In contrast, the median growth in costs of MDAPs that achieved Milestone B approval during the ten years following the enactment of WSARA was only 3%—a significant reduction in what is a commonly accepted metric of acquisition program performance. Improvements such as these enable better long-term planning in the Department, contribute to less wasted resources, and facilitate the potential reallocation of savings to meet other high priority national security objectives.

MDAP Acquisition Cost Growth from Milestone (MS) B (Program Acquisition Unit Cost (PAUC) Adjusted for Quantity)

*This figure excludes MDAPs that were terminated
This figure excludes MILCON funding
All cost data as of Dec 31, 2021*

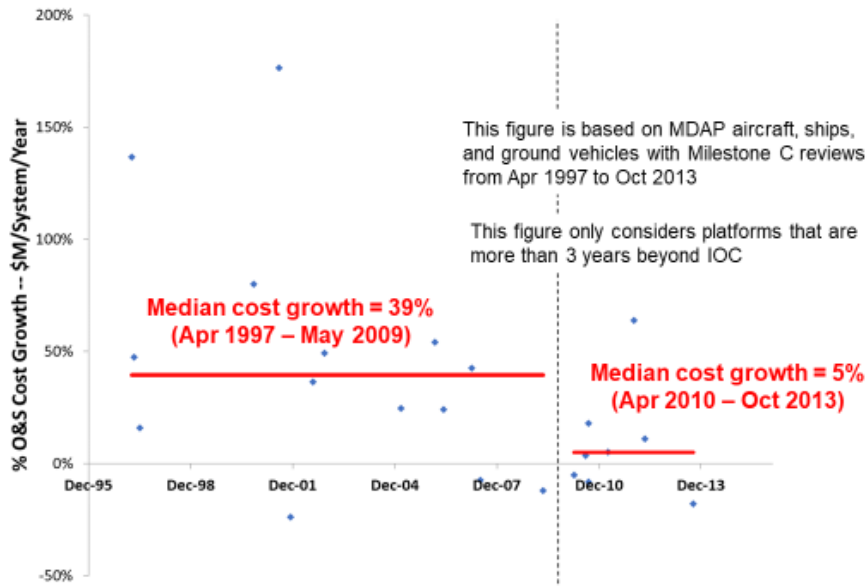


Acquisition cost growth since WSARA has significantly declined

Chart 5. MDAP Acquisition Cost Growth from Milestone B

Finally, CAPE has helped the Department make strides in measuring cost growth in Operating and Support (O&S) costs. The median growth in O&S costs for major platforms that achieved Milestone C approval during the ten years prior to the enactment of WSARA was 39% (Chart 6). In contrast, the median growth in O&S costs of MDAPs that achieved Milestone C approval during the four years following the enactment of WSARA was only 5%. This provides an early indication of the performance the Department could potentially expect with additional focus on O&S costs. That effort is already underway in accordance with Congressional direction and new statutory requirements through Sustainment Reviews, which are now required for all major systems that have achieved Initial Operational Capability.

**Major Platform O&S Cost Growth from Milestone (MS) C
(\$M/System/Year)**



Median platform O&S cost growth since WSARA has significantly declined

Chart 6. Major Platform O&S Cost Growth from Milestone C

Multi-year Procurements

CAPE conducts preliminary independent estimates of savings to ensure that all multi-year procurement (MYP) contracts will result in significant savings before the Department requests the required legislative authority. In FY21, CAPE completed cost analyses for MYPs for the H-60 Black Hawk, which led to a 10th MYP contract for the program with certified savings of over 14% (~\$400 million) in contract costs. Between 2010 and 2021, CAPE’s MYP forecasts resulted in certified savings of more than \$16 billion versus the single-year price (SYP) as shown in Tables 1 and 2 below.

Table 1. CAPE Historical Shipbuilding Multi-Year Procurement Contract Savings Summary (Assessments at Contract Award)

Program	Savings - CAPE SYP ¹ vs Award Price (%)	Savings - CAPE SYP ¹ vs Award Price (TY\$B)
2013 DDG Flight IIA MYP	9%	\$0.65 ²
2014 VCS Block IV MYP	20%	\$4.37 ³
2018 DDG 51 Flight III MYP	7%	\$0.71 ⁴
2019 VCS Block V MYP	7%	\$1.81 ⁵

¹ Adjusted to reflect actual shipbuilder assignments and quantities.
² DDG 51 Flight IIA competitively awarded via Profit Related to Offer (PRO) process.
³ VCS Block IV negotiated as a sole source, with one-time material savings.
⁴ DDG 51 Flight III competitively awarded via a Compete for Quantity (CFQ) process.

⁵ Due to shipbuilder performance, estimate of savings is based on the negotiated sole source MYP ceiling price.

Table 2. CAPE Aircraft and Missile MYP Contract Savings Summary, 2010-2022

Program	Savings - CAPE SYP vs Proposal (%)	Savings - CAPE SYP vs Not to Exceed Letter (%)	Savings - CAPE SYP vs Negotiated Price (%)	Savings - CAPE SYP vs Negotiated Price (TY\$B)	Commodity Type	Length
F-18 MYP 3	8%	10%	10.2%	\$0.60	Aircraft	5-Year
H-60 Airframe MYP 8	1%	10%	18.1%	\$1.62 ^(A)	Aircraft	5-Year
H-60 Avionics	3%	10%	19.4%	\$0.30 ^(A)	Aircraft	5-Year
CH-47F	4%	10%	19.2%	\$0.81	Aircraft	5-Year
V-22 MYP 2	4%	10%	11.6%	\$0.84	Aircraft	5-Year
E-2D MYP 1	7%	10%	15.9%	\$0.83 ^(A)	Aircraft	5-Year
C-130 MYP 2	9%	10%	11.5%	\$0.69	Aircraft	5-Year
AH-64E	--- ^(B)	10%	10.5%	\$0.33	Aircraft	5-Year
H-60 Airframe MYP 9	8%	10%	13.7%	\$0.51	Aircraft	5-Year
V-22 MYP 3	--- ^(B)	10%	12.4%	\$0.54	Aircraft	5-Year
F-18 MYP 4	--- ^(C)	8%	10.3%	\$0.40	Aircraft	3-Year
E-2D MYP 2	--- ^(C)	6%	10.0%	\$0.37	Aircraft	5-Year
SM-6	--- ^(C)	10%	10.3%	\$0.23	Missile	5-Year
C-130 MYP 3	--- ^(B)	11%	10.9%	\$0.43	Aircraft	5-Year
SM-3 Block IB	--- ^(B)	10%	13.2%	\$0.32	Missile	5-Year
H-60 Airframe MYP 10	5%	10%	14.5%	\$0.39	Aircraft	5-Year

^A Adjusted to reflect equivalent procurement quantities.

^B Significant quantity or duration changes from the original proposal.

^C No formal proposal received from contractor prior to Not To Exceed (NTE) letters.

Full Funding Review

CAPE's annual review of each Military Services' Program Objective Memorandum (POM) submission, as part of the Program Review process, ensures that programmed resources for major acquisition programs meet the capacity and capabilities the Department requires to achieve national security objectives. For the FY24 POMs, CAPE reviewed 56 programs, accounting for more than \$260 billion in FY24 funding to ensure full funding compliance.

Sustainment Reviews

In accordance with statutory requirements introduced in the FY17 NDAA, CAPE provides guidance to the MILDEPs on the preparation of cost estimates and presentation of results of sustainment reviews, including requirements for data collection, analytic methods, and documentation of results. In FY21, CAPE assessed 13 sustainment reviews conducted by the MILDEPs. CAPE's assessments identified issues negatively affecting the quality of MILDEP sustainment reviews, including a lack of data related to sustainment contracts, limited detail on prime contractor costs, and lack of reliable data on system usage. CAPE proposed potential

solutions to these issues and provided each MILDEP with recommendations and guidance to improve future sustainment reviews.

Cost Policies and Procedures

CAPE is responsible for prescribing policies and procedures for the conduct of cost estimation, cost analyses, and cost data collection within DoD. It coordinates, publishes, and continually updates documents that provide cost guidance, methods, and tools for DoD-wide use to improve cost awareness and improve transparency. These include the *DoD Cost Estimating Guide*, the *Operating and Sustainment Cost Estimating Guide*, the *Inflation and Escalation Best Practices for Cost Analysis Analyst Handbook*, the *Analysis of Alternatives Cost Estimating Handbook*, and the *Cost and Software Data Reporting* guide. These resources provide the foundation for accurate and realistic cost estimates for DoD acquisition programs.

Cost Analysis Education and Training

CAPE leads the development of improved analytic skills and competencies within the DoD cost workforce through training and continuous education. This includes training the approximately 2,000 government analysts supporting the annual defense budget, addressing the acquisition of more than 300 major weapon systems and information systems and countless smaller acquisition programs, and generating of requirements for future capabilities. f CAPE's efforts include improving the Master's in Cost Estimating and Analysis program at the Naval Post Graduate School, redesigning the Defense Acquisition University's cost estimating curriculum, virtual training on cost analysis tools and databases, and conferences. Hundreds of government and industry professionals take advantage of these opportunities each year, helping to ensure continued education and collaboration to improve human resources and cost estimation capabilities.

Cost Data Collection and Tools

CAPE ensures that strategy-driven resourcing decisions to build the future Joint Force are grounded in robust cost and schedule analyses. To do so, CAPE manages several cost data tools that enable the Department to track resource allocation, manage operating and sustainment costs, and achieve cost-effective solutions. CADE is one of the largest data repositories in DoD and contains over 7TBs of data on ~850 Weapon System Programs; 4,852 Prime Contracts and 2,171 Subcontracts; and 40,152 Cost & Software Data Reports. It has over 3,000 government and industry users. CADE collects actual cost information provided directly from internal contractor business systems in modern data formats, curates the data for cost estimates, and stores the data for the DoD cost community. CAPE is also developing the Enterprise Visibility and Management of Operating and Support Cost (EVAMOSC) system, a network-based, enterprise-level data system for Operating and Support cost information. This system is improving the Department's ability to track and evaluate Operations and Sustainment costs, which constitute the majority of a system's life-cycle cost for most weapon systems. For example, EVAMOSC revealed that the Army could have saved an estimated \$5.5 billion since 2015 by purchasing additional diagnostic systems costing only \$4 million each for certain Army formations. The Army has embraced this finding and is making improvements and asking for assistance along these lines.

Despite CAPE's relatively small size and budget, it has provided significant cost savings and improved planning for the entire Department. CAPE's cost estimates have been used to justify multi-year procurements, saving taxpayers billions in acquisition costs; to avoid billions in excess contractor profit for planned major system procurements; and to reschedule or cancel underperforming and unaffordable programs. CAPE's work in centralizing and standardizing cost data reporting and collection and providing cost analysis training across the Department has enabled DoD components to better negotiate with industry for fair pricing of development, hardware, software, and services for major national security systems.

5. Conclusion

Since its establishment, CAPE has been guided by a set of key principles: a commitment to transparent and independent analysis; an emphasis on the choice between explicit, balanced, and feasible alternatives in decision making; a dedication to providing decision support based on explicit criteria of national interest rather than compromises among institutional forces; and a belief in the importance of projecting the consequences of present decisions into the future. In implementing these principles, CAPE has provided tremendous analytic leadership, both across the defense enterprise and the interagency. Even as the defense environment grows more complex, CAPE has and will continue to serve the Secretary and Deputy Secretary in developing a balanced portfolio of defense capabilities to provide the best defense for the nation.

Appendix A. List of Abbreviations and Acronyms

AoA	Analysis of Alternatives
AWG	Analysis Working Group
BPSR	Business Process Systems Review
CADE	Cost Assessment Data Enterprise
CAPE	Cost Assessment and Program Evaluation
CCP	Component Cost Position
CMF	Cyber Mission Force
CY	Calendar Year
DPG	Defense Planning Guidance
DPP	Defense Planning Projection
DoD	Department of Defense
EVAMOSOC	Enterprise Visibility and Management of Operating and Support Cost
FTE	Full Time Equivalent
FY	Fiscal Year
FYDP	Future Years Defense Program
GO/FO	General and Flag Officers
ICE	Independent Cost Estimate
ISR	Intelligence, Surveillance, and Reconnaissance
LRASM	Long Range Anti-Ship Missile
MDAP	Major Defense Acquisition Program
MILDEP	Military Department
MST	Maritime Strike Tomahawk
MYP	Multi-Year Procurement
NDS	National Defense Strategy
O&S	Operating and Support
OSD	Office of the Secretary of Defense

OUSD(Policy)	Office of the Under Secretary of Defense for Policy
POM	Program Objective Memorandum
PPBE	Planning, Programming, Budgeting, and Execution
SES	Senior Executive Service
SSA	Support to Strategic Analysis
SPR	Strategic Portfolio Review
SYP	Single-Year Price
TACAIR	Tactical Fighter Force
TOA	Total Obligation Authority
UAS	Uncrewed Aircraft System
USCYBERCOM	U.S. Cyber Command
USINDOPACOM	U.S. Indo-Pacific Command
WSARA	Weapon Systems Acquisition Reform Act of 2009

Appendix B. Key Statutes and Issuances

Source	Reference	Description
Public Law	Public Law 111-23	Weapon Systems Acquisition Reform Act of 2009
Title 10, U.S. Code	Sec. 139a	Director of Cost Assessment and Program Evaluation
Title 10, U.S. Code	Sec. 221	Future-years defense program: submission to Congress; consistency in budgeting
Title 10, U.S. Code	Sec. 3221	Director of Cost Assessment and Program Evaluation
Title 10, U.S. Code	Sec. 3222	Independent cost estimate required before approval
Title 10, U.S. Code	Sec. 3223	Review of cost estimates, cost analyses, and records of the military departments and Defense Agencies
Title 10, U.S. Code	Sec. 3224	DCAPE participation, concurrence, and approval in cost estimation
Title 10, U.S. Code	Sec. 3225	Discussion of risk in cost estimates
Title 10, U.S. Code	Sec. 3226	Estimates for program baseline and analyses and targets for contract negotiation purposes
Title 10, U.S. Code	Sec. 3227	Guidelines and collection method for acquisition of cost data
Title 10, U.S. Code	Sec. 4251	Major defense acquisition programs: determination required before Milestone A approval
Title 10, U.S. Code	Sec. 4252	Major defense acquisition programs: certification required before Milestone B approval
Title 10, U.S. Code	Sec. 4253	Major defense acquisition programs: submissions to Congress on Milestone C
Title 10, U.S. Code	Sec. 4323	Sustainment Reviews

Title 10, U.S. Code	Sec. 4324	Life-cycle management and product support
Title 10, U.S. Code	Sec. 4371	Cost growth definitions; applicability of reporting requirements; constant base year dollars
Title 10, U.S. Code	Sec. 4402	Requirement to address modular open system approach in program capabilities development and acquisition weapon system design
Department of Defense Directive	5105.84	Director of Cost Assessment and Program Evaluation
Department of Defense Directive	5105.79	DoD Senior Governance Councils
Department of Defense Directive	7045.14	The Planning, Programming, Budgeting, and Execution (PPBE) Process
Department of Defense Directive	8260.05	Support for Strategic Analysis (SSA)
Department of Defense Manual	5000.04	Cost and Software Data Reporting (CSDR)
Department of Defense Instruction	5000.73	Cost Analysis Guidance and Procedures
Department of Defense Instruction	5000.84	Analysis of Alternatives
Department of Defense Instruction	7041.03	Economic Analysis for Decision-Making
Department of Defense Instruction	7041.04	Estimating and Comparing the Full Costs of Civilian and Active Duty Military Manpower and Contract Support
Department of Defense Instruction	8260.2	Implementation of Data Collection, Development, and Management for Strategic Analyses

Appendix C. Recent Legislative Changes to Defense Acquisition

The NDAAs for FY 2016 through FY 2023 significantly changed acquisition and cost assessment policy and statutory requirements.

Year	Section	Summary of Change
FY2016	Sec. 802 (Role of Chiefs of Staff in the Acquisition Process)	Enhanced the role of the military Chiefs of Staff in the defense acquisition process.
FY2016	Sec. 804 (Middle Tier of Acquisition for Rapid Prototyping and Rapid Fielding)	Required USD(A&S) to issue guidance that establishes a “middle tier” of acquisition programs that are intended to be completed within 5 years.
FY2016	Sec. 809 (Advisory Panel on Streamlining and Codifying Acquisition Regulations)	Called for the Secretary of Defense to establish an independent advisory panel on streamlining acquisition regulations.
FY2016	Sec. 815 (Amendments to Other Transaction Authority)	Expanded DoD’s ability to use Other Transaction Authority (OTA) for certain prototype programs.
FY2016	Sec. 825 (Designation of Milestone Decision Authority)	Specified that the Milestone Decision Authority (MDA) for an MDAP reaching Milestone A after October 1, 2016, will be the SAE of the military department managing the program.
FY2017	Sec. 805 (Modular Open System Approach in Development of Major Weapon Systems)	Required that an MDAP that receives Milestone A or Milestone B approval after January 1, 2019 will be designed and developed, to the maximum extent practicable, with a modular open system approach intended to enable incremental development and enhance competition, innovation, and interoperability.
FY2017	Sec. 806 (Development, Prototyping and Deployment of Weapon System Components or Technology)	Provided the military departments with new authorities to mature and demonstrate higher risk technologies prior to initiating a formal program of record.
FY2017	Sec. 807 (Cost, Schedule, and Performance of Major Defense Acquisition Programs)	Established a requirement for the Secretary of Defense, or the Deputy Secretary of Defense, to establish program cost and fielding targets for an MDAP before Milestone A, B, or C approval.
FY2017	Sec. 808 (Transparency in Major Defense Acquisition Programs)	Established a requirement for the MDA for an MDAP to provide the congressional defense committees with a brief summary report (or “acquisition scorecard”) no later than 15 days after granting approval at Milestone A, B, or C.

FY2017	Sec. 842 (Amendments Relating to Independent Cost Estimation and Cost Analysis)	Provided clarifying amendments to existing statutes for independent cost estimation.
FY2017	Sec. 844 (Review and Report on Sustainment Planning in the Acquisition Process)	Required the Secretary of Defense to enter into a contract with an independent entity with appropriate expertise to assess the extent to which sustainment matters are considered in decisions related to requirements, acquisition, cost estimating programming and budgeting, and research and development for MDAPs
FY2017	Sec. 849 (Improved Life-Cycle Cost Control)	Made several amendments pertaining to life-cycle cost controls of a program.
FY2017	Sec. 897 (Rapid Prototyping Funds for the Military Departments)	Authorized the military department secretaries to establish service-specific funds for the rapid prototyping and rapid fielding pathways established by Section 804 in the FY16 NDAA.
FY2017	Sec. 901 (Organization of the Office of the Secretary of Defense)	Modified the position of USD(AT&L) by replacing this position with two new positions: the Under Secretary of Defense for Research and Engineering (USD(R&E)) and Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)). This reorganization became effective February 1, 2018.
FY2018	Sec. 802 (Management of Intellectual Property Matters Within the Department of Defense)	Required DoD to develop policy on the acquisition or licensing of intellectual property.
FY2018	Sec. 833 (Role of the Chief of the Armed Force in Materiel Development Decision and Acquisition System Milestones)	Established a role for the Service Chiefs to concur with MDAP milestone approvals made by the MDA
FY2018	Sec. 836 (Codification of Requirements Pertaining to Assessment, Management, and Control of Operating and Support Costs for Major Weapon Systems)	Amended Title 10 U.S.C. to codify Section 832 of the FY12 NDAA. This provision mandated steps to improve DoD processes for estimating and managing O&S costs of major systems. The CAPE Operating and Support Cost-Estimating Guide describes how the Department has implemented this provision.
FY2018	Sec. 839 (Enhancements to Transparency in Test and Evaluation Processes and Data)	Required senior officials in major DoD test and evaluation organizations to jointly develop policies, procedures, guidance, and a method for collecting consistent and high quality data on the full range of estimated and actual costs of development, live fire, and operational testing for MDAPs.

FY2018	Subtitle G (Provisions Relating to Other Transaction Authority and Prototyping) of Title VIII (Acquisition Policy, Acquisition Management, and Related Matters)	Contained eight sections intended to expand and improve the use of OTA for prototyping projects
FY2018	Sec. 1652 (Collection, Storage, and Sharing of Data Relating to Nuclear Security Enterprise)	Required DoD and the National Nuclear Security Administration (NNSA) to jointly collect and store cost, programmatic, and technical data relating to programs and projects of the nuclear security enterprise and nuclear forces. Responsibility for this collection and storage is assigned to CAPE.
FY2019	Sec. 817 (Preliminary Cost Analysis Requirement for Exercise of Multiyear Contract Authority)	Contained a clarifying amendment to 10 U.S.C. § 3507 (Multiyear Contracts) that a cost analysis supporting a DoD multi-year request is preliminary.
FY2019	Sec. 831 (Revisions in Authority Relating to Program Cost Targets and Fielding Targets for Major Defense Acquisition Programs)	Modified Section 807 of the FY17 NDAA. The individual responsible for establishing program cost, fielding, and performance goals is no longer the Secretary of Defense, and instead is the MDA for the program.
FY2019	Sec. 832 (Implementation of Recommendations of the Independent Study on Consideration of Sustainment in Weapon Systems Life Cycle)	Required the Secretary of Defense to begin implementing recommendations of an independent assessment conducted by the MITRE Corporation, including CAPE efforts to address certain improvements concerning the collection of O&S cost data.
FY2020	Sec. 830 (Modification of Requirements for Reporting to Congress on Certain Acquisition Programs)	Required that selected acquisition reports (SARs) continue in their present form through FY 2021. Required the Secretary of Defense to propose an alternative method for reporting the status for MDAPs and acquisition programs that use alternative acquisition pathways or tailored acquisition procedures.
FY2020	Sec. 831 (Pilot Program to Streamline Decision-Making Processes for Weapon Systems)	Required each SAE to recommend to the Secretary of Defense at least one MDAP as a pilot program, including tailored measures to streamline the entire milestone decision process, with the results evaluated and reported for potential wider use.
FY2020	Sec. 836 (Report on Realignment of the Defense Acquisition System to Implement Acquisition Reforms).	Required the Secretary of Defense to include with the budget request for FY21 a report on the progress of implementing acquisition reform initiatives that were enacted into law through DoD regulations, directives, instructions, or other guidance.

FY2020	Sec. 837 (Report on the “Middle Tier” of Acquisition Programs)	Required USD(A&S) to submit a report that includes the guidance required by Section 804 of the FY16 NDAA.
FY2021	Sec. 151 (Budgeting for Life-Cycle Costs of Aircraft for the Army, Navy, and Air Force)	Established a requirement for the Secretary of Defense to submit an annual plan for the procurement of the aircraft in the military departments in order to meet the requirements of the National Defense Strategy.
FY2021	Sec. 802 (Improving Planning, Execution, and Oversight of Life Cycle Sustainment Activities) This section modified the earlier provisions of Section 849 (Improved Life-Cycle Cost Control) of the NDAA for FY 2017.	Modified 10 U.S.C. to improve DoD’s planning, execution, and oversight of life cycle sustainment activities for covered systems. Directed the Secretary of each military department to conduct a sustainment review for an MDAP 5 years after declaration of IOC and every 5 years thereafter throughout the life cycle of the program.
FY2022	Sec. 805 (Two-Year Extension of Selected Acquisition Report Requirement)	Expanded upon Section 830 in the FY20 NDAA by extending the requirement that SARs continue in their present form from FY21 to FY23. Required a plan from DCAPE to identify and gather data required for effective decision making by program managers and DoD leadership regarding the reporting program.
FY2022	Section 806 (Annual Report on Highest and Lowest Performing Acquisition Programs of the DoD)	Established a requirement for each Component Acquisition Executive to provide the congressional defense committees with an annual report that ranks the five highest performing and five lowest performing covered acquisition programs of the Component.
FY2022	Sec. 811 (Certain Multiyear Contracts for Acquisition of Property: Budget Justification Materials)	Established a requirement for DoD to include a detailed proposal with the President’s budget request materials if DoD proposes to cancel or reduce the end item quantities of a multiyear procurement contract.
FY2023	Sec. 351 (Resources Required for Achieving Materiel Readiness Metrics and Objectives for Major Defense Acquisition Programs)	Required CAPE to submit to Congress a comprehensive estimate of the funds necessary to meet specified materiel readiness objectives through the period covered by the most recent FYDP.

FY2023	Sec. 806 (Life Cycle Management and Product Support)	Modified 10 U.S.C. to require that a life cycle sustainment plan is approved by the MDA after receiving the views from appropriate materiel, logistics, or fleet representatives.
FY2023	Sec. 809 (Acquisition Reporting System)	Expanded Sec. 830 of the FY20 NDAA and Sec. 805 of the FY22 NDAA to require DoD to replace the SARs with the new acquisition reporting system as soon as practicable, but no later than June 30, 2023.
FY2023	Sec. 822 (Modification of Contracts to Provide Extraordinary Relief Due to Inflation Impacts)	Provided DoD with temporary authority to modify the terms and conditions of a contract or option to provide an economic price adjustment when, due solely to economic inflation, the cost to a contractor of performing the contract is greater than the price of the contract.
FY2023	Sec. 2806 (Supervision of Large Military Construction Projects)	Required CAPE to conduct or approve an ICE for each MDAP and major subprogram, in advance of any decision to enter into a contract in connection with a military construction project of a value greater than \$500 million.

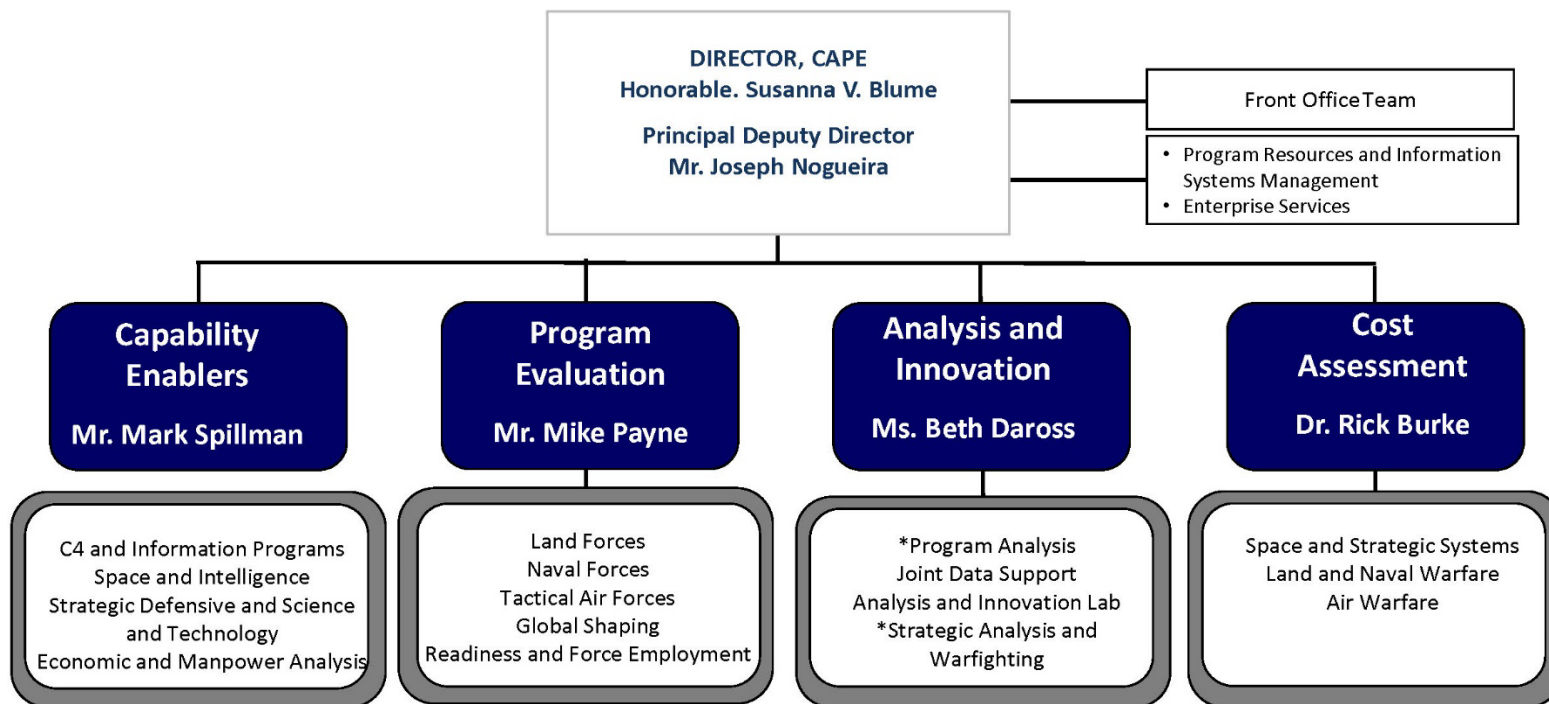
Appendix D. Overview of CAPE Staffing and Operations



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CAPE Organization Chart as of 12/8/2022

OSD CAPE



*Pending name changes for:
SAWD – Strategic Analysis and Analytic Innovation
PAD - Cross Portfolio Analysis

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On-Board Staff as of 12/8/2022

OSD CAPE

Personnel Staff Type (supporting CAPE)	#	%
Civilian	135	43%
Military	21	7%
Detailees (mil, civ, IPA)	11	3%
Contractors - on CAPE contracts	147	47%
	314	

- 38% (51) of civilian employees have been onboard for at least 10 years
- 62% (84) of civilian employees have been onboard less than 10 years
 - *Of this number 63 (75%) of those employees have been on board less than 5 years*

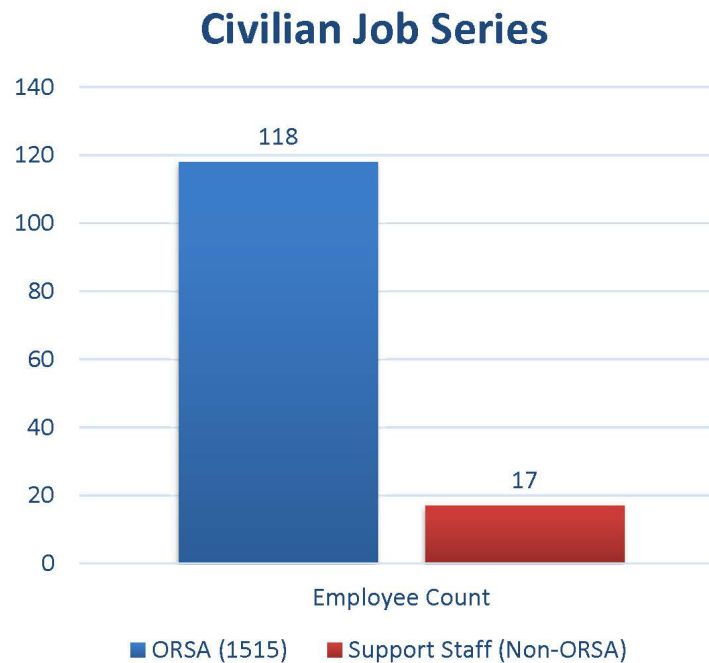


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CAPE Demographics (On-Board Civilians)

OSD CAPE

Govt Civ Staff	#	%
Executives	20	15%
GS-15s	83	61%
GS-14s	13	11%
GS-13s	9	5%
GS-12s	6	5%
GS-11s	2	1%
GS-8/9	2	2%



20% (27) of the current civilian workforce (135) is eligible to retire

Data on this slide is as of 8 Dec 2022

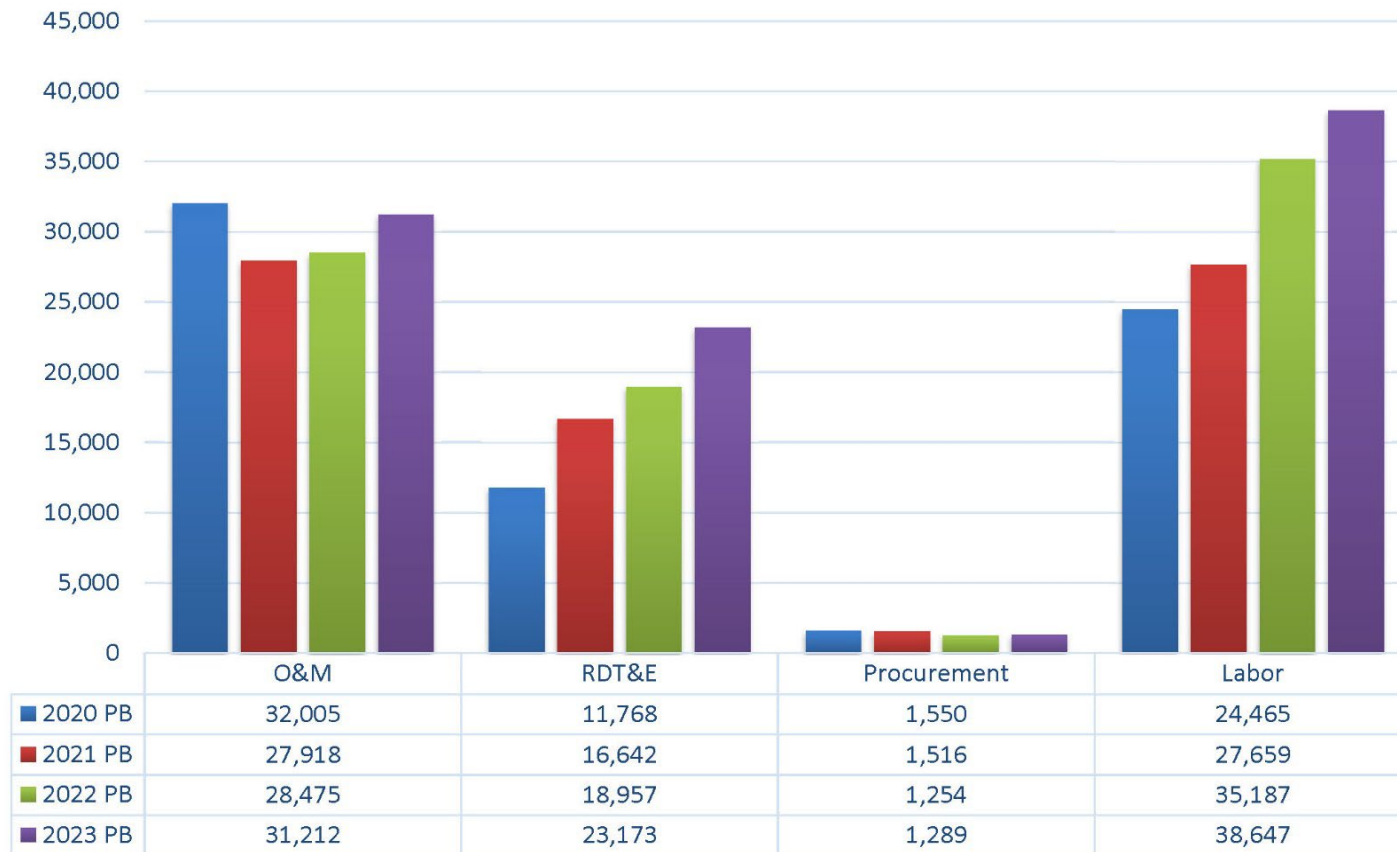
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Budget Summary Multiple Positions (PB20 – PB23)

OSD CAPE



FY 20 RDT&E does not reflect approximately \$4.3M of Study funding provided annually by A&S (Prior to FY 21)

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Appendix E. Recent CAPE Engagements with the House and Senate Armed Services Committees*

Title	Engagement Type	Engagement Date	DoD Briefer	Services/Components
CAPE Telecom with HASC/SASC Re: 721 Report	Other	1/22/2019	CAPE: Hon Bob Daigle P&R: Dr. Smith	CAPE, OUSD(P&R)
Office Call with John Wason and Bob Daigle	Office Calls	1/25/2019	Bob Daigle	CAPE
SASC MCRS Briefing	Staff Briefing	1/29/2019	Cal Lude	CAPE
HASC MCRS Briefing	Staff Briefing	1/29/2019	Cal Lude	CAPE
SASC Cycle Briefs - CAPE	Staff Briefing	2/12/2019	Richard Burke	CAPE
HASC Member Briefing on Mobility Capabilities and Requirements Study	Member Briefing	2/14/2019	Hon Bob Daigle	CAPE, USTRANSCOM
SASC Healthcare Force Structure Review Briefing	Staff Briefing	2/28/2019	CAPE: Hon Bob Daigle P&R: Tom McCaffery	CAPE, OUSD(P&R)
CAPE/HASC Healthcare Force Structure Review	Staff Briefing	3/5/2019	Hon Bob Daigle P&R: Dr. Smith, Tom McCaffery	OASD(LA), CAPE, OUSD(P&R)
CAPE TACAIR Study Briefing to SASC	Staff Briefing	3/19/2019	Hon Bob Daigle, Mike Payne, Jamie Graybeal	OASD(LA), CAPE
CAPE TACAIR Study Briefing with HASC	Staff Briefing	3/21/2019	Hon Bob Daigle, Mike Payne, Jamie Graybeal	OASD(LA), CAPE
CAPE Briefing on Aircraft Carrier SPR Results	Staff Briefing	3/18/2019	Hon Bob Daigle	SAPCO, CAPE
TACAIR Brief	Staff Briefing	3/21/2019	Hon Bob Daigle	OUSD(C), CAPE
CAPE Carrier SPE Outbrief	Staff Briefing	3/26/2019	Hon Bob Daigle	SAPCO, CAPE
CAPE & Budget	Staff Briefing	3/28/2019	Hon Bob Daigle	OUSD(C), CAPE
TACAIR	Staff Briefing	4/8/2019	Hon Bob Daigle	OUSD(C), CAPE
CH-53K Phone Call with SASC PSMs	Staff Briefing	4/12/2019	Hon Bob Daigle, Richard Burke, Jamie Graybeal, Mr. Kolb, Mr. Biver	OASD(LA), CAPE
TACAIR Brief	Staff Briefing	4/17/2019	Hon Bob Daigle	OUSD(C), CAPE
Department of the Air Force Acquisition and Modernization Programs in the Fiscal Year 2020 National Defense Authorization President's Budget Request	Hearing	5/2/2019	USAF: Hon Will Roper, Gen. James M. Holmes, Maj. Gen. David S. Nahom Joint Staff: Lt. Gen. Anthony R. Ierardi JPO: Vice Adm. Mathias W. Winter CAPE: Hon Bob Daigle DOT&E: Hon Robert F. Behler	Air Force, F-35 JPO, CAPE, DOT&E, Joint Staff
CAPE Briefing to GAO Re: MCRS	Staff Briefing	6/7/2019		OASD(LA), CAPE
CAPE MDA Charter Discussion with HASC/SASC	Staff Briefing	6/14/2019	Mark Spillman	OASD(LA), CAPE, OUSD(C), OUSD(A&S), OUSD(R&E)
CAPE CCICs AOA Discussion with SASC	Staff Briefing	6/27/2019		OASD(LA), CAPE
SASC CH-53K Discussion	Staff Briefing	7/16/2019	Ed Koucheravy, Tom Henry	OASD(LA), CAPE
HASC CH-53K Discussion	Staff Briefing	7/18/2019	Ed Koucheravy, Tom Henry	OASD(LA), CAPE
Brief of CAPE Study on SCO	Staff Briefing	9/5/2019	Mark Spillman, Wilton Virgo	OASD(LA), CAPE
Space SPR Briefing	Staff Briefing	9/20/2019	Dr. Hugh Chen	SAPCO, CAPE
VA Class Block V Discussion	Staff Briefing	10/1/2019	Gordon Jaquith	OASD(LA), CAPE
Space SPR Briefing	Staff Briefing	10/9/2019	Dr. Hugh Chen	SAPCO, CAPE
MILCON Authorities Discussion	Staff Briefing	2/26/2020	DASD Mike McAndrew, Thadd Buzan, Maria Sands, Emily White, CDR Marcus Williamson, Faye Tavernier, Richard Spencer, Brittany Billingsley, Colin McElhinny, Jason Jones, Tom Murray, CDR Jay Higgins	OASD(LA), OUSD(A&S), OUSD(C), OUSD(P), USINDOPACOM, CAPE

* Does not include recent engagements with the House Appropriations Committee, Senate Appropriations Committee, other Congressional committees, or personal Congressional offices

OUUSD (P), CAPE, and JS Briefing to HASC/SASC PSMs on DoD Analytical Capabilities	Staff Briefing	5/22/2020	CAPE: Adam Winkleman Policy: Leigh Nolan J7: Julian Ouellet	OUUSD(P), CAPE, Joint Staff
SASC Nomination Hearing for Whitley, Manasco, Pearce, Hardy	Hearing	8/4/2020		OASD(LA), CAPE, Air Force, Army
Section 1708 Interim Briefing to HASC and SASC	Staff Briefing	8/20/2020	ASD/SPC Mercado; MajGen Iverson (J7)	OASD(LA), Joint Staff, CAPE, OUUSD(P)
OSD/JS Sec. 1253 Briefing - Response to INDOPACOM Report	Staff Briefing	8/31/2020	Policy: Amanda Dory OUUSD(C): Lisa St Andre CAPE: Andrew Mara, Joseph Nogueira J8: RDML Joseph Cahill	OASD(LA), OUUSD(P), OUUSD(C), Joint Staff, CAPE
CAPE Conventional Prompt Strike (CPS) Independent Cost Estimate (ICE) Discussion w/ HASC & SASC PSMs	Staff Briefing	9/2/2020	Fred Janicki	OUUSD(C), CAPE
Section 1708 Interim Briefing to SASC Staff Directors	Staff Briefing	9/3/2020	Policy: ASD Mercado, Leigh Nolan J7: VADM Munsch CAPE: Adam Winkleman	OASD(LA), Joint Staff, CAPE, OUUSD(P)
TBD/Postponed: CAPE Discussion on FY19 Sec 818/Sec 819 Service Contracts provisions discussion w/ HASC RDY PSM Harris	Staff Briefing	9/14/2020	Bob Fronzaglia	OASD(LA), CAPE
CAPE-Comptroller Discussion on FY19 Sec 818/Sec 819 Service Contracts provision with HASC PSMs	Staff Briefing	9/22/2020	CAPE: JP Wilusz, Robert Fronzaglia Comptroller: Stephen Sullivan, Tara Cook	CAPE, OUUSD(C)
Unclassified FYDP Discussion with SASC PSMs	Other	7/29/2020	CAPE: JP Wilusz, Robert Fronzaglia	CAPE, OUUSD(C), OUUSD(I&S), OUUSD(P), Joint Staff
Homeland Defense Radar-Hawaii Study Findings Briefing	Staff Briefing	10/20/2020	Mark Spillman	OASD(LA), CAPE, Joint Staff, Missile Defense Agency, USINDOPACOM, USSTRATCOM, USNORTHCOM
HI Delegation Brief - CAPE HDR-H Study Findings	Staff Briefing	11/20/2020	Mark Spillman	OASD(LA), CAPE, Missile Defense Agency, Navy
Section 1708/JWC Briefing	Staff Briefing	12/8/2020	Policy: ASD Mercado, Leigh Nolan J7: VADM Munsch CAPE: Adam Winkleman	OASD(LA), Joint Staff, OUUSD(P), CAPE
CAPE CADE 101/Data Discussion w/ HASC-SASC Staff	Staff Briefing	1/29/2021	Kelly Hazel	OASD(LA), CAPE
CAPE/Comptroller Congressional Update to HASC	Staff Briefing	2/18/2021	J.P. Wilusz	CAPE, OUUSD(C)
CAPE-Comptroller Discussion on FY19 Sec 818/Sec 819 Service Contracts provision with HASC PSMs	Staff Briefing	2/25/2021	CAPE: JP Wilusz, Robert Fronzaglia Comptroller: Stephen Sullivan, Tara Cook	CAPE, OUUSD(C)
CAPE Cycle Brief to Acquisition PSMs	Staff Briefing	3/16/2021	Richard Burke	OASD(LA), CAPE
Joint Warfighting Concept Briefing	Staff Briefing	3/19/2021	Policy: Melissa Dalton CAPE: Hon Susanna Blume	OASD(LA), CAPE, Joint Staff, OUUSD(P)
Joint Warfighting Concept Briefing	Staff Briefing	3/26/2021	Policy: Dory, Dr. Nolan CAPE: Hon Susanna Blume VCJCS, DJ7	OASD(LA), OUUSD(P), CAPE, Joint Staff

CAPE Next Generation Interceptor Discussion w/ SASC	Staff Briefing	4/6/2021	Mark Spillman, Richard Burke, Fred Janicki	OASD(LA), CAPE
CAPE CADE Discussion w/ HASC-SASC PSMs	Staff Briefing	4/14/2021	Kelly Hazel	OASD(LA), CAPE
Discussion on NGI Cost Estimate (SASC PSMs)	Staff Briefing	4/20/2021	Dr. Richard Burke, Fred Janicki, Mark Spillman	OASD(LA), CAPE
CAPE AMTI/GMTI Discussion w/ HASC PSM Zeppieri	Other	5/3/2021	COL Chris Bachmann	OASD(LA), CAPE
JWC brief to HASC	Staff Briefing	5/13/2021	Policy: Dory, CAPE: Beth Daross, Adam Winkleman VCJCS, DJ7	OASD(LA), CAPE, Joint Staff, OUSD(P)
NDU College of Information and Cyberspace Update to HASC/SASC PSMs	Staff Briefing	5/20/2021	JS: Maj Gen Jeffery Burkett; PCA: RDML Chase; CIO: Mr. Mitchell Komaroff; USD(P&R): Mr. Fred Engle; NDU: Lt Gen Michael Plehn; USC(C): Ms. Julie Bricker; CAPE: Mr. Manny Cardenas; Policy: DASD Mieke Eoyang	OASD(LA), CAPE, DoD CIO, Joint Staff, OUSD(P&R).OUSD(P); OUSD(C)
Nomination Hearing for Kendall, Shyu, Blume	Hearing	5/25/2021		OSD(LA), Air Force, OSD(R&E), CAPE
Homeland Defense Radar-Hawaii	Staff Briefing	6/15/2021	Mark Spillman, Gordon Jaquith, Dave Hall, Michael Pretko	OSD(LA), CAPE, Missile Defense Agency
Fiscal Year 2022 Budget Request of the Department of Defense for Fixed-Wing Tactical and Training Aircraft Programs	Hearing	7/13/2021	DOT&E: Dr. Raymond O'Toole, Jr. CAPE: Mr. Joseph Nogueira DAF: Ms. Darlene Costello, LtGen David Nahom, LtGen Eric Fick DON: Mr. Frederick "Jay" Stefany, RADM Andrew Loiselle, LtGen Mark Wise	CAPE, DOTE, DAF, DON
GBSD/Minuteman III Briefing to House & Senate Personal Office Staff	Staff Briefing	6/30/2021	A/ASD Dalton & CAPE	OASD(LA), CAPE, OUSD(P)
GBSD/Minuteman III Briefing to SASC PSMs	Staff Briefing	7/16/2021	A/ASD Dalton & CAPE	OASD(LA), CAPE, OUSD(P)
CAPE GBSD Brief to SASC PSMs	Staff Briefing	8/2/2021	Curt Kohl, Dr. Mary Peterson	OASD(LA), CAPE
(POSTPONED) CAPE Director meeting with Senator Cotton	Member Briefing	9/15/2021	Hon Susanna Blume	OASD(LA), CAPE, SAPCO
SASC and OSD CAPE Discussion of SACCS	Staff Briefing	9/10/2021	Manuel Cardenas	OASD(LA), CAPE
CAPE / MDA Defense of Guam Report Brief to HASC/SASC PSMs	Staff Briefing	9/29/2021	MDA: VADM Hill, Stan Stafira CAPE: HON Susanna Blume, Mark Spillman, Gordon Jaquith Policy: Dr. Peppino DeBiaso INDOPACOM: ADM Aquilino Army: MG Swindell Navy: RDML Schlise JIAMDO: Dr. Boulware	OASD(LA), Army, CAPE, Joint Staff, Missile Defense Agency, Navy, OUSD(P), USINDOPACOM
Analytical Working Group Brief to SASC PSM	Staff Briefing	10/12/2021	CAPE: Daross Policy: DASD Ridge CDO: Dr. Cully JS J7: Dr. Ouellet JS J8: Dr. Stevens	OASD(LA), CAPE, DoD CIO, Joint Staff, OUSD(P)
Defense of Guam Report House Member Brief	Member Briefing	11/3/2021	MDA: VADM Hill, Stan Stafira CAPE: Mark Spillman	OASD(LA), OUSD(C), Missile Defense Agency, CAPE
Radar Systems Assessment Call to SASC	Staff Briefing	1/14/2022	CAPE: Mark Spillman	CAPE, Navy, MDA

Homeland Defense Radar-Hawaii	Staff Briefing	1/25/2022	Hon Susanna Blume, Mark Spillman, Gordon Jaquith, Michael Pretko	OSD(LA), CAPE, Missile Defense Agency
CAPE Acquisition Briefing	Staff Briefing	2/8/2022	Richard Burke, Fred Janicki, Jennifer Bowles, Tom Henry	OASD(LA), CAPE
Sen Hirono CAPE Shipbuilding Requirements	Staff Briefing	2/1/2022	Jarrold Fenstermacher	OASD(LA), CAPE
Homeland Defense Radar-Hawaii	Staff Briefing	2/9/2022	Gordon Jaquith, Michael Pretko	OASD(LA), CAPE, Missile Defense Agency, Navy
CAPE AWG Briefing w/SASC PSMs	Staff Briefing	3/9/2022	CAPE: Daross Policy: DASD Ridge CDO: Dr. Cully JS J7: Dr. Ouellet JS J8: Mr. Doyle	OASD(LA), Joint Staff, OUSD(P), CAPE, DoD CIO
Red Hill Fuel Storage Brief	Staff Briefing	3/11/2022	CAPE, OUSD(C), OGC, Navy, INDOPACOM, TRANSCOM, DLA	OASD(LA), Navy, CAPE
HASC Red Hill Brief Follow Up Meeting	Staff Briefing	3/21/2022	Hon Susanna Blume	OASD(LA), CAPE
Selected Acquisition Reports	Staff Briefing	3/25/2022	Dr. Richard Burke, Jennifer Bowles, Fred Janicki	OASD(LA), CAPE
FY23 Budget Rollout Briefings to Defense Committees (HASC)	Staff Briefing	3/31/2022	CAPE: HON Susanna Blume OUSD(C): Mr. McCord JS: VADM Boxall	Joint Staff, BAA, CAPE, Comptroller
Sen Hirono Next Generation Interceptor/Homeland Defense Radar-Hawaii	Member Briefing	4/29/2022	Gordon Jaquith, Michael Pretko	OASD(LA), CAPE, Missile Defense Agency, Navy
Classified (TS/SCI) Briefing to HASC on 2022 National Defense Strategy	Member Briefing	5/17/2022	DSD Hicks HON Susanna Blume OUSD(C): Mr. McCord OUSD(P): Dr. Karlin BAA: Ms. Kim	DSD, CAPE, Policy, Comptroller, BAA
Cost Assessment Data Enterprise Brief	Staff Briefing	5/20/2022	Richard Burke, Fred Janicki, Kelly Hazel	OASD(LA), CAPE
INDOPACOM Section 1242 Brief	Staff Briefing	5/27/2022	CAPE: Joe Nogueira Policy: Mara Karlin	OUSD(C), OUSD(P), OASD(LA), CAPE, Joint Staff
Rep Bacon: NDAA Amendment Discussion	Staff Briefing	7/15/2022	Richard Burke	OASD(LA), CAPE
RDER overview	Staff Briefing	9/8/2022	Wilton Virgo and Gordon Jaquith	OUSD(C), CAPE
ADVANA and SAR Demo with HASC, SASC PSMs	Staff Briefing	9/29/2022	A&S: David Cadman, PDASD(A), Mark Krzysko, Madison Hassler, Katherine Houston, Laura Cooper, Katie Coyne CAPE: Richard Burke, Jennifer Bowles, Erica Walters	OASD(LA), OUSD(A&S), CAPE
Defense of Guam Brief	Staff Briefing	10/26/2022	DASD Hill, John Bier, Mark Spillman, LTG Karbler	OASD(LA), OUSD(P), CAPE, Missile Defense Agency
BRIEF: NC3 SCG to HASC, HAC-D, HPSCI PSMs	Staff Briefing	11/2/2022	NEC Director with support from OSD A&S, JS, CAPE, AF/SF, Navy	USSTRATCOM, OUSD(A&S), Joint Staff, CAPE, Navy, Air Force, Space Force
ADVANA and SARs Discussion	Staff Briefing	11/17/2022	A&S: David Cadman, PDASD(A), Mark Krzysko, Madison Hassler, Katherine Houston, Laura Cooper, Katie Coyne CAPE: Richard Burke, Jennifer Bowles, Erica Walters	OASD(LA), OUSD(A&S), CAPE
Selected Acquisition Reports Follow-Up Call with HASC, SASC PSMs	Staff Briefing	11/29/2022	CAPE: Richard Burke, Jennifer Bowles, Erica Walters A&S: David Cadman	OASD(LA), CAPE, OUSD(A&S)
Defense of Hawaii	Staff Briefing	12/2/2022	CAPE: Mark Spillman, Michael Pretko, Jonathan Rue MDA: DeeDee Martinez, Stan Stafira, John Bier, MAJ Alex Morse	CAPE, MDA, OASD(LA)