Department of the Air Force

Report to Congressional Committees

Alternative Acquisition System for the United States Space Force

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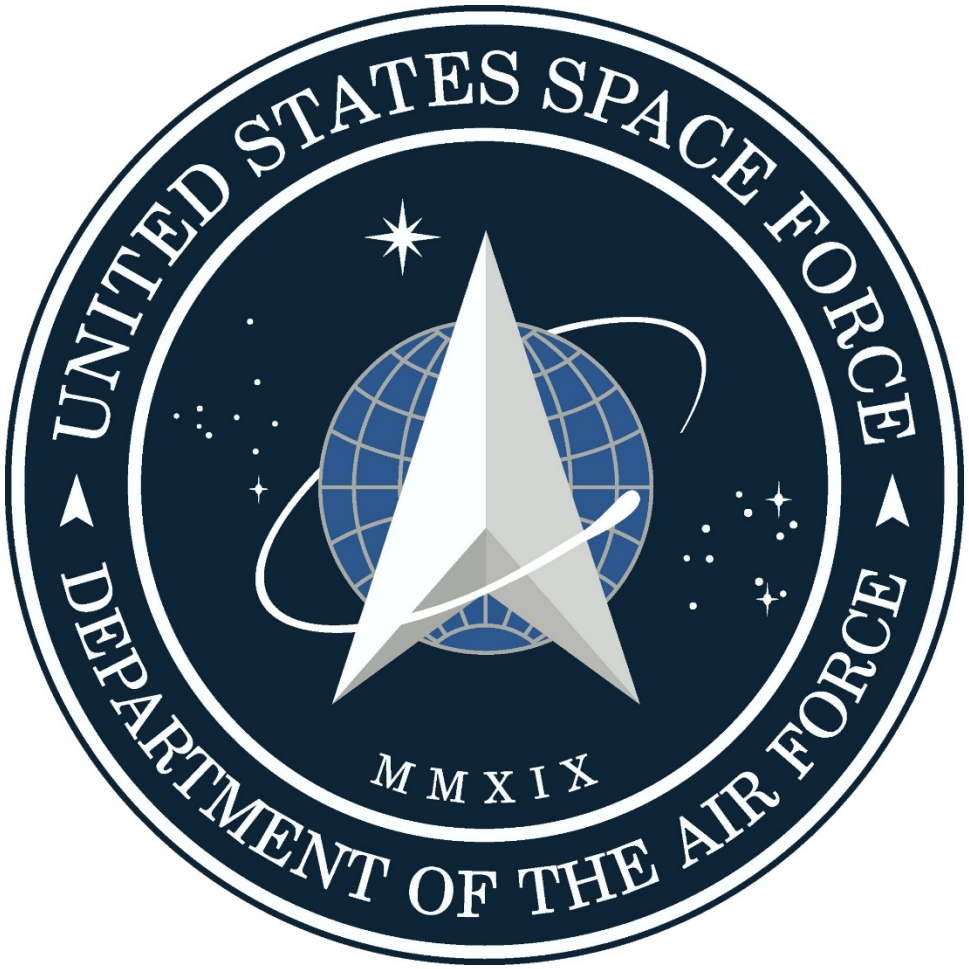
Joint explanatory statement accompanying the National Defense Authorization Act for Fiscal Year 2020


UNITED STATES SPACE FORCE
DEPARTMENT OF THE AIR FORCE
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DEPARTMENT OF THE AIR FORCE

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Alternative Acquisition System for the United States Space Force

The Department of the Air Force is purposefully building the U.S. Space Force to compete, deter, and win in the space domain. The National Defense Authorization Act for FY 2020 provides a historic opportunity to meet the growing challenges and threats in space by reforming the way we develop, field, and sustain war-winning space capabilities.

This report outlines an Alternative Acquisition System that will optimize the U.S. Space Force with a bold set of new acquisition authorities and policies. Under these reforms, our Nation's newest military service will have unprecedented agility to build resilient, defendable, and affordable space capabilities through streamlined processes and closer partnerships with one of America's decisive advantages—its innovative and rapidly changing commercial space industry.

Congress and the Department of Defense have recently made exceptional progress reforming and accelerating acquisition toward this end. Adopting the Alternative Space Acquisition System outlined in this report will build on this progress with a holistic, "clean sheet" approach designed to even further streamline and accelerate space system acquisition. With continued congressional support, and in concert with the continued acquisition reform efforts within the Department of Defense, the Department of the Air Force will ensure the U.S. Space Force and the joint force are fully equipped to compete, deter, and win across the continuum of conflict and in all warfighting domains.

Sincerely,

Barbara Barrett

Table of Contents

Introduction 1

Executive Summary 2

Report 4

Alternative Space Acquisition System Governance 4

Alternative Space Acquisition System – Required Statutory Features 4

1. Unique Acquisition Category (ACAT) Thresholds, Major Defense Acquisition Program (MDAP) Definition, and Milestone Decision Authority Delegation for Space Systems 4

2. "Efficient Space Procurement (ESP)" Codification for the DAF/USSF 5

3. USSF-Unique "New Start" Notification Procedures 7

Alternative Space Acquisition System – Required Internal DoD/DAF Features 7

4. Budget Line Item Restructure 7

5. Modified JCIDS Approach for Space Systems 9

6. New Policy Regarding Key Decision Points and Reporting Requirements for Development, Fielding, and Sustainment of Space Systems 10

7. "Useable End Item" Determination Authority 11

8. Separate USSF Topline Budget 12

9. USSF-Unique Head of Contracting Activity (HCA) 12

Implementation of the Required Statutory and Policy Features 13

Additional DAF/USSF Space Acquisition System Elements 13

Conclusion 17

Annex A 18

Distribution 19

Introduction

This report is provided to the congressional defense committees as requested on page 2999 of the joint explanatory statement accompanying the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92). It responds to the following two requests:

1. *The conferees note that the Deputy Secretary of Defense did not submit to the congressional defense committees the plan required by section 1601(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232). Therefore, the conferees direct the Secretary of the Air Force to provide to the congressional defense committees a report on whether, and, if so, how, to implement an alternative acquisition system, due not later than March 31, 2020. The report should include an assessment of the feasibility of a new acquisition system specifically tailored for space systems and programs, including with respect to procuring space vehicles, ground segments related to such vehicles, and satellite terminals. The plan shall include recommendations with respect to whether the alternative space acquisition system described in the plan should use the Joint Capabilities Integration and Development System process or instead use a new requirements process developed in a manner that ensures that requirements for a program are synchronized across the space vehicles and ground segments. It should also consider how such a system can achieve faster acquisition and more rapid fielding of critical systems, including by using new commercial capability.*

2. *The conferees also direct the Secretary to submit, not later than 120 days after the enactment of this Act, to the congressional defense committees a report with recommendations on the integration of acquisition authority for the NRO into acquisition authority of the Air Force for space systems and programs.*

Executive Summary

The establishment of the United States Space Force (USSF) recognizes the importance of space to the national security and the economic vitality of the United States (U.S.) and its allies. Peer competitors also recognize the strategic advantages that space capabilities provide and are currently fielding systems to disrupt or deny these advantages. At the same time, the pace and scope of advances in the commercial space industry present an opportunity to match the pace of these emerging threats through reduced cost of launch, development and commoditization of space technology, proliferation of commercially available space services, and a rapidly advancing state of the art. The U.S. must maintain a strategic advantage in space through both a space-focused military service and a space-tailored acquisition system that rapidly leverages these new industry dynamics. Whereas the Fiscal Year 2020 (FY 2020) National Defense Authorization Act (NDAA) accomplished the former, additional congressional and Department of Defense (DoD) action can help achieve the latter.

The current Defense Acquisition System (DAS); Joint Capabilities Integration and Development System (JCIDS); and Planning, Programming, Budgeting, and Execution (PPBE) Process have been designed, in principle, to support the full range of capability needs, including agile and accelerated system development in response to new threats. In practice, space acquisition efforts typically produce systems that take too long to develop and deploy, cost more than expected, and yield exquisite point solutions to fulfill stable requirements for a closed architecture. Current leadership have embraced recent reforms with the goal of reversing these trends, but current space threats demand a shift to a system that more broadly delivers agile solutions to meet an ever-evolving technical baseline and integrate into an open architecture. Notwithstanding, DoD and Department of the Air Force (DAF) leadership recognize that space programs have experienced significant cost growth in the past, and vigilance over program execution is paramount.

Congress has recently granted the DoD new authorities that have accelerated and streamlined certain types of acquisition, such as rapid prototyping and rapid fielding. However, these individual tools each solve specific problems and do not provide a holistic solution. More recently, the DoD response to Section 1601(b) of the FY 2019 NDAA outlines further improvements to DoD-wide acquisition intended to improve system development in all domains, particularly through leveraging the Adaptive Acquisition Framework. In addition to further institutionalizing these DAS-related authorities, the USSF needs a new set of measures that build upon the above efforts with JCIDS and PPBE process improvements that broadly and rapidly field space capabilities in response to emerging threats.

To this end, the DAF analyzed the most relevant acquisition organizations and developed a transformative approach, underpinned by nine near-term, critical statutory and policy features that together will create the foundational authorities for a new Alternative Space Acquisition System suggested by the FY 2020 NDAA. The first three features require legislative change; the latter six require changes to internal DoD and/or DAF processes and policies. Combined, these nine features are designed to enable the DAF/USSF to better

leverage the innovative U.S. industrial base and support five goals in transforming space acquisition: (1) streamlining requirements validation; (2) accelerating decision speed; (3) maximizing budget execution stability, flexibility, and efficiency; (4) increasing program/capability efficiency; and (5) accelerating contracting speed. These features represent a new way of approaching the JCIDS, DAS, and PPBE processes, and are thus presented below as a packaged approach. The table in Annex A maps each of the following nine features to the five above goals.

1. Unique Acquisition Category (ACAT) Thresholds, Major Defense Acquisition Program (MDAP) Definition, and Milestone Decision Authority Delegation for Space Systems
2. "Efficient Space Procurement (ESP)" Codification for the DAF/USSF
3. USSF-Unique "New Start" Notification Procedures
4. Budget Line Item Restructure
5. Modified JCIDS Approach for Space Systems
6. New Policy Regarding Key Decision Point and Reporting Requirements for Development, Fielding, and Sustainment of Space Systems
7. "Useable End Item" Determination Authority
8. Separate USSF Topline Budget
9. USSF-Unique Head of Contracting Activity (HCA)

Many of these features have precedent and are successfully streamlining acquisition across the DoD and the Intelligence Community (IC). Others have been used in limited cases but not extended as defining and foundational authorities for Service-level acquisition. Finally, some features represent important new action to drive accelerated and efficient acquisition. Collectively, these nine features will enable the USSF to field capabilities rapidly and pivot quickly to match emerging threats. Adopting these features will require exceptional collaboration, transparency, and trust across government to implement and execute this system effectively. Increased face-to-face routine engagement between the USSF and Congress is vital for the success of the Alternative Space Acquisition System.

Report

Alternative Space Acquisition System Governance

Congress directed two important actions regarding space acquisition and integration in the FY 2020 NDAA. First, Congress established the Space Force Acquisition Council (SAC) within the office of the Secretary of the Air Force. Second, Congress re-designated the Principal Assistant to the Secretary of the Air Force for Space as the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF SA&I). The ASAF SA&I has four key duties: (1) responsibility for all DAF space architecture and integration; (2) advising the Service Acquisition Executive (SAE) on the acquisition of DAF space systems and programs; (3) overseeing and directing the Space Rapid Capabilities Office (SpRCO), the Space and Missile Systems Center (SMC), and the Space Development Agency (SDA) through strategic and architectural guidance; and (4) advising and synchronizing acquisition projects for all DAF space systems and programs. The Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics serves as the SAE until October 2022 and will be responsible for implementing the recommendations in this report when enacted.

The SAC will serve a Board of Directors-like function as the primary forum to oversee the performance, coordinate among stakeholders, make decisions, collaborate on shared areas of interest, and ensure integration and synchronization of DAF space systems and programs across the National Security Space enterprise. Members of the SAC will further define and evolve the specific roles and responsibilities of the Council, consistent with law and these principles.

Alternative Space Acquisition System – Required Statutory Features

The first three features in this report require legislative change to implement. Each has precedent as a standard authority in specific DoD acquisition organizations or has been used in limited cases for space acquisition programs. These features have significant potential to accelerate and streamline space acquisition when applied broadly to USSF space programs.

1. Unique Acquisition Category (ACAT) Thresholds, Major Defense Acquisition Program (MDAP) Definition, and Milestone Decision Authority Delegation for Space Systems

- Precedent: Delegation of milestone decision authority for ACAT I-equivalent programs below the Component Acquisition Executive level within a Service or Agency has been demonstrated for Missile Defense Agency and National Reconnaissance Office (NRO). This delegation facilitates milestone decision authority co-location with program executive officers and program managers, which leads to accelerated and agile decision-making.

- Requirement: The DAF should have space-specific MDAP and Major System definitions which will drive space-specific ACAT thresholds for USSF acquisition

programs that appropriately reflect the distinguishing characteristics (e.g., cost, complexity, and quantity) of these systems. Such space-specific definitions would increase flexibility of milestone decision authority assignments. These new MDAP and Major System definitions would be accompanied with new documentation and reporting requirements discussed in feature number six below. Further, to facilitate rapid decision-making and to ensure milestone decision authority assignment within the Service, no USSF acquisition program should, at inception, be designated with an alternate milestone decision authority under 10 U.S. Code § 2430(d)(2). Existing ACAT ID programs and non-delegated classified programs should, wherever possible, be delegated to the SAE. The SAE may also delegate milestone decision authority further within the USSF regardless of program ACAT level (to include ACAT IB and IC). **Delegating programs, including ACAT I or classified programs equivalent in size, to the lowest feasible level to accelerate decision making is the second most important recommendation in this report.**

- Rationale: For space programs, the existing MDAP and Major System definitions and resulting ACAT thresholds have historically resulted in oversight responsibility at the highest echelons of the DoD and the Service, along with additional requirements for oversight creating, in turn, a burden of documents that cannot be waived or tailored out. 10 U.S. Code, § 2430(d)(1) states that the SAE will be the milestone decision authority for MDAPs reaching Milestone A after October 1, 2016 unless an alternate milestone decision authority is designated by the Secretary of Defense. While the DoD has yet to exercise the option to designate an alternate milestone decision authority, maximizing Service-level authority over programs, including the ability to delegate ACAT I programs where feasible, will streamline decision-making and help keep programs on track. Lowering the level milestone decision authority is a decisive factor in accelerating capability development, as demonstrated by other acquisition organizations (e.g., Missile Defense Agency) with similar authority and three-star Program Executive Officers. Milestone decision authority within the DAF, with authority to delegate subsequently, will enable the USSF to accelerate program decision speed, operate as an enterprise, execute according to priorities, and utilize resources in the most appropriate areas.

- Authority: **This feature requires legislative change** to 10 U.S. Code § 2430 and 10 U.S. Code § 2302(d), which would result in a change to DoDI 5000.02T ACAT thresholds.

2. "Efficient Space Procurement (ESP)" Codification for the DAF/USSF

- Precedent: There is precedent for an evolutionary block-upgrade approach to production satellites, sometimes referred to as "Efficient Space Procurement (ESP)," in the FY 2012 and FY 2013 NDAAs for the United States Air Force (USAF) Advanced Extremely High Frequency (AEHF) vehicles 5 and 6 and the USAF Space-Based Infrared System (SBIRS) vehicles 5 and 6 programs. ESP combined the synergies of cost savings through a block buy with the ability to overcome historical challenges resulting from program spikes in procurement accounts through incremental funding,

and well defined guardrails for execution. Unlike previous block buy strategies in space procurement, the ability to incrementally fund satellite procurement under ESP enabled DoD to avoid Future Years Defense Program (FYDP) funding perturbations, which could otherwise lead to costly production breaks due to affordability challenges. The language included safeguards that limited contract type to Firm-Fixed Price, limited contract period to six years, required the Limitation of Government Obligation clause, and established not to exceed values for each contract. The SBIRS Report to Congress dated September 2014 indicated a 37% savings, over $1.5 billion, utilizing ESP. The Office of the Secretary of Defense (OSD) Cost Assessment and Performance Evaluation office estimated AEHF yielded a 42% savings, approximately $1.6 billion, utilizing the ESP block buy approach, along with contractor cost savings efforts and other initiatives. Codifying the use of ESP for USSF satellite procurement would provide the primary benefit of eliminating production breaks driven by FYDP constraints and the ability to achieve significant cost avoidance and other program efficiencies. **Reducing space portfolio constraints via incremental funding is the third most important recommendation in this report.**

- Requirement: The USSF should have the ability to incrementally fund procurement of space systems and space services, consistent with the ESP authorities approved in the FY 2012 and FY 2013 NDAAs and successfully demonstrated by the programs listed above. However, there are other alternatives to resolve the challenges of full funding policy. For example, DoD 7000.14-R, Volume 2a allows that the first two satellites "…may be financed with either Research, Development, Test and Evaluation (RDT&E) or Procurement appropriations..." Given the growing vulnerability of existing satellite architectures to evolving threats, this could be expanded to provide that "…all satellites may be financed with RDT&E, except in high-rate production environments where satellites are purchased in large quantities within a single year against highly stable technical baselines in automated production environments." In those cases, the well-defined ESP guardrails may equally apply to protect against cost and schedule growth or increasing quantities without approval.

- Rationale: The requirements and safeguards inherent in the authorities in the FY12 and FY13 NDAAs enabled the Department to commit to a stable design for a block of satellites and begin procurement of two satellites in a single year. This approach was directly enabled by the incremental funding feature in this block buy approach. Full funding each satellite in a space system has historically led to affordability challenges due to FYDP funding spikes in procurement accounts and can lead to production breaks, obsolescence, and industrial base impacts. ESP allows the procurement of costly end items to be spread out over multiple years through incremental funding resulting in a more efficient funding stream and significant cost avoidance. Requesting approval on a program-by-program basis (ad-hoc) is time-consuming and disruptive to programming. The USSF would work to define formal criteria that, when codified, will enable a consistent approach.

- Authority: **This feature requires legislative change** with language similar to that of FY 2012 and 2013 NDAAs to codify ESP for the USSF.

3. USSF-Unique "New Start" Notification Procedures

- Precedent: There is limited precedent for a process within NRO for more streamlined New Start notification procedures that are less restrictive than those prescribed by DoD 7000.14-R, which disallows "letter notification" for RDT&E new starts of $10 million or more and new procurements of $20 million or more—even when no reprogramming is required. The primary benefit of this recommendation is faster coordination cycles and mitigation of continuing resolution (CR) impacts for new starts where no congressional defense committee has "marked" the applicable program.

- Requirement: The DAF/USSF should provide a direct submission of letter notifications to Congress for all new starts that do not require an above threshold reprogramming action, with concurrent coordination of this letter through OSD and the Office of Management and Budget (OMB). This policy would apply to both acquisition programs and other prototyping efforts following the example of the Joint Capability Technology Demonstration (JCTD) program, which uses similar procedures to work with Congress on year of execution changes. Letter notification would initiate a 30-day review timeframe with corresponding congressional defense committees for approval or disapproval, with "no reply" signifying consent. This approach should also apply during CR to programs that have not received a congressional mark but need to execute a new start during CR.

- Rationale: In a threat-driven environment in which the USSF is rapidly fielding space capabilities, months-long delays can damage execution. This change would afford the USSF the ability to pursue urgent and time-dependent efforts in response to changing space threats and opportunities both in the event of CR and during year of execution. The USSF recognizes the need to support this ability with rigorous and robust interaction as well as regular strategic communication with professional staff members.

- Authority: **This feature requires legislative change** through language in the DoD Appropriations Act allowing new starts during CR as well as change to OSD Comptroller policy DoD 7000.14-R.

Alternative Space Acquisition System – Required Internal DoD/DAF Features

The final six features in this report do not require legislative change to begin immediate implementation, but do require some form of DoD or DAF direction and action. They are included in this report to congressional defense committees for completeness and to demonstrate the overall integration of the Alternative Space Acquisition System. The DAF is collaborating with OSD to achieve features four through seven, and intends to implement DAF-internal features eight and nine.

4. Budget Line Item Restructure

- Precedent: There is limited precedent in the Strategic Capabilities Office (SCO), Department of the Air Force Rapid Capabilities Office (DAF RCO), SpRCO, National

Oceanic and Atmospheric Administration, and classified Air Force and Space Force programs for fewer budget line items (BLIs). The USAF submitted some consolidation of BLIs in the FY 2021 President's Budget. This represents a more comprehensive approach for USSF. The primary benefits are enabling rapid responses to emergent threats in the year of execution that drive a need for realignment of funds and increasing overall space purchasing power through more efficient financial management at the portfolio level. Space will be a dynamic move-countermove environment as new space warfighting paradigms evolve. Managing space programs at the portfolio level will allow the USSF to evolve more effectively for the warfighter and more efficiently for the taxpayer. **Consolidating BLIs to manage USSF space programs at portfolio levels is the most important recommendation in this report.**

- Requirement: The DAF should consolidate BLIs based on mission portfolios (e.g. Missile Warning and Defense, Communications and Navigation, Offensive Space Control, Defensive Space Control, Launch and Mission Support). This approach ensures maximum budget execution flexibility to manage requirements across capability areas and space system architectures. OSD, OMB, and congressional defense committee equities, along with transparency at the program level, would be preserved through an appropriate coding structure below the legal limitation with supplemental reporting in addition to 1002 reports. Authority to realign funding between Budget Program Activity Codes (BPACs) would be set at appropriate levels.

- Rationale: A significant BLI consolidation would enable agility in the execution year to rapidly respond to emerging threats and evolving requirements. Additionally, it would optimize allocation of investment funding through budget realignment without time-consuming reprogramming actions, leading to more effective portfolio financial management. This structure would enable program managers to resolve emergent funding issues, such as quickly adjusting to evolving threats or responding to changes in programmatic risk in a way that maintains capability delivery schedules. A consolidated BLI structure overcomes the need for increased reprogramming thresholds, while lower level budget coding and routine reporting would provide transparency to Congress for individual program funding levels within a capability area. To maintain transparency, this structure would provide opportunity to revise the type—and increase the frequency of—information flow to OSD, OMB, and the congressional defense committees through revised reporting tools. SMC and USSF Chief Information Officers are evaluating a potential "digital HQ" pilot with SAF/AQ that leverages existing tools and provides on-demand, web-based access to program status for OSD, OMB, and Congress.

- Authority: This feature does not require legislative change and can be accomplished through an OSD policy change. This feature would require agreement from the defense appropriations committees to appropriate funding according to a new BLI structure used in the DAF budget request.

5. Modified JCIDS Approach for Space Systems

- Precedent: This feature is in line with revamped 2018 JCIDS guidance codified in Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5123.01, which permits flexible and streamlined options for joint requirement validation. This flexible and streamlined approach will allow the USSF to be more responsive to changes in the threat environment or innovative opportunities.

- Requirement: The DAF/USSF should execute JCIDS and associated Service-level requirements development approaches that focus Joint Capabilities Board (JCB) and Joint Requirements Oversight Council (JROC) requirement validation for Space Force capabilities on broad joint military requirements or high-level Joint Performance Requirements (JPRs). These joint military requirements or JPRs should reflect only the highest level capability attributes, not detailed system parameters. The Chief of Space Operations (CSO), or delegate, should be the validation and allocation authority for specific system parameters corresponding to JPRs to fulfill overarching JROC-validated mission needs.

- Rationale: Combatant Command feedback is valuable for cross-domain integration of space capabilities across the Joint Force and synchronization of space-ground-user elements of Space Force Enhancement missions. Similarly, USSF participation in the JROC ensures this process fulfils its statutory responsibilities assisting the CJCS in assessing joint military capabilities, prioritizing gaps, validating capability solutions, and establishing and approving JPRs. However, the JCB/JROC should limit requirement validation to high-level attributes of these capabilities, not detailed system specifications. For example, Missile Warning functional requirements could be satisfied by a variety of space-based or ground-based solutions with various system specifications. Current processes focus on Key Performance Parameters and drive early, specific, and constraining Materiel Development Decisions and Capability Development Documents (CDDs). In addition to being administratively burdensome, these processes often eliminate innovative or alternative solutions prematurely. High-level validation of capability attributes would provide flexibility to allocate or modify system specifications in response to threat changes or innovative opportunities, thereby allowing the warfighter and acquirer to jointly manage operational risk. The CSO will be the owner of all USSF requirements, and the USSF should correspondingly implement lean, Service-specific requirement processes that will dramatically reduce administrative burden and further streamline the requirements process.

- Authority: This feature does not require legislative change. Requirement validation authority policy in CJCSI 5123.01, Charter of the JROC and Implementation of the JCIDS, is sufficient to provide flexible and streamlined options for JCB/JROC-validated broad Space Force capability requirements and prioritized gaps that are risk-informed. With the current focus on JPRs, sponsors can submit CDDs that include JPRs as strategic requirements and delegate oversight of system design specifications to the Services. This feature will require USSF to implement Service-specific

requirements processes feeding JROC/JCB that similarly focus on broad joint military requirements or high-level capability attributes.

6. New Policy Regarding Key Decision Points and Reporting Requirements for Development, Fielding, and Sustainment of Space Systems

- Precedent: There is limited precedent for this feature. Most space systems developed according to DoDI 5000 require tailoring to better align Milestones A/B/C to appropriate decision points in the development of space systems. National Security Space Acquisition Policy 03-01 attempted space-specific Key Decision Points (milestones), but it was not designed to enhance program execution by tailoring program requirements for efficiency and agility. Building a new space system acquisition policy would provide the benefit of a decision framework that requires less tailoring, focuses on improving efficiency and agility throughout the life cycle, and provides more relevant up-front guidance for efficient and effective space system development.

- Requirement: The SAE, in partnership with OSD, should establish space system acquisition policy in the form of a space system-specific pathway within the DoD Adaptive Acquisition Framework (DoDI 5000.02) that sets clear guidance for USSF space system program management. This policy would establish gated decision points separate from the current Milestone A/B/C construct that are most appropriate for development, fielding, and sustainment of space systems. Furthermore, it would outline the minimum reporting requirements necessary to preserve OSD and congressional oversight, while reducing administrative burden and streamlining space program acquisition. In conjunction with the creation of a space system-specific pathway in the Adaptive Acquisition Framework, the DAF should also work with OSD to seek legislation, where appropriate, that codifies appropriate decision events and tailored reporting requirements for space programs.

- Rationale: Space system segments have distinct acquisition characteristics and risks that must be considered when optimizing the acquisition approach. Typical space vehicle programs are low quantity, high cost efforts that are executed with lower risk tolerance since they lack the ability to retrieve and repair. Space vehicle programs must also make design choices much earlier than other programs. Later decision points, like Milestone C, often provide little design change but can result in gaps between contracts and added cost to the government. Other traditional decision reviews, such as Low-Rate Initial Production and Full-Rate Production, typically do not apply to space vehicle segments whatsoever. As a result, traditional major systems acquisition models with significant procurement phases are often not suitable or require significant tailoring to address the unique attributes of space vehicle programs. Current acquisition policy authorizes some tailoring, like combined Milestone B/C decisions (development and production) for low quantity, high cost systems, yet the data products supporting these reviews are often single-use and require a high level of staffing, increasing decision timelines. The distinct acquisition characteristics and risk postures for different types of space programs drive the need for a refined acquisition approach that

better aligns decision points and documentation within the life cycle of a space program. The Adaptive Acquisition Framework is designed to provide the flexibility to address these distinct attributes and the risks associated with the acquisition of space systems. This framework could benefit from a space system-unique pathway that establishes a pre-tailored set of decision points, reviews, and requires minimal documentation necessary for appropriate OSD and congressional oversight. Custom and single-use documents for these decision points could be dramatically minimized in favor of real-time, native-form program data in order to improve transparency and minimize decision timelines while preserving OSD and congressional oversight.

- Authority: The SAE should develop new acquisition policy outlining decision points and reporting requirements as a space system-specific pathway within the Adaptive Acquisition Framework, and seek future legislation, where appropriate, to modify decision points and reporting requirements outlined within 10 U.S. Code, notably § 2366(a) and § 2366(b). A new Adaptive Acquisition Framework pathway should be developed in partnership with OSD and in consultation with the SAC, CSO, federally funded research and development centers (FFRDCs), academia, and industry.

7. "Useable End Item" Determination Authority

- Precedent: There is limited precedent for defining useable end items below the system level. This feature expands on that precedent even further. The primary benefit of this recommendation is that it enables the DAF to define useable end items in a way that encourages the pursuit of open architectures, innovation, robust supply chains, and greater commercial and international partnering opportunities.

- Requirement: For the purpose of budget planning, the DAF should make "end item" determinations on a case-by-case basis. Application of full-funding policy to "useable end items" within DAF/USSF acquisitions would include space system payloads, subassemblies, ground equipment, and components (up to complete space vehicles) to allow for innovative contractual and funding approaches to acquire lower level elements of a modular, open systems architecture.

- Rationale: Increased allied and commercial partnership, new suppliers, and commoditization drives necessary changes to the definition of end-items within an integrated space architecture (e.g., payloads versus an integrated bus). This feature would create inherent funding flexibilities and mitigate historical FYDP full funding "spikes." Additionally, this feature would enable the USSF to deliver government-developed payloads for hosting within commercially developed mega-constellations in Low Earth Orbit. This feature also provides agility to synchronize elements within a mission/capability area.

- Authority: This feature does not require legislative change but drives changes to OSD policy that defines end items (DoD 7000.14-R) and congressional defense committee expectations. Allowing the DAF to make end item determinations on a case-by-case basis may warrant clarification through legislation.

8. Separate USSF Topline Budget

- Precedent: There is no precedent for this feature. The primary benefit of creating a separate USSF topline, separate corporate process, and a separate portfolio management process within USSF is increased budget stability and a portfolio management function for FYDP and budget years closely aligned to USSF leadership.

- Requirement: The DAF has established a separate USSF topline developed independently of the USAF Service's corporate process, with an appropriate and independent supporting panel structure, responsible for a separate Program Objective Memorandum (POM) submission to OSD. While USSF and USAF received separate fiscal guidance, the Secretary of the Air Force retains the authority to determine if resources need to move from one Service to the other. This determination will be the exception, rather than the rule.

- Rationale: An independent budgeting process and separate USSF topline provide for budget stability in planning and increased flexibility across sustainment and modernization, both during the formal POM cycles and off-cycle when rapidly evolving changes are required.

- Authority: This feature has been accomplished internally to the DAF through the establishment of a separate USSF topline created and managed independently from the USAF Service's corporate process.

9. USSF-Unique Head of Contracting Activity (HCA)

- Precedent: There is precedent for HCA designation and delegation within an Agency. SAF/AQCS has been designated HCA for the Department of the Air Force Rapid Capabilities Office (DAF RCO), and the Director of the Office of Contracts has been designated HCA within the NRO. HCA delegation within an Agency has the benefit of greatly streamlining and speeding contract decisions.

- Requirement: The USSF should establish an HCA within its Service-level acquisition command, independent from the USAF HCA, and adhere to both the Federal Acquisition Regulations (FAR) and Defense FAR Supplement (DFARS), but not the Air Force FAR Supplement (AFFARS). In lieu of AFFARS, the USSF HCA should hold the authority to develop supplemental space acquisition guidance—and deviate from the DFARS—as necessary.

- Rationale: To drive speed, the USSF must hold the Service-level responsibility for Service contracting activity. With HCA residing within the USSF, any supplemental guidance will be kept to a minimum, codifying for the USSF only the mandatory FAR/DFARS requirements, similar to the NRO Acquisition Manual (NAM) and Missile Defense Agency Directive 5013.01 approaches. The authority to deviate from or waive DFARS requirements will accelerate and expand opportunities to leverage

emerging industry capabilities and innovations from partners traditionally hesitant or unwilling to work with the Government.

- Authority: This feature will be accomplished internally to the DAF by the Secretary of the Air Force establishing a USSF-specific HCA, separate and distinct from other HCAs within the Department. The Secretary of the Air Force will also waive the USSF from the AFFARS, giving the HCA for USSF the authority to develop supplemental space acquisition guidance as necessary.

Implementation of the Required Statutory and Policy Features

Collectively, these nine features form a credible, immediate, and feasible foundation for a new acquisition system that can operate in concert with DoD 5000-series acquisition. Only three features require legislative change. The DAF/USSF recognizes that several of these features represent a significant shift from current authorities and processes. The DAF/USSF intends to work with OSD, OMB, and congressional defense committees to develop collaborative implementation solutions that preserve transparency and oversight while enabling streamlined and accelerated acquisition.

To effectively implement the new authorities requested herein, the DAF will need to implement changes to existing processes and to its overall governance framework. Separate from the requested authorities, the DAF would also like to study possible future organizational design changes—including the pros and cons of one versus two department SAEs—that are needed to ensure the DAF/USSF is best postured to execute swiftly and in a manner that ensures the appropriate controls and oversight to support sound governance practices are in place. The output of these studies will be submitted for congressional review and approval next year.

Additional DAF/USSF Space Acquisition System Elements

The DAF also identified several additional Service and DoD-level elements that will further enable agility, synchronization, and accelerated capability delivery.

- **Improve Synchronization across Space Vehicle, Ground System, and User Terminal Elements of Space Capabilities** – The DAF recognizes the persistent challenge of synchronizing all elements of space capabilities. This challenge is further heightened when different Services or Agencies control development of separate space system segments. In 2016, the Government Accountability Office (GAO) found that fragmentation in management and oversight of space systems directly contributed to synchronization issues, including what was then a "10-year gap between the delivery of GPS satellites and user equipment" [GAO-16-592R]. This GAO report included the following recommended principles for improving space system synchronization:

    - Unified leadership and decision-making
    - Improved coordination between defense space entities
    - Streamline acquisition decision reviews

- Delegate more decision-making authority to lower levels
- Increase the unity of effort between DoD and the NRO
- Provide sufficient acquisition, execution, and budget authority

The nine statutory and policy features of the Alternative Space Acquisition System directly enhance the above principles by streamlining and delegating acquisition decision-making and improving resource stability and flexibility. The creation of the USSF, the ASAF SA&I, and the SAC will also improve coordination between all DoD space entities, including SDA, SMC, and SpRCO, while staying in close coordination with the DAF RCO. Ultimately, the Secretary of the Air Force's responsibilities under 10 U.S. Code § 9013 should include the responsibility and authority for "effective management of acquisition and integration of DoD space systems and programs in order to ensure integration across the National Security space enterprise." Such clear authority would ensure all DoD space systems are truly integrated and moving toward a common architecture. This authority would reduce gaps and leave redundancies only where planned and yet not mandate single service acquisition of ground systems or user terminals. Until such clear authority is granted, the DAF intends to use the SAC to highlight and address synchronization concerns across the space enterprise. The DAF will continue to explore ways to improve space system synchronization with FFRDC input and will provide those recommendations to the SAC at a later date.

- **Enhance DAF/USSF Human Capital Development –** The DAF recognizes that its military, civilian, and contractor workforce is its most valuable asset. To ensure continued space superiority, it is essential the USSF has the necessary technical talent to design, acquire, and operate space-based capabilities across all warfighting domains. With this focus, the USSF will deploy a dedicated human capital strategy to build a diverse, innovative, empowered, and warfighter-focused acquisition workforce armed with the experience and expertise necessary to rapidly field new space capabilities. The DAF/USSF will grow and cultivate excellence in its acquisition human capital by pursuing ways to increase technical depth, provide career broadening opportunities, work with academia and industry to access and share talent, and drive cultural change to take full advantage of existing and requested acquisition authorities and processes.

- **Engage Commercial Industry to Achieve More Rapid Fielding of Space Systems** – The vast majority of current investment and innovation in the space domain is being done by private industry. Going forward, the DAF/USSF will remain closely tied to private industry to quickly capitalize on new breakthroughs. The USSF will build upon recent successes in partnering with the commercial space industry and leveraging industry investments, best practices, and innovations, such as the development, security, and operations (DevSecOps) software development framework, with a keen eye to rapid delivery of next-generation technologies. Recent successful industry partnerships include Space Pitch Day, Space Ventures, the Space Enterprise Consortium, and the Rapid Agile Launch Initiative, where the Government is employing other transaction authorities, cost sharing agreements, and other innovative business arrangements to unlock untapped capabilities. The USSF is also creating a Space Domain Awareness Marketplace, which will expand opportunities for small businesses to develop capabilities for the DoD as

trusted vendors, as well as partner with each other. The USSF will expand these innovative business arrangements even further; as discussed above, this authority will reside with the USSF HCA. Lastly, the DAF/USSF will continue implementing the FY 2016 Section 809 Panel's recommendations to better leverage the dynamic space marketplace.

- **Ensure Greater Alignment between National Reconnaissance Office and Department of the Air Force Space Architectures, Systems, and Programs –** The DAF also notes a requirement for the Secretary of the Air Force to provide a report on NRO and Air Force Acquisition Authority integration, due this month. This report is being submitted in satisfaction of that Congressional Reporting Requirement. The survey of acquisition organizations that informed this report identified several NRO acquisition authorities, best-practices, and processes that became the basis for several of the statutory and policy features outlined above. NRO acquisition policies and authorities similarly achieve many of the goals of the USSF Alternative Space Acquisition System, including modified requirement generation and validation as well as delegation of acquisition decision authority.

  More holistically, the NRO acquisition model includes integrated architecture and systems engineering processes, leading edge technology development and program insertion, rapid development of space control-like capabilities, unique contracting and industry partnerships, and large scale system development, production, launch, and sustainment activities spanning vast geographic boundaries. This model closely aligns with the current model utilized by SMC. Analysis of the NRO model is ongoing, with further recommendations and deeper adoption possible in the future. Adopting the nine features of the Alternative Space Acquisition System now will help the DAF match pace and more closely integrate with NRO space system development, while further improving touchpoints across DoD, the IC, and international space architectures. At this time, the DAF does not see merit in changing the current use of the Economy Act to facilitate movement of funding between the NRO and DAF to enable partnering efforts.

  Finally, as FY20 NDAA-directed members of the SAC, the Director of the NRO, CSO, and the Commander of U.S. Space Command (CDRUSSPACECOM) can and should routinely review and discuss opportunities for space architecture alignment, DoD/IC architecture synergy and touchpoints, shared mission needs, proposed joint programs, and program status, along with 'protect and defend' mission responsibilities, to continue tight organizational alignment across this expanding DoD and IC partnership. Greater alignment between the USSF and NRO will also occur through regular senior leader forums, current joint acquisition programs, ongoing investment and partnering across the National Security Space Launch Enterprise, personnel development and career paths across numerous military disciplines, and shared mission responsibilities at both the Space Security and Defense Program and the National Security Defense Center. NRO participation in the SAC may also enable increased cooperation and coordination across National Security Space programs. These partnership strides have surpassed simple acquisition integration, expanding across the entirety of the space system life cycle of

capabilities. Continued assured access to, from, and through space depends upon a determined and focused relationship between the NRO and DAF now and going forward.

- **Review Current Capabilities and Plan Toward a National Space Test and Training Range –** The DAF/USSF will develop a high-fidelity test and training capability that will build an accurate and in-depth understanding of each weapon system's effectiveness for Combatant Commander employment. This test and training capability will also provide support to acquisition activities, inform resource adjustments, and mitigate operational risk. Ultimately, this high-fidelity test and training capability will enable more rapid fielding of critical capabilities and will redefine space warfighting mission assurance in a contested environment to ensure resiliency across space capability mission areas.

- **Improve DAF/USSF Software Development and Use –** The DAF and USSF recognize the need to develop, procure, assure, deploy, and continuously improve software faster than our adversaries can. In May 2019, the Defense Innovation Board (DIB) reported that DoD software efforts in general take too long and cost too much to adequately support warfighting systems in the long run. The DAF/USSF will implement the DIB's recommendations to change regulations, processes, and culture, implementing agile DevSecOps methods Service-wide. Already implemented in several DAF/USSF programs, agile software processes prioritize speed and cycle time, allowing programs to pivot quickly and respond to threat-focused changes in requirements. These processes also allow closer interaction between developers and warfighters earlier in the development cycle, greatly improving threat-based risk management. Software development should also leverage a fundamentally different acquisition model, which recognizes that software is continuously evolving and utilizes a single software appropriation concept to remove arbitrary delineations between development and sustainment phases. The DAF/USSF recognizes that OSD has made significant progress reforming DoD software acquisition through the development of a software-specific pathway in the Adaptive Acquisition Framework (DoDI 5000.02, Section 4.2). The DAF/USSF will build upon this progress by further institutionalizing agile development. Finally, the DAF/USSF will expand upon its current innovative efforts to grow native government software development talent in integrated government/industry software product teams. The USSF's digital-era approach to software development will enable rapid and iterative delivery, equipping warfighters with the software tools they need for mission success.

Conclusion

Peer adversaries are actively delivering hostile space capabilities unencumbered by requirements, funding, acquisition, policy, or political restraint. Outpacing these adversaries requires a new level of partnership between Congress and the DoD to minimize U.S. restraints, leverage our innovative industrial base, and preserve the strategic advantages that our space capabilities afford while maintaining accountability to the American public.

Our nation requires a bold Alternative Space Acquisition System that not only matches the pace of change but also manages unpredictability and regularly disrupts our adversaries' threat cadence. The features outlined in this report will create a new space acquisition approach for the USSF that is the envy of all other services and ultimately enables the USSF to rapidly leverage industry innovation to outpace space threats. The USSF is prepared to fully implement all authorities provided, while continuing to integrate feedback from academia, FFRDCs, technical advising firms, and industry. The USSF may recommend further organizational change, as warranted, to best implement the Alternative Space Acquisition System.

The DAF stands ready, welcomes a robust discussion, and seeks universal adoption of this Alternative Space Acquisition System.

Annex A

	FEATURE	GOAL: Streamline Requirements Validation	GOAL: Accelerate Decision Speed	GOAL: Maximize Budget Execution Stability, Flexibility & Efficiency	GOAL: Increase Program / Capability Efficiency	GOAL: Accelerate Contracting speed
	USSF Alternative Acquisition System - Proposed Legislative Changes					
1	Unique ACAT Thresholds, MDAP Definition, and MDA Delegation for Space Systems		X		X	X
2	"Efficient Space Procurement (ESP)" Codification for the DAF/USSF			X	X	
3	USSF-Unique "New Start" Notification Procedures		X	X	X	X
	USSF Alternative Acquisition System - DoD Policy Changes					
4	Budget Line Item Restructure		X	X	X	X
5	Modified JCIDS Approach for Space Systems	X	X		X	
6	New Policy Regarding Key Decision Points and Reporting Requirements for Space Systems		X	X		
7	"Useable End Item" Determination Authority			X	X	X
	USSF Alternative Acquisition System - DAF Internal Changes					
8	Separate USSF Topline Budget			X	X	
9	USSF-Unique HCA		X	X		X

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