United States Government Accountability Office

Report to Congressional Committees

August 2015

EVOLVED EXPENDABLE LAUNCH VEHICLE

The Air Force Needs to Adopt an Incremental Approach to Future Acquisition Planning to Enable Incorporation of Lessons Learned

GAO-15-623

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GAO Highlights

Highlights of GAO-15-623, a report to congressional committees

Why GAO Did This Study

The Air Force's EELV program is the primary provider launches for military and intelligence satellites. The Air Force is working to introduce competition into the program, which for almost 10 years had one company capable of providing launches. In working to introduce competition into launch contracts, the Air Force is changing its acquisition approach for launch services, including the amount of cost and performance data that it plans to obtain under future launch contracts.

Given these expected changes, the National Defense Authorization Act for Fiscal Year 2015 included a provision for GAO to examine this new approach. This report examines the (1) Air Force's new approach for competing launches, the resulting changes on the types of cost or performance data required and commensurate business systems needed compared to what is currently required of the incumbent contractor, and the benefits and drawbacks of this approach; and (2) risks the Air Force faces when planning for future launch acquisitions. To address these questions, GAO reviewed acquisition documents and the contract request for proposals, and interviewed DOD and contractor officials.

What GAO Recommends

GAO recommends that, when planning for the next phase of competition for launches, the Air Force use an incremental approach to the next acquisition strategy to ensure that it does not commit itself to a strategy until data is available to make an informed decision. DOD concurred with the recommendation.

View GAO-15-623. For more information, contact Cristina Chaplain at (202) 512-4841 or chaplainc@gao.gov.

What GAO Found

The Air Force intends to make significant changes to its acquisition approach for acquiring launch services under the Evolved Expendable Launch Vehicle (EELV) program which will alter its current access and insights into certain cost and performance data. The United Launch Alliance (ULA)—EELV's incumbent provider—currently provides national security space launch services under a cost-reimbursement contract for a non-commercial item. Under this type of contract, the Air Force is able to obtain from ULA cost and performance data from contractor business systems. The Air Force uses this business data for a variety of purposes, including monitoring contractor performance and identifying risks that could affect the program's cost, schedule, or performance. However, for at least the first phase of future launches, the Air Force chose to change its acquisition approach to procure launch as a commercial item using a firm-fixed-price contract, which will prevent the service from collecting business data at the same level of detail. As a result, the Air Force will have significantly less insight into program costs and performance than what it has under the current contract with ULA, though according to the Air Force the level of information gathered is sufficient for monitoring launch costs in a competitive environment.

The acquisition approach chosen for the first competitive launches offers some benefits to the government, including increased competition, but it could limit program oversight and scheduling flexibility. The Air Force asserts that the use of full and open competition procedures in a commercial item acquisition will increase the potential to keep more than one launch company viable. The Air Force's use of commercial item contracts eliminates the need for contractors to develop the business systems associated with a cost-reimbursement contract and generally places greater responsibility upon the contractor for cost control. However, the Air Force has struggled with EELV program management and lack of oversight in the past, and removing the requirement for cost and performance data could leave it vulnerable to similar problems in the future. Also, the first competitive contracts will limit the Air Force's flexibility in modifying its launch schedule, and schedule changes resulting from satellite production delays may result in added costs. Satellite delays have historically been an issue for the program, and the Air Force's ability to modify the launch schedule is an important component of the current acquisition approach with ULA.

The Air Force is at risk of making decisions about future EELV acquisitions without sufficient knowledge. The Air Force plans to develop an acquisition strategy for the next phase of competitive launches before it has any actionable data from the first competitive launches. In addition, the Air Force views competition as crucial to the success of its new acquisition strategy, yet the viability of a competitive launch industry is uncertain. The launch industry is undergoing changes, and the ability of the domestic industry to sustain two or more providers in the long-term, while desirable, is unclear. Additionally, only one company is currently certified to compete with ULA for national security launches, and there are no other potential competitors in the near future. To adequately plan for future competitions and ensure informed decision making before committing to a strategy, it will be important for the Air Force to obtain knowledge about its new acquisition approach and on the launch industry.

Contents

Abbreviations

CAPE	Cost Assessment and Program Evaluation
CCD	Contractor Cost Data
CLIN	Contract Line Item Number
DCAA	Defense Contract Audit Agency
DCMA	Defense Contract Management Agency
DOD	Department of Defense
EELV	Evolved Expendable Launch Vehicle
ELC	EELV Launch Capability
ELS	EELV Launch Services
EVM	Earned Value Management
EVMS	Earned-value Management System
FAR	Federal Acquisition Regulation
GPS	Global Positioning System
GTO	Geosynchronous Transfer Orbit
MMAS	Material Management and Accounting System
MUOS	Mobile User Objective System
NASA	National Aeronautics and Space Administration
NDAA	National Defense Authorization Act
PWS	Performance Work Statement
RFP	Request For Proposal
ULA	United Launch Alliance

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August 11, 2015

Congressional Committees

The Air Force's Evolved Expendable Launch Vehicle (EELV) program is the primary provider of U.S. national security space launches for the Department of Defense (DOD) and the intelligence community. Space launch is essential for placing critical U.S. government assets on orbit, such as navigation, reconnaissance, weather, and military communications capabilities. For almost 10 years, the program has been awarding contracts for space launches to a single incumbent provider, the United Launch Alliance (ULA), because the U.S. launch industry did not include any other qualified companies able to compete for national security launches. In recent years, the prospects for competition for national security launches have been improving, with several companies working to become certified to compete for national security launches. In 2014, the Air Force established an acquisition approach to compete launches among multiple providers.

Business systems in the EELV program are an important tool by which the Air Force has insight into the program's costs and performance, vital aspects of this multi-billion-dollar national security program. The National Defense Authorization Act for Fiscal Year 2015 included a provision for us to assess the advisability of the Secretary of Defense requiring that new entrant launch providers or incumbent launch providers establish or maintain business systems that comply with the data requirements and cost accounting standards of the Department of Defense.[1] This report examines the (1) Air Force's new approach for competing launches, the resulting changes on the types of cost or performance data required and commensurate business systems needed compared to what is currently required of the incumbent contractor, and the benefits and drawbacks of this approach; and (2) risks the Air Force faces when planning for future launch acquisitions.

[1] Carl Levin and Howard "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015, Pub. L. No. 113-291 § 1609 (2014).

To address these objectives, we reviewed past and current EELV program contracts and examined the cost reporting requirements. We also reviewed and analyzed past EELV program acquisition strategies. We received several briefings from the contractor and DOD contract oversight organizations. We also conducted several interviews with the Air Force and offices within the Office of the Secretary of Defense. To determine the Air Force's contracting strategy for the first competitive EELV launches, we examined the launch Request for Proposals issued in 2014, which was later canceled, as well as the National Space Transportation Policy of 2004 and 2013, parts 12 and 15 of the Federal Acquisition Regulations (FAR), and the Commercial Space Act of 1998. We interviewed DOD contracting officials and acquisition strategy officials at the Air Force and the EELV Program Office, as well as received briefings from contractors who bid or were expected to bid on the first competitive contract and a contractor that has expressed interest in competing for national security launches, including ULA, Space Exploration Technologies, Inc. (SpaceX), and Orbital Sciences Corporation. To determine the benefits and drawbacks of the Air Force's approach for competing launches, we conducted interviews with and analyzed information from acquisition and contracting officials at the Office of the Secretary of Defense Cost Assessment and Program Evaluation, the Office of the Under Secretary Defense for Acquisitions, Technology, and Logistics, the Office of the Assistant Secretary of the Air Force for Acquisitions, and the EELV program office. We analyzed launch and contracting data provided by officials at the National Aeronautics and Space Administration (NASA) to understand their cost data requirements in commercial contracts with launch providers. We also interviewed senior officials at various DOD launch offices, and launch service providers including ULA, SpaceX, and Orbital Sciences Corporation. We also reviewed past GAO reports on EELV acquisition and contracting strategies and best practices to assess the Air Force's acquisition planning.

We conducted this performance audit from September 2014 to August 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Additional details of our scope and methodology are discussed in appendix I.

Background

The Air Force initiated the EELV program in 1995 to develop a new generation of launch vehicles to provide assured, affordable access to space for government satellites. After 3 years of funding preliminary system designs from four contractors, the Air Force competitively awarded two $500 million "other transaction agreements" to McDonnell Douglas (before it merged with Boeing) and Lockheed Martin for the development of EELV launch vehicles and launch infrastructure.[2] Simultaneous with its execution of the other transaction agreements, the Air Force also competitively awarded firm-fixed-price contracts, one to each contractor, to procure 28 launches. These firm-fixed-price launch services contracts were awarded under the FAR provisions governing commercial items—FAR Part 12. As a result of procuring the launch services as commercial items, under the FAR, the Air Force could not request certified cost or pricing data from the contractor.[3] In addition, as a general rule, when procuring a commercial item, the FAR requires an agency to use a firm-fixed-price contract.[4] At the time of award, the launch services contracts had a combined value of about $2 billion.

In 2000, new market forecasts showed that the demand for commercial launch services upon which the Air Force based its EELV acquisition strategy would not materialize and the Air Force was anticipated to be the majority customer for both launch services companies. In 2005, the Air Force revised the EELV acquisition strategy to reflect the changes in the commercial market and the new role of the government as the primary EELV customer. This revised strategy provided two contracts apiece to Boeing and Lockheed Martin, the two launch service providers. One, called the EELV launch services (ELS), was a fixed-price contract that covered the launch vehicle hardware and labor directly associated with building and assembling the launch vehicles. The second contract, called the EELV launch capability (ELC), was cost-reimbursable and covered the cost of maintaining the ability to launch when needed and funded

[2] Other transaction agreements are transactions that are other than contracts, grants, or cooperative agreements that are generally not subject to federal laws and regulations applicable to contracts, grants, or cooperative agreements. DOD used other transaction agreements to provide flexibility in accommodating the unique needs of the EELV program and the government.

[3] FAR § 15.403-1(b)(3).

[4] FAR § 12.201(a).

items such as overhead on launch pads and engineering support.[5] These contracts were negotiated under FAR Part 15, which allowed the contracting officer to obtain data, including cost data, from DOD-approved contractor business systems, data previously unavailable for this program.[6]

In May 2005, Boeing and Lockheed Martin announced plans to form a joint venture that would combine the production, engineering, test, and launch operations associated with U.S. government launches of Boeing's Delta IV and Lockheed Martin's Atlas V launch vehicles. According to both contractors, the joint venture, named the United Launch Alliance (ULA), would gain efficiencies and provide the government with assured access to space at the lowest possible cost by operating independently as a single company and providing launches on both Atlas V and Delta IV vehicles. Assured access to space, a concept codified in both policy and law, means that DOD must strive to have at least two space launch vehicles or families of launch vehicles capable of delivering any national security space payload into space, so that if there is a problem with one launch vehicle family, DOD retains access through the other family.[7] ULA officially began operations in December 2006 as the sole-source contractor for EELV. The Air Force continued to obtain cost and performance data from ULA through both the 2005 contracts awarded to Boeing and Lockheed Martin, and through new contracts awarded to ULA.[8] It was, however, unable to get these data for some of the hardware items that Boeing had purchased while it was under the prior commercial contract arrangement. In addition, it took ULA many years to set up its business systems to report the data and to get them approved by DOD. As a result, there were years where the Air Force had rights to the data

[5] Firm fixed-price contracts provide for a price that is not subject to any adjustment on the basis of the contractor's cost experience in performing the contract. FAR § 16.202-1. Cost-reimbursable contracts provide for payment of allowable incurred costs to the extent prescribed in the contract. FAR § 16.301-1.

[6] Contractor business systems are reviewed by DOD agencies including the Defense Contract Audit Agency (DCAA) and the Defense Contract Management Agency (DCMA).

[7] National Space Transportation Policy of the United States, (Nov. 21, 2013); see also 10 USC § 2273.

[8] For the purposes of this report, performance data refers to information such as Earned Value Management data that the Air Force uses to track contractor performance. See table 1 for more details.

but the data were from an unapproved system, and thus were not considered reliable.

In late 2009, projected increases in EELV program costs prompted the Air Force to reconsider the EELV business model. After studying the approach to buying government launches, the Air Force developed a new acquisition strategy. The strategy was designed to maintain mission success and incentivize price reductions in part through long-term commitments and steady production rates. Under the strategy, the Air Force combined its prior ELS and ELC contracts into one contract with ULA, called the Phase 1 contract, which was awarded in 2013. The terms of this contract began in 2013 and last through 2017 for the purchase of launch services, and through 2019 for the capability to launch the purchased launch services. Launch services for Delta IV medium and Atlas V missions are generally ordered two years before the launch is expected to take place, and launch services for Delta IV Heavy missions are generally ordered three years prior to launch. Thus the Phase 1 contract pays for the contractor's capability to launch through 2019 for launches purchased in 2017. The contract commits the government to ordering 35 launch vehicle booster cores over the 5-year ordering period, provided launch funds are available and there is a valid requirement, and pays for the capability to launch eight launches per year.[9] According to the Air Force, this contract saved about $4.4 billion over the prior Air Force estimated cost of launch for this period. In addition, this contract retained for the Air Force the same levels of cost insight as in the previous ELC/ELS contract arrangement.

The Air Force has faced challenges in obtaining accurate and complete information from ULA's business systems. When ULA was formed in 2006, the company took its business systems from its parent companies and modified them as needed to become independent systems. Even though they were working from existing systems, an EELV Should Cost review in 2010 found that ULA business systems, including purchasing, accounting, and estimating systems, were immature which made it difficult for DCAA to validate cost data. In 2011, GAO found that limited availability of contractor and subcontractor cost data and ULA business systems limitations may not give contracting officials an adequate basis to

[9] The booster core is the main body of a launch vehicle. Medium and intermediate launch vehicles use one core each, while the Delta IV Heavy launch vehicle requires three.

negotiate launch contracts.[10] The last of the six ULA systems was not approved until July 2014.

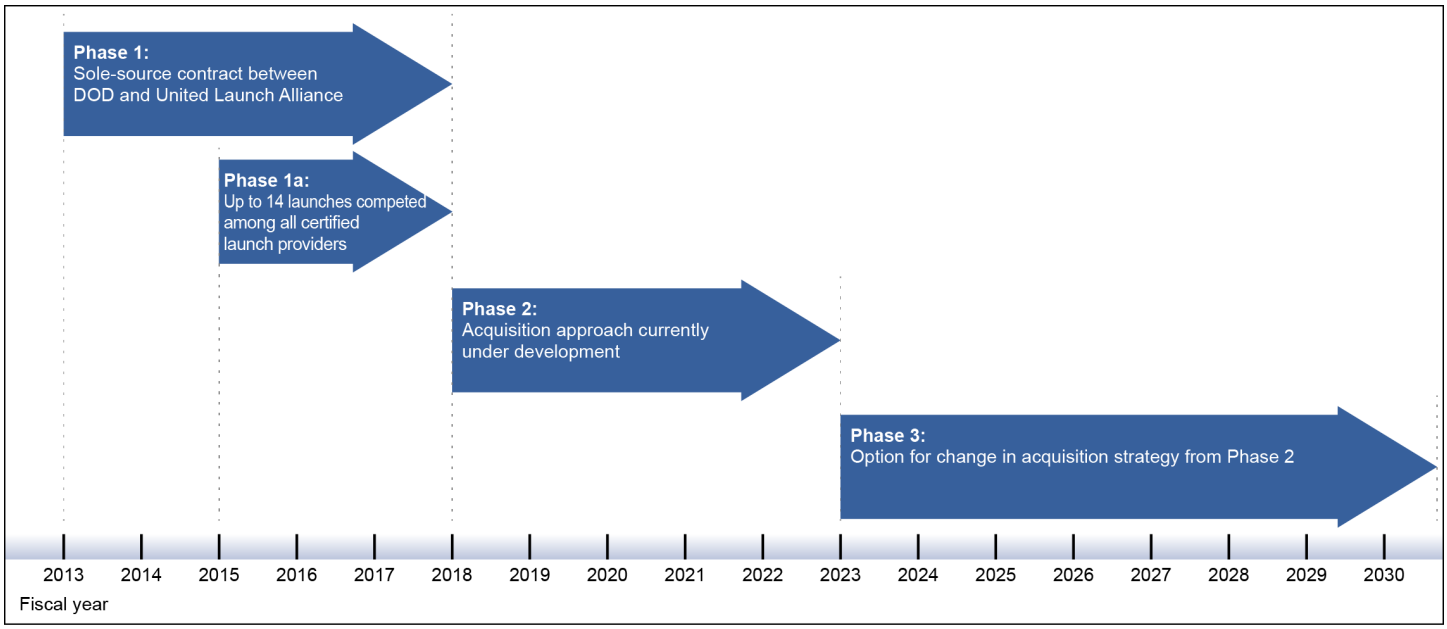
Introducing Competition

In parallel with the Phase 1 contract with ULA, the Air Force is actively working to introduce competition to the EELV program. In 2011, the Air Force established a process for certifying new competitors to be able to launch national security satellites, and in November 2012, the Under Secretary of Defense for Acquisitions, Technology, and Logistics directed the Air Force to introduce a competitive procurement environment for up to 14 launches.[11] At the time of this decision, those 14 missions were the only ones that were within the lift capability of the potential competitor, SpaceX's Falcon 9 launch vehicle; the missions that the Falcon 9 was not capable of launching were included in ULA's Phase 1 contract. The period in which these first competitive launches will be competed is called Phase 1A and runs concurrently to the Phase 1 contract that the Air Force awarded to ULA, as illustrated in figure 1. In Phase 1A, launches may be awarded one at a time with a separate contract for each one, or the Air Force may award more than one launch in a small lot buy. This report assesses the impacts of the Air Force's strategy for contracting for these launches. The acquisition approach for the procurement of launch services in Phase 2 is currently under development. Phase 2 is intended to be a period of open competition between all certified launch providers. Phase 3 is currently planned to last through the program's expected end of life in 2030.

[10] *Evolved Expendable Launch Vehicle: DOD Needs to Ensure New Acquisition Strategy is Based on Sufficient Information,* GAO-11-641 (Washington, D.C.: Sept. 15, 2011).

[11] We reported on the new entrant certification process in *Launch Services New Entrant Certification Guide,* GAO-13-317R (Washington, D.C.: Feb. 7, 2013).

Figure 1: Timeline of Introduction of Competition Into National Security Space Launch



Source: GAO analysis of DOD data. | GAO-15-623

In 2014, the Air Force released its Request for Proposals (RFP) for what it intended to be the first of the competitive Phase 1A launches. In the Air Force's competitive launch process, a company can compete for a launch while it is working through the certification process, but it cannot be awarded a launch contract unless it has completed the certification process. This is to allow for companies that may be very close to certification to compete in the contract source selection. For the first competition, only one company's launch vehicle, SpaceX's Falcon 9, was close enough to certification to compete with ULA. However, Falcon 9 was not certified by the January 2015 contract award, so the solicitation was canceled and the launch was added to ULA's Phase 1 contract. Falcon 9 earned certification in May 2015. The next RFPs are scheduled to be released in July and September 2015 with contract award for both in early 2016.

The Air Force is Changing its Approach to Acquiring Launch Services, and Its New Approach Will Provide Less Insight Into Contract Costs and Performance in Favor of Incentivizing Competition

The Air Force is changing its approach to acquiring launch services with the Phase 1A contracts, which will alter its insights into some program cost and performance data. Specifically, the Air Force intends to introduce competition for certain launches, treat these launches as a commercial item procurement, and award firm-fixed-price contracts for the launches. The Air Force intends to rely on what it believes will be adequate price competition to ensure prices are fair and reasonable. Further, by treating these launches as commercial item procurements, it will enable the Air Force to use streamlined contracting practices and shift the risks associated with the cost of performance to the contractors. Relying on the commercial market reduces the Air Force's insights into and access to certain types of information that is currently provided under ULA's Phase 1 contract. For example, under the current ULA contract, the Air Force requires ULA to maintain six major business systems that need to be reviewed and approved by a government oversight organization, and provide insights into ULA's cost and schedule performance on a continuous basis, among other benefits. Under the revised acquisition strategy, the Air Force will not have access to the same level of detail it currently obtains and the contractors will be allowed to use business systems that are not required to meet DOD standards. The Air Force determined that the trade-offs associated with its new strategy, including the determination that the launch services could be appropriately treated as a commercial item, were manageable, though several officials across DOD expressed concerns about the loss of visibility into contractor data.

The Air Force has some flexibility in the method it elects to use when procuring launch services. For Phase 1A launches, the Air Force intends to procure these launch services as a commercial item and award firm-fixed-price contracts and use streamlined solicitation and evaluation procedures outlined in FAR Part 12.[12] The Air Force has procured launch services as a commercial item in past acquisitions when competition existed—the first EELV contracts in the late 1990s procured launch

[12] The Commercial Space Act of 1998 requires the federal government to acquire space launch services (referred to in the act as space transportation services) from U.S. commercial providers as a commercial item. Pub. L. No. 105-303 §§ 201(a) and 202(a). The act also provides seven exceptions to the requirement that the Federal Government acquire launch services from U.S. commercial providers. The Air Force's use of one of the seven exceptions must be based on a national security issue and a determination, on a case-by-case basis, by the Secretary of the Air Force that one of the seven exceptions applies. Pub. L. No. 105-303 § 201(b). FAR § 2.101 defines the term commercial item.

services as commercial items—but when competition did not exist it changed to a non-commercial item approach, which continued through ULA's current Phase 1 contract. In addition, the FAR requires the procurement of commercial items when they are available to meet the needs of the agency.[13]

By procuring the launch services as a commercial item, the Air Force is prohibited from requiring significant amounts of contractor cost or performance data, because according to the FAR, the nature of commercial item procurement makes those requirements unnecessary. In addition, in a firm-fixed-price contract, the Air Force does not need to validate costs incurred by the contractor, because the contract price is fixed and generally does not change regardless of the costs incurred. However, in a cost-reimbursement contract, validation of costs is necessary because the Air Force reimburses the contractor for all reasonable, allocable and allowable costs incurred as part of the contract work. The Air Force has the responsibility of ensuring that the costs are reasonable, allocable and allowable, so it requires contractors to maintain DOD-approved business systems to track and record these data in a way that gives the Air Force confidence in the accuracy of the invoices submitted by the contractor.

Current Approach Provides DOD with High Level of Insight into Contractor Costs and Performance

Under the Air Force's Phase 1 contract, ULA maintains six DOD-approved business systems. All of the business systems that are required under the ULA contract are reviewed and approved by the Defense Contract Management Agency (DCMA).[14] The names and details of these business systems and the benefit the government derives from them are listed in table 1 below.

[13] FAR § 12.101(b).

[14] DCMA is generally responsible for performing a wide variety of contract oversight functions to ensure quality products are delivered to DOD. The Defense Contract Audit Agency (DCAA) is generally responsible for providing accounting and financial advisory services in connection with the negotiation, administration, and settlement of contracts and subcontracts for DOD. DCAA reviews some of the contractor business systems and presents its results to DCMA, which makes the final decision on approving or disapproving the system.

Table 1: Description of Business Systems Required Under United Launch Alliance's Phase 1 Contract

Contractor business system	Description	Value to the government
Accounting system	A contractor's system for accounting methods, procedures and controls. Some examples of the information collected and processed by an accounting system are billing information and employee compensation.	Enables the government to have confidence in the charges and cost reporting that it receives from contractors.
Earned-value management system (EVMS)	A contractor's project management tool that effectively integrates the project scope of work with cost, schedule and performance elements for optimum project planning and control. It compares work planned with work completed, and reports the differences as cost and/or schedule variances.	Gives the government information on cost and schedule performance, providing an objective view of program status. Cost and schedule variances can be used in estimating the cost and time needed to complete the program.
Estimating system	A contractor's system to generate estimates of costs and other data included in proposals submitted to customers when providing contract proposals. Estimating systems include information on budgeting, planning, estimating methods, historical costs and other analyses used to generate cost estimates.	Gives the government confidence that the cost estimates submitted by a contractor are accurate and dependable.
Government property management system	A contractor's system to track and manage government owned property separately from contractor property, including information such as location, value, and uses.	Gives the government confidence that a contractor is managing and accounting for government property and value accurately. Also helps to ensure adequate disposition to reduce overhead and facility requirements.
Material management and accounting system (MMAS)	A contractor's system for planning, controlling and accounting for the acquisition, use and disposition of material goods used by the contractor. The MMAS allows the company to track and assign values to its hardware inventory.	Gives the government the ability to track program hardware inventory as a part of program oversight.
Purchasing system	A system that analyzes information to assist a contractor with making purchasing decisions, such as selecting subcontractors, analyzing quoted pricing, price negotiation with subcontractors, and placing orders.	Gives the government confidence that the contractor is receiving fair and reasonable pricing from suppliers.

Source: GAO analysis | GAO-15-623

The business system data that the Air Force receives from ULA is beneficial for a number of reasons. First, it is intended to allow the Air Force to determine, in absence of a competitive environment, that contract prices are fair and reasonable.[15] According to Air Force officials,

[15] While this is one intent of business system requirements, we and others have reported in the past that significant issues with ULA's business data did not always allow DOD to rely on this information to determine that prices were fair and reasonable.

some of the cost data were used, for example, in the Phase 1 contract negotiations with ULA and allowed DOD to negotiate what it considers to be good prices for launch services. An approved accounting system also helps determine that charges made to the cost-reimbursement part of the contract are allowable. In addition, having approved systems such as purchasing and estimating gives the Air Force confidence that ULA is obtaining reasonable prices from its subcontractors.

In addition to providing cost information, the data from ULA's business systems also gives the Air Force insight into contract performance. For example, earned value management (EVM) data are gathered under the cost-reimbursable portion of the ULA launch services contract. Air Force officials use this data to identify risks in the program that could affect its cost, schedule or performance, and allow them to identify these risks early enough to mitigate them. EVM data are also used by DCMA to monitor ULA's production processes, and these data help identify production issues that may be driving cost and schedule changes. According to Air Force officials, the data also allows the Air Force to determine what the program's cost drivers are, and to understand the effectiveness of ULA's processes. In addition, Air Force officials stated that EVM data have been important in contract negotiations because it gave them insight into ULA's cost, plans, and work.

Under the New Acquisition Approach, the Air Force's Program Insight Will Be Reduced

The Air Force's new acquisition approach relies on what it believes is adequate price competition to ensure fair and reasonable prices. The Air Force's insights into and access to certain types of information that is currently provided under ULA's Phase 1 contract will be reduced under this approach as competition is expected to incentivize suppliers to offer the lowest prices possible. The Air Force will get some cost data from the Contractor Cost Data Reports (CCDR), which provide high-level program cost data that DOD can use for future budgeting and planning efforts. However, the Air Force will not be able to track spending on a more frequent basis, and will not be able to track contractor progress or be able to predict cost growth. While the Air Force considers the level of CCDR data sufficient for monitoring launch costs in a competitive acquisition environment, it is not a direct substitute for cost insight gained through ULA's current non-commercial contract.

A comparison of the data received under the Phase 1A contracts and ULA's Phase 1 contracts is presented in table 2.

Table 2: Business Data Requirements and Other Details of Evolved Expendable Launch Vehicle Program Contracts

	United Launch Alliance Phase 1 Contract	Commercial Item Phase 1A Contracts
Acquisition environment	No competition/sole-source	Competition available
Selection procedures	Federal Acquisition Regulation (FAR) Part 15 Contracting By Negotiation (non-commercial item)	FAR Part 12 Acquisition of Commercial Item
Contract type	Includes cost-reimbursement and firm-fixed-price contract line items	Firm-fixed-price
Pre-award cost or pricing data	ULA submits certified cost or pricing data that is used to establish price reasonableness of its contract proposals.	Contractors do not supply certified cost or pricing data to establish price reasonableness of contract bids because competitive market forces should ensure reasonable pricing if there are two or more offers.
Performance data	The Air Force has continuous access to technical work scope, cost, and schedule data that are used to monitor contractor performance.	The contractor will periodically submit to the Air Force evidence of successful completion of event milestones throughout the contract performance period. The Air Force can use this data to track performance and monitor the contractor's adherence to the expected schedule.
Post-award cost data	The Air Force has monthly access to contractor and subcontractor cost data throughout the contract performance period. ULA submits Contractor Cost Data Reports (CCDR) to the Air Force and the Office of the Secretary of Defense, which account for the company's actual total costs incurred for the contract performance period. CCDRs are high-level cost data submitted at the end of the performance period that are used by DOD to monitor trends in program costs and conduct life-cycle estimates.	The Air Force will not have access to contractor or subcontractor cost data throughout the contract performance period. The contractor will submit CCDRs to the Air Force and the Office of the Secretary of Defense at the end of the contract performance period. Any non-commercial modifications to the contract in excess of $700,000 will require certified cost or pricing data.
Data sources	Requires ULA to maintain six approved business systems, and the Air Force has access to the business data contained in these systems.	Contractor will use its own business systems, which are not required to be approved by DOD. The Air Force cannot require contractors to stand up or maintain additional business systems. The Air Force will not have access to business data contained in the contractor's business systems, in accordance with commercial business practices.

Source: GAO analysis of DOD information | GAO-15-623

As the table illustrates, the Air Force will also not have detailed insight into contractor performance data. Under FAR Part 12 procedures, the Air Force does not require contractors to track or report EVM data, which is required under the ULA Phase 1 contract and provides the government insight into contractor performance. EVM data help the Air Force monitor ULA's schedule performance, providing an objective view of program

status and helping to identify production issues that may be driving cost and schedule changes. Most performance data that the Air Force will receive under the commercial contracts will come when pre-established performance milestones are met, and insight between those milestones will be limited. Some offices within DOD have expressed concern over not being able to track schedule performance on a more real-time basis, such as they get from ULA through EVM data.

A Competitive Acquisition Approach Offers Various Trade-offs

The Air Force determined that the trade-offs associated with its acquisition strategy for the Phase 1A competitive launches, including treating these launches as a commercial item, were acceptable, though some officials expressed concerns about the Air Force losing visibility into contractor data. Some of the trade-offs are benefits to the Air Force, including facilitating competition and minimizing cost risk. Other trade-offs present drawbacks, such as limited schedule flexibility and a change in the approach to mission assurance.

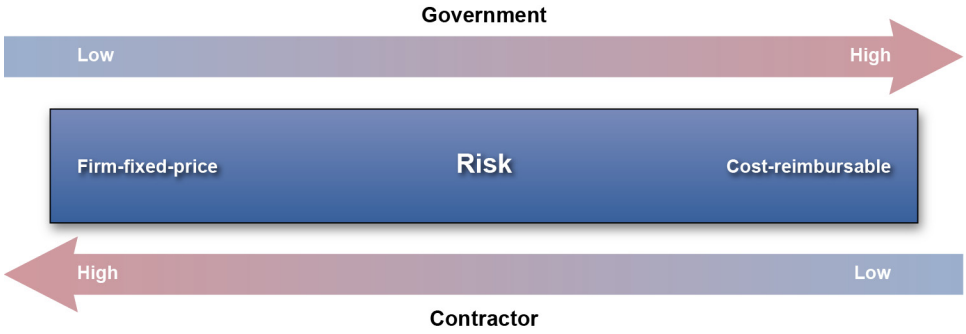
- *Facilitates competition:* By procuring the launch services as a commercial item and using a firm-fixed-price contract, the FAR does not require DOD-approved business system data for its competitive Phase 1A contracts, making it possible for more than one company to compete for these launches. Had the Air Force chosen to make part or all of the competitive launch contracts non-commercial cost-reimbursement, it would have required the contractors to submit data from DOD-approved business systems. This requirement would either have excluded companies without DOD-approved business systems from competition, or would have required them to implement such systems, which may have been difficult for companies to do in time to bid on the contract. According to the Air Force, competition among launch providers benefits the government both by having commercial marketplace pressures assure prices are reasonable, and by growing the launch industrial base, which increases the potential that more than one launch company will be commercially viable in the future.

  Air Force officials have stated that promoting competition in the launch industry is a high priority for the service, and not requiring DOD-approved business systems is a key advantage of procuring launch as a commercial item. Moreover, officials from one of the new entrant companies said that if the Air Force had chosen to use a contracting strategy that required DOD-approved business systems, it would have considered not bidding on the contract as it did not have approved business systems. Although officials from this company told us they are reluctant to implement approved business systems due to

the anticipated cost and time needed, we do not know what the company would have actually done had the Air Force chosen a contracting strategy that required approved business systems. Contracting officials we spoke with said that the government will receive a fair price for national security launches as long as adequate price competition exists, but officials from the Office of the Under Secretary of Defense for Acquisitions, Technology, and Logistics expressed concern over losing insight into detailed cost data until it is certain that at least two competitors will be sustained for the long-term. History has shown that a viable competitive launch industry is not a certainty. ULA is the product of a merger between two former competitors because prior expectations of a viable commercial launch industry did not materialize. At this point, the Air Force has only two viable competitors on the horizon for the next few years, and the ability of both competitors to meet the full range of DOD's launch needs in the future hinges on launch vehicles that are still in development. Moreover, removing its requirement for business system data in such an uncertain commercial market could leave the Air Force vulnerable to problems that stem from a lack of program insight, as seen in the EELV program's past.

- *Minimizes the Air Force's cost risk:* For the Phase 1A competitive launches, the Air Force will use firm-fixed-price contracts, which place greater responsibility upon the contractor for cost control and minimize the service's cost risk. According to the FAR, firm-fixed-price contracts incentivize the contractor to control costs and perform efficiently because the contracts are generally not subject to any price adjustment on the basis of actual costs incurred. This places the risk and responsibility for all costs and resulting profit or loss on the contractor. In contrast, cost-reimbursement contracts can involve higher risk for the government, because cost-reimbursement types of contracts provide for payment of all allowable, allocable and reasonable incurred costs, to the extent prescribed in the contract. Figure 2 illustrates the relative burden of risk for each contract type, in general.

Figure 2: Risk Burden of Contract Type



Source: GAO analysis of DOD data. | GAO-15-623

Though firm-fixed-price contracts are the government's preferred contracting method when practicable, they are usually only appropriate for acquiring goods or services with reasonably definite requirements and minimal performance uncertainty. If requirements are vague, the contractor bears a greater amount of risk, and its proposed price in its contract offer will likely be inflated to account for this risk. For the Phase 1A launches, the Air Force developed what it and the contractors consider to be a very comprehensive Performance Work Statement (PWS), which laid out the requirements and performance expectations for contractors bidding on the launches.

- *Offers the lowest administrative burden:* Procuring launch services as a commercial item using FAR Part 12 procedures offers the lowest administrative burden to both contracting parties. FAR Part 12 allows for the acquisition of commercial items using streamlined solicitation and evaluation procedures that closely resemble commercial marketplace practices. For example, in establishing price reasonableness in the pre-award period, DOD contracting officials do not have to collect the same cost data from contractors that are needed in a non-commercial, sole-source environment, because market competition is assumed to have kept prices reasonable, even if only two firms bid on the contract. DCAA and DCMA also do not have to audit or approve the contractor's business systems, because FAR Part 12 contracts are not subject to DOD's business systems requirements. In addition, when the contracts are firm-fixed-price, DCAA does not have to conduct incurred cost audits as it does under cost-reimbursement contracts.
- *Provides opportunity for lessons learned:* The first competitive launch in Phase 1A is meant to be a pathfinder for future competitive

launches, and the Air Force said it will use lessons learned from the launch to further develop their contracting strategy going forward for both the remaining Phase 1A competitive launches as well as the Phase 2 acquisition strategy. Program officials told us they have already taken steps to improve future competitive launch contracts by putting significant upfront work into the Performance Work Statement for the first competitive launch. Moreover, these officials said that spending time to detail requirements in the PWS taught the Air Force how to acquire launch services as a commercial item, which the Air Force had not done in almost a decade. The work that the Air Force put into the PWS development gave the Air Force confidence that the procurement of the launch services as a commercial item could be successful, because the full scope of the Air Force's needs were considered and included in the PWS and thus, the contract. Once the first commercial launch contract is completed, the Air Force will be able to assess whether the scope of the PWS was indeed adequate for a successful procurement.

- *Restricts launch schedule flexibility:* The contract structure for Phase 1A launches will limit the Air Force's flexibility to make changes to the launch schedule to manage satellite delays. The Air Force's ability to modify its launch schedule and exchange satellite payloads when satellite production delays occur has been an important part of the EELV program, and under the Phase 1 contract with ULA, it has flexibility in this process. Launch vehicles are not assigned a satellite payload until about 12 months before launch. At this time, the Air Force has a better idea of what satellites will be ready to launch, and can prioritize them if needed. For example, the third Mobile User Objective System (MUOS-3) launch was delayed about 6 months for a satellite problem, so the Air Force was able to accelerate the Global Positioning System (GPS) IIF-7 launch schedule to backfill the launch slot. This kept both production and launch processes moving. Under past EELV contracts, satellites have frequently been delayed by many months, and sometimes years. According to the Air Force, launch dates have changed an average of 3.9 times and by 22 months for

completed launches through January 2015. We have reported on these more significant launch delays in the past.[16]

Under the Phase 1A contracts, the Air Force may not have this same flexibility, and launch delays could potentially cost the government more than originally planned. According to DOD officials, in the current contract with ULA, launch delays may not incur added costs because of the nature of the launch capability portion of that contract, though the overall cost of that portion of ULA's contract is significantly larger than the potential costs of the delays under the Phase 1A, firm-fixed-price contracts.[17] Under the Phase 1A contracts, the Air Force expects to have the ability to postpone the contracted launch by up to 90 days at no charge, but postponing a launch beyond this grace period will add costs. For example, for a launch postponed beyond 90 days, the government is required to pay the contractor $3,000 per day with a maximum possible penalty for a delay of $3.5 million. Flexibility is decreased under the Phase 1A acquisition approach, however the Air Force is inherently constrained by the need to award a launch contract two years before the desired launch time, regardless of which contracting approach is used for procurement.

- *Changes approach to mission assurance:* Responsibility for mission assurance activities will also be different as a result of the launch services being procured as a commercial item. Mission assurance is the comprehensive collection of activities undertaken throughout the lifecycle of a launch vehicle development program through launch to assure mission success and safety. Mission assurance can include activities such as pre-launch readiness reviews, launch vehicle hardware and software verification, and pedigree reviews. National security satellites launched by the EELV program can cost $1 billion or more and provide vital capabilities for the government. In addition, according to Air Force officials, while commercial companies can buy

[16] GAO, *Space Acquisitions: Acquisition Management Continues to Improve but Challenges Persist for Current and Future Programs,* GAO-14-382T (Washington, D.C.: Mar. 12, 2014); *Space Acquisitions: DOD Is Overcoming Long-Standing Problems, but Faces Challenges to Ensuring Its Investments Are Optimized,* GAO-13-508T (Washington, D.C.: Apr. 24, 2013); and *Space Acquisitions: DOD Faces Challenges in Fully Realizing Benefits of Satellite Acquisition Improvements,* GAO-12-563T (Washington, D.C.: Mar. 21, 2012).

[17] The current Phase 1 contract with ULA funds eight launches a year, with flexibility to modify launch dates and satellite payloads as DOD mission requirements necessitate without added costs.

insurance for the satellites they launch, the Air Force uses its mission assurance process in lieu of satellite insurance. While the typical commercial satellite launch might carry approximately $24 million in insurance, DOD officials explained that the equivalent insurance cost to the Air Force could be nearly $1 billion, if they could even find a company willing to insure the satellite. This is due to the costs of national security satellites and the possible difficulty in replacing them in the event of a launch failure. Consequently, the Air Force places a high priority on mission assurance to get these satellites safely to orbit.

Under the Phase 1 contract with ULA, the Air Force and government contractors play a large role in mission assurance activities. But under FAR Part 12 procurement procedures, the government will primarily rely on the contractor's existing quality assurance activities, which, according to the Air Force, are reviewed by the government during the launch vehicle certification process, for mission assurance. We have reported in the past on the Air Force's lack of insight into mission assurance costs and activities within the EELV program.[18] The Air Force has said that mission assurance is the most important contributing factor to launch mission success; however the service has not assessed the sufficiency or excess of these activities. Without such assessment, the Air Force does not know exactly which mission assurance activities have most contributed to ensuring launch successes in the past. This limited insight makes it difficult to determine if altering the mission assurance process could impact mission success in Phase 1A. Additionally, a contractor we spoke with said that, because the price is fixed, testing to address the government's mission assurance needs could either have to be funded by the contractor or require a change to the contract. In the event of a launch failure, the launch provider would forfeit the final contract payment, which is 20 percent of the price of the contract.

[18] GAO-11-641.

The EELV Program Faces Risks That Could Impact Future Competitions

The Air Force is currently updating its EELV acquisition strategy but it is not clear whether it plans to gather sufficient knowledge to address the EELV program's future acquisitions risks. The EELV program is actively pursuing competition to assure access to space from multiple providers. However, the commercial launch market is currently undergoing changes, and the ability of both the federal government and the commercial launch market to sustain two or more launch providers is unknown at this time. The Air Force is also increasing its risk by developing, budgeting for, and finalizing its Phase 2 acquisition strategy before incorporating knowledge gained from the first round of commercial launches.

Potential Engine Restrictions

Until recently, ULA had expected to compete for all of the Phase 1A launches with its Atlas V launch vehicle. The Air Force has used the Atlas V since the start of the EELV program, and has experienced high reliability from the launch vehicle. However, the Atlas V main engine, the RD-180, is made in Russia, and the reliance on Russia for this engine became a prominent concern in light of geopolitical events in 2014. The 2015 National Defense Authorization Act included a provision limiting the use by DOD of this engine, and directed DOD to initiate a domestic program to develop an engine that could replace the capability of the RD-180 by 2019.[19] The act's language restricting use of the RD-180 has been interpreted in different ways by different parties. According to the Air Force, the current interpretation of the act by the Air Force General Counsel limits ULA's ability to propose Atlas V for the Phase 1A competitions. ULA has said it would not enter the Delta IV into competition due to that vehicle's inability to be price competitive. ULA has efforts underway to move away from the RD-180, through the development of its new launch vehicle, Vulcan. However, this effort requires a significant amount of time, and ULA does not expect to have its new launch vehicle certified to launch national security satellites before 2020. Because it will take a number of years to get their new launch vehicle ready for competition, ULA anticipates needing to use the RD-180 engine in the meantime to support the current launch manifest and to

[19] Pub. L. No. 113-291 §§ 1604 and 1608 (2014). Text of Pub. L. No. §1608: In general, [except with certain exceptions listed in the act] beginning on the date of the enactment of this act, the Secretary of Defense may not award or renew a contract for the procurement of property or services for space launch activities under the evolved expendable launch vehicle program if such contract carries out such space launch activities using rocket engines designed or manufactured in the Russian Federation.

compete for the Phase 1A launches. If ULA will not be able to compete for additional launches with its Atlas V launch vehicle, the Air Force's approach of procuring launch as a commercial item may require changes.

Air Force planning will benefit by taking steps to understand the future of the commercial launch industry and develop strategies for keeping at least two companies viable. However, when coupled with changes in the launch industry, these steps are also evidence that the market is far from stable. This instability is problematic when trying to plan for a vital national security requirement such as launch services.

Uncertain Future Launch Market for Competition

The EELV program is actively pursuing a competitive scenario for launch acquisitions, but the launch industry is currently undergoing numerous changes, and the makeup of the industry in the future is uncertain. One of the Air Force's long-term goals for the EELV program is to have at least two certified launch providers able to compete for the full range of national security launches. Although additional new entrants may be able to compete in the future, it is unlikely that others will be ready to compete before Phase 2. An Air Force official recently testified that the service is putting together an independent team to study ways the Air Force can capture lessons learned from the certification process to enhance competition for the foreseeable future.

In addition, the two launch services companies that are expected to be the main competitors in Phase 1A and Phase 2 are planning to meet future government launch requirements with launch vehicles that are still in development. ULA plans to introduce a new launch vehicle, Vulcan, to compete in Phase 2, and plans to end production of its current vehicles around the same time. At this point, Vulcan is still in the design phase and is not expected to have its first launch until 2019 at the earliest, and will still have to become certified. SpaceX earned certification for its Falcon 9 launch vehicle in May 2015, but Falcon 9 can only launch part of the DOD launch manifest.[20] To launch all DOD missions, SpaceX will need to build and have certified the Falcon Heavy vehicle. Falcon Heavy entered the Air Force certification process in April 2015 and SpaceX expects to have its first demonstration launch in late 2015.

[20] EELV-class payloads range from 6,000 to 28,000 lbs to Geosynchronous Transfer Orbit (GTO).They are divided into intermediate (6,000-18,000 lbs to GTO), and heavy (18,000-28,000 lbs to GTO) classes. The Falcon 9 can lift 10,692 lbs to GTO.

Moreover, in the long term, it is unclear whether there is enough demand to support two or more U.S. launch providers. Air Force officials anticipate that DOD launch requirements in the long-term will either remain steady or potentially decrease. The Air Force is taking steps to understand the future of the commercial launch market, as well as the likelihood that there will be at least two launch providers within that market. The Air Force is also gathering knowledge on how strategic investments by the Air Force could benefit the launch industry. To do this, the Air Force stated that they have contracted with The Rand Corporation to produce a study on the future of the commercial launch market. The Air Force stated they have also partnered with Booz Allen Hamilton to develop a strategy for how the government could invest in technology within the commercial launch industry to ensure that at least two launch providers are viable for future phases of the EELV program. In addition, the Air Force has released a Request for Information to the launch industry in an effort to gather information on ways a DOD investment could best support industry. These studies are expected to be completed in 2015, and at the time of this report the studies were in the process of being drafted and briefed within DOD.

Phase 2 Acquisition Strategy Timeline

Despite uncertainties in the launch market, the Air Force plans to develop its Phase 2 acquisition strategy before it has completed the first competitive launch using the new commercial item contracting strategy in Phase 1A. The Air Force plans to complete the Phase 2 acquisition strategy in mid-2016. However, the completion of the first competitive launch will not be until at least 2018, which may not give the Air Force the opportunity to leverage knowledge learned from the acquisition strategy used in Phase 1A in its development of the Phase 2 acquisition strategy. Some examples of the knowledge the Air Force could leverage include: the trade-offs of collecting less cost and performance data from contractors for the first time in a decade; how to coordinate satellite delivery and integration onto the launch vehicle, and deal with potential satellite delivery delays; and how a different mission assurance process under a commercial acquisition strategy may impact the program. While the development of the Phase 2 strategy will likely happen before the first competitive launches, Air Force officials stated that this is unavoidable due to the length of time it takes to develop an acquisition strategy and the fact that the service needs to procure launch services two years in advance.

Acquisition best practices emphasize ensuring that a high level of knowledge exists when making decisions, and ensuring that resources

are available to provide for program requirements. At this point, the Air Force has not yet decided on the structure of the Phase 2 acquisition strategy. It may structure Phase 2 incrementally, planning to award contracts a year or two at a time and allowing an opportunity to adjust the plan as needed, or it may establish a longer-term plan for the entirety of Phase 2. With the second option, there is the risk that the Air Force will not have adequate information on either the future of the launch market or on lessons learned from procuring launch as a commercial item in Phase 1A to incorporate that information into the strategy. In addition, if the Air Force develops a longer-term strategy, it may be difficult to adequately plan to allocate budget resources with the launch market changing significantly during that time.

Conclusions

DOD is weighing a variety of factors while planning for the next acquisition of launch services, including the state of the launch industry and how to structure a contracting approach that maintains mission success and supports competition. At this juncture, DOD has determined that competition in the launch industry is adequate to institute a streamlined competitive acquisition approach that makes the contracting process easier for all parties. But this approach has trade-offs, most notably being a reduction in the amount of insight into cost and performance information that DOD will have access to. This insight has been important to the EELV program in recent years, such as in providing information to assist the Air Force in negotiating the Phase 1 contract with ULA. Nevertheless, robust competition, if sustained, can achieve similar benefits. Given the lack of recent experience with the Air Force's competitive acquisition approach to procuring launch services and uncertainties about the launch industry going forward, it is important for DOD to ensure it can incorporate lessons learned from the first phase of competition into future phases of its acquisition strategy.

Recommendation for Executive Action

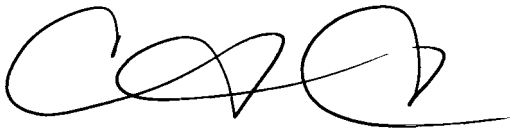
When planning for the next phase of national security space launches, Phase 2, we recommend the Secretary of the Air Force consider using an incremental approach to the next launch services acquisition strategy. Planning for acquisitions on a short term basis will help ensure that the Air Force does not commit itself to a strategy until the appropriate amount of data is available to make an informed decision, and will allow for flexibility in responding to a changing launch industry.

Agency Comments

We provided a draft copy of this report to DOD for comment. In a written response, DOD concurred with our recommendation, noting that the Air Force is implementing a phased approach to its EELV efforts, and that it intends to review and analyze all available data as it moves forward in the acquisition process. DOD also provided technical comments, which were incorporated into the final report as appropriate. See appendix II for DOD's comments.

We are sending copies of this report to appropriate congressional committees, the Secretary of Defense, the Secretary of the Air Force, and other interested parties. In addition, the report will be available at no charge on our website at http://www.gao.gov.

If you have any questions about this report, please contact me at (202) 512-4841 or chaplainc@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this letter. Key contributors to this report are found in appendix III.



Cristina T. Chaplain
Director
Acquisition and Sourcing Management

List of Committees

The Honorable John McCain
Chairman
The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Thad Cochran
Chairman
The Honorable Richard J. Durbin
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Mac Thornberry
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Forces
House of Representatives

The Honorable Rodney Frelinghuysen
Chairman
The Honorable Pete Visclosky
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Scope and Methodology

To determine the cost and performance data that the Department of Defense (DOD) requires from contractors under the first competitive launch contracts and how those data compare to what is required from the incumbent contractor, we examined the first competitive launch Request for Proposals issued in 2014, which was later canceled, as well as the National Space Transportation Policies of 2004 and 2013, parts 12 and 15 of the Federal Acquisition Regulation (FAR), and the Commercial Space Act of 1998. Additionally, we reviewed past and current Evolved Expendable Launch Vehicle (EELV) program contracts and examined the cost reporting requirements. We received several in-depth briefings from the contractor, United Launch Alliance (ULA), as well as the Defense Contract Audit Agency (DCAA) and the Defense Contract Management Agency (DCMA). We also conducted several interviews with the Office of the Assistant Secretary of the Air Force for Acquisitions, the Office of the Secretary of Defense Cost Assessment and Program Evaluation (CAPE), the Office of the Under Secretary Defense for Acquisitions, Technology, and Logistics, and the EELV program office. We interviewed Air Force contracting officials at the EELV Program Office regarding the type and amount of cost data they would receive. We also interviewed contractors who bid or were expected to bid on the first competitive contract, and a contractor that has expressed interest in competing for future national security launches, including ULA, Space Exploration Technologies, Inc. (SpaceX), and Orbital Sciences Corporation. To determine the benefits and drawbacks of the Air Force's approach for the first competitive launches, we interviewed acquisition and contracting officials at DOD, CAPE, the Air Force, and the EELV program office. We received written responses to questions from launch and contracting officials at the National Aeronautics and Space Administration (NASA) to understand their cost data requirements in commercial contracts with launch providers. We also interviewed senior officials at launch service providers including ULA, SpaceX, and Orbital Sciences. To understand the risks facing the Air Force when planning for future launch acquisitions, we reviewed commercial launch market forecasts, the National Defense Authorization Act for Fiscal Year 2015, and interviewed Air Force officials regarding Phase 2 acquisition strategy planning. We also reviewed past GAO reports on EELV acquisition and contracting strategies and best practices to assess the Air Force's acquisition planning.

We conducted this performance audit from September 2014 to August 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe

that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Comments from the Department of Defense

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

Ms. Cristina Chaplain
Director, Acquisition and Sourcing Management
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

JUL 24 2015

Dear Ms. Chaplain,

This is the Department of Defense (DoD) response to the GAO Draft Audit Report GAO 15-62, "Evolved Expendable Launch Vehicle," dated Jul 15 (GAO Code 121218). The draft report includes one recommendation:

RECOMMENDATION: The Air Force needs to adopt an incremental approach to future acquisition planning to enable incorporation of lessons learned.

DoD RESPONSE: The Department concurs with the recommendation to adopt an incremental approach to future EELV efforts. The Air Force is implementing a phased approach to its EELV efforts, to include awarding launch services on a case by case basis. The Air Force shall review and analyze all data available as it moves forward to create a successful acquisition strategy that provides assured, affordable access to space.

The DoD also is providing official written comments for consideration for inclusion regarding the language in the final report. Thank you for the opportunity to review this report. If you have any questions, please contact Mr. William Althoff, William.T.Althoff.civ@mail.mil, (571) 256-2376, or Ms. MaryKathryn Robinson, MaryKathryn.S.Robinson.civ@mail.mil, (571) 256-2380.

Sincerely,

ARNOLD W. BUNCH, JR., Lt Gen, USAF
Military Deputy, Office of the Assistant Secretary
of the Air Force (Acquisition)

Attachments:
(1) DoD Comments to the GAO Draft Report
(2) Security Review Memo (WHS/ESD)

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Cristina T. Chaplain, (202) 512-4841 or chaplainc@gao.gov

Staff Acknowledgments

Key contributors to this report were Art Gallegos, Assistant Director; Erin Cohen; Dani Greene; Laura Hook; John Krump; Carol Petersen; and Breanna Trexler.