

10 Questions provided by Space X:

- 1) Mr. Gass, United Launch Alliance current receives approximately \$1 billion annually in the so-called Launch Capability (ELC) cost-plus contract line items, which fund your annual sustaining engineering, manufacturing, operations, overhead costs and capital recovery of prior Boeing and Lockheed Martin investments in launch infrastructure and other items. As you know, this Committee has for some time raised questions about the transparency and purpose of these ELC payments. Given that the ELC currently funds known requirements, can you explain why these elements of your contract with the Air Force are executed on a cost-plus basis? Do you wish to continue operating on this basis with the Air Force?

A: The contract is cost plus because that was the USG customer's choice. ULA encouraged the Air Force to switch the contract from the cost plus award fee type to the current cost plus incentive fee type. This change provides better discipline to reduce if not eliminate requirements creep and provides the appropriate fee incentives for mission assurance and cost reduction.

- 2) The rationale for establishing the "launch capability annual funding" approach, in large part, was related to the unpredictable launch schedule for national security space payloads due to delay of spacecraft development programs early last decade. Today, these payloads are in production, which has removed the previous uncertainty and created a predictable launch cadence. Would you agree that this rationale for the annual capability funding is no longer necessary from a ULA capability perspective?

A: While the spacecraft schedules are reasonably predictable now (i.e. they do not slip by years), they do not always meet the original contracted launch date. The capability approach provides the USG flexibility in meeting critical national mission needs in the most efficient manner.

- 3) Mr. Gass, given that ULA is offering Atlas launch services to commercial companies through Lockheed Martin Commercial Launch Services and to non-EELV U.S. Government customers on a launch service basis, why does ULA believe it is necessary to continue with the current approach of the U.S. Government funding its annual fixed costs? Can you explain to the Committee how ULA plans to "offset" the substantial ELC payments it receives from the Government when it contracts commercially, either for commercial or non-EELV U.S. Government customers? How is such an offset calculated today?

A: The decision to fund the cost associated with the launch capability is made by the customer, not ULA. This contracting approach provides the customer with cost-effective operational flexibility to make adjustments and set priorities for critical national security mission needs by minimizing contract administration costs. In addition, transitioning to an alternate contractual structure would cause a significant one-time budget bubble in the year of change to provide for the capability associated with the backlog of missions.

ULA has clear contractual separation of costs for commercial and non-EELV U.S. Government missions. All mission-unique actions for these non-DOD missions are priced and charged separately. In addition, ULA provides a negotiated offset value to DOD, consistent with Federal Acquisition Regulation practices, as consideration for use of the common

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infrastructure. The offset is calculated using Federal Acquisition Regulation estimating and contracting approaches. After performing a cost analysis on our offer, the contracting officer developed and executed a negotiation position ensuring the U. S. Government a fair and reasonable value for the addition of one mission to the EELV contract.

- 4) How much do you charge in total for each of the various launch vehicles? Are the prices different for the EELV Program office than for NASA or commercial customers? As you know, SpaceX publishes its baseline prices, why can't you?

A: ULA's product line is diverse and broad. ULA's families of launch vehicles are capable, and demonstrated reliable, at servicing all eight reference missions in the EELV System Performance Requirements Document. This includes mission that vary from Low Earth Orbit, Polar Orbit, Medium Earth Orbit, Geosynchronous Orbit (GEO), Geosynchronous Transfer Orbit (GTO) and Highly Inclined Molniya Orbits. Combinations of spacecraft specifications, required orbit, and mission unique requirements drive the pricing. In the case of NASA Science, ULA has sent rovers and probes to Mars, Mercury, Jupiter, and Pluto and even guided an upper stage into the moon on contract with NASA. The ability to meet the full range of requirements with the EELV system, and to provide Assured Access to Space (two families) is one of the drivers of overall cost. It has, however, proven much more cost effective than operating individual niche systems for each mission profile, as was the case pre-EELV. The EELV program has exceeded its requirement to save 25% over the heritage niche programs it replaced. Prices for specific configurations vary widely, particularly for the Delta IV heavy. We also have contractual restrictions with the USG; the terms of our contracts are not public information.

Although SpaceX openly advertises "internet" prices, it is worth noting that the Air Force did not get the internet prices when they contracted with SpaceX for DSCVR and STP-2. The Air Force and NASA have a firm committed price sheet for all of ULA's vehicle options. ULA does not see any value to "internet pricing" because of the mission unique requirements that USG missions drive. Internet pricing is for advertising, not for defining the cost of mission success for national security.

- 5) ULA has maintained that Government requirements and inefficient Government acquisition practices are the primary drivers of the significant cost growth seen in the EELV Program. What Government requirements does ULA believe are no longer necessary?

A: ULA has identified and discussed several major causes for program cost growth:

1. Significant delay in USG satellites during the period of 2002 through 2009 - Inefficient buying practices (one at time buying, award fee contracts) - corrected with current acquisition strategy
2. Impact to Industrial Base suppliers due to Shuttle program cancellation combined with the uncertainty of follow-on program – addressed through EELV block buy and NASA SLS program commitment
3. The lack of any commercial market growth that was the basis of original EELV program assumptions - still true, and international competition from non-market economies is growing

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The Air Force has and continues to ask ULA for ideas on requirements reduction. Working together we continue to reduce requirements with a careful assessment of risk. Air Force has reduced its oversight of certain components based on proven reliability, reduced launch rehearsals and oversight meetings due to experience, and eliminated certain contractual or administrative reports. The current incentive fee contract approach encourages ULA to offer additional ideas for savings and our AF customer has been responsive to change.

- 6) Although you have blamed the Air Force's inefficient buying practices for EELV Program cost growth, why, given ULA's position as a monopoly provider, did ULA not push its supply chain for greater savings, including economic order quantity buys from your suppliers, rather than wait for the Government to take on such risk itself through the block buy?

A: ULA is not a monopoly provider of US launch services. We are the current sole provider for the EELV program, but currently do not have cargo resupply, commercial crew, or nearly the share of commercial business professed by others. The ULA EELV systems were designed, out of the gate, to meet national security space requirements, and any civil or commercial business services provided are executed with an eye toward increasing value to our core NSS customer.

Prior to the current era of steady satellite production, ULA did not make commitments to purchase economic order quantities for the same reason the USG did not make a commitment to ULA - the uncertainty of when the satellites would be ready for launch.

When the satellite issues were resolved, then ULA was dependent on clear acquisition strategy from the USG on its intent. Upon Mr. Kendall signature on the Acquisition Strategy, and without any contract with the USG, ULA (with approval from our Board of Directors) made over \$1 Billion in company expenditures to enable the block buy savings we offered in the contract. This is in great contrast to a classical USG defense procurement in which long-lead funds are contracted and paid by the USG. We would submit these risk taking actions are not the behavior of a monopoly.

- 7) Mr. Gass, you were quoted in the media recently as claiming that ULA's non-compete 36 core block buy contract with the Air Force has resulted in saving the taxpayer in excess of \$4.4 billion. Specifically, on what basis are you deriving this figure? On a unit price calculation, this suggests a savings of over \$100M per rocket booster core. Can you explain how this could be, given published Atlas core prices in 2010 and 2011 were \$90M and \$101M respectively?

A: In January 2014 the Air Force stated that the block buy contract was the largest component of EELV initiatives that have saved \$4.4B in total program cost. General Shelton reiterated the savings estimate before the Senate Armed Services Subcommittee on Strategic Forces:

GEN. SHELTON: "The \$4.4 billion figure that you quoted is accurate. If you look at the...FY '12, the president's budget, as your baseline, and then look at what we actually contracted for, there's \$4.4 billion of difference. Now, a lot of people want to dispute that. A lot of people want to re-account for that money. But, in fact, from an Air Force budget perspective, it's \$4.4 billion of difference."

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- 8) When ULA competes for NASA launch missions, it is my understanding that you do so on a firm, fixed-price, Commercial-Item basis under the NASA Launch Services Program, which is executed under Federal Acquisition Regulations (FAR) Part 12. It is my impression that ULA has been very successful in winning NASA launch services contracts. Would ULA agree to bid for EELV launches using the same acquisition approach?

A: It's notable that the original EELV Buy I contracts were under FAR Part 12. The transition to FAR 15 was driven by USG requirements and established needed oversight for our nation's most valuable national security payloads, where failure results in decreased capability to our nation's intelligence and war fighter community.

ULA's approved business systems enables us to compete in whichever mode the USG chooses, though at some point the USG will need to gain insight into other EELV competitor costs, especially on some of the mission unique efforts that Mr. Musk suggested in his testimony would logically be covered on a cost plus contract. Our understanding is SpaceX does not have and has refused to have FAR-complaint business systems to support the full range of USG mission needs. Consistent requirements for all contractors and full compliance with basic Federal Acquisition Requirements is paramount, whether the contract is under FAR Part 12 or FAR Part 15.

- 9) I understand that ULA and its subcontractors have received significant taxpayer investments for several years to undertake a "common" upper stage engine in the RL-10C for the Atlas and Delta launch vehicles. Once achieved, won't ULA have created a single point of failure across its launch vehicle systems and, if so, how is this consistent with the Government's assured access to space policy? If ULA were to experience an anomaly on the RL-10C, as it did recently with the RL-10B, would both the Atlas and Delta launch vehicles be grounded until a resolution was found?

A: ULA and Aerojet Rocketdyne have been developing a new version of the RL10 engine that incorporates the best of the unique features of the heritage RL10A and RL10B versions to improve producibility and reliability. The RL10C delivers long-term affordability improvements to the USG customer and provides good return on the development investment. The use of the RL10C has no impact to assured access, nor does it change the risk profile of an anomaly on the RL10 system.

- 10) Concerns have been raised for many years about the national security implications of the Atlas V's main engine, the Russian-made RD-180. In 2006, a Rand Corporation study identified this reliance as a significant national security problem. In late 2013, the Russian Security Council made threats—as it has in the past—of discontinuing the supply of the RD-180 to the United States. How is reliance on the RD-180 engine consistent with the national security interests of the United States? What is ULA's stated commitment to the U.S. Government, and at what estimated cost to the taxpayer, to offset the lack of availability of the RD-180 engine?

A: EELV's foreign supplier reliance was also subject of an NDAA required report in fall of 2013. OSD chartered RAND Corporation to evaluate the risk again. ULA maintains a strategic reserve of ~2 years of engines for our Atlas V family, and our assured access capability enables us to re-manifest selected missions to Delta IV while reserving the Atlas V supply for critical selected missions. That approach garners additional time to pursue a propulsion alternative. This latest RAND study concluded that the risks of supplier interruption are manageable under current contingency plans. Please also note

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that through numerous political incidents between the US and foreign governments, strategic space cooperation such as the RD-180 relationship have remained unaffected.

As far as costs associated with alternative propulsion constructs, those estimates are proprietary to the propulsion suppliers so we are not at liberty to share. If the committee wants to understand those options, more information can be obtained from the suppliers.