U.S. Defense Space-Based and Related Systems Fiscal Year 2012 Budget Comparison

Update 4

President's FY 2012 Department of Defense Budget Request, FY 2012 National Defense Authorization Act [NDAA] (P.L. 112-81), FY 2012 Department of Defense Appropriations Act (P.L. 112-74).

This document provides an overview of unclassified space-based and related programs requested in the Department of Defense's (DoD) FY 2012 budget in comparison with the FY 2012 NDAA and Defense Appropriations Act. The first section provides a comparison of funding levels for major satellites and launch service acquisitions, followed by a more detailed analysis of each program. The analysis then looks at similarities and differences in proposed funding levels for the Evolutionary Acquisition for Space Efficiency (EASE) proposal, Operationally Responsive Space, Space Situational Awareness, Precision Tracking Space Systems, National Rocket Propulsion Strategy, Resolution Restrictions on Commercial Imaging Satellite Sales, and the 15-year Space Strategic Plan. An appendix at the end of the document provides a chart of unclassified DoD space and space-related programs organized by the various funding proposals.

Satellites and Launch Services – FY 2012 Funding*

Budget Authority, $ in million	President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
Satellites			
Mobile User Objective System (MUOS)	482.4	482.4	482.4
Advanced Extremely High Frequency (AEHF)	974.5	954.5	954.5
Global Positioning System (GPS)	1,462.0	1,433.0	1,473.0
Defense Weather Satellite System (DWSS)	444.9	43.0	168.0
Space Based Infrared System (SBIRS)	995.2	995.2	995.2
Wideband Global SATCOM (WGS)	481.5	888.5	807.5
Launch			
Evolved Expendable Launch Vehicle (EELV)	1,760.2	1,723.2	1,723.2

*Please note that the numbers used for this table reflect the numbers explicitly called out in the relevant document. In some cases, the sum of the budgets for each category does not match the total funding level given in the document.

Mobile User Objective System

Budget Authority, $ in million	FY 2012		
	President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
RDT&E	244.2	244.2	244.2
Mobile User Objective System (MUOS)	244.186	244.186	244.186
Procurement	238.2	238.2	238.2
Fleet Satellite Comm Follow-On	238.215	238.215	238.215
Total	**482.4**	**482.4**	**482.4**

Numbers may not add due to rounding

Mission

The Mobile User Object System (MUOS) is a narrowband military satellite communications (MILSATCOM) system that supports a worldwide, multi-service population of mobile and fixed-site terminal users with narrowband beyond-line-of-sight satellite communications (SATCOM) services. Capabilities will include a considerable increase to current narrowband SATCOM capacity as well as significant improvement in availability for small terminals. MUOS will augment and replace the eight Ultra High Frequency Follow-On (UFO) system satellites that currently provide narrowband tactical communications.

President's FY 2012 Department of Defense Budget Request

Research, Development, Test & Evaluation (RDT&E):

- MUOS FY 2012 Base Plans: Complete work on the assembly, integration and testing of satellite 2, satellite 2 shipment and launch vehicle mate operations and launch. Provide fixes to ground software resulting from system testing. Complete installation and testing of final ground software at the Wahiawa and Northwest sites. Begin installation and testing of final ground software at the site in Sicily.

Procurement:

- MUOS FY 2012 Base Plans: Evolved Expendable Launch Vehicle (EELV) costs for the fourth (#4) MUOS satellite. Production engineering, product improvement and quality assurance support.

Congressional Action

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $482 million to fully fund the MUOS program at the President's FY 2012 request.

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $482 million to fully fund the MUOS program at the President's FY 2012 request.

Advanced Extremely High Frequency

Budget Authority, $ in million	FY 2012		
	President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
RDT&E	421.7	401.7	401.7
Advanced MILSATCOM	279.495	N/A	N/A
Evolved AEHF	142.192	N/A	N/A
Procurement	552.8	552.8	552.8
Advanced EHF	552.833	552.833	552.833
Total	**974.5**	**954.5**	**954.5**

Numbers may not add due to rounding

Mission

The Advanced Extremely High Frequency (AEHF) system is a joint service satellite communications system that will provide survivable, anti-jam, worldwide secure communications for strategic and tactical users. AEHF is the follow on program to the existing extreme high frequency system MILSTAR satellite, providing ten times the throughput and greater than five times the data rate of the current MILSAT II satellites. AEHF is also a cooperative program that includes International Partners: Canada, the United Kingdom, and the Netherlands.

President's FY 2012 Department of Defense Budget Request

Research, Development, Test & Evaluation (RDT&E):

- AEHF Space Vehicle-1 (SV-1) and Space Vehicle-2 (SV-2) FY 2012 Base Plans: In FY 2012, continue SV-1 on-orbit test and initiate operations. Complete SV-2 launch readiness, launch, and on-orbit test/operations. Deliver Master Control Station (MCS) Increment 7. Conduct Interim Contractor Support, continue program office support and related activities, and conduct studies/analysis, as required.
- Evolved AEHF FY 2012 Base Plans: Funds parts obsolescence redesign to include Space Vehicle-6 (SV-6) cryto redevelopment, Space Vehicle-7 (SV-7), Space Vehicle-8 (SV-8) Capability and Affordability Insertion Program (CAIP) acquisition architecture and strategy program with risk reduction activities informed by the FY 11 Space Communications Layer (JSCL) Material Solutions Analysis (MSA), Program Office support and other related activities, Analysis of Alternatives (AoA) efforts, Information Assurance efforts, technology demonstrations, SATCOM technology needs efforts, and production and qualification of radiation-hardened components for Air Force and DoD space programs.
- Protected MILSATCOM Architecture studies FY 2012 Base Plans: Funds protected MILSATCOM architecture development for next generation capability to be inserted in future AEHF block buy increments, Protected BAAs, capability enhancement studies, technology demonstrations efforts and risk mitigation and alternative definitions efforts.

Procurement:

- AEHF FY 2012 Program Justification: Funding supports efforts such as the initiation of Space Vehicle-5 (SV-5) and Space Vehicle-6 (SV-6) production block buy; continuation of technical support to include obsolescence/Diminishing Manufacturing Sources (DMS) studies; and continuation of program office and related support.

Congressional Action

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $954 million for the AEHF program, $20 million below the President's FY 2012 Request. The Conference Report cites "excess to need" and "poor justification" for the $20 million reduction from AEHF's RDT&E funds.

- Section 136 authorizes the Secretary of the Air Force to "procure two advanced extremely high frequency satellites by entering into a fixed-price contract," through the option of "incremental funding for a period not to exceed six fiscal years," and establishes a limitation of $3.1 billion to be spent for the procurement of the two AEHF satellites. However, the NDAA denies the Air Force request for advanced appropriations authority for the two AEHF satellites. The Conference Report cites "that such authority has not been provided to the Department [of Defense] in the past and would limit the oversight ability of future Congresses." In addition, the Secretary of the Air Force is required to submit a report to the congressional defense committees "not later than 30 days after the date on which the Secretary [of the Air Force] awards a contract" for the two AEHF satellites. The report shall include: contract details, cost savings, and plans for reinvesting the cost savings into capability improvements for future blocks of AEHF satellites.

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $954 million for the AEHF program, $20 million below the President's FY 2012 Request. The Conference Report cites "excess to need" and "poor justification" for the $20 million reduction from AEHF's RDT&E funds.
- The Conference Report states that the Congress continues to "support block buys of satellites that are evolved from previous designs as described in the 'Evolutionary Acquisition for Space Efficiency (EASE)' concept." However, the Congress reiterated its "opposition to using advance appropriations for procurement of satellites," and, instead, "recommend that an alternative concept be proposed in future budget submissions." In addition, the Congress is concerned about the technology insertion program, which the Conference Report states lacked adequate detail in the Air Force's budget justification materials. Therefore, the Congress outlined several criteria that the Air Force must meet before it can obligate all of the funds appropriated for the Advanced Extremely High Frequency (AEHF) system Capabilities/Affordability Insertion Program (CAIP) in FY 2012. First, no more than 50 percent of the funds appropriated for AEHF CAIP program shall be available for obligation "until the Secretary of the Air Force submits a report to the congressional defense committees on the individual CAIP efforts with a description of the technology insertion plans being pursued." Second, the Secretary of the Air Force is directed to "include the detailed budget definition for each of the CAIP efforts in the R-3 documents for the fiscal year 2013 and future budget submissions." Third, "not more than the specified amounts shall be obligated for the AEHF CAIP/Space Modernization Initiative unless the Secretary of the Air Force notifies the congressional defense committees in writing 15 days prior to the obligation of funds which exceeds the following amounts: $28,300,000 for cryptology parts obsolescence; $20,000,000 for radiation hardened parts technologies; $3,200,000 for remotely piloted aircraft concept definition; $58,700,000 for protected military satellites communications (MILSATCOM) designs for affordability; $7,000,000 for hosted payloads; and $25,000,000 for MILSATCOM architecture and support."

Global Positioning System

Budget Authority, $ in million	FY 2012 President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
RDT&E	872.0	842.8	842.8
GPS Block II Operational Control System (OCS)	17.893	17.893	17.893
GPS IIIA	463.081	458.081	458.081
GPS New Generation Operational Control (OCX)	390.889	366.889	366.889
Procurement	590.0	590.0	630.2
GPS IIIA Space Segment	433.526	433.526	433.526
Advance Procurement	81.811	81.811	81.811
GPS IIF and launch support	67.689	67.689	107.689
OCS COTS Upgrade	7.202	7.202	7.202
Total	**1,462.0**	**1,433.0**	**1,473.0**

Numbers may not add due to rounding

Mission

The Navstar Global Positioning System (GPS) provides for worldwide, accurate, common grid three-dimensional positioning/navigation for military aircraft, ships and ground personnel. The system also has applications for civil, scientific and commercial functions.

President's FY 2012 Department of Defense Budget Request

Research, Development, Test & Evaluation (RDT&E) Plans:

- Operational Control Systems (OCS) FY 2012 Base Plans: Continue with ground segment upgrades, System Engineering & Integration (SE&I) and Program Support.
- Distress Alerting Satellite System (DASS) FY 2012 Base Plans: Development and integration of DASS antennas, DASS miscellaneous hardware and cabling, and DASS-related space vehicle software, Integrating DASS payload onto the GPS III space vehicles, DASS-related GNST and GSS components and integration, Associated System Engineering and Program Management (SE/PM), Enterprise-level contractor SEIT/PM, Other Government Costs (OGC). Costs do not include development and production of Canadian payload box.
- GPS III FY 2012 Base Plans: GPS IIIA space vehicle development, SE&I, technical and program support, capability maturation and risk reduction.
- GPS III OCX FY 2012 Base Plans: Continue OCX Block 1-2 Integrated System Design, Systems Engineering & Integration (SE&I), and technical and program support.

Procurement:

- GPS III Space Segment FY 2012 Program Justification: FY12 funding procures two GPS IIIA Space Vehicles (SVs).
- GPS III Space Segment Advance Procurement FY 2012 Program Justification: FY12 funding procures long lead parts for GPS IIIA satellites.
- Global Positioning System (Space) FY 2012 Program Justification: FY12 funding is required for IIF launch and on-orbit support.
- GPSOCS COTS Upgrade Program Justification: FY12 funding procures GPS OCS commercial equipment that has become obsolete/unsupportable or requires upgrades. Funding will procure equipment for the OCS ground sites including the Master Control Station (MCS), Alternate Master Control System (AMCS), four ground antennas, six monitor stations, contractor lab facility and Telecommunications Simulator Test Set. Modifications include required procurement, nonrecurring engineering installation testing, configuration, management, security, quality assurance and technical documentation. If not funded,

down time and maintenance cost associated with repair or failed equipment will increase, lowering system operational availability.

Congressional Action

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $1.433 billion for GPS programs, $29 million below the President's FY 2012 request. The NDAA reduces the GPS III-Operational Control Segment program by $24 million. The Conference Report cites "slow execution" for the $24 million reduction. The NDAA reduces the GPS IIIA advance procurement by $5 million. The Conference Report cites "poor justification" for "GPS III CIP" as the rationale for the $5 million reduction.
- Section 911 of the FY 2012 NDAA states, "The Federal Communications Commission shall not lift the conditions imposed on commercial terrestrial operations in the Order and Authorization adopted on January 26, 2011 (DA 11-133), or otherwise permit such operations, until the Commission has resolved concerns of widespread harmful interference by such commercial terrestrial operations to covered GPS devises." Further, the NDAA directs the Secretary of Defense to conduct a review 90 days after the date of the enactment of NDAA, and every 90 days thereafter, to: "assess the ability of covered GPS devices to receive signals from GPS satellites without widespread harmful interference;" and "determine if commercial communications services are causing or will cause widespread harmful interference with covered GPS devices."

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $1.473 billion for GPS programs, $11 million above the President's FY 2012 request. The Defense Appropriations Act reduces the GPS III-Operational Control Segment program by $24 million. The Conference Report cites "reduction to growth" for "directorate support" as the rationale for the $24 million reduction. In addition, the Defense Appropriations Act reduces the GPS IIIA advance procurement by $5 million. The Conference Report cites "poor justification" for "GPS III CIP" as the rationale for the $5 million reduction. However, the Defense Appropriations Act adds $40 million to the GPS IIF program for "production support."

Defense Weather Satellite System

Budget Authority, $ in million	FY 2012		
	President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
RDT&E	444.9	43.0	43.00
Weather Satellite Follow-On	-	-	125.00
Procurement	-	-	-
Total	**444.9**	**43.0**	**168.00**

Numbers may not add due to rounding

Mission

The FY 2012 request reflects the February 2010 Executive Office of the President (EOP) decision to restructure the National Polar-orbiting Operational Environmental Satellite System (NPOESS) program. The EOP restructure directed that the DoD is responsible for the early morning orbit, and the Department of Commerce (DOC), with NASA as their acquisition agent, is responsible for the afternoon orbit. In June 2010, Office of the Secretary of Defense (OSD) designated the DoD portion of the NPOESS program as the Defense Weather Satellite System (DWSS).

The DWSS is a joint service satellite weather system. The DWSS system will produce environmental data records for regional and global meteorological, oceanographic, environmental, and climatic data, and will provide space environmental remote sensing information. DWSS will enable the anticipation and exploitation of atmospheric and space environment conditions for military operations planning. DWSS is the follow-on program to the Defense Meteorological Satellite Program (DMSP).

President's FY 2012 Department of Defense Budget Request

Research, Development, Test & Evaluation (RDT&E):

- DWSS FY 2012 Base Plans: Continue development and acquisition of DWSS satellites and sensors, fund development of DoD-specific elements within the common ground system, develop algorithms, and utilize the McMurdo communication system for data processing risk reduction.

Congressional Action

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA terminates the DWSS program in FY 2012, and authorizes $43 million to be appropriated for "termination liability" in FY 2012.

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act terminates the DWSS program in FY 2012, and appropriates $43 million for "termination liability" in FY 2012. However, the Defense Appropriations Act appropriates $125 million for "weather satellite follow-on activities" in FY 2012.

Space Based Infrared System High

Budget Authority, $ in million	FY 2012		
	President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
RDT&E	621.6	621.6	621.6
SBIRS High Element EMD	605.111	605.111	605.111
Commercially Hosted Infrared Payload (CHIRP)	16.518	16.518	16.518
Procurement	373.6	373.6	373.6
SBIRS HIGH	81.389	81.389	81.389
Advance Procurement	243.500	243.500	243.500
Total	**995.2**	**995.2**	**995.2**

Numbers may not add due to rounding

Mission

The Space Based Infrared Systems (SBIRS) program will provide early warning for the United States and its allies in four mission areas: missile warning, missile defense, technical intelligence and battle-space awareness. SBIRS will augment and then replace the Defense Support Program (DSP) constellation. SBIRS will provide shorter revisit times and greater sensitivity than the current DSP constellation. SBIRS provides increased detection and tracking performance in order to meet requirements in U.S. Space Command's Capstone Requirements Document and Operational Requirements Document (ORD).

President's FY 2012 Department of Defense Budget Request

Research, Development, Test & Evaluation (RDT&E):

- SBIRSEMD FY 2012 Base Plans: Continue GEO development. Continue GEO-1 on-orbit testing. Continue GEO-2 integration, assembly and test, design activities, proposal preparation, Ground System Development (Block 10), System Engineering and Program Management, Host program office support, Technical Intelligence activities, Data Processing/Exploitation/ground integration activities, Combined Task Force (CTF) support activities, and continuation of systems integration and test studies. Execute GEO-2 launch campaign. Continue Program Office and related support activities (to include SETA), technical analysis and independent verification and validation of contractor. Continue Systems Engineering and Integration (SE&I).
- Commercial Hosted Infrared Payload (CHIRP) FY 2012 Base Plans: Continue CHIRP on-orbit demonstration to include fusion of CHIRP data with other OPIR systems. Collect, archive and analyze on-orbit data against cooperative targets and continue to mature Wide-Field-of-View (WFOV) algorithms. Continue Program Office and related support activities.

Procurement:

- SBIRS FY 2012 Program Justification: FY12 funding provides for continued procurement of the GEO-5 and follow-on satellites and on-orbit test and support of HEO-1/2 satellites. Continues funding Program Office and related support activities, such as, but not limited to Systems Engineering and Integration.

Congressional Action

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $995 million to fully fund the SBIRS program at the President's FY 2012 request.

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriation Act appropriates $995 million to fully fund the SBIRS program at the President's FY 2012 request.

Wideband Global SATCOM System

Budget Authority, $ in million	FY 2012		
	President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
RDT&E	12.8	12.804	12.8
WGS (SPACE)	12.804	12.804	12.804
Procurement	468.7	875.7	794.7
WGS 8 Space	468.745	459.745	459.745
WGS 9 (Transfer from PDW-20)	-	416.00	335.00
Total	**481.5**	**888.5**	**807.5**

Mission

The Wideband Global SATCOM (WGS) satellite is an international and joint service satellite communications system that will provide high-capacity communications. The WGS system allows the DoD robust and flexible execution of command and control, communications computers, intelligence, surveillance, and reconnaissance (C4ISR), as well as battle management and combat support information functions. The WGS system is the follow-on to the Defense Satellite Communications Systems (DSCS). Each WGS satellite will deliver the equivalent capacity of the entire existing DSCS constellation.

President's FY 2012 Department of Defense Budget Request

Research, Development, Test & Evaluation (RDT&E):

- CCS-C development FY 2012 Base Plans: Fund development to support WGS Block II satellite, complete development of software for replacement of WGS Flight Dynamics System with modified CCS-C orbit analysis software. Complete development for the FY12 launch of AEHF SV-3.

Procurement:

- WGS FY 2012 Program Justification: FY12 funding includes: Satellite 8 full procurement, Satellites 4 and 5 flight preparation, spares, mission assurance, Federally Funded Research and Development Center (FFRDC) technical analysis, test support (to include Camp Parks), program office and other related support activities.

Congressional Action

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $888 million for the WGS program, $407 million above the President's FY 2012 request. The source of the WGS increase comes from a transfer of funds out of the SATCOM Services Enhancement program. In the President's request, the SATCOM Services Enhancement program was intended to lease or buy a dedicated commercial satellite to provide primarily military Ka band satellite communications in theater. The $416 million transfer would go towards funding a ninth WGS satellite instead. However, the NDAA decreases the WGS program by $9 million to "support funding growth."

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $807 million for the WGS program, $326 million above the President's FY 2012 request. The Defense Appropriations Act transfers $335 million from the SATCOM Services Enhancement program into the WGS program for "WGS-9." However, the Defense Appropriations Act decreases the WGS program by $9 million to "support funding growth."

Evolved Expendable Launch Vehicle

Budget Authority, $ in million	FY 2012 President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
RDT&E	20.0	15.0	15.0
Evolved Expendable Launch Vehicle	20.028	15.028	15.028
Procurement	1,740.2	1,708.2	1,708.2
Evolved Expendable Launch Vehicle	1,740.222	1,708.222	1,708.222
Total	**1,760.2**	**1,723.2**	**1,723.2**

Mission

The Evolved Expendable Launch Vehicle (EELV) program was designed to improve the United States' access to space by making space launch vehicles more affordable and reliable. The program satisfies the government's National Launch Forecast (NLF) requirements.

President's FY 2012 Department of Defense Budget Request

Research, Development, Test & Evaluation (RDT&E):

- EELV RDT&E FY 2012 Base Plans: Continued fleet-wide integration and certification of RS-68 engine upgrade. Complete development of secondary payload standard service. Complete GPS metric tracking development and conduct flight certifications. Continue Pre-Planned Product Improvements (P3I) efforts, to include, but not limited to, development of replacement components, flight and ground instrumentation to include upgraded flight termination system (SLFTS), and conduct special studies.

Procurement:

- EELV FY 2012 Program Justification: EELV FY 2012 procurement funds required for annual launch capability tasks to include systems engineering, program management, infrastructure, systems integration and tests, launch site and launch operations activities, post mission analysis, and other related activities to support mission requirements, to include mission assurance for previously procured AF missions working toward launch and to mitigate effects of diminishing manufacturing sources. Funds are also required to procure four launch services within the medium and intermediate classes to be completed as early as FY 2014, and support international partner launch services. Current Launch Services procurements will no longer be based on a mission-assigned tail concept. The revised procurement process will be based on a yearly launch service block buy. The Air Force will then assign missions on priority-need or first availability.

Congressional Action

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $1.708 billion for the EELV program, $37 million below the President's FY 2012 request. The NDAA reduces the EELV RDT&E program by $5 million. The Conference Report cites "Program underexecution due to schedule delay" for the $5 million reduction. The NDAA reduces the EELV procurement program by $32 million. The Conference Report cites "excess to need due to efficiencies" as the rationale for the $32 million reduction.
- Section 838 requires the Secretary of Defense to "redesignate the Evolved Expendable Launch Vehicle program as a major defense acquisition program not in the sustainment phase." In addition, Sec. 838 requires the EELV program to provide additional information to both Congress and the DoD. First, the EELV program would be required to "provide to the congressional defense committees all information with respect to the cost, schedule, and performance of the program," if "the program were designated as a major defense acquisition program not in the sustainment phase." Second, the EELV program is

required to provide the Under Secretary of Defense for Acquisition, Technology, and Logistics with a "quarterly cost and status report, commonly known as a Defense Acquisition Executive Summary," and "earned value management data that contains measurements of contractor technical, schedule, and cost performance."

- Section 839 requires the Secretary of Defense to submit to Congress additional information with regards to how the DoD will implement GAO recommendations related to its EELV acquisition strategy with its FY 2013 Department of Defense budget justification materials. First, the DoD is required to provide a "description of how the strategy of the Department of Defense to acquire space launch capability under the Evolved Expendable Launch Vehicle program implements each of the recommendations included in the Report of the Government Accountability Office on the Evolved Expendable Launch Vehicle, dated September 15, 2011 (GAO-11-641)." Second, the DoD is required to provide information with "respect to any such recommendation that the Department [of Defense] does not implement, an explanation of how the Department [of Defense] is otherwise addressing the deficiencies identified in that report." Third, "not later than 60 days after the submission of the information required by [Sec. 839], the Comptroller General of the United States shall submit to the congressional committees an assessment of that information and any additional findings or recommendations the Comptroller General considers appropriate."

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $1.708 billion for the EELV program, $37 million below the President's FY 2012 request. The Defense Appropriations Act reduces the EELV RDT&E program by $5 million. The Conference Report cites "Program underexecution due to schedule delay" for the $5 million reduction. The Defense Appropriations Act reduces the EELV procurement program by $32 million. The Conference Report cites "excess to need due to efficiencies" as the rationale for the $32 million reduction.

Evolutionary Acquisition for Space Efficiency (EASE) Proposal:

EASE Tenets (As laid out by Under Secretary of the Air Force Erin Conaton during March 2011 HASC hearing):

- EASE is comprised of four major tenets: block buys of satellites; stable research and development; fixed price contracting; and full funding through advance appropriations. First, block buys of satellites will allow the Air Force to purchase economic order quantities of critical parts, run production lines more efficiently and reduce non-recurring engineering costs. Second, stable research and development investment. The reinvestment, which is referred to as Capability and Affordability Insertion Program (CAIP), represents a strong commitment to ongoing reinvestment in technology development in concert with steady satellite production that will provide much-needed stability and predictability to a fragile space industrial base. Third, fixed-price contracting. The DoD considers fixed-price contracts as appropriate for satellite programs that have moved beyond the development phase. Fourth, full funding through advance appropriations. Full funding will spread acquisition costs across multiple years, while still applying the principles of full funding.

FY 2012 National Defense Authorization Act (P.L. 112-81):

- In Section 136 of the FY 2012 NDAA, the NDAA authorizes the Secretary of the Air Force to procure two AEHF satellites through a block buy fixed-price contract, utilizing incremental funding for no more than six fiscal years. However, the Conference Report states the "conferees do not support the request for advanced appropriations." Further, the NDAA requires the Secretary of the Air Force to provide a report to the Congress no later than 30 days after the date the contract is awarded. The report is required to include: a total of costs savings; type and duration of contract; total contract value; funding profile by year; terms regarding Federal Government requirement changes; and a plan for using the costs savings. Section 136 goes on to state, it is the Sense of Congress that the Secretary of the Air Force should not enter into a fixed-price contract for the procurement of two AEHF satellites "unless the Secretary determines that entering into such a contract will save the Air Force not less than 20 percent over the cost of procuring two such satellites separately."
- In Section 912 of the FY 2012 NDAA, the NDAA states that "If the Secretary of Defense determines that a major defense acquisition program to purchase satellites requires the delivery of satellites in two or more increments or blocks," then the Secretary is authorized to "designate each such increment or block as a major subprogram for the purposes of acquisition reporting."

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The Conference Report states that the Congress continues to "support block buys of satellites that are evolved from previous designs as described in the 'Evolutionary Acquisition for Space Efficiency (EASE)' concept." However, the Congress reiterated its "opposition to using advance appropriations for procurement of satellites," and, instead, "recommend that an alternative concept be proposed in future budget submissions." In addition, the Congress is concerned about the technology insertion program, which the Conference Report states lacked adequate detail in the Air Force's FY 2012 budget justification materials. Therefore, the Congress outlined several criteria that the Air Force must meet before it can obligate all of the funds appropriated for the Advanced Extremely High Frequency (AEHF) system Capabilities/Affordability Insertion Program (CAIP) in FY 2012. First, no more than 50 percent of the funds appropriated for AEHF CAIP program shall be available for obligation "until the Secretary of the Air Force submits a report to the congressional defense committees on the individual CAIP efforts with a description of the technology insertion plans being pursued." Second, the Secretary of the Air Force is directed to "include the detailed budget definition for each of the CAIP efforts in the R-3 documents for the fiscal year 2013 and future budget submissions." Third, "not more than the specified amounts shall be obligated for the AEHF CAIP/Space Modernization Initiative unless the Secretary of the Air Force notifies the congressional defense committees in writing 15 days prior to the obligation of funds which exceeds the following amounts: $28,300,000 for cryptology parts obsolescence; $20,000,000 for radiation hardened parts technologies; $3,200,000 for remotely piloted aircraft concept definition; $58,700,000 for protected military satellites communications (MILSATCOM) designs for

affordability; $7,000,000 for hosted payloads; and $25,000,000 for MILSATCOM architecture and support."

Operational Responsive Space

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $86 million to fully fund the ORS program at the President's FY 2012 request.

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $111 million for the ORS program, $25 million above the President's FY 2012 request. The Conference Report cites "responsive launch" as its rationale for the increase.

Space Situational Awareness

Space Situation Awareness Systems

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $241 million to be appropriated for Space Situation Awareness Systems, $32 below the President's FY 2012 request. The $32 million reduction is taken out of two programs, the Space Fence and the Space Based Space Surveillance programs. The Conference Report cites "poor justification" for the $20 million reduction in Space Fence funds. The Conference Report cites "excess to need" for the $12.6 million reduction in Space Based Space Surveillance funds.

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $241 million for Space Situation Awareness Systems, $32 below the President's FY 2012 request. The $32 million reduction is taken out of two programs, the Space Fence and the Space Based Space Surveillance programs. The Conference Report cites "poor justification" for the $20 million reduction in Space Fence funds. The Conference Report cites "excess to need" for the $12.6 million reduction in Space Based Space Surveillance funds.

Joint Space Operations Center Management System

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $81 million to be appropriated for the Joint Space Operations Center Management System (JMS), $37 million below the President's FY 2012 request. The Conference Report cites "JMS program restructure" for the $37 million reduction in JMS funds. Further, Section 217 limits the obligation or expenditure of funds authorized to be appropriated in FY 2012 for JMS until the Under Secretary of Defense for Acquisition, Technology, and Logistics and the Secretary of the Air Force jointly provide to Congress the acquisition strategy for JMS. Section 217 goes on to state, it is the Sense of Congress that "improvements to the space situational awareness and space command and control capabilities of the United States are necessary;" and "the traditional defense acquisition process is not optimal for developing the services-oriented architecture and net-centric environment planned for" JMS.

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $81 million for the Joint Space Operations Center Management System (JMS), $37 million below the President's FY 2012 request. The Conference Report cites "excess to need" for the $37 million reduction in JMS funds.

Precision Tracking Space System

FY 2012 National Defense Authorization Act (P.L. 112-81):

- The FY 2012 NDAA authorizes $80 million to be appropriated for the Precision Tracking Space System (PTSS) program, $80 million below the President's FY 2012 request.

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The FY 2012 Department of Defense Appropriations Act appropriates $80 million for the Precision Tracking Space System (PTSS) program, $80 million below the President's FY 2012 request. The Conference Report cites "unjustified program" as its rationale for the reduction in funds.

National Rocket Propulsion Strategy

FY 2012 National Defense Authorization Act (P.L. 112-81):

- In Section 1095 of the FY 2012 NDAA, the NDAA directs the President to transmit to Congress a national rocket propulsion strategy within 180 days of enactment of the NDAA. The NDAA specifies several areas the strategy must address, including: the impact of the Space Shuttle programs retirement and termination of the Constellation program on national security programs that rely on the solid rocket motor and liquid rocket engine industrial base; plans to mitigate the impact of the Space Shuttle program retirement and termination of the Constellation program on the solid rocket motor and liquid rocket engine propulsion industrial base; a plan that outlines key decision points for the current and next-generation mission requirements for U.S. missiles, missiles defense interceptors, targets, and launch vehicles; and options with recommendations for synchronizing plans, programs, and budgets to strengthen the solid rocket motor and liquid rocket engine propulsion industrial base.

Resolution Restrictions on Commercial Imaging Satellite Sales

FY 2012 National Defense Authorization Act (P.L. 112-81):

- In Section 1073 of the FY 2012 NDAA, the NDAA directs the Secretary of Commerce to transmit to Congress a report outlining the results of a "comprehensive review of current restrictions on the resolution of electro-optical (EO) imagery collected from satellites that commercial companies may sell or disseminate." The NDAA directs the Secretary of Commerce to consider a series of factors in evaluating whether the current restriction on resolution to 0.5 meters should be relaxed.

15-year Space Strategic Plan

FY 2012 Department of Defense Appropriations Act (P.L. 112-74):

- The Conference Report states the "conferees are disappointed that it took the Department of Defense over two years to develop a 15-year space strategic plan." In addition, it is the conferees "intention" that "such plans be regularly developed and updated." Therefore, the Department of Defense is directed to deliver the next 15-year space strategic plan "with the fiscal year 2014 budget submission."

Appendix: Summary of Unclassified Space-related Programs requested in FY 2012 budget*

Budget Authority, $ in million	FY 2012		
	President's FY 2012 DoD Budget Request	FY 2012 National Defense Authorization Act (P.L. 112-81)	FY 2012 Defense Appropriations Act (P.L. 112-74)
PROCUREMENT			
ARMY, Other Procurement			
Defense Enterprise Wideband SATCOM Systems (DEWSS)	123.859	123.859	123.859
Super High Frequency (SHF) Terminal	8.910	8.249	8.249
Navstar Global Positioning System	29.568	26.368	26.368
Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T)	49.704	49.704	49.704
Single Channel Anti-Jam Man-Portable (SCAMP) Terminal	2.415	2.415	2.415
Global Broadcast Service (GBS)	73.374	64.774	64.774
Mod of In-Svc Equipment (TACSAT)	31.799	31.799	31.799
NAVY, Weapons Procurement			
Fleet Satellite communications Follow-on	238.215	238.215	238.215
NAVY, Other Procurement			
Navstar GPS Receivers (SPACE)	9.926	9.926	9.926
Satellite Communications Systems	25.522	25.522	25.522
Navy Multiband Terminal (NMT)	109.022	107.242	107.242
AIR FORCE, Aircraft Procurement			
EHF SATCOM & Computers	29.501	29.501[†]	29.501
EHF SATCOM	50.921	50.921[‡]	50.921[§]
AIR FORCE, Missile Procurement			
Advanced EHF	552.833	552.833	552.833
Wideband Gapfiller Satellites	468.745	875.745	794.745
GPS III Space Segment	433.526	433.526	433.526
GPS III Space Segment Advance Procurement	81.811	81.811	81.811
Spaceborne Equipment (COMSEC)	21.568	21.568	21.568
Global Positioning System (SPACE)	67.689	67.689	107.689
Defense Meteorological Satellite Program	101.397	101.397	101.397
Evolved Expendable Launch Vehicle	1,740.222	1,708.222	1,708.222
Space Based Infrared System High	81.389	81.389	81.389
Space Based Infrared System High Advance Procurement	243.500	243.500	243.500
AIR FORCE, Other Procurement			
Space Based IR Sensor Program	49.570	49.570	49.570
Navstar GPS Space	2.008	2.008	2.008
NUDET Detection System Space	4.863	4.863	4.863
Air Force Satellite Control Network	61.386	61.386	61.386
Spacelift Range System Space	125.947	125.947	125.947
MILSATCOM Space	104.720	36.570	36.570
Space MODS Space	28.075	28.075	28.075
Counterspace System	20.718	20.718	20.718
Defense Space Reconnaissance Program	41.066	41.066	41.066

[†] The National Defense Authorization Act reduced the overall B-2A request by $10.3 million, but it is unclear how or if that reduction affected the EHF SATCOM & Computers portion of the program.

DEFENSE-WIDE, Procurement			
Defense Information System Network	500.932	84.932	84.932
Teleport Program	54.743	54.743	54.743
PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS			
AIR FORCE, Other Procurement			
Defense Space Reconnaissance Program	64.400	64.400	64.400
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION			
ARMY, RDT&E Advanced Component Development & Prototypes			
Army Space Systems Integration	9.612	9.612	9.612
ARMY, RDT&E Operational Systems Development			
SATCOM Ground Environment	12.104	12.104	12.104
NAVY, RDT&E Advanced Component Development & Prototypes			
Space and Electronic Warfare (SEW) Architecture/Engineering Support	33.621	33.621	33.621
NAVY, RDT&E System Development & Demonstration			
Joint Tactical Radio System, MUOS Software	6.500	6.500**	6.500
NAVY, RDT&E Management Support			
Navy Space & Electronic Warfare (SEW) Support	4.228	4.228	4.228
Space & Electronic Warfare Surveillance/Reconnaissance Support	7.642	7.642	7.642
NAVY, RDT&E Operation Systems Development			
Satellite Communications	263.712	263.712	263.712
Navy Meteorological & Ocean Sensors-Space (METOC)	0.904	0.904	0.904
AIR FORCE, RDT&E Applied Research			
Rocket Propulsion Technology	60.420	60.420	60.420
Space Technology	115.285	115.285	115.285
Directed Energy Technology, Space Situational Awareness	30.422	30.422	60.422
AIR FORCE, RDT&E Advanced Technology Development			
Space & Missile Rocket Propulsion	27.603	27.603	27.603
Advance Spacecraft Technology	74.636	74.636	74.636
Maui Space Surveillance System (MSSS)	13.555	13.555	13.555
Advanced Weapons Technology, Space Situational Awareness	-	-	20.00
AIR FORCE, RDT&E Advanced Component Development & Prototypes			
Advanced EHF MILSATCOM	421.687	401.687	401.687
Polar MILSATCOM	122.991	102.991	102.991
Space Control Technology	45.755	45.755	45.755
International Space Cooperative R&D	0.642	0.642	0.642
Space Protection Program	9.819	7.319	7.319

** The National Defense Authorization Act decreased the overall Joint Tactical Radio System request by $12 million, but it is unclear how or if that decrease affected the MUOS software portion of the program.

Wideband MILSATCOM	12.804	12.804	12.804
Next-Generation MILSATCOM Technology	-	-	-
Operationally Responsive Space	86.543	86.543	111.543
National Polar-Orbiting Op Env Satellite	444.900	43.000	43.000
Weather Satellite Follow-On	-	-	125.000
AIR FORCE, RDT&E Systems Development & Demonstration			
Global Broadcast Service (GBS)	5.680	5.680	5.680
Counterspace Systems	31.913	31.913	31.913
Space Situation Awareness Systems	273.689	241.089	241.089
Spaced Based Infrared Systems High	621.629	621.629	621.629
Evolved Expendable Launch Vehicle Program	20.028	15.028	15.028
AIR FORCE, RDT&E Management Support			
Rocket Systems Launch Program	158.096	158.096	158.096
Space Test Program	47.926	47.926	47.926
AIR FORCE, RDT&E Operational Systems Development			
Global Positioning System III-Operational Control	390.889	366.889	366.889
EHF SATCM and Computers	285.034	225.034	202.534
Air & Space Operations Center	121.880	121.880	121.880
Space Superiority Intelligence	11.866	8.866	8.866
MILSATCOM Terminals	238.729	196.729	196.729
FAB-T Alternative	-	42.000	42.000
Satellite Control Network	18.337	18.337	18.337
Navstar Global Positioning System (User Equipment)	133.601	133.601	133.601
Navstar Global Positioning System (Space & Control)	17.893	17.893	17.893
Space & Missile Test & Evaluation Center	196.254	188.754	188.754
Space Innovation & Development Center (Space Warfare Center)	2.961	2.961	2.961
Spacelift Range System (SPACE)	9.940	9.940	9.940
GPS III Space Segment	463.081	458.081	458.081
JSPOC Mission System	118.950	81.450	81.450
NUDET Detection System (SPACE)	81.989	81.989	81.989
Space Situation Awareness Operations	31.956	31.956	31.956
DEFENSE-WIDE, RDT&E Advanced Technology Development			
DARPA, Space Programs & Technology	97.541	97.541	97.541
DEFENSE-Wide, RDT&E Advanced Component Development & Prototypes			
Space Tracking & Surveillance System	96.353	96.353	96.353
Ballistic Missile Defense System Space Programs	7.951	7.951	7.951
Precision Tracking Space Sensor	160.818	80.818	80.818
OPERATION & MAINTENANCE			
NAVY OPERATING FORCES, Operation & Maintenance			
Space Systems & Surveillance	162.303	137.303	137.303
NAVY OPERATING FORCES, Admin & SRVWD Activities			
Admin & SRVWD Activities	68.374	68.374	68.374

AIR FORCE OPERATING FORCES, Operation & Maintenance			
Launch Operations	321.484	313.484	313.484
Space Control System	633.738	619.552	619.552
OVERSEAS CONTINGENCY OPERATIONS			
NAVY, Admin &SRVWD Activities			
Space & Electronics Warfare Systems	1.075	1.075	1.075
AIR FORCE, Operation & Maintenance			
Space Control Systems	16.833	16.833	16.833
Total	**12,288.02**	**11,418.44**	**11,554.94**

*Not included in this chart are funds for Commercial Satellite Services and Enhanced Mobile Satellite Services, which the armed services acquire through the Defense Information Systems Agency (DISA). The DoD Budget request projects that it will spend $492.6 million on Commercial Satellite Services in the FY 2012. The DoD budget request projects that it will spend $121.4 million on Enhanced Mobile Satellite Services in FY 2012. In totality, the DoD projects it will spend $614 million on commercial satellite communications.[††]

[††]United States Department of Defense. Defense-Wide Fiscal Year [FY] 2012 Budget Estimates Operating and Capital Budgets. (Date 02/15/11). Text from: Office of the Under Secretary of Defense (Comptroller) website. Available from: http://comptroller.defense.gov/defbudget/fy2012/budget_justification/pdfs/06_Defense_Working_Capital_Fund/PB_12_DWWCF_Operating_Budget.pdf; Accessed 07/05/11.

About the Space Foundation

The Space Foundation is an international, nonprofit organization and the foremost advocate for all sectors of the space industry - civil, commercial, military and intelligence. Founded in 1983, the Space Foundation is a leader in space awareness activities, educational programs that bring space into the classroom, and major industry events, all in support of its mission "to advance space-related endeavors to inspire, enable, and propel humanity." An expert in all aspects of the global space industry, the Space Foundation publishes *The Space Report: The Authoritative Guide to Global Space Activity* and provides three indices that track daily performance of the space industry. Through its Space Certification and Space Technology Hall of Fameprograms, the Space Foundation recognizes space-based technologies and innovations that have been adapted to improve life on Earth. Headquartered in Colorado Springs, the Space Foundation conducts research and analysis and government affairs activities from its Washington, D.C., office and has field representatives in Houston, Texas, and Cape Canaveral, Fla. For more information, visitwww.SpaceFoundation.org. Follow us on Twitter, Facebook, and LinkedIn, and read about the latest space news and Space Foundation activities in *Space Watch*.

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