U.S. Defense Space-Based and -Related Systems Fiscal Year 2014 Budget Comparison

Update 6

President's FY 2014 Department of Defense Budget Request; FY 2014 National Defense Authorization Act [NDAA] Act (H.R. 3304); Defense appropriations in the Omnibus Appropriations bill (H.R. 3547)

This document provides an overview of unclassified space-based and -related programs requested in the Department of Defense's (DoD) FY 2014 Budget in comparison with the FY 2014 NDAA and the FY 2014 Defense Appropriations Act. The first section provides a comparison of funding levels for major satellites, programs and launch service acquisitions, followed by a more detailed analysis of each program. 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, Programs and Launch Services – FY 2014 Funding*

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
Satellites & Programs			
Mobile User Objective System (MUOS)	59.0	59.0	53.0
Advanced Extremely High Frequency (AEHF)	652.5	652.5	594.6
Global Positioning System (GPS)	1,287.4	1,287.4	1,220.4
Space Based Infrared System (SBIRS)	963.9	934.2	873.1
Wideband Global SATCOM (WGS)	52.3	52.3	45.9
Precision Tracking Space System (PTSS)	0.0	0.0	0.0
Space Situation Awareness Systems	400.2	400.2	315.2
JSPOC Mission Systems (JSPOC)	58.5	58.5	58.5
Launch			
Evolved Expendable Launch Vehicle (EELV)	1,880.9	1,880.9	1,512.8

*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	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	35.952	35.952	35.952
Mobile User Objective System (MUOS)	35.952	35.952	35.952
Procurement	23.014	23.014	16.914
Fleet Satellite Comm Follow-On	23.014	23.014	16.914
Total	**58.966**	**58.966**	**52.866**

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. On February 24, 2012 the first Mobile User Objective System satellite was successfully launched.

President's FY 2014 Department of Defense Budget Request

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

- Complete On-Orbit testing phase for Satellite 2, conduct End to End (E2E) Risk Reduction testing, conduct Technical Evaluation 2 (TECHEVAL 2), perform Operational Test Readiness Review (OTRR), initiate and complete the Multiservice Operational Test and Evaluation #2 (MOT&E) effort. Provide fixes to ground software resulting from system testing, and Information Assurance Vulnerability Alerts. Implement Engineering Change Proposals (ECPs) requiring Ground software changes. Complete the accreditation effort to obtain the initial Interim Authority to Operate (IATO) for Niscemi. Continue fixing Information Assurance (IA) vulnerabilities identified during the Information Assurance Certification & Validation (IACV) effort for Geraldton, Wahiawa, and Northwest. Conduct new IACVs at all sites to obtain IATO extensions.

Procurement:

- Production engineering, product improvement and quality assurance support.
- Continue ground systems tech refresh equipment for the ground sites.

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes $58 million to fully fund the MUOS program at the President's FY 2014 request.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates $52 million for the MUOS program in FY 2014, $6 million below the President's FY 2014 request. Accounts affected include:
    - A $6.1 million reduction in the Fleet Satellite Communications Follow-On Procurement account. The Joint Explanatory Statement cites "support funding carryover" as the rationale for the reduction.

Advanced Extremely High Frequency

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	272.872	272.872	265.872
Advanced MILSATCOM	183.372	183.372	N/A
Evolved AEHF	89.500	89.500	N/A
Procurement	379.586	379.586	328.736
Advanced EHF	379.586	379.586	328.736
Total	**652.458**	**652.458**	**594.608**

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. On May 4, 2012, the second Advanced EHF satellite was successfully launched.

President's FY 2014 Department of Defense Budget Request

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

- AEHF Space Vehicle 1 and 2, Mission Control Segment (MCS): In FY 2014, funds the System Development and Demonstration (SDD) contract Incentive Fee and continue program office support and related activities, and conduct studies/analyses, as required.
- AEHF Interim Contractor Support (ICS): In FY 2014, conduct ICS for SPACE VEHICLE-1 and SPACE VEHICLE-2 on-orbit support, MCS sustainment, and AEHF Key Management Architecture (KMA) sustainment. Conduct ICS for the AEHF Calibration Facility (ACF) and the Interim Command and Control (IC2) antenna.
- AEHF Key Management Infrastructure (KMI) transition: In FY 2014, develop and conduct systems engineering, integration and test of the Protected Key Management Architecture (PKMA). SPO will transfer funds to National Security Agency (NSA) for the development of the Protected Key Management Architecture (PKMA) centralized elements, and will enable testing and integration of the AEHF Local Key Management functionality within the KMI client with the AEHF system. System Program Office (SPO) will also initiate PKMA integration activities with the AEHF prime contractor, Lockheed Martin, and the Enhanced Polar System (EPS) Control and Planning Segment (CAPS) contractor, Northrop Grumman Information Systems.
- AEHF SPACE VEHICLE-6 Flight Crypto & Future AEHF Parts Obsolescence Mitigation: Continue efforts such as SPACE VEHICLE-6 flight crypto redevelopment and mitigation of identified parts obsolescence that may affect the future stability of the AEHF product line, particularly the payload.
- AEHF Capabilities Insertion Program (CIP) 1a: Conduct AEHF CIP 1a software initial design to include System Design Review (SDR) and Preliminary Design Review (PDR).
- Protected MILSATCOM "Design for Affordability": Four of the 17 contracts awarded late 2012 have Phase 3 options. These options will be awarded to further efforts from FY13 that will include capability demonstrations to lower the risk on next generation protected MILSATCOM systems.
- Hosted Payload Concept Definition: Release Request for Proposal (RFP) for risk reduction study leading to integration and launch of an Air Force Research Laboratory (AFRL)-developed V- and W-band communications payload on a host satellite.
- MILSATCOM Architecture and support: Funds efforts such as refining the ongoing MILSATCOM architectures including affordable Information Assurance approaches, protected MILSATCOM analysis of

alternatives (AoA), commercial path finder demonstrations, supportive terminal payload concepts, university research, and commercial product contributions. Continues the Government Protected MILSATCOM testbed for Design for Affordability (DFA) Phase 3 tests of the Protected Tactical Waveform (PTW). The demonstrations will establish a benchmark for industry in PTW development maturity and reduce risk in future protected tactical systems. MIT Lincoln Laboratory (MIT/LL) will report on the Phase 3 compatibility demonstrations results from each contractor demonstration and assess qualitative features. Additionally, MIT/LL will conduct the Critical Design Review for the Terminal Adaptive Coding Accelerator, an effort that builds upon previous study results to develop prototype boxes to interface with both the Navy's NMT and the Army's SMART-T terminals to increase terminal data rates by up to 800%. Funds Program Management to include program office support, Federally Funded Research and Development Center (FFRDC) analyses, Systems Engineering Technical Assistance (SETA), and Systems Engineering and Integration (SE&I) to support and execute the MILSATCOM SMI efforts (i.e., CIP 1a capacity improvement, Protected DFA Phase 3 risk reduction, and hosted payload risk reduction.

Procurement:

- Funding supports efforts such as the SPACE VEHICLE 5-6 production block buy, continuation of technical support to include obsolescence/Diminishing Manufacturing Sources (DMS) studies, and SPACE VEHICLE-4 launch support option, systems engineering and integration (SE&I), 24/7 Interim Command and Control (ICE2) terminals operations support, and continuation of program office and related support. Also funds the Command and Control System – Consolidated (CCS-C) mission unique software and databases for AEHF 4-6 satellites.

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes $652 million to fully fund the Advanced EHF program at the President's FY 2014 request.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates $594 million for the Advanced EHF program in FY 2014, $57 million below the President's FY 2014 request. Accounts affected include:
    - A $7 million reduction in the Advanced EHF Research & Development account. The Joint Explanatory Statement cites "ahead of need/excess growth in hosted payload and business operations support" as the rationale for the decrease.
    - A $50 million reduction in the Advanced EHF Procurement account. The Joint Explanatory Statement only cites "program decrease" as the rationale.

Global Positioning System

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	742.009	742.009	702.009
GPS Block II Operational Control System (OCS)	0.000	0.000	0.000
GPS III Space Segment	221.276	221.276	201.276
GPS III - New Generation Operational Control Segment	383.500	383.500	373.500
NAVSTAR Global Positioning System (User Equipment)	137.233	137.233	127.233
Procurement	545.420	545.420	518.420
GPS IIIA Space Segment	403.431	403.431	398.431
GPS III Space Segment Advance Procurement	74.167	74.167	52.167
GPS IIF and launch support	55.997	55.997	55.997
OCS COTS Upgrade	11.431	11.431	11.431
Spares and Repair Parts, NAVSTAR GPS	0.394	0.394	0.394
Total	**1,287.429**	**1,287.429**	**1,220.429**

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 2014 Department of Defense Budget Request

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

- NAVSTAR GPS (Space & Control) is complete.
- Search and Rescue (SARS) GPS: Continue to design and develop SAR/GPS antennas, associated hardware and cabling, and space vehicle software; system engineering associated and integrating SAR payload onto the GPS III SPACE VEHICLEs; system engineering and program management, Enterprise-level SEIT/PM; risk reduction efforts toward an approved delta Critical Design Review (dCDR). Costs do not include development and production of Canadian payload unit.
- GPS III SPACE VEHICLE 01-08: Continue GPS III space vehicle development, SE&I, technical and program support. Provide SPACE VEHICLE-01 for launch availability.
- GPS III SPACE VEHICLE 09+: Continue integration activities to support Nuclear Detection System (NDS), SAR/GPS, and DWG. Address affordability/obsolescence issues and initial system designs of future capabilities, capability maturation and risk reduction efforts. Begin delta Critical Design Review (dCDR) activities to assess design maturity for the implementation of technology improvements for items such as clocks, lithium ion battery, Full Communication Unit, and dual launch.
- OCS Development: Certify and accept OCX Block 0 for launch and checkout operations of GPS-III satellites. Develop command and control for GPS II satellites, legacy signals, and the modernized aviation safety of life signal (L5). Continue development of remaining civil and military modernized signals (L1C and M-code).
- Technical Support: Continue efforts on the Standardized Space Trainer (SST) and develop demonstration capabilities. Continue work on the facility upgrades to include the Master Control Station and Alternate Master Control Station. Upgrade and operations and server facilities.

- Management Services: Continue to provide scheduling, budget analysis, cost estimating, technical and Directorate support for the OCX program.
- GPS Enterprise Integrator: Accomplish system definition and system integration across the GPS Enterprise, including Generation II and III (space, control, and user segments). Reduce enterprise risk through early integration testing of interfaces, including the actual first delivery of the OCX ground software and hardware and GPS III space vehicle. Results prove specifications and interfaces in support of GPS III Space Modernization Initiatives (SMI) and Military GPS User Equipment (MGUE) Critical Design Review (CDR).

Procurement:

- Funding procures two GPS III Space Vehicles (SPACE VEHICLE 07-08) and associated support.
- Funding procures long lead items for GPS III SPACE VEHICLE 09-10 (e.g., atomic clocks, critical bus hardware items, and other long lead components).
- Funding is required for Global Positioning System (GPS) Block IIF satellite launch and on-orbit support, including satellite transportation from the factory to the launch site, launch processing and booster integration, launch operations, and on-orbit checkout and operations.
- Funding procures GPS Architecture Evolution Plan (AEP) and Launch Anomaly Resolution and Disposal Operations (LAD) 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 (TSTS). Modifications include required procurement, nonrecurring engineering, installation, testing, configuration management, security, quality assurance and technical documentation. Funding sustains OCS until OCX transitions to operations. If not funded, down time and maintenance cost associated with repair of failed equipment will increase, lowering system operational availability.

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes $1,287 million to fully fund GPS programs at the President's FY 2014 request.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates $1,220 million for GPS programs in FY 2014, $67 million below the President's FY 2014 request. Accounts affected include:
    - A $20 million reduction in the GPS III Space Segment Research & Development account. The Joint Explanatory Statement cites "ahead of need" as the rationale for the decrease.
    - A $10 million reduction in the GPS III Operational Control Segment Research & Development account. The Joint Explanatory Statement cites "program decrease" as the rationale for the decrease.
    - A $10 million reduction in the NAVSTAR Global Positioning System (User Equipment) Research & Development account. The Joint Explanatory Statement cites "management services excess growth" as the rationale for the decrease.
    - A $5 million reduction in the GPS IIIA Procurement account. The Joint Explanatory Statement cites "eliminating program management growth" as the rationale for the decrease.
    - A $22 million reduction in the GPS III Space Segment Advance Procurement account. The Joint Explanatory Statement cites "SV9+ ahead of need" as the rationale for the decrease.

Space Based Infrared System

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	352.532	322.832	322.832
SBIRS High Element EMD	267.408	N/A	N/A
Space Modernization Initiative (SMI)	85.124	N/A	N/A
Procurement	611.427	611.427	550.281
SBIRS High	583.192	583.192	524.873
Space Based IR Sensor Program	28.235	28.235	25.408
Total	**963.959**	**934.259**	**873.113**

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 2014 Department of Defense Budget Request

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

- SBIRS EMD: Complete development of Ground mission processing risk reduction build, which include starer processing for Integrated Tactical Warning/Attack Assessment (ITW/AA) users. Complete GEO-2 operational user evaluation and certification. Continue Ground System Development (Block 10), System Engineering and Program Management, Highly Elliptical Orbit (HEO) host program office support, Technical Intelligence activities, Data Processing/Exploitation/ground integration activities, Combined Task Force (CTF) support activities, systems integration and test studies. Continue Program Office and related support activities, technical analysis and independent verification and validation of Contractor. Continue SE&I.
- Evolved SBIRS: Complete SBIRS GEO obsolescence study. Conduct studies to identify payload, spacecraft, and software modifications to improve affordability of the SBIRS Program of Record GEO Satellites. These affordability studies will address simplifying mechanical systems (e.g., Pointing and Control subsystem); technology insertion (e.g., digital focal planes, micro-processor); A2100 spacecraft fleet standardization (e.g., Command and Control and Electrical Power components); and Scanner-only design modification (e.g., remove the Step-Starer Sensor). Initiate a study on a simplified sensors to determine affordability and capability impacts across space and ground architectures.
- Data Exploitation: Continue to collect and analyze Commercially Hosted Infrared Payload (CHIRP) data, if the sensor is still operating. Provide enhanced ground segment capability for the command and control, data collection, mission processing, and data product dissemination.
- Architecture Studies: Continue SBIRS GEO alternative architecture and component studies. Conduct architecture study to evaluate impacts of classified HEO host architecture change and evaluate alternative polar strategic missile warning coverage.
- Hosted Payloads: Continue to develop prototype sensors for the next generation of 6-degree Wide-Field-of-View (WFOV) payload(s), emerging with Critical Design Review (CDR) quality designs and preparing for at least one flight demonstration. Initiate development of prototype sensors for a 9-degree WFOV payload(s) including evaluation of several sensor design alternatives through Preliminary Design Review (PDR) phase.

- WFOV Testbeds: Continue to evaluate international partnership rideshare or commercial rideshare opportunities for a 9-degree WFOV Payload on-orbit demonstration. Continue development of a small WFOV testbed spacecraft bus through Critical Design Review (CDR) phase.
- Management Services: Provide Program Office support for all SMI projects.

Procurement:

- Funding provides for continued procurement for the GEO-5 and-6 satellites, and launch and checkout activities for GEO-3 and -4 and HEO-3 and -4; continues Program Office and related activities to include Systems Engineering and Technical Assistance (SETA), technical analysis and independent verification and validation of contractor performance; continues Systems Engineering and Integration (SE&I).
- No Mobile and Fixed site upgrades are planned for FY 2013-2015.
- Funds for SBIRS Survivable Endurable Evolution (S2E2) are used for the following items: Non-recurring hardware and software deliveries and the purchase, integration and test of the 3rd upgraded Mobile Ground Terminals (MGTs). Additionally, FY 2014 funds will be used to provide GEO mission capability upgrades to SMGT1. The SMGT sustainment effort provides the ability to continue to be the only source of survivable missile warning data used in Nuclear Command and Control System (NCCS). HEMP funds previously in FY 2015-2017 are included in S2E2.
- Funds for ARC-210 Radios are realigned into the S2E2 upgrades for acquiring the remaining hardware and software deliveries and integration/test for upgraded radios and crypto systems to meet both US Strategic Command (USSTRATCOM) and Secretary of the Air Force (SAF) Chief Information Officer (CIO) direction.

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes to appropriate $934 million for the SBIRS program in FY 2014, $29.7 million below the President's FY 2014 request.
    - The $29.7 million reduction comes out of the SBIRS Research & Development account. The Joint Explanatory Statement cites "program decrease" as the rationale for the decrease.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates $873 million for the SBIRS program in FY 2014, $90.8 million below the President's FY 2014 request. Accounts affected include:
    - A $29.7 million reduction in the SBIRS Research & Development account. The Joint Explanatory Statement states only "program decrease" as rationale.
    - A $58.3 million reduction in the SBIRS Procurement account. The Joint Explanatory Statement states only "program decrease" as rationale.
    - A $2.8 million reduction in the Space Band IR Sensor Procurement account. The Joint Explanatory Statement states only "program decrease" as rationale.

Wideband Global SATCOM System

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	13.948	13.948	12.553
WGS (SPACE)	13.948	13.948	12.553
Procurement	38.398	38.398	33.398
WGS 8 Space	38.398	38.398	33.398
Total	**52.346**	**52.346**	**45.951**

Mission

The Wideband Global SATCOM (WGS) satellites 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 2014 Department of Defense Budget Request

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

- Command and Control System-Consolidated (CCS-C) development: Funds the completion of architecture evolution studies; addition of new cross-domain capability, enhancement of Information Assurance posture, integration and tests of upgraded ground based cryptological equipment, and initiation of architecture changes to increase WGS capacity and reduce system downtime.

Procurement:

- Funding includes: Support for WGS Block II Follow-on (B2FO) satellite production, including Federally Funded Research and Development Center (FFRDC) technical analysis, mission assurance, test support (to include Camp Parks), technical support to include obsolescence/Diminishing Manufacturing Sources (DMS) studies, program office and other related support activities. Study/explore SATCOM capabilities to support enduring Remotely Piloted Aircraft (RPA) bandwidth requirements. Also funds the Command and Control System – Consolidated (CCS-C) mission unique software and database development for the WGS B2FO satellites.

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes $52 million to fully fund the WGS program at the President's FY 2014 request.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates $45.9 million for the WGS program in FY 2014, $6.5 million below the President's FY 2014 request. Accounts affected include:
  - A $1.4 million reduction in the WGS Research & Development account. The Joint Explanatory Statement states only "program decrease" as rationale.
  - A $5 million reduction in the WGS Procurement account. The Joint Explanatory Statement states only "program decrease" as rationale.

Precision Tracking Space System

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	0.000	0.000	0.000
Precision Tracking Space System	0.000	0.000	0.000
Program-Wide Support	0.000	0.000	0.000
Total	**0.000**	**0.000**	**0.000**

Mission

The Precision Tracking Space System (PTSS) is a future space-borne sensor of the Ballistic Missile Defense System (BMDS), designed to track ballistic missiles shortly after launch and throughout their midcourse flight. PTSS will provide sensor data to the BMDS battle manager which will, in turn, send tracking data to deployed Aegis cruisers/destroyers and their on-board interceptor missiles. PTSS enables the early intercept of enemy ballistic missiles and increases the missile raid handling capacity of the BMDS. The PTSS also has inherent capability for other missions such as Space Situational Awareness. The Missile Defense Agency (MDA) expects that capability to be exploited by the joint warfighter when the PTSS is not engaged in a missile defense mission.

President's FY 2014 Department of Defense Budget Request

President's FY 2014 Department of Defense Budget Request:

In FY 2014, the President requested $0 million for the Precision Tracking Space System (PTSS), $297 million below the President's FY 2013 request. The DoD budget justification documents note that "FY 2014 reflects termination of the program."

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA does not authorize any funds for the PTSS program, which followed the President's FY 2014 request to cancel the PTSS program in FY 2014.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates no funds for the PTSS program, which would follow the President's FY 2014 request to cancel the PTSS program in FY 2014.

Evolved Expendable Launch Vehicle

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	27.963	27.963	24.963
Evolved Expendable Launch Vehicle	27.963	27.963	24.963
Procurement	1,852.900	1,852.900	1,487.900
Evolved Expendable Launch Vehicle	1,852.900	1,852.900	809.037
Evolved Expendable Launch Vehicle Infrastructure	-	-	678.863
Total	**1,880.863**	**1,880.863**	**1,512.863**

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 2014 Department of Defense Budget Request

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

- EELV Pre-planned product improvement (P3I) and Special Studies: Continue Pre-Planned Product Improvements (P3I) efforts to include, but not limited to, the advancement of secondary payload standard service. Conduct special studies to include, but not limited to, upper stage manufacturability and alternative manufacturing process.
- P3I-Dual Launch Capability Development: Initiation of dual launch development activities will occur, key components to include communication hardware, launch vehicle infrastructure, and adaptor equipment.

Procurement:

- Funds are 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, implementation of the space launch flight termination system, 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 five (5) launch services within the medium and intermediate classes, as well as secondary payload standard service, to be completed as early as FY 2016; evaluate and certify potential New Entrants for potential awards and perform early integration; and support international partner launch services. The Air Force will then assign missions on priority need or first availability.

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes $1,880 million to fully fund the EELV program at the President's FY 2014 request.
- Section 145 directs the Secretary of the Air Force to "develop a plan to implement the new acquisition strategy for the Evolved Expendable Launch Vehicle program described in the acquisition decision memorandum dated November 27, 2012." This plan is directed to include a description of how the following areas would be addressed in the evaluation:
  - First, "the proposed cost, schedule, and performance."
  - Second, "mission assurance activities."
  - Third, "the manner in which the contractor will operate under the Federal Acquisition Regulation."

    - Fourth, "the effect of other contracts in which the contractor is entered into with the Federal Government, such as the Evolved Expendable Launch Vehicle launch capability contract, the space station commercial resupply services contracts, and other relevant contracts regarding national security space and strategic programs."
    - Fifth, "any other areas the Secretary determines appropriate."
- In addition, the Secretary of the Air Force is required "at the same time that the Secretary issues a draft of the request for proposals" for the EELV provider, to submit to Congress a report that includes the above mentioned plan and a briefing on that plan.
- The Joint Explanatory Statement request "that GAO conduct a review of the Air Force EELV acquisition strategy, which should include an assessment of the methodology, potential challenges, gaps, and acquisition planning process of the Air Force for evaluating competitors, and that GAO brief the defense and intelligence committees" on the review "before a draft request for proposal is released by the Air Force." In addition, the Joint Explanatory Statement clarifies that the EELV "legislative provision should not be construed as direction regarding ongoing procurement or any aspect of source selection criteria."

<u>FY 2014 Omnibus Appropriations Bill (H.R. 3547):</u>

- The Omnibus Appropriations bill appropriates $1,512 million for the EELV program in FY 2014, $368 million below the President's FY 2014 request. Accounts affected include:
    - A $3 million reduction in the EELV Research & Development account. The Joint Explanatory Statement cites "hold support costs to fiscal year 2013 level, dual launch" as rationale.
    - A $10 million reduction in the EELV Procurement account. The Joint Explanatory Statement cites "unjustified program management administration growth/low expenditure rate" as the rationale for the decrease.
    - The Omnibus Appropriations bill creates a second account for "Evolved Expendable Launch Vehicle Infrastructure" in which it transfers $878 million from the Evolved Expendable Launch Vehicle" account. Of that $878 million transferred to the Evolved Expendable Launch Vehicle Infrastructure account, it is reduced by $150 million for "unjustified increase" and another $50 million reduction cited simply as "program decrease."

Space Situation Awareness Systems

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	400.258	400.258	315.032
Space Based Space Surveillance	2.000	2.000	N/A
Space Fence	377.700	377.700	N/A
Net-centric Sensors and Data Sources	12.018	12.018	N/A
C-Band Radar	8.540	8.540	N/A
Total	**400.258**	**400.258**	**315.032**

Mission

Space Situational Awareness (SSA) is knowledge of all aspects of space related to operations. As the foundation for space control, SSA encompasses intelligence on adversary space operations; surveillance of all space objects and activities; detailed reconnaissance of specific space assets; monitoring space environmental conditions; monitoring cooperative space assets; and conducting integrated command, control, communications, processing, analysis, dissemination, and archiving activities. This program develops new Air Force sensors, and improved information capabilities for integration across the SSA network; it also includes developmental planning and technology forecasting for future blocks and emerging needs.

President's FY 2014 Department of Defense Budget Request

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

- Space Based Space Surveillance: Lawrence Livermore National Laboratory (LLNL) will study the potential for using Space-based Telescopes for Actionable Refinement of Ephemeris (STARE) to observe space objects.
- Space Fence: The contractor will conduct EMD, Production and Development activities in support of Integrated System Design culminating in a Critical Design Review, Systems Engineering & Integration and technical and program support. The contractor will begin site 1 construction.
- Net-centric Sensors and Data Sources: Deliver version 4 data source road mapping. Initiate data exposure of two classified data sources, Signals Intelligence (SIGINT) for SSA (S3A), and Space Surveillance Telescope (SST). Deploy operational version of Blue Force Status (BFS) on Air Force Satellite Control Network (AFSCN) Link Protection System (ALPS) and acquire ops acceptance. Begin health and status net centric effort on Global Positioning (GPS) and continue maturation of the common data model.
- Net-centric Sensors and Data Sources: Program Office support and related activities such as technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs), including continuation of Blue Force Status effort on new systems.
- C-Band Radar: Begin software and hardware upgrades; disassemble the radar and prepare for relocation.

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes $400 million to fully fund Space Situation Awareness Systems programs at the President's FY 2014 request.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates $315 million for Space Situation Awareness Systems programs in FY 2014, $85 million below the President's FY 2014 request. Accounts affected include:
    - A $85 million reduction in the Space Situation Awareness Systems Research & Development account. The Joint Explanatory Statement cites "one year schedule delay" as the rationale for the decrease.

JSPOC Mission System (JMS)

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
RDT&E	58.523	58.523	58.523
Infrastructure	22.281	22.281	N/A
Mission Applications	36.242	36.242	N/A
Command and Control	0.000	0.000	N/A
Total	**58.523**	**58.523**	**58.523**

Mission

The JMS Program is a Space Command and Control (C2) capability for the Commander, Joint Functional Component Command for Space (CDR JFCC SPACE). The JMS program is predominately a software effort that will produce an integrated, net-centric Service Oriented Architecture (SOA) and the necessary software applications to accomplish required missions. The program will provide a collaborative environment that will enhance and modernize space situational awareness (SSA) capabilities; create decision-relevant views of the space environment; rapidly detect, track and characterize objects of interest; identify/exploit traditional and non-traditional sources; perform space threat analysis; and enable efficient distribution of data across the space surveillance network (SSN).

President's FY 2014 Department of Defense Budget Request

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

- Increment 1: Continue Interim Contractor Support (ICS).
- Increment 2: Continue fielding, maturing and accreditation of Service Oriented Architecture (SOA) infrastructure; provide incremental upgrades to infrastructure (including net-ready, security, reliability core services, messaging, and User Defined Operational Picture (UDOP)) as new applications/capabilities are delivered with each service pack. Provide systems engineering, integration, support, and testing of enhanced infrastructure due to installation of subsequent capabilities.
- Continue development, testing and fielding of Government Off-The-Shelf (GOTS) and Commercial Off-The-Shelf (COTS) provided mission services such as the critical elements of the space catalog, sensor calibration, routine metric tasking, conjunction assessment, elements of maneuver and message processing, and reentry, space order of battle and Nuclear Detonation (NUDET); efforts associated with the focus on retirement of legacy functionality.

FY 2014 Congressional Action

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes $58 million to fully fund the JSPOC program at the President's FY 2014 request.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates $58 million to fully fund the JSPOC program at the President's FY 2014 request.

Operationally Responsive Space

FY 2014 National Defense Authorization Act (H.R. 3304):

- The FY 2014 NDAA authorizes $10 million for the ORS program, $10 million above the President's FY 2014 request.
- Section 220 states that it is the sense of Congress that "it remains the policy of the United States, as expressed in section 913(a) of the John Warner National Defense Authorization Act for Fiscal Year 2007, to demonstrate, acquire, and deploy an effective capability for operationally responsive space to support military users and operations for space," which consist of the following:
    - First, "responsive satellite payloads and busses built to common technical standards."
    - Second, "low-cost space launch vehicles and supporting range operations that facilitate the timely launch and on-orbit operations of satellites."
    - Third, "responsive command and control capabilities."
    - Fourth, "concepts of operations, tactics, techniques, and procedures that permit the use of responsive space assets for combat and military operations other than war."
- Further, the "Operationally Responsive Space Program Office has demonstrated through multiple launches since 2009 an ability to accomplish many of the policy objectives of the Operationally Responsive Space Program through specific missions, but has not executed a mission that leverages all policy objectives of such Program in a single mission."
- In addition, Section 220 limits the funds authorized to be appropriated by this bill "for the space-based infrared systems space modernization initiative wide-field-of-view testbed" by 50 percent "until the Executive Agent for Space of the Department of Defense certifies to the congressional defense committees that the Secretary of Defense is carrying out the Operationally Responsive Space Program Office in accordance with section 2273a of title 10, United States Code."
- Finally Section 220 requires the Executive Agent for Space of the DoD to provide to congressional defense committees "a report regarding a potential mission that would seek to leverage all policy objectives of the Operationally Responsive Space Program in a single mission," not later than 60 days after the enactment of this Act.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Omnibus Appropriations bill appropriates $10 million for the ORS program, $10 million above the President's FY 2014 request.

Synchronization of Cryptographic Systems for Major Defense Acquisition Programs

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 821 amends Section 2366b(a)(3) of title 10, United States Code, by adding an additional section with regard to certification requirements for major defense acquisition programs to receive Milestone B approval. The additional section requires that there be "a plan to mitigate and account for any costs in connection with any anticipated de-certification of cryptographic systems and components during the production and procurement of the major defense acquisition program to be acquired." The above mentioned amendment will "take effect on the date of the enactment of this Act," and will "apply with respect to major defense acquisition programs which are subject to Milestone B approval on or after the date occurring six months after the date of the enactment of this Act."

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

Satellite Control System

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 822 amends Section 2366b(a) of title 10, United States Code, by adding an additional section with regard to certification requirements for major defense acquisition programs to receive Milestone B approval. The additional section requires in the case of a space system, "a cost benefit analysis for any new or follow-on satellite system using dedicated ground control system instead of a shared ground

control system, except that no cost benefit analysis is required to be performed under this paragraph for any Milestone B approval of a space system after December 31, 2019."

- In addition, Section 822 requires the Secretary of Defense to, not later than one year after the date of the enactment of this Act, "develop a Department of Defense-wide long-term plan for satellite ground control systems, including the Department's Air Force Satellite Control Network; and brief the congressional defense committees on such plan."
- The Joint Explanatory Statement notes that conferees "expect that the cost-benefit analysis be based on life-cycle cost estimates found within the DOD 5000 directive and instructions." Further, the conferees expect the Comptroller General of the United States to "review the implementation plan and submit its views no later than 90 days after the plan is submitted to the congressional defense committees."

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

National Security Space Satellite Reporting Policy

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 911 amends Chapter 135 of title 10, United States Code, to include a notification of foreign interference with national security space assets. Section 911 requires the Commander of the United States Strategic Command (STRATCOM), "with respect to each intentional attempt by a foreign actor to disrupt, degrade, or destroy a United States national security space capability, provide to the appropriate congressional committees: (1) not later than 48 hours after the Commander determines that there is reason to believe such attempt occurred, notice of such attempt; and (2) not later than 10 days after the date on which the Commander determines that there is reason to believe such attempt occurred a notification" with respect to such attempt.
- Section 911 also directs the above mentioned notification to include:
    - First, "the name and a brief description of the national security space capability that was impacted by an attempt by a foreign actor to disrupt, degrade, or destroy a United States national security space capability."
    - Second, "a description of such attempt, including the foreign actor, the date and time of such attempt, and any related capability outage and the mission impact of such outage."
    - Third, "any other information the Commander considers relevant."
- The Joint Explanatory Statement notes that "the notice is not intended to be a duplicative process and should leverage existing STRATCOM anomaly processes." Further, the "notice is not intended to be notification of every anomaly instance;" but rather "only notification when there is reason to believe that there was an intentional attempt to disrupt, degrade, or destroy a national security space capability."

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

National Security Space Defense and Protection

FY 2014 National Defense Authorization Act (H.R. 3304):

- To "respond to the near-term and long-term threats to the national security space systems of the United States," Section 912 directs the Secretary of Defense and the Director of National Intelligence to jointly enter into an arrangement with the National Research Council to:
    - First, conduct a review of "the range of strategic options available to address such threats, in terms of deterring hostile actions, defeating hostile actions, and surviving hostile actions until such actions conclude; and strategies and plans to counter such threats, including resilience, reconstitution, disaggregation, and other appropriate concepts; and existing and planned architectures, warfighter requirements, technology development, systems, workforce, or other factors related to addressing such threats."
    - Second, "recommending architectures, capabilities, and courses of action to address such threats and actions to address the affordability, technology risk, and any other potential barriers or limiting factors in implementing such courses of action."
- Therefore, Section 912 directs the National Research Council to submit to congressional defense committees, the Permanent Select Committee on Intelligence of the House of Representatives, and the

Select Committee on Intelligence of the Senate, not later than one year after the date of enactment of this Act, "a report containing the results of the review" mentioned above, as well as "the recommended courses of action identified." In addition, the report is required to be submitted in unclassified form, but may also include a classified annex.

- In addition, Section 912 amends Section 911(f)(1) of the National Defense Authorization Act for Fiscal Year 2008 (10 U.S.C 2271 note) and inserts a provisions that requires "a description of how the Department of Defense and the intelligence community plan to provide necessary national security capabilities, through alternative space, airborne, or ground systems, if a foreign actor degrades, denies access to, or destroys United States national security space capabilities."

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

Space Acquisition Strategy

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 913 notes that it is a sense of Congress that: (1) "commercial satellite services, particularly communications, are needed to satisfy Department of Defense requirements; (2) the Department predominately uses one-year leases to obtain commercial satellite services, which are often the most expensive and least strategic method to acquire necessary commercial satellite services; and (3) consistent with the required authorization and appropriations, Congress encourages the Department to pursue a variety of methods to reduce cost and meet the necessary military requirements, including multi-year leases and procurement of Government-owned payloads on commercial satellites."
- Section 913 directs the Under Secretary of Defense for Acquisition, Technology, and Logistics, in consultation with the Chief Information Officer of the Department of Defense, to "establish a strategy to enable the multi-year procurement of commercial satellite services." Section 913 goes on to outline several requirements that should be addressed in the strategy:
    - First, "an analysis of financial or other benefits to acquiring satellite services through multi-year acquisition approaches."
    - Second, "an analysis of the risks associated with such acquisition approaches."
    - Third, "an identification of methods to address planning, programming, budgeting, and execution challenges to such approaches, including methods to address potential termination liability or cancellation costs generally associated with multi-year contracts."
    - Fourth, "an identification of any changes needed in the requirements development and approval processes of the Department of Defense to facilitate effective and efficient implementation of such strategy, including an identification of any consolidation of requirements for such services across the Department that may achieve increased buying power and efficiency."
    - Fifth, "an identification of any necessary changes to policies, procedures, regulations, or statutes."
- The Under Secretary of Defense for Acquisition, Technology, and Logistics, in consultation with the Chief Information Officer of the Department of Defense, is required to provide congressional defense committees a briefing, not later than 90 days after the date of enactment of this bill, regarding the strategy to enable the multi-year procurement of commercial satellite services and the elements of that make up that strategy. In addition, at the same time that the FY 2015 budget is submitted to Congress, the Under Secretary of Defense for Acquisition, Technology, and Logistics, in consultation with the Chief Information Officer of the Department of Defense, is required to provide congressional defense committees an interim briefing regarding the strategy.
- Included in the Joint Explanatory Statement the conferees "direct the Executive Agent for Space to report back to the congressional defense committees before March 1, 2014, on how" its office "will take a more active role in implement recommendation 10 of the report titled, 'Facilitate future governance by designating a single DoD organization for procuring all SATCOM assets and services.'" In addition, the Joint Explanatory Statement notes that "the U.S. Strategic Command, through the Defense Information

Systems Agency, is involved with developing a long-term strategy for satellite communications titled, 'Mix of Media Study.'" The conferees "direct the Director of the Defense Information Systems Agency to brief the congressional defense committees on this study." Finally, the Joint Explanatory Statement expresses its concern "about the Department's reliance on 1-year high-cost commercial satellite communications leases, and encourage[s] the Department to continue to pursue innovative acquisition approaches, including multi-year leases and the procurement of government-owned transponders and payloads on commercial communication satellites."

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

National Security Space Program Planning and Execution

FY 2014 National Defense Authorization Act (H.R. 3304):

- No similar language.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Joint Explanatory Statement states that the "Director of Cost Assessment and Program Evaluation is directed to submit the [National Security Space Program Planning and Execution] report required by House Report 113-113 to the congressional defense committees no later than July 1, 2014." The details of that report in House Report 113-113 are below:
    - The House Appropriations Committee Report notes that the Committee "continues to monitor the debate within the National Security Space community over how to most cost effectively and manage space programs." Further, the Committee is "concerned that affinity for certain architecture concepts may be affecting program execution and putting at risk operations of some of the Nation's most important and critical national security space capabilities." Therefore, "to help inform the debate and assist in putting the nation's space programs on a sustainable plan for the future, the Director of Cost Assessment and Program Evaluation is directed to update the space industrial base study to quantitatively assess the consequences of the various acquisition approaches being advocated within the space community." The Committee would require the review include:
        - First, "new architectures of small satellites."
        - Second, "evolution of legacy systems."
        - Third, "leveraging of commercial systems."
    - Further, the report should include "the complete system, including the space segment, ground segment, and user terminals such that a complete cost to implement is understood."

Space Control Mission Report

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 914 directs the Secretary of Defense to submit a report to congressional defense committees, not later than 180 days after the date of the enactment of the bill, on "the space control mission of the Department of Defense." The report is required to include the following:
    - First, "an identification of existing offensive and defensive space control systems, policies, and technical possibilities of future systems."
    - Second, "an identification of any gaps or risks in existing space control system architecture and possibilities for improvement or mitigation of such gaps or risks."
    - Third, "a description of existing and future sensor coverage and ground processing capabilities for space situational awareness."
    - Fourth, "an explanation of the extent to which all relevant and available information is being utilized for space situational awareness to detect, track, and identify objects in space."
    - Fifth, "a description of existing space situational awareness data sharing practices, including what information is being shared and what the benefits and risks of such sharing are to the national security of the United States."
    - Sixth, "plans for the future space control mission, including force levels and structure."
- The Joint Explanatory Statement notes that the conferees "believe the nature of the Department's space control mission is fundamentally changing from purely collision avoidance and cataloging space objects, to additionally ensuring that the United States has, according to section 4(b) of the October 18, 2012, Department of Defense Directive on Space Policy, 'the capabilities to respond at the time and place of

our choosing' to 'purposeful interference with U.S. space systems, including their supporting infrastructure' in ensuring the right of 'free access and use of space.'" In addition, "consistent with the space policy directive, it is incumbent upon the Department to ensure there is a clear and concise concept of operations which supports the directive and that the congressional defense committees are updated on any significant developments as this additional mission evolves."

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

Responsive Launch

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 915 notes that Congress finds the following:
  - First, the "United States Strategic Command has identified three needs as a result of dramatically increased demand and dependence on space capabilities as follows: to rapidly augment existing space capabilities when needed to expand operational capability; to rapidly reconstitute or replenish critical space capabilities to preserve continuity of operations capability; to rapidly exploit and infuse space technological or operational innovations to increase the advantage of the United States."
  - Second, "operationally responsive low cost launch could assist in addressing such needs of the combatant commands."
- Therefore, Section 915 directs the Department of Defense Executive Agent for Space to "conduct a study on responsive, low cost launch efforts." That study would be required to include:
  - First, "a review of existing and past operationally responsive, low-cost launch efforts by domestic or foreign governments or industry."
  - Second, "an identification of the conditions or requirements for responsive launch that would provide the necessary military value, including the requisite payload capacity, timelines for responsiveness, and target launch costs."
  - Third, "a technology assessment of various methods to develop an operationally responsive, low-cost launch capability."
  - Fourth, "an assessment of the viability of greater utilization of innovative methods, including the use of secondary payload adapters on existing launch vehicles."
- In addition, Section 915 requires the Department of Defense Executive Agent for Space to submit to the congressional defense committees, not later than one year after the date of the enactment of this Act, the results of the above mentioned report, and a "consolidated plan for development within the Department of Defense of an operationally responsive, low-cost launch capability."
- Finally, Section 915 requires the Comptroller General of the United States to submit to congressional defense committees, not later than 60 days after the date on which the report required above is submitted to congressional defense committees, "an assessment of such report and any related findings or recommendations that the Comptroller General considers appropriate."

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

Limitation on Use of Funds for Space Protection Program

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 916 notes that "of the amount authorized to be appropriated for fiscal year 2014 by section 201 for the Department of Defense for research, test, development, and evaluation, Air Force, and available for the Space Protection Program as specified in the funding table in section 4201, $10,000,000 may not be obligated or expended until the Secretary of Defense submits to the congressional defense committees a copy of the study conducted at the direction of the Deputy Secretary of Defense on the counter space strategy of the Department of Defense that resulted in significant revisions to that strategy by the Department."
- In addition, the Joint Explanatory Statement notes that the congressional defense committees "do not expect new work product to be produced," but rather "the Department of Defense to submit only the

materials that were presented to the Secretary to inform his decision on the way forward for the counterspace strategy, which would not include preliminary or background materials."

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

Eagle Vision System

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 917 directs the Chief of Staff of the Air Force to submit to the congressional defense committees a report on the Eagle Vision system, not later than 180 days after the date of the enactment of this Act. The report is required to include:
    - First, "a description and assessment of the various commands, components of the Armed Forces, and Defense Agencies to which control of the Eagle Vision system could be transferred from the Headquarters of the Air Force, including the actions to be completed before transfer, potential schedules for transfer, and the effects of transfer on the capabilities of the system or use of the system by other elements of the Department."
- In addition, Section 917 prohibits the Secretary of the Air Force from undertaking "any changes to the organization or control of the Eagle Vision system until 90 days after the date of the submittal" of the above mentioned report to the congressional defense committees.

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- No similar language.

Foreign Commercial Satellite Services

FY 2014 National Defense Authorization Act (H.R. 3304):

- Section 1602 prohibits the Secretary of Defense from entering "into a contract for satellite services with a foreign entity if the Secretary reasonably believes that: (1) the foreign entity is an entity in which the government of a covered foreign country has an ownership interest that enables that government to affect satellite operations; or (2) the foreign entity plans to or is expected to launch or other satellite services under the contract from a covered foreign country."
- However, the Secretary of Defense is allowed to request a waiver from the foreign commercial satellite services prohibition if:
- "The Secretary determines it is in the national security of the United States to enter into such a contract; and not later than 7 days before entering into such contract the Secretary, in consultation with the Director of National Intelligence, submits to the congressional defense committees a national security assessment for such contract that includes the following" information:
    - First, "the projected period of performance (including any period covered by options to extend the contract), the financial terms, and a description of the services to be provided under the contract."
    - Second "to the extent practicable, a description of the ownership interest that a covered foreign country has in the foreign entity providing satellite services to the Department of Defense under the contract and the launch or other satellite services that will be provided in a covered foreign country under the contract."
    - Third, "a justification for entering into a contract with such foreign entity and a description of the actions necessary to eliminate the need to enter into such a contract with such foreign entity in the future."
    - Fourth, "a risk assessment of entering into a contract with such foreign entity, including an assessment of mission assurance and security of information and a description of any measures necessary to mitigate risks found by such risk assessment."
- The term "covered foreign country" includes: The People's Republic of China, North Korea, and any country that is a state sponsor of terrorism.
- In addition, Section 1602 includes a provision that limits the construction of foreign government satellite positioning ground monitoring stations on United States territory. Section 1602 prohibits the President from authorizing or permitting "the construction of a global navigation satellite system ground monitoring station directly or indirectly controlled by a foreign government (including a ground monitoring station owned, operated, or controlled on behalf of a foreign government) in the territory of

the United States unless the Secretary of Defense and the Director of National Intelligence jointly certify to the appropriate congressional committees that such ground monitoring station will not possess the capability or potential to be used for the purpose of gathering intelligence in the United States or improving any foreign weapon system." However, the Secretary of Defense and the Director of National Intelligence "may jointly waive the certification requirement" outlined above for a ground monitoring station if:
    - First, "the Secretary and the Director jointly determine that the waiver is in the vital interests of the national security of the United States."
    - Second, the Secretary and Director ensure that: (A) "all data collected or transmitted from ground monitoring stations covered by the waiver are not encrypted;" (B) "all persons involved in the construction, operation, and maintenance of such ground monitoring stations are United States persons;" (C) "such ground monitoring stations are not located in geographic proximity to sensitive United States national security sites;" (D) "the United States approves all equipment to be located at such ground monitoring stations;" (E) "appropriate actions are taken to ensure that any such ground monitoring stations do not pose a cyber espionage or other threat, including intelligence or counterintelligence, to the national security of the United States;" and (F) "any improvements to such ground monitoring stations do not reduce or compete with the advantages of Global Positioning System technology for users."
- In addition, for each waiver requested by the Secretary of Defense and Director of National Intelligence, both have to consult with the Secretary of State and jointly submit to Congress a report that includes:
    - First, "the reason why it is not possible to provide the certification" outlined above "for the ground monitoring stations covered by such waiver."
    - Second, "an assessment of the impact of" exercising the certification waiver authority "with respect to such ground monitoring stations on the national security of the United States."
    - Third, "a description of the means to be used to mitigate any such impact to the United States for the duration that such ground monitoring stations are operated in the territory of the United States."
    - Fourth, "any other information in connection with the waiver that the Secretary of Defense and the Director of National Intelligence, in salutation with the Secretary of State, consider appropriate."
    - Finally, Section 1602 would require the Secretary of Defense and Director of National Intelligence to jointly provide, not later than 30 days before the exercise of the authority to waive the certification requirement, the above mentioned report to the Congress.
- The provision on limiting the construction of foreign government satellite positioning ground monitoring stations on United States territory will sunset 5 years after the date of enactment of this Act.

<u>FY 2014 Omnibus Appropriations Bill (H.R. 3547):</u>

- No similar language.

Appendix: Summary of Unclassified Space-related Programs requested in FY 2014 budget**

Budget Authority, $ in million	President's FY 2014 DoD Budget Request	FY14 NDAA (H.R. 3304)	Omnibus Appropriations Bill (H.R. 3547)
PROCUREMENT			
ARMY, Aircraft Procurement			
Communications, Navigation, and Surveillance	92.779	92.779	92.779
GATM Rotary Wing Aircraft (enhanced GPS capability)	25.754	25.754	25.754
MQ-1 UAV, SATCOM Equipment	84.797	84.797	84.797[†]
ARMY, Other Procurement			
Defense Enterprise Wideband SATCOM Systems (DEWSS)	147.212	147.212	57.275
Transportable Tactical Command Communications	7.998	7.998	0.598
Super High Frequency (SHF) Terminal	7.232	7.232	7.232
Navstar Global Positioning System	3.308	3.308	2.000
Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T)	13.992	13.992	13.992
Global Broadcast Service (GBS)	28.206	28.206	10.206
Mod of In-Svc Equipment (TAC SAT)	2.778	2.778	2.778
Global Positioning System-Survey (GPS-S)	1.615	1.615	1.615
Joint Tactical Ground Stations (JTAGS)	9.899	9.899	9.899
Initial Spares – C&E, Defense SATCOM Sys Spares	5.323	5.323	5.323
NAVY, Aircraft Procurement			
Common Avionics Changes, Global Positioning System (GPS)	7.772	7.772	7.772[‡]
NAVY, Weapons Procurement			
Fleet Satellite communications Follow-on	23.014	23.014	16.914[§]
NAVY, Other Procurement			
Navstar GPS Receivers (SPACE)	11.765	11.765	11.765
Satellite Communications Systems	27.381	27.381	27.381
Navy Multiband Terminal (NMT)	215.952	215.952	183.620
Marines CORPS, Procurement			
Radio Systems	5.321	5.321[**]	5.321
Intelligence Support Equipment, Commercial Satellite Communication Set	2.089	2.089	2.089[††]
AIR FORCE, Aircraft Procurement			
B-2 Mods, EHF SATCOM and Computers	7.469	7.469	7.469[‡‡]
KC-10 Mods, UHF SATCOM Antenna	1.056	1.056	1.056[§§]
Other Aircraft, EHF SATCOM	1.920	1.920	1.920
AIR FORCE, Missile Procurement			
Advanced EHF	379.586	379.586	328.736
Wideband Gapfiller Satellites	38.398	38.398	33.998

[†] Omnibus cuts $81 million from the MQ-1 UAV procurement program due to "ground equipment ahead of need" and "program decrease."
[‡] Omnibus cuts $5 million from common avionics changes account.
[§] "support funding carryover."
[**] NDAA would authorize a $12.110 million reduction due to "previously funded EDM refurbishment."
[††] Omnibus cuts $7.5 million due to "program decrease."
[‡‡] Omnibus $3 million "program decrease."
[§§] Omnibus $13 million cut due to "installation funding for CNS/ATM kits not procured," and $9 million cut due to "program decrease."

GPS III Space Segment	403.431	403.431	398.431
GPS III Space Segment Advance Procurement	74.167	74.167	52.167
Spaceborne Equipment (COMSEC)	5.244	5.244	5.244
Global Positioning System (SPACE)	55.997	55.997	55.997
Defense Meteorological Satellite Program	95.673	95.673	80.673
Evolved Expendable Launch Vehicle	1,852.900	1,852.900	809.037
Evolved Expendable Launch Vehicle Infrastructure	N/A	N/A	678.863
Space Based Infrared System High	583.192	583.192	524.873
AIR FORCE, Other Procurement			
Space Based IR Sensor Program	28.235	28.235	25.408
Navstar GPS Space	2.061	2.061	2.061
NUDET Detection System Space	4.415	4.415	4.415
Air Force Satellite Control Network	30.237	30.237	20.013
Spacelift Range System Space	98.062	98.062	91.062
MILSATCOM Space	105.935	105.935	95.935
Space MODS Space	37.861	37.861	32.376
Counterspace System	7.171	7.171	7.171
Defense Space Reconnaissance Program	45.159	45.159	92.159
Spares and Repair Parts, NAVSTAR GPS	0. 394	0. 394	0. 394***
Spares and Repair Parts, Spacelift Range System	3.120	3.120	3.120
DEFENSE-WIDE, Procurement			
Teleport Program, Base	66.075	66.075	66.075
Item Less Than $5 Million, Transport	5.000	5.000	5.000
DISA, EPC/SECN	1.839	1.839	1.839
Overseas Contingency Operations			
AIR FORCE, Other Procurement			
Space Programs, MILSATCOM Space	5.695	5.695	5.695
Special Support Projects, Defense Space Reconnaissance Program	58.250	58.250	58.250
DEFENSE-WIDE, DISA, Major Equipment, Procurement			
Teleport	4.760	4.760	4.760
AIR FORCE, Operations and Maintenance			
Operating Forces, Space Control Systems	8.353	8.353	8.353
Operating Forces, Launch Facilities	0.857	0.857	0.857
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION			
ARMY, RDT&E Advanced Technology Development			
Command, Control, Communications Advanced Technology, Space Application Technology	5.866	5.866	10.866
Electronic Warfare Advanced Technology, TR1: TAC C4 Technology Int, Wireless Mobile Networking	8.316	8.316	8.316
ARMY, RDT&E Advanced Component Development & Prototypes			
Army Space Systems Integration	13.592	13.592	13.592
Army Missile Defense Systems Integration,	6.195	6.195	6.195

*** "program decrease."

TR5: Missile Defense Battlelab, Analysis, and Models and Simulations			
ARMY, RDT&E Operational Systems Development			
Joint Tactical Ground System	7.108	7.108	7.108
SATCOM Ground Environment	18.197	18.197	18.197
Adv Field Artillery Tactical Data System, Network Assisted GPS for Precision Fires	3.000	3.000	3.000[†††]
RQ-7 Shadow UAV, Air Vehicle Improvements	6.902	6.902	6.902
ARMY, RDT&E Applied Research			
Sensors and Electronic Survivability, Tactical Space Research	5.306	5.306	5.306
Military Engineering Technology, Topographical, Image Intel & Space	17.747	17.747	17.747
Command, Control, Communications Technology, Communication Technology, Communications Technology, Antenna	6.700	6.700	6.700
Command, Control, Communications Technology, Command, Control and Platform Electronics Tech, Battle Space Awareness and Positioning	3.757	3.757	3.757
Electronics and Electronic Devices, Millimeter Wave Components and Architectures for Advanced Electronic Systems	4.207	4.207	4.207
ARMY, RDT&E System Development & Demonstration			
TROJAN-RH12-MIP, Development of SATCOM dishes and receivers	0.409	0.409	0.409
Brigade Analysis, Integration and Evaluation, DY3: NIE Test & Evaluation, Non ATEC Support Cost	7.686	7.686	7.686
Joint Tactical Network Center (JTNC), MUOS Waveform	6.000	6.000	6.000
Weapons and Munitions—Eng Dev, Precision Guidance Kit, Contractor Engineering and Manufacturing Development	11.128	11.128	11.128
Weapons and Munitions—Eng Dev, Precision Guidance Kit, Continue Development/Operational Testing	1.640	1.640	1.640
ARMY, RDT&E Management Support,			
Army Kwajalien Atoll, Management Support	0.418	0.418	0.418
Army Kwajalien Atoll, Army Kwajalien Test Ranges and Mission Support, Technical Support Services	45.230	45.230	45.230
Army Kwajalien Atoll, Army Kwajalien Test Ranges and Mission Support, RTS Distributed Operations	3.200	3.200	3.200
NAVY, RDT&E Basic Research			
In-House Lab Independent Res, Ocean/Space Sciences	3.236	3.236	3.236
Defense Research Sciences, Atmosphere and Space Sciences	25.225	25.225	25.225
NAVY, RDT&E Applied Research			

[†††] SAC proposes $5.420 million reduction due to “Increment 2 Army identified excess.”

Common Picture Applied Research, Tactical Space Exploitation	4.332	4.332	4.332
Electromagnetic Systems Applied Research, Navigation Technology	4.952	4.952	4.952
NAVY, RDT&E Advanced Technology Development			
Electromagnetic Systems Applied Technology, Global Positioning System (GPS) & Navigation Technology	2.263	2.263	2.263
NAVY, RDT&E Advanced Component Development & Prototypes			
Air/Ocean Tactical Applications, METOC Data Assimilation and Mod, Meteorological and Oceanic Space-Based Sensing Capabilities	2.170	2.170	2.170
Air/Ocean Tactical Applications, Precise Timing and Astronomy	8.914	8.914	5.914
Space and Electronic Warfare (SEW) Architecture/Engineering Support	38.327	38.327	31.327
NAVY, RDT&E System Development & Demonstration			
Air/Ocean Equipment Engineering, Fleet METOC Equipment, Environmental Satellite Receiver Processor (ESRP)	0.302	0.302	0.302
JT Tact Radio Sys (JTRS), JTRS Network Enterprise Domain (JNED), Mobile User Objective System (MUOS)	3.302	3.302	3.302
Navigation/Id System, NAVSTAR GPS Equipment	16.601	16.601	16.601
NAVY, RDT&E Management Support			
Navy Space & Electronic Warfare (SEW) Support, Base	3.265	3.265	3.265
Space & Electronic Warfare Surveillance/Reconnaissance Support, TAC SAT Recon Office	7.134	7.134	7.134
NAVY, RDT&E Operation Systems Development			
Satellite Communications	66.231	66.231	66.231
Navy Meteorological & Ocean Sensors-Space (METOC)	0.742	0.742	0.742
RDTEN 3, Other Satellite Program	0.723	0.723	0.723
Marine Corps Comms System, Joint Tactical Radio System	21.923	21.923	21.923
AIR FORCE, RDT&E Basic Research			
Defense Research Sciences, Physics and Electronics (Major Thrust 2)	18.450*	18.450	18.450
Defense Research Sciences, Aerospace, Chemical and Material Sciences (Major Thrust 3)	46.382*	46.382	46.382
AIR FORCE, RDT&E Applied Research			
Materials, Materials for Structures, Propulsion, and Subsystems (Major Thrust 4)	8.800*	8.800	8.800
Materials, Materials for Electronics, Optics, and Survivability (Major Thrust 2)	12.223*	12.223	12.223
Aerospace Propulsion, Advanced Propulsion	22.304*	22.304	22.304

Technology			
Aerospace Propulsion, Rocket Propulsion Technology	52.651	52.651	52.651
Aerospace Sensors, EO Component Technology (Major Thrust 5)	6.305*	6.305	6.305
Aerospace Sensors, EO Sensors & Countermeasures Tech (Major Thrust 3)	6.215*	6.215	6.215
Aerospace Sensors, RF Sensors & Countermeasures Tech (Major Thrust 1)	7.893*	7.893	7.893
Space Technology	104.063	104.063	104.063
Directed Energy Technology, Lasers & Imaging Technology (Major Thrust 3)	27.554	27.554	27.554
AIR FORCE, RDT&E Advanced Technology Development			
Advanced Aerospace Sensors, Advanced Aerospace Sensors Technology (Major Thrust 1)	4.500*	4.500	4.500
Aerospace Technology Dev/Demo (Major Thrust 4)	44.206*	44.206	44.206
Aerospace Propulsion & Power Technology, Space & Missile Rocket Propulsion	24.061	24.061	24.061
Advance Spacecraft Technology	68.071	68.071	68.071
Maui Space Surveillance System (MSSS)	26.299	26.299	26.299
Manufacturing Technologies, Manufacturing Technologies (Major Thrust 2)	28.853*	28.853	28.853
AIR FORCE, RDT&E Management Support			
Rocket Systems Launch Program	14.203	14.203	12.763
Space Test Program	13.000	13.000	11.700
Space and Missile Center (SMC) Civilian Workforce	192.348	192.348	172.975
AIR FORCE, RDT&E Advanced Component Development & Prototypes			
Space Control Technology	27.024	27.024	23.024
International Space Cooperative R&D	0.379	0.379	0.379
Space Protection Program	28.764	28.764	24.764
Operationally Responsive Space	0.000	10.000	10.000
NAVSTAR Global Positioning System (User Equipment)	137.233	137.233	127.233
Service Support to STRATCOM-Space Activities, Joint NavWar Center	2.799	2.799	2.799
Tech Transition Program, Space Technology Transition	3.000	3.000	3.000
AIR FORCE, RDT&E Engineering & Manufacturing Development			
Counterspace Systems	23.930	23.930	22.730
Space Situation Awareness Systems	400.258	400.258	315.032
Spaced Based Infrared Systems High	352.532	322.832	322.832
Evolved Expendable Launch Vehicle Program	27.963	27.963	24.963
Advanced EHF MILSATCOM	272.872	272.872	265.872
Polar MILSATCOM	124.805	124.805	104.805
Wideband Global SATCOM	13.948	13.948	12.553
AIR FORCE, RDT&E Operational Systems Development			
Global Positioning System III-Operational Control Segment	383.500	383.500	373.500
Air & Space Operations Center	22.820	22.820	22.820
Space Superiority Intelligence	12.197	12.197	10.697

Information Systems Security Program, Cryptographic Modernization, Space Telemetry Tracking & Commanding (TT&C)	7.885	7.885[‡‡‡]	7.885
Information Systems Security Program, Cryptographic Modernization, Space Modular Common Crypto (SMCC)	19.821	19.821[§§§]	19.821
MILSATCOM Terminals	140.170	140.170	130.170
Satellite Control Network	35.698	35.698	35.698
Space & Missile Test & Evaluation Center	3.696	3.696	3.696
Space Innovation, Integration and Rapid Technology Development, Space Analysis and Application Development	2.469	2.469	2.469
Spacelift Range System (SPACE)	13.345	13.345	12.345
GPS III Space Segment	221.276	221.276	201.276
JSPOC Mission System	58.523	58.523	58.523
NUDET Detection System (SPACE)	50.547	50.547	42.547
Space Situation Awareness Operations	18.807	18.807	12.807
DEFENSE-WIDE, DISA, RDT&E, Operations Systems Development			
Long-Haul Communications, Presidential and National Voice Conferencing, National Emergency Action Decision Network	16.051	16.051	16.051[****]
Teleport	5.147	5.147	5.147
DEFENSE-WIDE, RDT&E Advanced Technology Development			
DARPA, Space Programs & Technology	172.546	172.546	142.546
DARPA, Tactical Technology, International Space Station SPHERES Integrated Research Experiments	6.500	6.500	6.500
DEFENSE-Wide, RDT&E Advanced Component Development & Prototypes			
Space Tracking & Surveillance System	44.947	44.947	40.447
Ballistic Missile Defense System Space Programs	6.515	6.515	6.515
Precision Tracking Space Sensor	0.000	0.000	0.000
OPERATION & MAINTENANCE			
Army Space Activities, Operation & Maintenance			
Security Programs, Air Defense Contracts and Space Support	0.69	0.69	0.69
Servicewide Communications, Air Defense Contracts and Space Support	0.792	0.792	0.792
NAVY OPERATING FORCES, Operation & Maintenance			
Space Systems & Surveillance	172.330	172.330	172.330
NAVY OPERATING FORCES, Admin & SRVWD Activities			
Space and Electronic Warfare Systems	75.728	75.728	75.728
AIR FORCE OPERATING FORCES, Operation & Maintenance			

[‡‡‡] NDAA would increase the overall Information Systems Security Program budget by $10 million for "ASACoE program".
[§§§] NDAA would increase the overall Information Systems Security Program budget by $10 million for "ASACoE program".
[****] SAC proposes $6 million reduction due to "Prior year carryover."

Launch Facilities	305.275	305.275	291.275
Space Control Systems	433.658	433.658	433.658
Total	**9,311.024**	**9,301.024**	**8,551.556**

*****An asterisk by funds requested in the above appendix chart indicates that the program provides significant benefits for BOTH space and aerospace programs.

About the Space Foundation

The foremost advocate for all sectors of the space industry and an expert in all aspects of space, the Space Foundation is a global, nonprofit leader in space awareness activities, educational programs that bring space into the classroom and major industry events, including the *National Space Symposium*, all in support of its mission "to advance space-related endeavors to inspire, enable and propel humanity." The Space Foundation publishes *The Space Report: The Authoritative Guide to Global Space Activity* and provides three indexes that track daily U.S. stock market performance of the space industry. Through its Space Certification™ and Space Technology Hall of Fame® programs, the Space Foundation recognizes space-based technologies and innovations that have been adapted to improve life on Earth. The Space Foundation was founded in 1983 and is based in Colorado Springs, Colo. Its world headquarters features a public Visitors Center with two main areas - the El Pomar Space Gallery and the Northrop Grumman Science Center featuring Science On a Sphere®. The Space Foundation also conducts research and analysis and government affairs activities from its Washington, D.C., office and has a field office in Houston, Texas. For more information, visit www.SpaceFoundation.org. Follow us on Facebook, LinkedIn and Twitter, and read about the latest space news and Space Foundation activities in *Space Watch*.