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|---|---------|---------|---------|---|---------|---------|---------|---------|
| Exhibit R-2, RDT&E Budget Item Justification | | | | Date: May 2009 | | | | |
| Appropriation/Budget Activity RDT&E, Defense-Wide/07 | | | | R-1 Item Nomenclature Teleport Program/PE 0303610K | | | | |
| Cost (\$ in millions) | FY 2008 | FY 2009 | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
| Teleport Program /NS01 | 5.633 | 2.054 | 5.239 | | | | | |

A. Mission Description and Budget Item Justification:

DoD Teleport is a collaborative investment within the Department and among the Services that provides deployed warfighters with seamless worldwide multi-band Satellite Communication (SATCOM) reach-back capabilities to the Defense Information System Network (DISN). Each Teleport investment increases the warfighters' ability to communicate with a worldwide interconnected set of information capabilities, which is vital for the DoD to maintain a persistent presence among its adversaries.

Teleport is being deployed incrementally in a multi-generational program. Teleport upgrades selected sites from the Standardized Tactical Entry Point (STEP) program. The first generations of Teleport add communications support and commercial SATCOM frequency bands that represent a ten-fold increase to the throughput and functional capabilities of these STEP sites. Generation One fields capabilities in four Initial Operation Capability (IOC) increments. Generation Two provides additional military Ka band capability and adds legacy to capability to increase capacity.

The Generation Three program (FY 2010) integrates the Advanced Extremely High Frequency (AEHF) and integrates the Mobile User Objective System (MUOS) satellite systems' capabilities into the DoD gateway architecture. This will provide increased and less expensive satellite connectivity through technology refresh of older communication equipment suites, and adds a Teleport site in Pacific Command (PACOM) to expand the DoD gateway's capacity, throughput, and functional capabilities in support of worldwide tactical and deployed warfighters.

Generation Three is composed of four essential areas of warfighter capabilities. Acquisition and integration planning has begun for these efforts. The program is executable immediately upon receipt of appropriations, and contract vehicles are already in place to obligate funds starting in the 2nd quarter of FY 2010.

A. AEHF Interoperability. This enhancement provides the President, Secretary of Defense, and Combatant Commanders with survivable, anti-jam communications through all peacetime and combat operations, including strategic missions. AEHF will deliver more than ten times the capability of the Milstar satellites it replaces (that supply only Low Data Rate (LDR) and Medium Data Rate (MDR) speeds). This enhancement delivers 18 Navy Multi-band Terminals (NMT) to enable more than 275 megabits per second of Extended Data Rate (XDR) protected communications by the AEHF constellation starting with the first spacecraft's launch projected by 2010.

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Without this enhancement, Teleport gateways and the DISN services provided to SATCOM users will be inaccessible to the warfighter using AEHF's greatly improved capability, preventing them from using the most high-speed, secure, and interoperable voice, data, and video networks.

B. Increased Capability. This enhancement provides deployed commanders with sufficient bandwidth to rapidly transmit the largest video and data products to the battlefield warfighter, including Unmanned Aerial Vehicle (UAV) streaming video, digital imagery intelligence, and mapping and weather products and services. This enhancement delivers 14 Modernization of Enterprise Terminals (MET) to enable more than 18 gigabits per second of high speed X- and Ka-band communications across the Wideband Global SATCOM (WGS) constellation of six spacecraft, replacing outdated and expensive to maintain Defense Satellite Communications System (DSCS) terminals approaching end of useful life. Includes supplementing planned Army capabilities in Australia to establish an additional Teleport site, providing PACOM with a redundant ability to downlink vital communications from WGS spacecraft over its areas of responsibility.

Without this enhancement, Teleport and other gateways will have insufficient capacity to fully utilize the advanced wideband satellite capabilities currently being placed into orbit, and communications will continue to be a constraining factor on the safest and most cost effective solution of 21st century combat operations. In addition, the current compliment of enterprise terminals are approaching end of life and without a replacement program, warfighters will be forced to conduct operations with limited assets resulting in possible mission failure.

C. Improved Tactical Support. This enhancement provides tactical users (aerial and marine platforms, ground vehicles, and dismounted troops with smaller, lower-power communications equipment) in "disadvantaged" environments (e.g., heavily forested and urban regions) with greatly improved access to DoD's voice and data networks. This enhancement delivers ground infrastructure equipment to enable the MUOS to fully access DISN services through DoD Teleports, providing bandwidth limited tactical users the ability to quickly transmit and receive information across DoD's voice, data, and video networks starting with the first spacecraft's launch projected by 2010.

Without this enhancement, tactical users will be denied access to classified and unclassified Internet-like data networks and voice communications, and current capabilities will continue to degrade as legacy satellite systems providing less robust services reach end of life.

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D. MUOS Interoperability. This enhancement allows tactical warfighters using the most capable and cost effective narrowband capabilities to communicate with users possessing outdated technology until those legacy systems are replaced. This enhancement delivers ground infrastructure equipment to enable MUOS operators to be interoperable with thousands of legacy Ultra-High Frequency (UHF) SATCOM users, effectively extending the life of those legacy capabilities and smoothing the transition to MUOS.

Without this enhancement, MUOS will not be interoperable with existing UHF SATCOM equipment. Tactical users deployed in harm's way will be unable to efficiently communicate with one another and their commanders through existing legacy systems.

Accomplishments/Planned Program:

| | | | |
|---------------|----------------|----------------|----------------|
| | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> |
| Subtotal Cost | 4.815 | 1.954 | 4.715 |

Systems Engineering & Program Management (SEPM): In FY 2008, Generation Two funding provided SEPM support for continued development and maintenance of program documents, support to the Working-level Integrated Product Teams (WIPTs), technical analyses and reporting, and logistics planning and reporting. Generation Two adds additional Ka band Satellite Earth Terminals, associated baseband equipment, and net-centric communications to six sites. FY 2008 funding also addressed Director, Operational Test and Evaluation (DOT&E) follow-on recommendations for improving Initial Operational Capability (IOC) IOC 2 and IOC 3 maintainability, fielded Teleport Management and Control System (TMCS) Build 4, beginning development of TMCS Build 4.1, and implemented UHF to DISN access.

The SEPM in FY 2009 through FY 2010 will support Teleport technology refreshment to include Joint IP Modems (JIPM), upgrades to net-centric baseband and IP modem software and firmware, deployment of TMCS Build 4.1 to enhance security, DISN service enhancements, and UHF integrated waveform upgrades. In FY 2010, SEPM efforts will also begin to define and design the Generation Three enhancements for increased warfighter capabilities by providing users of the current UHF system an improved service and complete interoperability with the MUOS legacy payload to ensure a smooth transition to the next generation of mobile user equipment.

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| Teleport Program /NS01 | 5.633 | 2.054 | 5.239 | | | | | |
| Subtotal Cost | <u>FY 2008</u> 0.818 | <u>FY 2009</u> 0.100 | <u>FY 2010</u> 0.524 | | | | | |
| <p>Testing: In FY 2008 funding was used to support Generation Two testing for system integration and interoperability, as well as testing of TMCS Build 4 and UHF access to DISN services. Funding in FY 2009 through FY 2010 will be used to test TMCS Build 4.1 and continue technology refresh test events to maintain viability of DoD Teleport system.</p> | | | | | | | | |
| B. Program Change Summary: | | | | | | | | |
| | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> | | | | | |
| FY 2009 Previous President's Budget | 5.761 | 2.060 | 2.147 | | | | | |
| FY 2010 Budget Estimate's Submission | 5.633 | 2.054 | 5.239 | | | | | |
| Total Adjustments | -0.128 | -0.006 | 3.092 | | | | | |
| Change Summary Explanation: | | | | | | | | |
| <p>The FY 2008 adjustments reflect a realignment of funding due to emerging mission critical requirements within the Agency. The FY 2009 was reduced by -\$0.006 million for Economic Assumptions. In FY 2009, the program will achieve Gen 2 Full Operational Capability (FOC) and transition into sustainment; systems engineering efforts ramp down commensurately. The FY 2010 adjustments of \$3.200 million, reflect additional SEPM support to design and baseline the addition of Advanced Extremely High Frequency (AEHF) and integration of the Mobile User Objective System (MUOS) satellite systems' capabilities into the DoD gateway architecture. Without these enhancements, the Teleport gateways and DISN services it provides to SATCOM users will be inaccessible to the warfighter. The Teleport and other gateways will have insufficient capacity to fully utilize the advanced wideband satellite capabilities, and MUOS will not be backwards compatible with existing UHF SATCOM equipment. The FY 2010 reductions of -\$0.108 million, reflects a realignment of funding due to emerging mission critical requirements within the Agency.</p> | | | | | | | | |

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| Teleport Program /NS01 | 5.633 | 2.054 | 5.239 | | | | | |

C. Other Program Funding Summary:

| | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | To <u>Complete</u> | Total <u>Cost</u> |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------|----------------------|
| O&M * | 18.612 | 18.790 | 27.004 | | | | | | Cont'g | Cont'g |
| Procurement, DW ** | 39.010 | 15.018 | 75.448 | | | | | | Cont'g | Cont'g |

* Includes STEP O&M funding.

** Includes sum of STEP & TPO procurement funding as identified on the P-40.

D. Acquisition Strategy:

The TPO utilizes the DoD preferred evolutionary acquisition approach to acquire Commercial off-the-shelf (COTS) and modified COTS equipment when possible. The two TPO procuring agencies, Program Manager Defense Communications and Army Transmission Systems (PM DCATS), and the Space and Naval Warfare Systems Command (SPAWAR) provide direct contracting support. Required assistance from other Departments including Army, Navy, and Air Force is acquired via Military Interdepartmental Purchase Request (MIPR) for both organic and contracted support.

E. Performance Metrics: Teleport manages and tracks its cost and schedule performance parameters using a tailored Earned Value Management System (EVMS) process, integrating the program plan, the program schedule, Work Breakdown Structure (WBS), and financial data. Progress is monitored/documented monthly showing percentages complete for schedule and cost. Formal updates with changes to the schedule are documented against the program baseline.

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| Exhibit R-3 RDT&E Cost Analysis | | | | | | | | | | Date: May 2009 | | | | |
|---|-----------------------------------|---|------------------------------|--------------------------|------------------------|--------------------------|-------------------------|--------------------------|------------------------|--------------------------|------------------------|---------------------------------|---------------------------|---------------------------------|
| Appropriation/Budget Activity | | | Program Element | | | | Project Name and Number | | | | | | | |
| RDT&E, Defense-Wide/07 | | | PE 0303610K | | | | Teleport Program/NS01 | | | | | | | |
| <u>Cost Category</u> | <u>Contract Method & Type</u> | <u>Performing Activity & Location</u> | <u>Total PY Cost (\$000)</u> | <u>FY08 Cost (\$000)</u> | <u>FY08 Award Date</u> | <u>FY09 Cost (\$000)</u> | <u>FY09 Award Date</u> | <u>FY10 Cost (\$000)</u> | <u>FY10 Award Date</u> | <u>FY11 Cost (\$000)</u> | <u>FY11 Award Date</u> | <u>Cost to Complete (\$000)</u> | <u>Total Cost (\$000)</u> | <u>Target Value of Contract</u> |
| <u>Technical Services</u> | | | | | | | | | | | | | | |
| <u>Support Costs</u> | | | | | | | | | | | | | | |
| Contracted Systems Engineering and Program Management (SE/PM) Support | AF Netcents | Booz Allen & Hamilton Fairfax, VA | 24.274 | 1.681 | 03/08 | 1.419 | 03/09 | 3.144 | 03/10 | | | Cont'g | 33.721 | 33.721 |
| Contracted Systems Integration and Program Management Support | MIPR | STF-SPAWAR | 1.914 | 0.835 | 07/08 | N/A | N/A | N/A | N/A | | | N/A | 2.749 | 2.749 |
| Contracted SE/PM Support | GSA Sched | SAIC | N/A | N/A | 03/08 | 0.450 | 03/09 | 1.048 | 03/10 | | | Cont'g | 2.565 | 2.565 |
| Government Systems Engineering/Program Management Support | MIPR | US Navy- SPAWAR San Diego, CA | 1.240 | 1.791 | Var. | 0.035 | Var. | 0.209 | N/A | | | Cont'g | 3.489 | 3.489 |
| Government Systems Engineering/Program Management Support | MIPR | US Army PM DCATS Fort Monmouth, NJ | 0.000 | 0.508 | Var. | 0.050 | Var. | 0.314 | N/A | | | Cont'g | 1.320 | 1.320 |
| <u>Test Support</u> Government Test and Evaluation Support | MIPR | JITC, Ft. Huachuca | 5.133 | 0.818 | Var. | 0.100 | Var. | 0.524 | N/A | | | Cont'g | 7.109 | 7.109 |
| Total | | | 32.561 | 5.633 | | 2.054 | | 5.239 | | | | | 50.953 | 50.953 |

R-1 Line Item No. 202

(Exhibit R-3, page 6 of 8)

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| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | | | | Date: May 2009 | | | | | | | | | | | | | | | | |
|--|---------|---|---|---|---------|---|---|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| Appropriation/Budget Activity RDT&E, Defense-Wide, 07 | | | | | | | | Program Element Number and Name PE 0303610K, Teleport Program | | | | | | | | Project Number and Name NS01, Teleport | | | | | | | | | | | | | | | | |
| Fiscal Year | FY 2008 | | | | FY 2009 | | | | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Generation One IOC4 Testing | | | | | △ | △ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IOC4 (Ka Integration) | | | | | | △ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generation Two Generation Two (Net-Centric Capability) DT/OT&E | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generation Two (Ka & Net Centric Capability) DT&E & FOT&E | | | | | △ | △ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generation Two FOC | | | | | | △ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technology Refreshment (DoD Teleport System) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tech. Refresh Eng. And Test | | | | | | △ | | | | | △ | | | | | | | | | | | | | | | | | | | | | |
| Generation Three Milestone B/C Decision | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4a, RDT&E Program Schedule Detail | | Date: May 2009 | | | | | | |
|--|---------------------------------|----------------|-------------------------|----------------|----------------|----------------|----------------|----------------|
| Appropriation/Budget Activity | Program Element Number and Name | | Project Number and Name | | | | | |
| RDT&E, Defense-Wide/07 | PE 0303610K, Teleport Program | | NS01, Teleport | | | | | |
| <u>Schedule Profile</u> | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> |
| Generation One | | | | | | | | |
| IOC4 Testing | | 1Q, 2Q | | | | | | |
| IOC4 (Ka Integration) | | 2Q | | | | | | |
| Generation Two | | | | | | | | |
| Generation Two (Net-centric Capability) DT/OT&E | 1Q-3Q | | | | | | | |
| Generation Two (Ka & Net-centric Capability) DT&E & FOT&E | | 1Q, 2Q | | | | | | |
| Generation Two FOC | | 2Q | | | | | | |
| Technology Refreshment (DoD Teleport System) | | | | | | | | |
| Tech Refresh Eng. and Test | | 2Q | 2Q | | | | | |
| Generation Three | | | | | | | | |
| Milestone B/C Decision | | | 1Q | | | | | |

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