

United States Special Operations Command

Fiscal Year (FY) 2009 Budget Estimates

February 2008



Research, Development, Test and Evaluation, Defense-Wide

UNITED STATES SPECIAL OPERATIONS COMMAND
 FISCAL (FY) 2009 BUDGET ESTIMATE
 RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE

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ORGANIZATIONS

| | |
|---------------|---|
| 160th SOAR | 160th Special Operations Aviation Regiment |
| AFSOC | Air Force Special Operations Command |
| ARSOA | Army Special Operations Aviation |
| CERDEC | Communications-Electronics Research, Development and Engineering Center |
| DARPA | Defense Advanced Research Projects Agency |
| DTRA | Defense Threat Reduction Agency |
| FDA | Federal Drug Administration |
| MARSOC | Marine Special Operations Command |
| NAVSPECWARCOM | Naval Special Warfare Command |
| PMA-275 | V-22 Joint Program Office |
| SOFSA | Special Operations Forces Support Facility |
| 1SOW | 1 Special Operations Wing |
| TSOC | Theater Special Operations Command |
| USASOC | United States Army Special Operations Command |
| USSOCOM | United States Special Operations Command |

ACRONYMS

| | |
|---------|--|
| A2C2S | Army Aviation Command & Control System |
| AA | Anti-Armor |
| ACTD | Advanced Concepts Technology Demonstration |
| ADM-NVG | Advanced Digital Multi-Spectral Night Vision Goggle |
| ADP | Automated Data Processing |
| ADRAC | Altitude Decompression Sickness Risk Assessment Computer |
| ADSS | Adaptive Deployable Sensor Suite |
| AFCS | Auto Flight Control System |
| AGE | Arterial Gas Embolism |
| AHRS | Attitude Heading Reference System |
| ALE | Automatic Link Establishment |
| ALGL | Autonomous Landing Guidance System |
| ALGS | Advanced Lightweight Grenade Launcher |
| ALLTV | All Light Level Television |
| AMP | Avionics Modernization Program |
| AMR | Anti-Materiel Rifle |
| AOPBS | Aircraft Occupant Ballistic Protection System |
| ARAP | ASDS Reliability Action Panel |
| AS&C | Advanced Systems Concept |
| ASD | Assistant Secretary of Defense |
| ASDS | Advanced Sea, Air, Land Delivery System |
| ASE | Aircraft Survivability Equipment |
| ASICD | Application Specific Integrated Circuit Development |
| ASM | Anti Structural Munitions |
| ATACMS | Army Tactical Missile System |
| ATD | Advanced Technology Demonstration |
| ATD/TB | AC-130U Gunship Aircrew Training Devices/Testbed |
| ATL | Advanced Tactical Laser |
| ATM | Asynchronous Transfer Mode |
| ATPIAL | Advanced Tactical Precision Illuminator Aiming Laser |
| ATPS | Advanced Tactical Parachute System |
| ATV | All Terrain Vehicle |
| AWE | Aircraft, Weapons, Electronics |
| BALCS | Body Armor Load Carriage System |

ACRONYMS

| | |
|---------|---|
| BFT | Blue Force Tracking |
| BIO | Basic Input Output |
| BLOS | Beyond Line-of-Site |
| BLOSEM | Below Line-of-Site Electronic Support Measures |
| BMATT | Brief Multimission Advanced Tactical Terminal |
| BOIP | Basis of Issue Plan |
| BUD/S | Basic Underwater Demolition School |
| C2 | Command and Control |
| C3I | Command, Control, Communications, and Intelligence |
| C4 | Command, Control, Communications, and Computers |
| C4I | Command, Control, Communications, Computers, and Intelligence |
| C4IAS | Command, Control, Communications, Computers, and Intelligence Automation System |
| CAAP | Common Avionics Architecture for Penetration |
| CAAS | Common Avionics Architecture Systems |
| CAPS | Counter-Proliferation Analysis and Planning System |
| CBN | Chemical, Biological and Nuclear |
| CCCEKIT | Combat Casualty Care Equipment Kit |
| CCD | Coherent Change Detection |
| CCD | Charged Coupled Device (Forward Looking Infrared Radar Only) |
| CDR | Critical Design Review |
| CERP | Capital Equipment Replacement Plan |
| CESE | Civil Engineering Support Equipment |
| CFE | Contractor Furnished Equipment |
| CINC | Commander in Chief |
| CLR | Combat Loss Replacement |
| CMNS | Combat Mission Needs Statement |
| CMS | Combat Mission Simulator |
| CNVD | Clip-On Night Vision Device |
| COIL | Chemical Oxygen Iodine Laser |
| COMSEC | Communications Security |
| CONOPS | Concept of Operations |
| COTS | Commercial-Off-The-Shelf |
| COW | Cost of War |
| CP | Counter-Proliferation |

ACRONYMS

| | |
|---------|--|
| CPAF | Cost Plus Award Fee |
| CS | Confined Space (Light Anti-Armored Weapons) |
| CS | Combat Swimmer |
| CSAR | Combat Survivor Evader Locator |
| CSEL | Combat Search and Rescue |
| CSOLO | Commando Solo |
| CW | Center Wing |
| DAGR | Defense Advanced Global Positioning System Receiver |
| DAMA | Demand Assured Multiple Access |
| DARPA | Defense Advanced Research Projects Agency |
| DAS | Distributed Aperture System |
| DCGS | Data Common Ground/Surface System |
| DCS | Decompression Sickness |
| DDR&E | Director, Defense Research & Engineering |
| DDS | Dry Deck Shelter |
| DERF | Defense Emergency Response Fund |
| DHEA | Dehydroepiandrosterone |
| DIAM | Data Interface Acquisition Module |
| DIRCM | Directional Infrared Countermeasures |
| DMCS | Deployable Multi-Channel SATCOM |
| DMS | Diminished Manufacturing Sources (ASDS) |
| DMS | Defense Message System |
| DMT/DMR | Distributed Mission Training/Distributed Mission Rehearsal |
| DPPC | Deployable Print Production Center |
| DT | Development and Test |
| DTT | Desk Top Trainer |
| DUSD | Deputy Under Secretary of Defense |
| EA | Evolutionary Acquisition |
| ECM | Electronic Countermeasures |
| ECO | Engineering Change Order |
| ECOS | Enhanced Combat Optical Sights |
| ECP | Engineering Change Proposal |
| EDM | Engineering Development Model |
| EFP | Explosively Forced Penetrator |

ACRONYMS

| | |
|--------|---|
| EGLM | Enhanced Grenade Launcher Module |
| EIR | Embedded Integrated Broadcast System Receiver |
| EIRS | Enhanced Infrared Suppression |
| EMD | Engineering and Manufacturing Development |
| ENTR | Embedded National Tactical Receiver |
| EOIR | Electro-Optical Infrared |
| EPRO | Environmental Protection |
| ESA | Enhanced Situational Awareness |
| ETCAS | Enhanced Traffic Alert and Collision Avoidance System |
| ETI | Evolutionary Technology Insertion |
| EW | Electronic Warfare |
| EWAISF | Electronic Warfare Avionics Integrated Systems Facility |
| EWO | Electronic Warfare Officer |
| FAA | Federal Aviation Administration |
| FABS | Fly-Away Broadcast System |
| FCD | Field Computing Devices |
| FCT | Foreign Comparative Testing |
| F&DR | Fielding & Deployment Release |
| FFE | Fire From Enclosure |
| FLIR | Forward Looking Infrared Radar |
| FMBS | Family of Muzzle Brake Suppressors |
| FNM | Foreign & Nonstandard Materiel |
| FOL | Family of Loud Speakers |
| FPM | Flight Performance Model |
| FSOV | Family of SOF Vehicles |
| FSW | Family of Sniper Weapons |
| FW | Fixed Wing |
| FSDS | Family of Sniper Detection Systems |
| GBS | Global Broadcasting System |
| GDS | Gunfire Detection System |
| GEO | Geological |
| GFE | Government Furnishment Equipment |
| GMV | Ground Mobility Vehicles |
| GM-VAS | Ground Mobility Visual Augmentation Systems |

ACRONYMS

| | |
|---------|---|
| GOTS | Government-Off-the-Shelf |
| GPK | Gunner Protection Kit |
| GPS | Global Positioning System |
| GSK | Ground Signal Intelligence Kit |
| H-SUV | Hardened-Sport Utility Vehicle |
| HE | High Explosive |
| HEI | High Explosive Incendiary |
| HF | High Frequency |
| HFTTL | Hostile Forces Tagging, Tracking, and Locating |
| HLA | High Level Architecture |
| HMMWV | High Mobility Multi-purpose Wheeled Vehicle |
| HPFOTD | High Power Fiber Optic Towed Decoys |
| HPMMR | High Performance Multi-Mission Radio (PRC-117F) |
| HPS | Human Patient Simulator |
| HRLMD | Hydrographic Reconnaissance Littoral Mapping Device |
| HSB | High Speed Boat |
| HSR | Heavy Sniper Rifle |
| IAS/CMS | Integration Avionics System/Cockpit Management System |
| IBR | Intelligence Broadcast Receiver |
| IBS | Integrated Broadcast Service |
| IC | Interim Configuration |
| ICAD | Integrated Control and Display |
| ICLS | Interim Contractor Logistics Support |
| ICS | Interim Contractor Support |
| IDAP | Integrated Defensive Armed Penetrator |
| IDAS | Interactive Defensive Avionics Subsystem |
| IDS | Infrared Detection System |
| IED | Improvised Explosive Devices |
| IFF | Identify Friend or Foe |
| ILM | Improved Limpet Mine |
| IM | Insensitive Munitions |
| IMFP | Integrated Multi-Function Probe |
| ILS | Integrated Logistics Support |
| INFOSEC | Information Security |

ACRONYMS

| | |
|---------|---|
| INOD | Improved Night/Day Observation/Fire Control Device |
| INS | Inertial Navigation System |
| IOC | Initial Operational Capability |
| IPT | Integrated Product Team |
| IR | Infrared |
| IRCM | Infrared Countermeasures |
| ISR | Intelligence Surveillance and Reconnaissance |
| ISSMS | Improved SOF Manpack System |
| ISOCA | Improved Special Operations Communications Assemblage |
| ITMP | Integrated Technical Management Plan |
| IWIS | Integrated Warfare Info System |
| JBS | Joint Base Station |
| JCIDS | Joint Capabilities Integration and Development System |
| JCS | Joint Chiefs of Staff |
| JDISS | Joint Deployable Intelligence Support System |
| JEM | Joint Enhanced Multi-Purpose Inter/Intra Team Radio |
| JMPS | Joint Mission Planning System |
| JOS | Joint Operational Stocks |
| JSOAC | Joint Special Operations Aviation Components |
| JSOTFS | Joint Special Operations Task Force |
| JSTAR | Joint Surveillance and Target Attack Radar System |
| JTC | Joint Terminal Control |
| JTRS | Joint Tactical Radio System |
| JTWS | Joint Threat Warning System |
| LASIK | Laser-Assisted IN-Situ Keratomileusis |
| LAN/WAN | Local Area Network/Wide Area Network |
| LASAR | Light Assault Attack Reconfigurable Simulator |
| LAW | Light Anti-Armored Weapons |
| LBJ | Low Band Jammer |
| LCMP | Life Cycle Management Plan |
| LCMR | Lightweight Counter Mortar Radar |
| LDS | Leaflet Delivery System |
| LEP | Lightweight Environmental Protection |
| LMG | Lightweight Machine Gun |

ACRONYMS

| | |
|----------|--|
| LOS | Line of Sight |
| LPD | Low Probability of Detection |
| LPI | Low Probability of Intercept |
| LPI/D | Low Probability of Intercept/Detection |
| LPI/LPD | Low Probability of Intercept/Low Probably of Detection |
| LRBS | Long Range Broadcast System |
| LRV | Light Reconnaissance Vehicle |
| LSV | Logistics Support Vehicle |
| LTAV | Lightweight Tactical All Terrain Vehicle |
| LTD | Laser Target Designator |
| LTDR | Laser Target Designator/Rangefinder |
| LTI | Lightweight Thermal Imager |
| LWC | Littoral Warfare Craft |
| LWCM | Lightweight Counter-Mortar |
| M4MOD | M4A1 SOF Carbine Accessory Kit |
| MAAWS | Multi-Purpose Anti-Armor/Anti-Personnel Weapons System |
| MANPAD | Man Portable Air Defense System |
| MATT | Multi-mission Advanced Tactical Terminal |
| MBITR | Multi-Band Inter/Intra Team Radio |
| MBLT | Machine Based Language Translator |
| MBMMR | Multi-Band/Multi-Mission Radio |
| MBSS | Maritime Ballistic Survival System |
| MCAR | MC-130 Air Refueling |
| MCADS | Maritime Craft Air Drop System |
| MCU | Multipoint Conferencing Unit |
| MDNA | Mini Day/Night Sight |
| MELB | Mission Enhancement Little Bird |
| MET | Meteorological |
| MICH | Modular Integrated Communications Helmet |
| MK V | Mark V |
| MMB | Miniature Multiband Beacon |
| MOA | |
| MONO-HUD | Monocular Head Up Display |
| MPARE | Mission Planning, Analysis, Rehearsal and Execution |

ACRONYMS

| | |
|------------|---|
| MPC | Media Production Center |
| MPK | Mission Planning Kits |
| MRD | Mission Rehearsal Device |
| NAVSCIATTS | Naval Small Craft Instructor and Technical Training School |
| NBC | Nuclear, Biological, and Chemical |
| NBOE | Non-Gasoline Burning Outboard Engine |
| NDI | Non-Developmental Item |
| NET | New Equipment Training |
| NISH | National Institute of Severly Handicapped |
| NM | Nautical Miles |
| NOSC | Network Operations Systems Center |
| NRE | Non-Recurring Engineering |
| NSCV | Non Standard Commercial Vehicle |
| NSSS | National Systems Support to SOF |
| NSW | Naval Special Warfare |
| NVD | Night Vision Devices |
| NVEO | Night Vision Electro-Optic |
| OA/CW | Obstacle Avoidance/Cable Warning |
| OBESA | On-Board Enhanced Situational Awareness |
| OEF | Operation Enduring Freedom |
| OGA | Other Government Agencies |
| OIF | Operation Iraqi Freedom |
| OMB | Office of Management and Budget |
| OMMS | Organizational Maintenance Manual Sets |
| OPEVAL | Operational Evaluation |
| ORD | Operational Requirements Document |
| OT | Operational Test |
| OT&E | Operational Test and Evaluation |
| QOT&E | Qualification Test and Evaluation/Qualification Operational Test and Evaluation |
| P3I | Pre-Planned Product Improvement |
| PAI | Primary Aircraft Inventory |
| PAM | Penetration Augmented Munition |
| PARD | Passive Acoustic Reflection Device |
| PC | Personal Computer |

ACRONYMS

| | |
|--------|--|
| PC | Patrol Coastal |
| PDR | Preliminary Design Review |
| PDS | Psychological Operations Distribution System |
| PDM | Program Decision Memorandum |
| PFPS | Portable Flight Planning System |
| PGCB | Precision Guided Canister Bomb |
| PGSE | Peculiar Ground Support Equipment |
| PLTD | Precision Laser Targeting Device |
| PM | Program Manager |
| PM-MCD | Project Manager for Mines, Countermeasures and Demolitions |
| POBS | Psychological Operations Broadcasting System |
| POPAS | PSYOP Planning and Analysis System |
| POMD | Psychological Operations Media Display |
| POPS | Psychological Operations Print System |
| PPHE | Pre-Fragmented Programmable High Explosive |
| PRK | Photo Refractive Keratectomy |
| PRTV | Production Representative Test Vehicle |
| PSR | Precision Sniper Rifle |
| PSYOP | Psychological Operations |
| PTLD | Precision Target Locator Designator |
| PTT | Part Task Trainer |
| RAA | Required Assets Available |
| RAMS | Remote Activated Munitions System |
| RF | Radio Frequency |
| RGB | Red, Green, Blue |
| RIB | Rigid Inflatable Boat |
| RIS | Radio Integration System |
| RMWS | Remote Miniature Weather System |
| ROAR | Rover Over the Horizon Augmented Reconnaissance |
| ROSES | Reduced Optical Signature Emissions System |
| RPUAS | Rucksack Portable Unmanned Aircraft System |
| RSTA | Reconnaissance Surveillance Target Acquisition |
| RW | Rotary Wing |
| RWR | Radar Warning Receivers |

ACRONYMS

| | |
|----------|---|
| SAFC | Special Applications for Contingencies |
| SAGIS | SOF Air-Ground Interface Simulator |
| SAHRV | Semi-Autonomous Hydrographic Reconnaissance Vehicle |
| SATCOM | Satellite Communication |
| SBIR | Small Business Innovative Research |
| SBR | System Baseline Review |
| SBUD | Simulator Block Update |
| SCAR | SOF Combat Assault Rifle |
| SCI | Sensitive Compartmented Information |
| SDD | System Design and Development |
| SDS | Sniper Detection System |
| SDN-M | SOF Deployable Node-Medium |
| SDV | Sea, Air, Land (SEAL) Delivery Vehicle |
| SEAL | Sea, Air, Land |
| SEALION | Sea, Air, Land, Insertion Observation Neutralization |
| SIE | SOF Information Enterprise |
| SIGINT | Signals Intelligence |
| SIL | Systems Integration Lab |
| SIPE | Swimming Induced Pulmonary Edema |
| SIRCM | Suite of Infrared Countermeasures |
| SIRFC | Suite of Integrated Radar Frequency Countermeasures |
| SKOS | Sets, Kits and Outfits |
| SLAM | Selectable Lightweight Attack Munition |
| SLEP | Service Life Extension Program |
| SMAX | Special Operations Command Multipurpose Antenna, X-Band |
| SMG | SOF Machine Gun |
| SMRS | Special Mission Radio System |
| SO | Special Operations |
| SOC | Special Operations Craft |
| SOC | Special Operations Command |
| SOC-R | Special Operations Craft-Riverine |
| SOCRATES | Special Operations Command, Research, Analysis and Threat Evaluation System |
| SOEP | Special Operations Eye Protection |
| SOF | Special Operations Forces |

ACRONYMS

| | |
|-----------|--|
| SOFDK | SOF Demolition Kit |
| SOFIV | SOF Intelligence Vehicle |
| SOFLAM | SOF Laser Marker |
| SOFLRD | SOF Laser Range Finder and Designator |
| SOFPARS | SOF Planning and Rehearsal System |
| SOFTAPS | SOF Tactical Advanced Parachute System |
| SOFTACS | SOF Tactical Assured Connectivity System |
| SOIS | Special Operations Intelligence System |
| SOJICC | Special Operations Joint Interagency Collaboration Center |
| SOLL | Special Operations Low Level |
| SOMPE | Special Operations Mission Planning Environment |
| SOMROV | Special Operations Miniature Robotic Vehicle |
| SOMS-B | Special Operations Media Systems B |
| SOPMOD | SOF Peculiar Modification |
| SOPMODM-4 | SOF Peculiar Modification-M4 Carbine |
| SOST | Special Operations Special Technology |
| SOTD | Special Operations Technology Development |
| SOTVS | Special Operations Tactical Video System |
| SOVAS HHI | Special Operations Visual Aumentation System Hand Held Imagers |
| SPEAR | SOF Personal Equipment Advanced Requirements |
| SPIKE | Shoulder Fired Smart Round |
| SPR | Special Purpose Rifle |
| SRC | Systems Readiness Center |
| SRC | Special Reconnaissance Capabilities |
| SRTC | Short Infrared Sensor |
| SSR | Sniper Support Rifle |
| SSGN | Nuclear Guided Missile Submarine |
| SSSAR | Solid State Synthetic Aperture Radar |
| S&T | Science & Technology |
| START | Special Threat Awareness receiver/Transmitter |
| STD | Swimmer Transport Device |
| SW | Short-Wave |
| SWALIS | Special Warfare Automated Logistic Information System |
| SWIR | Short-Wave Infrared Sensor |

ACRONYMS

| | |
|-----------|---|
| SWORDS | Special Weapons Observation and Remote Direct-Action System |
| SYDET | Sympathetic Detonator |
| TACLAN | Tactical Local Area Network |
| TAT | To-Accompany Troops |
| TCCC | Tactical Combat Casualty Care |
| TACTICOMP | Tactical Computer |
| TCV | Transit Case Variant |
| TDFD | Time Delay Firing Device |
| TDE | Technology Development Exploitation |
| TPE | Theater Provided Equipment |
| TPED | Tactical Processing, Exploitation, and Dissemination |
| TEI | Technology Exploitation Initiative |
| TRR | Test Readiness Review |
| TRS | Tactical Radio System |
| TTHM | Titanium Tilting Helmet Mount |
| TT&L | Tagging, Tracking & Locating |
| UARRSI | Universal Aerial Refueling Receptacle Slipaway |
| UAS | Unmanned Aerial System |
| UAV | Unmanned Aerial Vehicle |
| UBA | Underwater Breathing Apparatus |
| UHF | Ultra High Frequency |
| UHMS | Undersea and Hyperbaric Medicine Society |
| UK | United Kingdom |
| US | United States |
| UTC | Unit Type Code |
| UV | Unmanned Vehicles |
| UVT | Unmanned Vehicle Targeting |
| VBL | Visible Bright Lights |
| VESTA | Vibro-Electronic Signature Target Analysis |
| VHF | Very High Frequency |
| VSD | Variable Speed Drogue |
| VSAT | Very Small Aperture Terminal |
| VSWMCM | Very Shallow Water Mine Countermeasures |
| VTC | Video Teleconferencing |

ACRONYMS

| | |
|-------|---|
| WIFI | Wireless Fidelity |
| WIRED | Wind Tunnel Integrated Real Time In the Cockpit/Real Time Out of the Cockpit Experiments and Demonstrations |
| WMD | Weapons of Mass Destruction |
| WSADS | Wind Supported Air Delivery System |

SPECIAL OPERATIONS COMMAND RDT&E PROGRAM

Appropriation: 0400 Research Development Test & Evaluation Defense-Wide

TOA, \$ in Millions

| R-1 | Program | | Budget Activity | FY 2007 | FY 2008 | FY 2009 |
|-----|-----------|---|--------------------|---------|---------|---------|
| | Element # | Item | | | | |
| 23 | 1160401BB | Special Operations Technology Development | 2 | 17.729 | 32.040 | 23.104 |
| 24 | 1160407BB | SOF Medical Technology Development | 2 | 2.234 | 2.327 | 2.459 |
| 64 | 1160402BB | Special Operations Advanced Technology Development | 3 | 145.245 | 41.251 | 28.930 |
| 65 | 1160472BB | SOF Information and Broadcast Systems Advanced Technology | 3 | | | 10.990 |
| 170 | 0301318BB | Humint ² | 7 | | | |
| 173 | 0301555BB | Classified Programs ² | 7 | | | |
| 178 | 0301556BB | Special Programs ² | 7 | | | |
| 196 | 0304210BB | Special Applications for Contingencies | 7 | 20.075 | 16.844 | 16.225 |
| 214 | 0305208BB | Distributed Common Ground/Surface Systems (MIP) | 7 | | | 3.165 |
| 219 | 0305219BB | MQ-1 Predator A UAV (MIP) | 7 | | 12.765 | 13.679 |
| 234 | 1130435BB | STORM (MIP) ¹ | 7 | | 26.413 | |
| 235 | 1160279BB | Small Business Innovative Research | 7 | 12.213 | 7.883 | |
| 236 | 1160403BB | Special Operations Aviation Systems Advanced Development | 7 | 67.695 | 55.451 | 43.977 |
| 237 | 1160404BB | Special Operations Tactical Systems Development | 7 | 85.058 | 58.816 | 13.263 |
| 238 | 1160405BB | Special Operations Intelligence Systems Development (MIP) | 7 | 58.562 | 62.417 | 39.125 |
| 239 | 1160408BB | SOF Operational Enhancements ¹ | 7 | 103.431 | 57.877 | 48.137 |
| 240 | 1160421BB | Special Operations CV-22 Development | 7 | | 22.872 | 38.229 |
| 241 | 1160425BB | Special Operations Aircraft Defensive Systems | 7 | 3.760 | 5.062 | |
| 242 | 1160426BB | Advanced SEAL Delivery System (ASDS) Development | 7 | 31.616 | 19.772 | 7.090 |
| 243 | 1160427BB | Mission Training and Preparation Systems | 7 | 3.684 | 6.241 | 4.052 |
| 244 | 1160428BB | Unmanned Vehicles | 7 | 10.040 | 6.334 | 1.527 |
| 245 | 1160429BB | MC-130J SOF Tanker Recapitalization | 7 | | 12.375 | 4.659 |
| 246 | 1160477BB | SOF Weapons Systems | 7 | | | 2.759 |
| 247 | 1160478BB | SOF Soldier Protection and Survival Systems | 7 | | | 3.190 |
| 248 | 1160479BB | SOF Visual Augmentation, Lasers, and Sensor Systems | 7 | | | 3.495 |

| <u>R-1</u> | <u>Program</u> <u>Element #</u> | <u>Item</u> | <u>Budget</u> <u>Activity</u> | <u>FY 2007</u> | <u>FY 2008</u> | <u>FY 2009</u> |
|--|------------------------------------|--|----------------------------------|----------------|----------------|----------------|
| 249 | 1160482BB | SOF Rotary Wing Aviation | 7 | | | 3.822 |
| 250 | 1160483BB | SOF Underwater Systems | 7 | | | 3.142 |
| 251 | 1160484BB | SOF Surface Craft | 7 | | | 5.206 |
| 252 | 1160488BB | SOF PSYOPS | 7 | | | 15.554 |
| 253 | 1160489BB | SOF Global Video Surveillance Activities ¹ | 7 | | | 14.686 |
| 254 | 1160490BB | SOF Operational Enhancements Intelligence ¹ | 7 | | | 8.729 |
| Total Special Operations Command: | | | | 564.125 | 449.606 | 360.862 |

¹ - Details are classified and will be provided under separate cover.

² - Funding levels and details are classified and will be provided under separate cover.

| | | | | | | | | | |
|--|--|--|--|--|-----------------------|--|--|--|--|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE FEBRUARY 2008 | | | | |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 2 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development/S100 | | | | | | |

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|------------------|------------|
| PE1160401BB | 17.729 | 32.040 | 23.104 | 24.688 | 24.880 | 28.121 | 30.375 | Cont. | Cont. |
| S100, SO TECHNOLOGY BASE DEV | 17.729 | 32.040 | 23.104 | 24.688 | 24.880 | 28.121 | 30.375 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: This program element enables USSOCOM to conduct studies and develop laboratory prototypes for applied research and advanced technology development, as well as leverage other organizations' technology projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to DOD, other government agencies, and commercial organizations allows the Commander, USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technology for Special Operations Forces. This project provides an investment strategy for USSOCOM to link technology opportunities with USSOCOM capability deficiencies, capability objectives, technology thrust areas, and technology development objectives.

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | 17.730 | 21.282 | 23.135 |
| Current President's Budget | 17.729 | 32.040 | 23.104 |
| Total Adjustments | -0.001 | 10.758 | -0.031 |
| Congressional Program Reductions | | -0.209 | |
| Congressional Increases | | 11.600 | |
| Reprogrammings | | | |
| Other Program Adjustments | | | -0.031 |
| SBIR Transfer | | -0.633 | |

Funding:

| | | |
|---|--|------------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE SEPTEMBER 2007 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 2 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development/S100 | |
| <p>FY07: Decrease (-\$0.001 million) is due to reprogramming action to correct Sectional 8106 taxes applied in initial distribution.</p> <p>FY08: Net increase (\$10.758) resulting from Congressional reduction that includes (-\$0.053 million) for Section 8097 and Section 8104 (-\$0.156 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.633 million). And (\$11.600 million) for the following Congressional Adds:</p> <ul style="list-style-type: none"> - Pulsed Energy Projectile (\$1.000 million). - SOF Network – Configure Sharing and Storage (\$1.000 million). - Neckel Boron Coating (\$1.600 million). - Athena – Threat Signal Locator (\$1.000 million). - Advanced Multi-purpose Micro-Display System (\$1.000 million). - Flashlight Soldier-to-Soldier Combat ID System (\$2.000 million). - Improved Sensor System (\$2.000 million). - Foilage Penetrating Reconnaissance and Surveillance (\$2.000 million). <p>FY09: Decrease of (-\$0.31 million) is due to economic inflation adjustments.</p> <p>Schedule: None.</p> <p>Technical: None.</p> | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 2

Special Operations Technology Development/Project S100

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|
| SOF Technology Base Development | 17.729 | 32.040 | 23.104 | 24.688 | 24.880 | 28.121 | 30.375 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: This project conducts studies and develops laboratory prototypes for applied research and advanced technology development, as well as leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to DOD, other government agencies, and commercial organizations allows the Commander USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technology for Special Operations Forces (SOF). This project provides an investment strategy for USSOCOM to link technology opportunities with USSOCOM capability deficiencies, capability objectives; technology thrust areas, and technology objectives. Requirements in these areas may be advertised to industry and government research and development agencies via broad area announcements and calls for white papers. Efforts include:

- Intelligence Technologies. Develop technologies that provide SOF with improved situational awareness and communications in all environments. Develop technologies to provide significant improvements to SOF's capability to accurately detect and track threats or targets. Exploit and demonstrate technologies that provide enhanced sensors and command and control. Develop technologies to provide new and improved capabilities in information operations and psychological operations.
- Mobility Technologies. Exploit and develop technologies to improve the performance and survivability, and reduce the detectability of SOF mobility assets. Exploit and develop technologies to provide SOF the capability to conduct ground, air, and sea mobility operations in denied areas. Exploit and develop technologies to enhance logistics support, reduce cost, and improve the performance of SOF mobility platforms.
- Sensor Technologies. Exploit and develop technologies to provide SOF with standoff capabilities for targeting and locating personnel and equipment. Exploit technologies to provide real-time active decision-making capabilities, increased situational awareness, improved multi-spectral sensors, and advanced processing and display capabilities. Exploit technologies that enhance logistics, reduce cost and enhance performance of SOF weapons and munitions. Exploit technologies to provide multipurpose, adaptable weapons applicable to SOF platform and missions.
- Warrior Technologies. Exploit and develop technologies to increase SOF's survivability and performance. Exploit technologies to improve the human endurance and sensory performance without interfering with normal sensory functions. Exploit and develop

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| | Exhibit R-2a, RDT&E Project Justification | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 2 | Special Operations Technology Development/Project S100 | |

technologies to counter the threat of electro-optical devices--devices that detect human presence and enhance individual operator capabilities.

- **Technology Studies.** Conduct concept studies to explore/validate projects that support USSOCOM strategic capability guidance.
- **Training Technologies.** Develop technologies to meet critical SOF training capability objectives. Develop and apply software and hardware improvements for state-of-the-art training systems and equipment.
- **Tagging, Tracking, and Locating (TTL) Technologies** is a key element in the ability of the forces to find, fix, and finish targets in the Global War on Terrorism (GWOT). This effort invests in critical science and technology efforts to improve operational capabilities for TTL high value individuals and objects in support of the GWOT.

Additionally, these efforts were added by Congress in FY 2008:

- **Pulsed Energy Projectile.** Investigate application of laser in a counter-materiel role against UAV's.
- **SOF Network-Centric Sharing and Storage.** Develop secure data storage.
- **Nickel Boron Coating for SOCOM Vehicles.** Investigate anti-corrosive coating.
- **Athena – Threat Signal Locator.** Design, develop and demonstrate a modular capability to detect, locate and defeat combatant communications on the asymmetric battlefield.
- **Advanced Multi-Purpose Micro Display System.** Integrate highly efficient display component technology into several SOF applications.
- **Flashlight Soldier-to-Soldier Combat ID System.** Develop a flashlight soldier-to-soldier combat identification system.
- **Improved Sensor System.** Continue development of sensor package design for the Advanced Distributed Aperture system project.

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 2 | Special Operations Technology Development/Project S100 | |

- Foliage Penetrating Reconnaissance and Surveillance System. Develop and evaluate a multi-sensor foliage penetrating reconnaissance and surveillance system,

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|---|-------|-------|-------|
| Intelligence Technologies. | 2.412 | .512 | 1.043 |
| RDT&E Articles Quantity | | | |
| <p>FY07 Continued development of FY06 efforts. Completed Antenna Enhancements project. Initiated TTL project to explore nanotechnology applications initiatives to TTL for SOF applications. Initiated C4 technology projects to address identified C4 science and technology capability gaps PSYOP AM Antenna and “Athena “ project to develop SOF mounted/dismounted direction finding/jamming capabilities.</p> <p>FY08 Continue development of FY07 efforts. Continue modular DF project. Initiates Intel technology projects to address identified Intel Science & Technology (S&T) capability gaps.</p> <p>FY09 Continues development of FY08 efforts. Initiates Intel technology projects to address identified Intel science and technology capability gaps. Continues to exploit, develop and demonstrate technologies that provide SOF with improved intelligence in all environments, the capability to accurately detect and track threats or targets, provides enhanced sensors and command and control, and continues investigations of science and technology focus areas.</p> | | | |
| | FY07 | FY08 | FY09 |
| Mobility Technologies | 3.866 | 3.443 | 3.311 |
| RDT&E Articles Quantity | | | |
| <p>FY07 Continued development of FY06 efforts. Initiated follow-on studies and analyses and the investigation of new and existing technologies needed to replace the Mark V Special Operations Craft (MK V SOC). Completed Shock Mitigation for High Speed Boats. Initiated mobility technology projects to address mobility science and technology capability gaps: Sea, Air, Land Delivery Vehicle Nuclear Guided Missile Submarine (SDV SSGN) Vertical Launch project. Completed Small Versatile Maritime Mobility Craft project and transition to user community.</p> <p>FY08 Continue development of FY07 efforts. Initiate follow-on studies and Joint Capabilities Integration and Development System (JCIDS) support analyses needed to support a Mark V Special Operations Craft replacement requirements validation. Initiates mobility technology projects to address mobility S&T capability gaps, Joint Heavylift (JHL).</p> <p>FY09 Continues development of FY08 efforts. Continues to exploit technologies to improve the performance and survivability, and reduce the detection of SOF mobility assets. Continues to exploit and develops technologies to provide SOF the capability to conduct ground, air, and sea mobility operations in denied areas and continues investigations of science and technology focus areas. Continues to exploit and develop</p> | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | |
| Appropriation/Budget Activity RDT&E BA # 2 | | Special Operations Technology Development/Project S100 | |

technologies to enhance logistics support, reduce cost and improve the performance of SOF mobility platforms.

| | FY07 | FY08 | FY09 |
|-------------------------|-------|-------|-------|
| Sensor Technologies | 0.900 | 0.819 | 1.043 |
| RDT&E Articles Quantity | | | |

FY07 Continued development of FY06 efforts. Continued Enhanced Hostile Detection Capability and Night Vision Windshield/Distributed Aperture System. Initiated sensor technology projects to address sensor science and technology capability gaps.
 FY08 Continue development of FY07 efforts. Continue investigations of science and technology focus areas. Continue Enhanced Hostile Detection Capability and Night Vision Windshield/Distributed Aperture System.
 FY09 Continues development of FY08 efforts. Continues to exploit technologies to provide SOF with standoff capabilities for targeting and locating personnel and equipment, enhancing sensors and situational awareness. Exploits technologies that enhance logistics, reduce cost and enhance performance of SOF sensors. Continues investigations of science and technology focus areas.

| | FY07 | FY08 | FY09 |
|-------------------------|-------|------|------|
| Warrior Technologies | 1.565 | .512 | |
| RDT&E Articles Quantity | | | |

FY07 Completed color Night Vision Fusion (polarimetry) project.
 FY08 Continue Advanced Digital Multispectral Night Vision Goggle.
 FY09 Continue development of FY08 efforts. Continue to exploit technologies to provide the SOF warrior with enhanced force protection, weapons, and personal equipment.

| | FY07 | FY08 | FY09 |
|-------------------------|------|-------|-------|
| Technology Studies | .839 | 3.518 | 2.206 |
| RDT&E Articles Quantity | | | |

FY07 Initiated Ballistic Protection Required Capabilities Study for MH-47 Aircraft. Initiated follow-on studies and analyses and the investigation of new and existing technologies needed to replace the MK V SOC. Initiated Short Wave Infrared Radar (SWIR) Characterization Study.
 FY07 Initiated follow-on studies and analyses and the investigation of new and existing technologies needed to replace the MK V SOC.
 FY08 Initiate follow-on studies and JCIDS support analyses needed to support a MK V SOC replacement requirements validation. Continue to conduct concept studies to explore/validate projects that support SOF strategic capability gaps.

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | |
| Appropriation/Budget Activity RDT&E BA # 2 | | Special Operations Technology Development/Project S100 | |

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|---|-------|-------|--------|
| FY09 Continues to conduct concept studies to explore/validate projects that support SOF strategic capability gaps. | | | |
| | FY07 | FY08 | FY09 |
| Training Technologies | .787 | 1.524 | 1.867 |
| RDT&E Articles Quantity | | | |
| <p>FY07 Complete Tactical Language Trainer.</p> <p>FY08 Complete Enhanced Display system for SAGIS trainer.</p> <p>FY09 Initiate training technology projects to address training Science & Technology capability gaps.</p> | | | |
| | FY07 | FY08 | FY09 |
| Classified | 2.000 | 1.997 | 2.086 |
| RDT&E Articles Quantity | | | |
| <p>FY07 Details provided under separate cover.</p> <p>FY08 Details provided under separate cover.</p> <p>FY09 Details provided under separate cover.</p> | | | |
| | FY07 | FY08 | FY09 |
| Tagging, Tracking, and Locating Technologies | | 8.480 | 11.548 |
| RDT&E Articles Quantity | | | |
| <p>FY08 Specific objectives, priorities, and technical approaches are classified. Initiates projects from the USSOCOM/DDR&E TTL project database that exploit TTL relevant technologies (nanotechnology, biotechnology, and chemistry) to provide and demonstrate the maturity for the capabilities enhancements; enable very small packaging, functional elements, and increased endurance; enable very small sensor packages for object detection and identification, enhancement of biometric observables, and increased processing in small devices; and initiates new forms of communications, forward based and embedded processing; enhance long distant TTL; and increase communication range and network agility. Projects will include leveraging and cooperative efforts with DOD, other government agencies, and industry.</p> <p>FY09 Specific objectives, priorities, and technical approaches are classified. Continues projects to exploit nanotechnology, biotechnology, and chemistry for application to TTL systems. Initiates projects identified from the updated USSOCOM/DDR&E Roadmap and supports the Joint Chiefs of Staff TTL Quick Look Capability Assessment.</p> | | | |

| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | | |
|--|--|--|------|------|
| Appropriation/Budget Activity RDT&E BA # 2 | | Special Operations Technology Development/Project S100 | | |
| | | FY07 | FY08 | FY09 |
| Close-In Layered Shield | | 2.193 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add and a follow-on to FY06 Angel Fire FCLAS project. Analyzed and prototyped active protection for rotary wing aircraft and vehicles from RPGs and other MANPAD type weapon systems. | | | | |
| | | FY07 | FY08 | FY09 |
| Helios/Global Observer | | 2.193 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add and a follow on from FY06 for continued investigation and evaluation of alternative fuel propulsion systems for high altitude unmanned aerial systems. | | | | |
| | | FY07 | FY08 | FY09 |
| Wearable Hyperspectral Imaging System | | .974 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Minaturized hyperspectral imaging technologies into advanced micro-display for operator-borne applications providing the operator a significant advantage at night or in smoke. | | | | |
| | | FY07 | FY08 | FY09 |
| Pulsed Energy Projectile | | | .974 | |
| RDT&E Articles Quantity | | | | |
| FY08 This initiative was a Congressional add. Investigate application of laser in a counter-materiel role against UAV's. | | | | |
| | | FY07 | FY08 | FY09 |
| SOF Network-Centric Sharing and Storage | | | .907 | |
| RDT&E Articles Quantity | | | | |
| FY08 This initiative was a Congressional add. Develop secure data storage in support of multi-level and classification stateless networks. | | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 2 | Special Operations Technology Development/Project S100 | |

| | FY07 | FY08 | FY09 |
|--|------|-------|------|
| Nickel Boron Coating for SOCOM Vehicles | | 1.558 | |
| RDT&E Articles Quantity | | | |
| FY08 This initiative was a Congressional add. Investigate coatings for military utility within Ground Vehicles to increase service life as application to support Breaching Operations, to investigate application on propellers to reduce cavitations, and to investigate applications as anti-corrosive coating. | | | |
| | FY07 | FY08 | FY09 |
| Athena-Threat Signal Locator | | .974 | |
| RDT&E Articles Quantity | | | |
| FY08 This initiative was a Congressional add. Design, develop and demonstrate a modular capability to detect, locate and defeat combatant communications on the asymmetric battlefield. | | | |
| | FY07 | FY08 | FY09 |
| Advanced Multi-Purpose Micro-Display System | | .974 | |
| RDT&E Articles Quantity | | | |
| FY08 This initiative was a Congressional add and a follow on to FY07 where the funding was in the S200 line. Integrate micro-display and miniature electronics heads-up displays.. | | | |
| | FY07 | FY08 | FY09 |
| Flashlight Soldier-to-Soldier Combat ID System | | 1.949 | |
| RDT&E Articles Quantity | | | |
| FY08 This initiative was a Congressional add. Develop a flashlight soldier-to-soldier combat identification system. | | | |
| | FY07 | FY08 | FY09 |
| Improved Sensor System | | 1.949 | |
| RDT&E Articles Quantity | | | |
| FY08 This initiative was a Congressional add. Continue development of sensor package design for the Advanced Distributed Aperture system project. | | | |

| | | |
|---|--|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 2 | Special Operations Technology Development/Project S100 | |

| | FY07 | FY08 | FY09 |
|---|------|-------|------|
| Foliage Penetrating Reconnaissance and Surveillance | | 1.950 | |
| RDT&E Articles Quantity | | | |

FY08 This initiative was a Congressional add. Develop and evaluate a multi-sensor foliage penetrating reconnaissance and surveillance system.

C. Other Program Funding Summary: None.

D. Acquisition Strategy. N/A.

| | |
|---|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
|---|-----------------------|

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|--|---|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 2 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160407BB Special Operations Forces (SOF) Medical Technology Development/S275 |
|--|---|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|------------------|------------|
| PE1160407BB | 2.234 | 2.327 | 2.459 | 2.495 | 2.547 | 2.603 | 2.661 | Cont. | Cont. |
| S275, SOF MEDICAL TECHNOLOGY | 2.234 | 2.327 | 2.459 | 2.495 | 2.547 | 2.603 | 2.661 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: This program element provides studies, non-system exploratory advanced technology development, and evaluations. The focus is on medical technologies, centering on physiologic, psychologic, and ergonomic factors affecting the ability of Special Operations Forces (SOF) to perform their missions. Special operations requires unique approaches to combat casualty care, medical equipment, and other life support capabilities including life support for high altitude parachuting, combat swimming, and other SOF unique missions. This program provides guidelines for the development of selection and conditioning criteria, thermal protection, decompression procedures, combat casualty procedures, and life support systems. The program supports the development and evaluation of biomedical enhancements for the unique requirements of all SOF in the conduct of their diverse missions.

B. Program Change Summary:

| | FY07 | FY08 | FY09 |
|----------------------------------|-------|--------|--------|
| Previous President's Budget | 2.234 | 2.388 | 2.464 |
| Current President's Budget | 2.234 | 2.327 | 2.459 |
| Total Adjustments | 0.000 | -0.061 | -0.005 |
| Congressional Program Reductions | | -0.015 | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| Other Program Adjustments | | | -0.005 |
| SBIR Transfer | | -0.46 | |

Funding:

| | |
|--|---|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 2 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160407BB Special Operations Forces (SOF) Medical Technology Development/S275 |
| <p>FY07: No change.</p> <p>FY08: Congressional reduction includes (-\$0.004 million) Section 8097 and Section 8104 (-\$0.011 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.046 million).</p> <p>FY09: Decrease of (-\$0.005 million) is due to economic inflation adjustments.</p> <p>Schedule: None.</p> <p>Technical: None.</p> | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 2

SOF Medical Technology/Project S275

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|
| SOF Medical Technology | 2.234 | 2.327 | 2.459 | 2.495 | 2.547 | 2.603 | 2.661 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: This project provides studies, non-system exploratory advanced technology development and evaluations. The focus is on medical technologies, centering on physiologic, psychologic, and ergonomic factors affecting the ability of Special Operations Forces (SOF) to perform their missions. Special operations requires unique approaches to combat casualty care, medical equipment, and other life support capabilities including life support for high altitude parachuting, combat swimming, and other SOF unique missions. This project provides guidelines for the development of selection and conditioning criteria, thermal protection, decompression procedures, combat casualty procedures, and life support systems. The project supports the development and evaluation of biomedical enhancements for the unique requirements of all SOF in the conduct of their diverse missions. This effort is defined by the following seven areas of investigation:

- Combat casualty management will: (1) review the emergency medical equipment currently used in the SOF community and compare it to currently available civilian technology, and provide field testing of emergency medical equipment in the adverse environmental conditions encountered by SOF; (2) evaluate current tactical combat casualty care doctrine to ensure consideration of the wide variety of tactical scenarios encountered, and apply the latest concepts in casualty care to these circumstances; (3) apply lessons learned from recent combat operations to enhance medical capabilities; and (4) develop CD-ROM and internet compatible automated programs to provide the capability to perform medical interviews in multiple foreign languages and support SOF medical personnel information needs while operating in austere locations.

- Decompression procedures for SOF diving operations will: (1) decrease the decompression obligation in SOF diving operations through the use of surface-interval oxygen breathing; (2) provide the basis for extended mission profiles; and (3) investigate pre-oxygenation requirements for high-altitude SOF parachute operations, as well as ground operations at extreme altitudes.

- Exercise-related injuries will evaluate the effectiveness of applying sports medicine diagnostic, therapeutic and rehabilitative techniques in management of the traumatic and overuse injuries commonly encountered among SOF.

- Inhaled gas toxicology will evaluate the feasibility of using pharmacologic intervention to reduce or eliminate the possibility of central nervous system toxicity.

- Medical sustainment training techniques will: (1) examine novel ways of providing and documenting medical sustainment training for SOF corpsmen and physicians; (2) provide capabilities to rapidly develop new protocol and equipment instructions; and (3) develop a system

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 2

SOF Medical Technology/Project S275

for constantly upgrading the expertise of SOF medical personnel by incorporating new research reports and clinical information into a CD-ROM based computer system that can be used by medical personnel in isolated duty circumstances.

- Thermal protection research into various ensemble clothing and devices that may potentially enhance SOF operator performance.
- Mission-related physiology will: (1) develop accurate measures to evaluate SOF mission-related performance; (2) delineate nutritional strategies designed to help personnel apply known nutritional concepts to optimize performance in mission and training scenarios; (3) evaluate potential ergogenic agents as they apply to enhancing mission-related performance; (4) study the safety and efficacy of various substances to increase performance in sustained operations; (5) study interfaces of new vision devices with refractive vision enhancements; and (6) study pharmacologic measures to prevent acute mountain sickness in high altitude SOF air and ground operations.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|-------------------------|------|------|------|
| Combat Casualty Care | .895 | .632 | .665 |
| RDT&E Articles Quantity | | | |

FY07 Completed ongoing studies: Tactical Combat Casualty Care Technology Transition Initiative. Initiated new studies: Recombinant Hemostatic Agents for Penetrating Brain Injury, Testing and Field Evaluations of the Welch Allyn (WA) Propaq LT for use by SOF, and Wearable Low-Power Plasma Knife.
 FY08 Completes ongoing studies: Testing and Field Evaluations of the WA Propaq LT for use by SOF and Wearable Low-Power Plasma Knife. Continues ongoing studies: Recombinant Hemostatic Agents for Penetrating Brain Injury. Initiates new studies: SOCOM Lab Set.
 FY09 Completes ongoing studies: Recombinant Hemostatic Agents for Penetrating Brain Injury, SOCOM Lab Set. Initiates new studies: Develop Mission Essential Elements for Enroute Care.

| | FY07 | FY08 | FY09 |
|-------------------------|------|------|------|
| Diving Medicine | .124 | .170 | .179 |
| RDT&E Articles Quantity | | | |

FY07 Initiated new studies: Intravenous Perfluorocarbon and Recompression Therapy After the Onset of Severe Decompression Sickness.
 FY08 Continues ongoing studies: Intravenous Perfluorocarbon and Recompression Therapy After the Onset of Severe Decompression Sickness.
 FY09 Completes ongoing studies: Intravenous Perfluorocarbon and Recompression Therapy After the Onset of Severe Decompression Sickness.

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| | | | FY07 | FY08 | FY09 |
|-------------------------|--|--|------|------|------|
| Medical Informatics | | | .220 | .254 | .365 |
| RDT&E Articles Quantity | | | | | |

FY07 Completed ongoing studies: SOF Medical Training Presentations. Continued ongoing studies: SOF Nutrition Training Material for USSOCOM and Advanced Distant Learning for 18D Course of Instruction. Initiated new studies: SOF Medical Lessons Learned, and The History of the Development of the SOF Medic.

FY08 Completes ongoing studies: SOF Nutrition Training Material for USSOCOM, Advanced Distant Learning for 18D Course of Instruction and The History of the Development of the SOF Medic. Continues ongoing studies: SOF Medical Lessons Learned.

FY09 Completes ongoing studies as follows: SOF Medical Lessons Learned. Initiates new studies: Update SOF/Joint Medical Doctrine and Procedures.

| | | | FY07 | FY08 | FY09 |
|--------------------------|--|--|------|-------|-------|
| Performance Enhancements | | | .995 | 1.271 | 1.250 |
| RDT&E Articles Quantity | | | | | |

FY07 Completed ongoing studies: Visual Aberration in Post-Corneal Refractive Surgery Patients using Panoramic Night Vision Goggles and Efficacy of Dehydroepiandrosterone Administration to Protect Soldiers Against Stress Induced Defects in Memory and Cognition. Continued ongoing studies: Prevention of Motion Sickness in SOF Operations. Initiated new studies: Comparison of Flight Proficiency and Risk Taking Behavior in Aviators Given Dextroamphetamine or Modafinil during Extended Operations, Altitude Decompression Sickness Risk Assessment Computer Upgrade - Staged In-Flight Decompression, and Effect of Exogenous Erythropoietin on Acute Mountain Sickness Symptoms in Humans.

FY08 Completes ongoing studies: Prevention of Motion Sickness in SOF Operations and Altitude Decompression Sickness Risk Assessment Computer Upgrade - Staged In-Flight Decompression. Continues ongoing studies: Comparison of Flight Proficiency and Risk Taking Behavior in Aviators Given Dextroamphetamine or Modafinil during Extended Operations and Effect of Exogenous Erythropoietin on Acute Mountain Sickness Symptoms in Humans. Initiates new studies: Anti-Clotting Agents, Biomarkers and Dynamical Function Tests for Optimized Health and Performance, Physical Performance Trainability Limits on SOF Standards used for Recruitment and Initial Selection and Metabolic Markers to Develop Assays and Optimize Warfighter Fitness.

FY09 Completes ongoing: Comparison of Flight Proficiency and Risk Taking Behavior in Aviators Given Dextroamphetamine or Modafinil during Extended Operations, Effect of Exogenous Erythropoietin on Acute Mountain Sickness Symptoms in Humans and Anti-Clotting Agents. Continues ongoing studies: Biomarker and Dynamical Function Tests for Optimized Health and Performance, Physical Performance Trainability Limits on SOF Standards used for Recruitment and Initial Selection and Metabolic Markers to Develop Assays and Optimize Warfighter Fitness. Initiates new studies: Ergogenics and Ergonomics, and Operational Performance in Adverse Environment Studies.

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C. Other Program Funding Summary. None.

D. Acquisition Strategy. N/A.

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|---|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
|---|-----------------------|

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| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 3 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations (SO) Advanced Technology Development/S200 |
|--|--|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|-----------------------------|---------|--------|--------|--------|--------|--------|--------|------------------|------------|
| PE 1160402BB | 145.245 | 41.251 | 28.930 | 27.191 | 27.420 | 29.661 | 34.880 | Cont. | Cont. |
| S200, SO SPECIAL TECHNOLOGY | 145.245 | 41.251 | 28.930 | 27.191 | 27.420 | 29.661 | 34.880 | Cont. | Cont. |

Beginning in FY 2009 resources were moved into new Program Elements (PE) 1160472BB, Special Operations Forces (SOF) Information and Broadcast Systems Advanced Technology and PE 1160473BB, SOF Fixed Wing Advanced Technology Development.

A. Mission Description and Budget Item Justification:

This program element conducts rapid prototyping and Advanced Technology Demonstrations. It provides a means for demonstrating and evaluating emerging/advanced technologies in as realistic an operational environment as possible by Special Operations Forces (SOF) users. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The program element also addresses projects that are a result of unique joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.

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R-1 ITEM NOMENCLATURE / PROJECT NO.

PE 1160402BB Special Operations (SO) Advanced Technology Development/S200

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | 133.815 | 29.935 | 29.544 |
| Current President's Budget | 145.245 | 41.251 | 28.930 |
| Total Adjustments | 11.430 | 11.316 | -0.614 |
| Congressional Program Reductions | | -0.269 | |
| Congressional Increases | | 12.400 | 4.400 |
| Reprogrammings | 11.430 | | -5.004 |
| Other Program Adjustments | | | -0.010 |
| SBIR Transfer | | -0.815 | |

Funding:

FY07: Net increase \$11.430 million is due to internal reprogramming of Congressional adds into the proper program element for execution.

FY08: Net increase of \$11.316 million is due to Small Business Innovative Research account (-\$0.815 million), congressional reductions Section 8097 (-\$0.053 million), Section 8104 (-\$0.156 million), and \$12.400 million increase for the following Congressional Adds:

- 11m RIB Replacement Craft Design (\$0.0800 million)
- Field Experimentation Program for Special Operations (\$1.600 million)
- Information Networking for Operational Reporting and Monitoring (\$2.000 million)
- Waterway Threat Detection Sensor System (\$2.400 million)
- Improved Information Transfer to Special Forces (\$3.200 million)
- Special Operations Portable Power Source (\$2.400 million)

FY09: Net decrease (-\$0.614 million) is the result of establishing new PEs and other adjustments. Funds were moved to 1160472BB, Special

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
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| <p>Operations Forces (SOF) Information and Broadcast Systems Advanced Technology (-\$6.000 million) and PE 1160473BB, SOF Fixed Wing Advanced Technology Development (\$-5.004 million); increase for Iridium Global Positioning System (\$4.400 million); and economic inflation adjustments (-\$0.010 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p> | |

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| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|---------------------------------------|---------|--------|--------|--------|--------|--------|--------|
| Special Operations Special Technology | 145.245 | 41.251 | 28.930 | 27.191 | 27.420 | 29.661 | 34.880 |
| RDT&E Articles Quantity | | | | | | | |

A. **Mission Description and Budget Item Justification:** This project conducts rapid prototyping, Advanced Technology Demonstrations (ATDs) and Advanced Concept Technology Demonstrations now called Joint Capability Technology Demonstrations. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project integrates efforts with each other and conducts technology demonstrations in conjunction with joint experiments and other assessment events. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase. Efforts include:

- **Command, Control, Communications, and Computer (C4) Technologies.** Exploit emerging technologies to conduct ATDs that provide SOF with a robust C4 and Intelligence capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Exploit emerging technologies to produce new and improved capabilities in information operations and psychological operations.
- **Mobility Technologies.** Exploit emerging technologies to conduct ATDs that provide SOF with survivable mobility capabilities in high threat areas and with enhanced situational awareness. Exploit emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploit emerging technologies to rapidly deploy and extract SOF personnel and craft. Exploit technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploit technologies to reduce cost or enhance the performance of existing SOF platforms.
- **Sensor Technologies.** Exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Demonstrate capabilities of smart munitions and fire-and-forget capability. Exploit technologies to increase standoff from threat weapons systems. Decrease cost and logistic support requirements for SOF weapons systems.
- **SOF Warrior Technologies.** Exploit emerging technologies to conduct ATDs that provide SOF with increased survivability and performance. Exploit emerging technologies to counter the threat of electro-optical devices and devices that detect human presence, and to enhance individual operator capabilities.

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- Tagging, Tracking, and Locating Technologies (TTL). Exploit emerging technologies to utilize the USSOCOM/Office of the Secretary of Defense Director, Defense Research & Engineering (DDR&E) TTL Science & Technology (S&T) Roadmap and the TTL Quick Look Capabilities Assessment. Exploit emerging technologies to locate and track targets or items of interest. Pursue advanced development and prototyping of TTL capabilities that have been proven to be feasible and operationally useful in Special Operations Advanced Technology Development.
- Advanced Tactical Laser (ATL) Advanced Concept Technology Demonstration (ACTD). The ATL ACTD was started in FY02 through funding provided by Deputy Under Secretary of Defense Advanced Systems Concept and the Joint Non-Lethal Weapons Directorate. The intent of the ATL ACTD is to evaluate the military utility of a tactical directed energy weapon on the battlefield to provide direct support to the warfighter. A directed energy weapon has an inherent performance capability (i.e., extremely precise covert strike, selectable effects and lethality, and multi-axis engagement) that has the potential to enhance the effectiveness of SOF operators. The ATL ACTD will develop and employ a modular, high-energy laser weapon system on a C-130 platform, capable of conducting ultra-precision strike engagements to enhance mission accomplishment of the warfighter and conduct a military utility assessment of this weapon system.

The steps toward assessing the military utility of a high-energy laser weapon are:

- a. Demonstrate weaponization of the sealed-exhaust Chemical Oxygen Iodine Laser in a modular system, capable of employment on a C-130.
- b. Demonstrate the ability to acquire and engage tactical targets in an air-to-ground system test.
- c. Utilize joint/service exercises to the fullest extent possible, focusing on matching the objectives of the ACTD with those of the desired exercises and demonstrations.

At the completion of the ACTD, leave behind one fully-operational laser system consisting of the laser and beam director, surveillance and acquisition sensors to support employment of the laser system, software, an operator workstation, and portable ground support equipment. The system will include documentation required to operate and maintain the ATL system.

- Psychological Operations (PSYOP) “Global Reach” ACTD. Seeks technologies that will transform current PSYOP capabilities through two major objectives: 1) Exploit technologies capable of disseminating PSYOP product to reach target audiences across a variety of media into denied areas to include ranges up to 800 Nautical Miles (NM), and 2) Automate and improve PSYOP planning and analytical capability through technologies that are integrated into SOF planning systems (Cultural Analysis, Targeting, Theme Development, Media & Product Selection, Distribution & Dissemination, Measures of Effectiveness).

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- Standoff Precision Guided Munition (SOPGM) Advanced Concept Technology Demonstration (ACTD). The objective of the SOPGM ACTD is to evaluate the military utility of adding a precision guided munitions capability to (SOF) Platforms. The SOPGM is based on a modified Army Viper Strike munition. The assessment will be based on ground and flight demonstrations and extended user evaluations of a SOPGM weapon system employed from an AC-130 against representative or surrogate platforms against representative targets. The ACTD will provide an Initial Proof-of-Concept (IPOC) of the SOPGM weapon system and an interim Military Utility Assessment (MUA).

Additionally, this project executes the following efforts added by Congress:

- Army DRAMA Composer. Automated diagnostics and repair capability for Warfighter Information Network-Tactical (WIN-T).
- 11m RIB Replacement Craft Design. To conduct design, modeling, and early prototyping for the 11m Rigid Inflatable Boat replacement craft.
- Field Experimentation Program for Special Operations (FEPSO). Prototype and evaluate manned-unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF.
- Information Networking for Operational Reporting and Monitoring. Develop and test a capability that guarantees critical intelligence information is immediately disseminated.
- Improved Information Transfer for Special Forces. Apply real-time knowledge management tools using information technologies and cognitive science to meet urgent Special Operations intelligence requirements.
- Autonomous Navigation Sensor Suite. Reduce the size, weight, power and cost of sensors associated with unmanned systems through novel materials and manufacturing techniques.
- Airborne Psychological Operations (PSYOP) Modernization. Pursue paper like electronic PSYOP leaflet with embedded electronics.
- Counter-Sniper & Surveillance Detection System. Research and develop tactical, mobile, and unmanned sniper detection systems that

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utilize optical detection and location techniques.

- Improved Materials for Fireproof Clothing. Develop new and revolutionary flameproof textile materials for SOF applications.
- Improved SOF Fast Rope Kit. Improve the safety of CV-22 fast rope operations using high performance materials and structures.
- Mobile Electric Power Utilizing Energy Harvesting. Rapidly prototype and field small, lightweight generators and other power concepts to power multiple voltages required by Special Operations electronics with little logistical support.
- Rotary Wing Unmanned Aerial Vehicles (UAVs). Continued the ongoing ACTD and operationalized current systems.
- Special Operations Portable Power Source. Research and develop Solid Oxide Fuel Cell (SOFC) technology for SOF power needs.
- Satellite Synthetic Aperture Radar. Design, develop, assemble, and test components for a synthetic aperture radar satellite in space applications for SOF.
- Smart Sight Remote Video Weapon. Develop an advanced video-based sighting system that interfaces with standard small arms to provide remote sighting capabilities for low-visibility/obstructed view targeting environments. Integrate video images and weapons sighting systems in head mounted display.
- Waterway Threat Detection Sensor System. Research and develop a lightweight sonar system for the detection of swimmers, unmanned underwater vehicles, mines and ships.
- Snapshot Synthetic Aperature Radar. Evaluate processor array for real-time processing of radar data.
- Nanotech Integration Team. Use nanotechnologies to prototype low-power micro/nano-sensors.
- Target Location, ID and Engagement. Targeting and timely intelligence collection for UAVs and other unmanned systems.
- Fuel Cell Power Systems. Develop lightweight nickel-metal hydride fuel cell.

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- Language Teletraining System. Develop internet-based training technologies.
- Partnership of Def Innovations Wireless Fidelity (WIFI). Establish a wireless battlefield network research and testing facility.
- Field Deployable Digital Holograph. Develop full color high speed technology to include Red, Green, Blue (RGB) laser evolution.
- Shortwave Infrared Technologies. Improve electro-optic shortwave infrared sensor sensitivity and integrate multi-spectral data.
- Life Cycle Support for Unmanned Systems. Explore concepts and technologies for the automated life-cycle support of unmanned ground systems.
- Multimode Radar Low Probability of Intercept/Low Probability of Detection (LPI/LPD). Develop millimeter wave LPI/LPD radar.
- Aircraft Electronic Warfare (EW) Mounting System. Demonstrate advanced countermeasure technologies to provide contingency aircraft self-protection capability.
- Shock Mitigating Seat for Naval Special Warfare Rigid Inflatable Boat (NSW RIB). Develop a shock mitigating seat for the RIB.
- Tagging, Tracking, and Locating for High Value Targets. Investigate the microencapsulation, dispersal, and remote detection of quantum dot technology for SOF specific high-value target applications.
- Closed Circuit Rebreather. Congressional add to evaluate emerging rebreather technology for SOF applications.
- 3-D Facial Recognition Imaging Technology. Congressional add that integrates stereo vision in hand held stabilized night vision systems.
- Advanced Mark V (MK V) prototype. Congressional add to develop a prototype for possible replacement of MK V craft.
- Integrated Warfare Info System (IWIS). Develops a single Intelligence, Surveillance and Reconnaissance (ISR) tool to provide SOF with an integrated sighting system.

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- SOF Long Endurance Demonstrator (SLED) continues research and development of the SLED in support of special reconnaissance and other potential intelligence uses.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|---|-------|-------|-------|
| Command, Control, Communications, and Computers (C4) Technologies | 3.313 | 1.506 | 1.534 |
| RDT&E Article Quantity | | | |

FY07 Continued development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct Advanced Technology Demonstrations (ATD) that provide SOF with a robust C4 and Intelligence capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Continue to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continue to exploit emerging technologies to locate and track targets or items of interest. Transitioned Network Security Technologies demonstration project into the Classification Stateless Trusted Environment. Initiate C4 technology projects to address identified C4 capability gaps.

FY08 Continue development and evaluation of FY07 efforts. Continues to exploit emerging technologies to conduct ATDs that provide SOF with a robust C4I capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Continues to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continues C4 technology projects to address identified C4 capability gaps.

FY09 Continues development and evaluation of FY08 efforts. Continues to exploit emerging technologies to conduct ATDs that provide SOF with a robust C4I capability to ensure uninterrupted information exchange, influence situations to support mission accomplishment, and reduce an adversary's ability to use information. Continues to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continues to exploit emerging technologies to locate and track targets or items of interest. Continues C4 technology projects to address identified C4 capability gaps.

| | FY07 | FY08 | FY09 |
|------------------------|-------|-------|-------|
| Mobility Technologies | 2.528 | 2.688 | 7.431 |
| RDT&E Article Quantity | | | |

FY07 Continued development and evaluation of FY06 efforts. Exploit emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploit emerging technologies to rapidly deploy and extract SOF personnel and equipment. Exploit technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploit technologies to reduce cost or enhance the performance of existing SOF platforms. Completed SEALION ATD. Transition Stiletto ATD to acquisition program management. Initiate mobility technology projects to address identified mobility capability gaps.

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FY08 Continue development and evaluation of FY07 efforts. Exploits emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploits emerging technologies to rapidly deploy and extract SOF personnel and equipment. Exploits technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploits technologies to reduce cost or enhance the performance of existing SOF platforms. Continues mobility technology projects to address identified mobility capability gaps. Initiate Joint Sea Hunter and Harbor Intrusion ATDs. Initiate Combat Autonomous Mobility System Joint Concept Technology Demonstration (CAMS) (JCTD) that will demonstrate the utility of modular, purpose-equipped, unmanned vehicles in a wide range of SOF mission tasks. Additionally, this JCTD will develop tactics, techniques, and procedures to effectively employ unmanned system technology within the SOF Direct Action and Surveillance Reconnaissance missions.

FY09 Continues development and evaluation of FY08 efforts. Exploits emerging technologies to conduct ATDs that provide SOF mobility assets with a reduction in logistic support requirements. Exploits emerging technologies to rapidly deploy and extract SOF personnel and equipment. Exploits technologies to allow reconnaissance and conduct direct action in high threat areas using unmanned systems. Exploits technologies to reduce cost or enhance the performance of existing SOF platforms. Continues mobility technology projects to address identified mobility capability gaps.

| | FY07 | FY08 | FY09 |
|------------------------|-------|-------|-------|
| Sensor Technologies | 4.591 | 3.704 | 3.377 |
| RDT&E Article Quantity | | | |

FY07 Continued development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Initiate Enhanced Signature Suppression for Light Weight Machine Guns. Initiate weapons/munitions technology projects to address identified weapons/munitions capability gaps.

FY08 Continue development and evaluation of FY07 efforts. Continues to exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Continues weapons/munitions technology projects to address identified weapons/munitions capability gaps. Completes Enhanced Performance Long Range Ammunition.

FY09 Continues development and evaluation of FY08 efforts. Continues to exploit emerging technologies to conduct ATDs that provide SOF with multi-role/multi-purpose weapons and demolitions with a broader range of potential effects and increased accuracy. Continues weapons/munitions technology projects to address identified weapons/munitions capability gaps. Completes Enhanced Signature Suppression for Light Weight Machine Guns.

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| | FY07 | FY08 | FY09 |
|--------------------------|-------|-------|-------|
| SOF Warrior Technologies | 2.285 | 1.047 | 1.241 |
| RDT&E Article Quantity | | | |

FY07 Continued development and evaluation of FY06 efforts. Continue to exploit emerging technologies to conduct Advanced Technology Demonstration (ATD)s that address identified capability gaps associated with increased survivability, performance and countermeasures technologies. Continue evaluation of alternative power sources. Complete evaluation of Night Vision Electro-Optics Enhancement Project and Wide Field of View Goggles. Complete Advanced Technology Underwater Breathing Apparatus (AT-UBA) ATD. Continued Military Free Fall Navigation ATD.

FY08 Continue development and evaluation of FY07 efforts. Continues to exploit emerging technologies to conduct ATDs that address identified capability gaps associated with increased survivability, performance and countermeasures technologies. Continues evaluation of alternative power sources. Initiate Frangible Ammunition project. Complete Military Free Fall Navigation ATD.

FY09 Continues development and evaluation of FY08 efforts. Continues to exploit emerging technologies to conduct ATDs that address identified capability gaps associated with increased survivability, performance and countermeasures technologies. Continues evaluation of alternative power sources. Continue Frangible Ammunition project.

| | FY07 | FY08 | FY09 |
|---|------|-------|--------|
| Tagging, Tracking, and Locating Technologies) | | 8.821 | 12.871 |
| RDT&E Article Quantity | | | |

FY08 Initiate projects from the USSOCOM Office of the Secretary of Defense Director, Defense Research and Engineering/DDR&E Tagging, Tracking, and Locating (TTL) project database that exploit and integrate TTL proven relevant technologies (nanotechnology, biotechnology, and chemistry) to provide and demonstrate military utility for capability enhancements such as significant reduction in form factor and packaging of TTL devices and systems; detection and identification of objects of interest at long distances, including development of new TTL modalities; novel techniques for data transmissions, sharing and processing, and supporting capabilities required for TTL system integration, reliability, usability, and employment. Exploit emerging technologies to locate and track targets or items of interest. Projects will include leveraging and cooperative efforts with DOD, other government agencies, and industry.

| | FY07 | FY08 | FY09 |
|------------------------------------|--------|------|------|
| Advanced Tactical Laser (ATL)/ACTD | 39.211 | | |
| RDT&E Article Quantity | | | |

FY07 Completed high-power flight test laser module build-up, integration and ground test and integrate the entire ATL ACTD system on the C-130 host aircraft. Completed integrated ATL system ground verification tests. Conducted high-power flight tests and demonstrate system

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performance in the Design Reference Missions. Completed the Military Utility Assessment and delivered the system residuals required for operational forces to operate and maintain the ATL system in a potential extended user evaluation.

| | FY07 | FY08 | FY09 |
|---------------------------|-------|-------|------|
| PSYOP "Global Reach" ACTD | 5.827 | 5.838 | |
| RDT&E Article Quantity | | | |

FY07 Continued management of the incremental design, engineering and technical integration of multiple technologies as the variants become more robust. Planned events include demonstrating advanced broadcast/rebroadcast payloads on Predator type Unmanned Aerial System (UAS) platforms, demonstrating TV payload; conducting an Extended User Evaluation (EUE) on Wind Supported Air Delivery System (WSADS) UAS FM and loudspeaker broadcast payloads; transitioning WSADS FM broadcast payload; demonstrating electronic leaflets and media display systems; performing an EUE for Short Message Service for formal transition; and incremental fielding and software certification of advanced software for Psychological Operations (PSYOP) Target Audience Analysis and PSYOP Worksheets, under the PYSOP Planning and Analysis System (POPAS) umbrella. These efforts will culminate in further military utility assessments for UAS payloads, scatterable media, and the POPAS.

FY08 Continue the development and demonstration of advanced broadcast/rebroadcast payloads on Predator and other UAS's, to include AM broadcast systems. Perform EUE on Predator B, UAV for FM, TV and loudspeaker broadcast payloads. Transition Predator B FM payload and WSADS UAS loudspeaker broadcast payloads. Continues POPAS development and incremental fielding and transition software/hardware.

| | FY07 | FY08 | FY09 |
|------------------------|-------|-------|-------|
| Classified | 4.960 | 5.564 | 2.476 |
| RDT&E Article Quantity | | | |

FY07 Details provided under separate cover.
 FY08 Details provided under separate cover.
 FY09 Details provided under separate cover.

| | FY07 | FY08 | FY09 |
|--|-------|------|------|
| Standoff Precision Guided Munition (SOPGM) | 8.244 | | |
| RDT&E Article Quantity | | | |

Phase 1 of the ACTD:
 FY07 Conducted the SOPGM Initial Proof-of-Concept (IPOC) flight demonstrations to validate end-to-end system performance and support an Initial MUA. Flight demonstrations included joint operations with ground and 3rd party airborne platforms providing target designation.

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Following successful validation of the IPOC system in various test scenarios, the system was turned over to the Air Force Special Operations Command (AFSOC) for an EUE. AFSOC employed the SOPGM IPOC system in conjunction with training and other flight operations to refine tactics and collect data and operational experience to support an Interim MUA. The SOPGM ACTD Prime Contractor provided system support throughout the EUE. AFSOC will use the results of the flight demonstrations and EUE operations to complete an Interim MUA to support decisions on proceeding into Phase 2 and strategies for transitioning to a combat-capable SOPGM system.

| | FY07 | FY08 | FY09 |
|----------------------------------|------|------|------|
| 11m RIB Replacement Craft Design | | .780 | |
| RDT&E Article Quantity | | | |

FY08 This initiative was a Congressional add. Conduct design, modeling, and early prototyping for the 11m Rigid Inflatable Boat replacement craft.

| | FY07 | FY08 | FY09 |
|--------------------------|-------|------|------|
| Remote Video Weapon Site | 1.753 | | |
| RDT&E Article Quantity | | | |

FY07 This initiative was a Congressional add and a follow on to FY06. Transitioned video-based weapon sighting system developed under USSOCOM Small Business Innovative Research (SBIR).

| | FY07 | FY08 | FY09 |
|---|------|------|------|
| Advanced Multi-Purpose Micro-Display System | .974 | | |
| RDT&E Article Quantity | | | |

FY07 This initiative was a Congressional add and a follow on to FY06. Integrated micro-display and miniature electronics into heads-up displays.
 FY08 This initiative is a Congressional add to the Special Operations Technology Development program (PE1160401BB) in FY08 and will be included in the R2A for that PE.

| | FY07 | FY08 | FY09 |
|---------------------------|-------|------|------|
| Nanotech Integration Team | 1.871 | | |
| RDT&E Article Quantity | | | |

This initiative was a Congressional add. Used nanotechnologies to prototype low-power micro/nano-sensors.

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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| Appropriation/Budget Activity RDT&E BA # 3 | Special Operations Special Technology Project S200 |
|---|--|

| | FY07 | FY08 | FY09 |
|--|-------|-------|------|
| Autonomous Navigation Sensor Suite | 1.461 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on to FY06. Integrated stereo multi-spectral sensors for autonomous navigation and obstacle avoidance. | | | |
| | FY07 | FY08 | FY09 |
| Army DRAMA/COMPOSER Integration & Development | 1.461 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and follow on to FY06. Automated diagnostics and repair capability for Warfighter Information Network – Tactical (WIN-T) troubleshooting and performance management. | | | |
| | FY07 | FY08 | FY09 |
| Counter-Sniper & Surveillance Detection System | 1.948 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on to FY06. Developed modular, retro-reflective-based sniper detection device for handheld or mounted automated search/detection. | | | |
| | FY07 | FY08 | FY09 |
| Field Experimentation Program For SOF (FEPSO) | .974 | 1.558 | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on to FY06. Demonstrated the Zephyr High Altitude Long Endurance Airship for SOF persistent Intelligence Surveillance Reconnaissance (ISR) applications. FY08 This initiative is a Congressional add and a follow on to FY07. Prototype and evaluate manned/unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF. | | | |
| | FY07 | FY08 | FY09 |
| Improved Materials for Fireproof Clothing | 1.461 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on to FY06. Developed improved textile materials for thermal protection and fire retardancy. | | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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|---|--|
| Appropriation/Budget Activity RDT&E BA # 3 | Special Operations Special Technology Project S200 |
|---|--|

| | FY07 | FY08 | FY09 |
|--|-------|-------|------|
| Improved Special Operations Fast Rope Kit | 1.462 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on to FY06. Improved the safety of fast-rope operations using advanced design and materials. | | | |
| | FY07 | FY08 | |
| Mobile Electric Power Utilizing Energy Harvesting. | .974 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on to FY06, rapidly fielded miniature electrical generation devices to power the mobile devices and voltages required by SOF. | | | |
| | FY07 | FY08 | FY09 |
| SOF Portable Power Source | 3.167 | 2.339 | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on to FY06, developed a 50 Watt solid-oxide fuel cell. FY08 This initiative is a Congressional add and a follow on to FY07. Conduct research on systems to produce mobile electric power from a variety of fuels. | | | |
| | FY07 | FY08 | FY09 |
| Satellite Synthetic Aperture Radar | 3.507 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on FY06, demonstrated a radar array processor fabricated from commercial-off-the-shelf micro processors for space applications. | | | |
| | FY07 | FY08 | FY09 |
| Snapshot Synthetic Aperature Radar | 2.825 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Evaluate processor array for real-time processing of radar data. | | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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|---|--|
| Appropriation/Budget Activity RDT&E BA # 3 | Special Operations Special Technology Project S200 |
|---|--|

| | FY07 | FY08 | FY09 |
|---|-------|-------|------|
| Rotary Wing UAV | 6.325 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Continued the ongoing Advanced Concept Technology Demonstration and operationalized current systems. | | | |
| | FY07 | FY08 | FY09 |
| Waterway Threat Detection Sensor System. | 1.461 | 2.339 | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add and a follow on to FY06. Developed a lightweight sonar system for swimmer, unmanned underwater vehicle, and ship detection. FY08 This initiative is a Congressional add and a follow on to FY07. Refine development and test a lightweight sonar system for swimmer, unmanned underwater vehicle, and ship detection. | | | |
| | FY07 | FY08 | FY09 |
| Airborne PSYOP Modernization | 1.461 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. These funds were to be used to develop and test (1) paper like programmable electronic Psychological Operations leaflet with embedded electronics, and (2) electronic leaflet target area analysis prediction tools. | | | |
| | FY07 | FY08 | FY09 |
| Aircraft EW Mounting System | 4.678 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Demonstrated advanced countermeasure technologies to provide contingency aircraft self-protection capability. | | | |
| | FY07 | FY08 | FY09 |
| Field Deployable Digital Holograph | 1.948 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Developed full color high speed technology to include Red, Green, Blue laser evolution, film construction development, automated film handling and processing hardware design and development of 1 full color high speed holographic topography system. | | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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|---|--|
| Appropriation/Budget Activity RDT&E BA # 3 | Special Operations Special Technology Project S200 |
|---|--|

| | FY07 | FY08 | FY09 |
|--|-------|-------|------|
| Fuel Cell Power Systems | 1.948 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Developed a lightweight nickel-metal hydride fuel cell. | | | |
| | FY07 | FY08 | FY09 |
| Improved Information Transfer For Special Forces | 2.338 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Applied real time knowledge management tools using information technologies and cognitive science to meet urgent Special Operations intelligence requirements. FY08 This initiative was a Congressional Add and a follow on to FY07. Continue application of real-time knowledge management tools using information technologies and cognitive science to meet urgent Special Operations intelligence requirements. | | | |
| | FY07 | FY08 | FY09 |
| Language Teletraining System | 6.820 | 3.118 | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Completed development of internet-based training technologies. | | | |
| | FY07 | FY08 | FY09 |
| Life Cycle Support for Unmanned Systems | 2.144 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Explored concepts and technologies for the automated life-cycle support of unmanned ground systems. | | | |
| | FY07 | FY08 | FY09 |
| Multimode Radar Low Probability of Intercept/Low Probability of Detection (LPI/LPD) | 2.338 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Developed millimeter wave LPI/LPD radar. | | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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|---|--|
| Appropriation/Budget Activity RDT&E BA # 3 | Special Operations Special Technology Project S200 |
|---|--|

| | FY07 | FY08 | FY09 |
|---|-------|------|------|
| Partnership for Def Innovations WIFI | 1.053 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Established a wireless battlefield network research and testing facility. | | | |
| | FY07 | FY08 | FY09 |
| Shock Mitigating Seat for NSW Rigid Inflatable Boat (RIB) | 1.266 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Transitioned a Phase II USSOCOM SBIR to develop a shock mitigating seat for the RIB. | | | |
| | FY07 | FY08 | FY09 |
| Shortwave Infrared Technologies | 1.072 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Improved electro-optic shortwave infrared sensor sensitivity and integrate multi-spectral data. | | | |
| | FY07 | FY08 | FY09 |
| Target, Location, ID and Engagement | 1.559 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Developed persistent targeting and timely intelligence collection for UAVs and other unmanned systems. | | | |
| | FY07 | FY08 | FY09 |
| TTL System for High Value Targets | .974 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Investigated the microencapsulation, dispersal, and remote detection of quantum dot technology for SOF specific high-value target applications. | | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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|---|--|
| Appropriation/Budget Activity RDT&E BA # 3 | Special Operations Special Technology Project S200 |
|---|--|

| | FY07 | FY08 | FY09 |
|--|-------|------|------|
| Unmanned Aerial Vehicle (UAV) Situational Awareness System | .974 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Integrated UAV autonomous flight control system to fly in controlled airspace. | | | |
| | FY07 | FY08 | FY09 |
| Closed Circuit Rebreather | .974 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Evaluated emerging rebreather technology for SOF applications. | | | |
| | FY07 | FY08 | FY09 |
| 3-D Facial Recognition Imaging Technology | 1.266 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Integrated stereo vision in hand held stabilized night vision systems. | | | |
| | FY07 | FY08 | FY09 |
| MK V: Advanced MK V Prototype | 3.897 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Evaluated emerging rebreather technology for SOF applications. | | | |
| | FY07 | FY08 | FY09 |
| Integrated Warfare Information System (IWIS) | 2.046 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Developed a single Intelligence, Surveillance, and Reconnaissance tool to provide SOF with an integrated sighting system. | | | |
| | FY07 | FY08 | FY09 |
| SOF Long Endurance Demonstrator (SLED) | 4.872 | | |
| RDT&E Article Quantity | | | |
| FY07 This initiative was a Congressional add. Continued research and development that had begun as an Advance Concept Technology Demonstration effort for the SOF Long Endurance Demonstrator (SLED) platform. | | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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|---|--|
| Appropriation/Budget Activity RDT&E BA # 3 | Special Operations Special Technology Project S200 |
|---|--|

| | FY07 | FY08 | FY09 |
|---|------|-------|------|
| Information Networking for Operational and Monitoring | | 1.949 | |
| RDT&E Article Quantity | | | |

FY08 Develop and test a capability that guarantees critical intelligence information is immediately disseminated to deployed warfighters and other users.

C. Other Program Funding Summary: None.

D. Acquisition Strategy. N/A.

| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | | DATE FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------------|---|-------|-------|-----------------------|-------|------------------|------------|--|-------------|-------------|-------------|-----------------------------|--|--|--|--------------------|--|--|--------|-------------------|--|--|--------|----------------------------------|--|--|--|-------------------------|--|--|--|----------------|--|--|--|---------------------------|--|--|--------|---------------|--|--|--|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 3 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160472BB SOF Information and Broadcast Systems Technology Development/S225 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cost (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PE1160472BB | | | 10.990 | 5.950 | 5.948 | 5.948 | 5.948 | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S225, SOF Information and Broadcast Systems Technology Development | | | 10.990 | 5.950 | 5.948 | 5.948 | 5.948 | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p><i>A new program element (PE)(1160472BB) was established beginning in FY 2009 for SOF Information and Broadcast Systems Technology Development. FY 2009-2013 resources were moved from PE 1160402BB, Special Operations Advanced Technology Development.</i></p> <p>A. Mission Description and Budget Item Justification: This Program Element (PE) conducts rapid prototyping, Advanced Technology Demonstrations (ATDs), and Advanced Concept Technology Demonstrations (ACTDs) of information and broadcast systems technology. This includes planning, analysis, evaluation, and production information systems capabilities and distribution and dissemination broadcast systems capabilities. This includes planning, analysis, evaluation, and production information systems capabilities and distribution and dissemination broadcast systems capabilities. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This PE integrates efforts with each other and conducts technology demonstrations in conjunction with joint experiments and other assessment events. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The PE also addresses unique, joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.</p> <p>B. Program Change Summary:</p> <table border="0"> <thead> <tr> <th></th> <th><u>FY07</u></th> <th><u>FY08</u></th> <th><u>FY09</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td></td> <td></td> <td></td> </tr> <tr> <td>President's Budget</td> <td></td> <td></td> <td>10.990</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td></td> <td>10.990</td> </tr> <tr> <td> Congressional Program Reductions</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Increases</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Program Adjustments</td> <td></td> <td></td> <td>10.990</td> </tr> <tr> <td> SBIR Transfer</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | Previous President's Budget | | | | President's Budget | | | 10.990 | Total Adjustments | | | 10.990 | Congressional Program Reductions | | | | Congressional Increases | | | | Reprogrammings | | | | Other Program Adjustments | | | 10.990 | SBIR Transfer | | | |
| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Previous President's Budget | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| President's Budget | | | 10.990 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Adjustments | | | 10.990 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Program Reductions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Increases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reprogrammings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other Program Adjustments | | | 10.990 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SBIR Transfer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 3 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160472BB SOF Information and Broadcast Systems Technology Development/S225 | |
| <p>Funding:</p> <p>FY07: No change.</p> <p>FY08: No change.</p> <p>FY09: Increase of \$10.990 million is the result of establishing a new Program Element (PE). Funds were moved from PE 1160402BB, Special Operations Advanced Technology Development.</p> <p>Schedule: None.</p> <p>Technical: None.</p> | | |

| | | |
|---|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 3 | SOF Information and Broadcast Systems Advanced Technology/Project 225 | |

| Cost (\$ in million) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|--|------|------|--------|-------|-------|-------|-------|
| SOF Information and Broadcast Systems Advanced Technology | | | 10.990 | 5.950 | 5.948 | 5.948 | 5.948 |
| RDT&E Articles Quantity | | | | | | | |

A new project was established for SOF Information and Broadcast Systems beginning in FY 2009. FY 2009-2013 resources were moved from project S200, Special Operations Special Technology.

A. Mission Description and Budget Item Justification: This project conducts rapid prototyping, Advanced Technology Demonstrations (ATDs), and Advanced Concept Technology Demonstrations (ACTDs) of information and broadcast system technology. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project integrates efforts with each other and conducts technology demonstrations in conjunction with joint experiments and other assessment events. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase. Efforts include:

- Psychological Operations (PSYOP) “Global Reach” ACTD. Seeks technologies that will transform current PSYOP capabilities through two major objectives: 1) Exploit technologies capable of disseminating PSYOP product to reach target audiences across a variety of media into denied areas to include ranges up to 800 Nautical Miles (NM), and 2) Automate and improve PSYOP planning and analytical capability through technologies that are integrated into SOF planning systems (Cultural Analysis, Targeting, Theme Development, Media & Product Selection, Distribution & Dissemination, Measures of Effectiveness).
- PSYOP Modernization. This initiative will initiate and continue development of emergent technologies available in the marketplace to transform and modernize PSYOP planning, analysis, development, broadcast, distribution, dissemination, and feedback capabilities. This initiative will also continue development of appropriate emerging technologies initially identified by ATDs and ACTDs to transition to acquisition programs. Technologies include: multi-frequency broadcasts systems; digital broadcast capabilities; remote controlled electronic paper; near real-time command and control of unattended PSYOP systems, especially in denied areas; focused/beam speaker sound technologies; visual projection technologies; advanced commercial broadcast technologies including Amplitude Modulation (AM) and Frequency Modulation (FM) radio transmitters and antenna; television (TV) transmitter and antenna systems; internet and telephony dissemination and broadcast systems, technologies capable of disseminating PSYOP products to reach target audiences across a wide

| | | |
|---|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 3 | SOF Information and Broadcast Systems Advanced Technology/Project 225 | |

variety of media into denied areas; and technologies that automate and improve Psychological Operations (PSYOP) planning and analytical capability through integrated capabilities.

B. Accomplishments/Planned Program

| Cost (\$ in million) | FY07 | FY08 | FY09 |
|--|------|------|-------|
| PSYOP "Global Reach" Advanced Concept Technology Demonstration | | | 4.970 |
| RDT&E Articles Quantity | | | |

FY09 Demonstrate and perform an extended user evaluation (EUE) for the broadcast payloads on Predator type Unmanned Aerial Vehicle platforms. Demonstrate and perform EUE for the broadcast payload for High Altitude Unmanned Aerial System (Global Observer or HALE). Both these EUEs will be in preparation for transition. In addition, transitions software/hardware for PSYOP Planning and Analysis System.

| Cost (\$ in million) | FY07 | FY08 | FY09 |
|-------------------------|------|------|-------|
| PSYOP Modernization | | | 6.020 |
| RDT&E Articles Quantity | | | |

FY09 Explore emergent technologies available in the marketplace to transform and modernize PSYOP technology capabilities across several PSYOP shortcomings to include: the Next Generation Loudspeaker System, Long Range Broadcast System, PSYOP Media Displays, and Next Generation Leaflet Delivery System. This effort will also enhance and modernize PSYOP Broadcast Systems and PSYOP Print Systems.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> |
|--|-------------|-------------|
| RDT&E, S200, Special Operations Technology | 7.288 | 5.838 |

D. Acquisition Strategy: N/A.

| | | | | | | | | | |
|--|--|--|--|--|-----------------------|--|--|--|--|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE FEBRUARY 2008 | | | | |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0304210BB Special Applications for Contingencies (SAFC)/9999 | | | | | | |

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|------------------|------------|
| PE0304210BB | 20.075 | 16.844 | 16.225 | 16.609 | 16.647 | 17.018 | 17.392 | Cont. | Cont. |
| 9999.PR SAFC | 20.075 | 16.844 | 16.225 | 16.609 | 16.647 | 17.018 | 17.392 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: The SAFC Program develops and deploys special capabilities to perform intelligence surveillance and reconnaissance for deployed Special Operations Forces (SOF) using non-traditional means. It provides a mechanism for SOF user combat evaluation of emerging technologies capable of detecting and locating fleeting targets. SAFC applies focused R&D for relatively low cost solutions to provide remotely controlled system emplacement and data exfiltration from denied areas. This program also specifically addresses short lead-time contingency planning requirements where focused R&D will allow for test and evaluation of leading edge solutions to an emergent problem set based on requirements validated through a specific Joint Staff/Office of the Secretary of Defense (OSD) chartered approval process.

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | 20.074 | 15.687 | 16.247 |
| Current President's Budget | 20.075 | 16.844 | 16.225 |
| Total Adjustments | 0.001 | 1.157 | -0.022 |
| Congressional Program Reductions | | | |
| Congressional Increases | 0.001 | 1.600 | |
| Reprogrammings | | | |
| Other Program Adjustments | | -0.11 | -0.022 |
| SBIR Transfer | | -0.333 | |

| | |
|--|--|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0304210BB Special Applications for Contingencies (SAFC)/9999 |
| <p>Funding:</p> <p>FY07: Net increase (-\$0.001 million) is the result of a Congressional add (\$7.258 million) for Comprehensive Port and Maritime Domain Awareness and a Congressional mark (-\$7.257 million).</p> <p>FY08: Net increase (\$1.157 million) is a result of Congressional reductions Section 8097 (-\$0.028 million) and Section 8104 (-\$0.082 million), and Congressional add Mobile Optical Wireless Networking for Intelligence, Surveillance, and Reconnaissance (\$1.600 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.333 million).</p> <p>FY09: Net Decrease (-\$0.022 million) is due to economic inflation adjustments.</p> <p>Schedule: None.</p> <p>Technical: None.</p> | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 7

Special Applications for Contingencies/Project 9999

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|--|--------|--------|--------|--------|--------|--------|--------|
| Special Applications for Contingencies | 20.075 | 16.844 | 16.225 | 16.609 | 16.647 | 17.018 | 17.392 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: The Special Applications for Contingencies (SAFC) Program develops and deploys special capabilities to perform intelligence surveillance and reconnaissance (ISR) for deployed Special Operations Forces (SOF) using non-traditional means. It provides a mechanism for SOF user combat evaluation of emerging technologies capable of detecting and locating fleeting targets. SAFC applies focused R&D for relatively low cost solutions to provide remotely controlled system emplacement and data exfiltration from denied areas. This program also specifically addresses short lead-time contingency planning requirements where focused R&D will allow for test and evaluation of leading edge solutions to an emergent problem set based on requirements validated through a specific Joint Staff/OSD chartered approval process.

B. Accomplishments/Planned Program. Developed and fielded significant improvements to expendable Unmanned Aircraft Systems (UAS) supporting U.S. and Coalition SOF in the U.S. Central Command theater. Developed improvements to long range ground surveillance capabilities and continued development and integration of a networked ISR sensor system.

| | FY07 | FY08 | FY09 |
|------------------------|--------|-------|-------|
| SAFC - Contingencies | 12.817 | 3.594 | 4.218 |
| DT&E Articles Quantity | | | |

FY07 Continued development and combat evaluation of selected unmanned delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short notice requirements. Continued to develop counter-canopy technologies, persistent stare and quick reaction systems.

FY08 Continue development and combat evaluation of selected unmanned delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short notice requirements. Continue to develop and evaluate counter-canopy technologies, persistent stare and quick reaction systems.

FY09 Continues development and combat evaluation of selected unmanned delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short notice requirements. Continues to evaluate counter-canopy technologies, persistent stare and quick reaction systems.

| | | | |
|--|--|---|--|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | |
| Appropriation/Budget Activity RDT&E BA # 7 | | Special Applications for Contingencies/Project 9999 | |

| | FY07 | FY08 | FY09 |
|---|-------|-------|-------|
| SAFC – Sensors | | 3.594 | 4.218 |
| RDT&E Articles Quantity | | | |
| <p>FY08 Continue research and assessment of emerging ISR technologies for maritime, land and air domains. Continue research and development of advanced mobile secure networking and detection technologies to create or enhance deployed, remotely emplaced surveillance architectures. Continues development and evaluation of unique unmanned sensor systems.</p> <p>FY09 Continues research and assessment of emerging ISR technologies for maritime, land and air domains. Continues research and development of advanced mobile secure networking and detection technologies to create or enhance deployed, remotely emplaced surveillance architectures. Continues development and evaluation of unique unmanned sensor systems.</p> | | | |
| | FY07 | FY08 | FY09 |
| SAFC – Unmanned Aircraft Systems | | 7.309 | 7.538 |
| RDT&E Articles Quantity | | | |
| <p>FY08 Continue to research, develop and evaluate emerging advances in fixed and rotary wing UAS capabilities. Continue to assess and improve UAS endurance and acoustic profile. Continue to enhance and evaluate common ground station capabilities including link performance and interoperability. Continue to develop, deploy and evaluate advanced auto-pilot technologies.</p> <p>FY09 Continues to research, develop and evaluate emerging advances in fixed and rotary wing UAS capabilities. Continues to assess and improve UAS endurance and acoustic profile. Continues to enhance and evaluate common ground station capabilities including link performance and interoperability. Continues to develop, deploy and evaluate advanced auto-pilot technologies.</p> | | | |
| | FY07 | FY08 | FY09 |
| Comprehensive Port and Maritime Domain Awareness | 7.258 | | |
| RDT&E Articles Quantity | | | |
| <p>FY07 Congressional add established a national center for maritime and port security to develop a maritime domain awareness (MDA) prototype system. The MDA system will link surveillance sensors, maritime sensors, data fusion capabilities, biometrics, and automated analysis and display of fused and network information for mission planning and coalition force protection.</p> | | | |
| | FY07 | FY08 | FY09 |
| Mobile Optical Wireless Networking for Intel, Surveillance, and Recon | | 1.558 | |
| RDT&E Articles Quantity | | | |
| <p>FY08 Congressional add to develop and demonstrate the aerial component of a high speed mobile optical wireless communications link</p> | | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 7

Special Applications for Contingencies/Project 9999

designed to transmit sensor data with a low probability of intercept/detection.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | <u>To Complete</u> | <u>Total Cost</u> |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------------|
| Proc, SAFC | 9.569 | 11.966 | 12.484 | 12.419 | 12.445 | 12.819 | 13.204 | Cont. | Cont. |

D. Acquisition Strategy:

SAFC acquisition strategy is evolutionary and spiral-based for technology insertion and low volume procurement. As a non-standard DOD acquisition program, it allows for maximum flexibility to respond to quickly emerging, short lead time, contingency based requirements that have been approved through an Executive Integrated Product Team chaired by the Joint Staff at national level.

| Exhibit R-3 RDT&E Project Cost Analysis | | | | | | DATE: FEBRUARY 2008 | | | | | |
|---|---------------|--------------------------------|----------|--|-----------|---------------------|-----------|-----------|-----------|-------------|---------------|
| APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 | | | | SPECIAL APPLICATIONS FOR CONTINGENCIES PE0304210BB | | | | | | | |
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories | Contract | | Total | Budget | Award | Budget | Award | Budget | Award | | |
| (Tailor to WBS, or System/Item Requirements) | Method & Type | Performing Activity & Location | PYs Cost | Cost FY07 | Date FY07 | Cost FY08 | Date FY08 | Cost FY09 | Date FY09 | To Complete | Total Program |
| UAV Capability Development | MIPR | NAVAIR | 32.716 | 7.043 | Aug-07 | 7.309 | Jan-08 | 7.538 | Dec-08 | Cont. | Cont. |
| Com Port & Maritime Domain Awareness | MIPR | NAVAIR | | 7.258 | Aug-07 | | | | | | 7.258 |
| ISR Sensor and Networking Development | MIPR | Various | 37.187 | | | 4.383 | Jan-08 | 4.469 | Dec-08 | Cont. | Cont. |
| TT&L R&D | MIPR | Various | 4.491 | | | | | | | | 4.491 |
| Portable Radar | MIPR | DOE | 2.500 | | | | | | | | 2.500 |
| FFRDC Support to SOJICC | MIPR | MITRE CECOM | 1.001 | | | | | | | | 1.001 |
| FFRDC Support to SOJICC | MIPR | MITRE ESC | 0.330 | | | | | | | | 0.330 |
| Technical Collection R&D | MIPR | ASD C3I | 3.252 | | | | | | | | 3.252 |
| Special Comms Devices | MIPR | SAF FMB | 1.000 | | | | | | | | 1.000 |
| Biometrics | MIPR | SAF FMB | 0.500 | | | | | | | | 0.500 |
| NRT Contingency | MIPR | Various | 6.779 | 4.233 | Various | 3.594 | Various | 4.218 | Various | Cont. | Cont. |
| CP - Tactical Imagery Comm | MIPR | NAVSEA, Arlington VA | 1.632 | | | | | | | | 1.632 |
| Subtotal Product Dev | | | 91.388 | 18.534 | | 15.286 | | 16.225 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| | | | | | | | | | | | |
| Subtotal Spt | | | | 0.000 | | | | | | | 0.000 |
| Remarks: | | | | | | | | | | | |
| Extended User Evaluation | MIPR | NAVSEA, Arlington VA | | 1.300 | Jul-07 | | | | | | 1.300 |
| Subtotal T&E | | | | 1.300 | | | | | | | 1.300 |
| Remarks: | | | | | | | | | | | |
| Program Support | C-CPAF | Jacobs-Sverdrup, Tampa FL | | 0.241 | Dec-06 | | | | | | 0.241 |
| Mobile Optical Wireless ISR Network | TBD | TBD | | | | 1.558 | Various | | | | 1.558 |
| Subtotal Management | | | | 0.241 | | 1.558 | | | | | 1.799 |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 91.388 | 20.075 | | 16.844 | | 16.225 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | |
|---|------|---|---|---|------|---|---|---|------|---|---|-------------------------|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| Appropriation/Budget Activity | | | | Program Element and Name | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | PE0304210BB/Special Applications for Contingencies (SAFC) | | | | | | | | 9999/SAFC | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | 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 |
| UV and ISR Capabilities Development | ▲ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ |
| UV and ISR Technology Integration & Testing | ▲ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ |
| UV and ISR Prototype Demonstrations | ▲ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ |
| UV and ISR Combat Evaluation | ▲ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ |
| Com Port & Maritime Domain Awareness | | | | ▲ | △ | △ | — | △ | | | | | | | | | | | | | | | | | | | | |
| Mobile Optical Wireless ISR Network | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | | Date: FEBRUARY 2008 | | | | |
|--|--|---------------|---------------|--------------------------------|---------------|---------------|---------------|--|
| <u>Appropriation/Budget Activity</u> | <u>Program Element Number and Name</u> | | | <u>Project Number and Name</u> | | | | |
| RDT&E/7 | PE0304210BB/C3I-SAFC | | | Project 9999/SAFC | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> | |
| UVS and ISR Capabilities Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| UVS and ISR Technology Integration & Testing | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| UVS and ISR Prototype Demonstrations | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| UVS and ISR Combat Evaluation | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| Com Port & Maritime Domain Awareness | 4Q | 1-3Q | | | | | | |
| Mobile Optical Wireless ISR Network | | 1-4Q | | | | | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
|---|-----------------------|

| | |
|--|---|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0305208BB Distributed Common Ground/Surface System (DCGS)/S400A |
|--|---|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|----------------------------|------|------|-------|-------|-------|-------|-------|------------------|------------|
| PE 0305208BB | | | 3.165 | 3.627 | 4.266 | 1.487 | 1.532 | Cont. | Cont. |
| S400A, DCGS | | | 3.165 | 3.627 | 4.266 | 1.487 | 1.532 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: This program element provides for the identification, development, and testing of the Distributed Common Ground System (DCGS). The DCGS Special Operations Forces (SOF) architecture interconnects the warfighter and sensors to “find and fix” terrorist and/or individuals. DCGS-SOF provides SOF leadership with situational awareness for planning and executing SOF missions. DCGS-SOF integrates tactical processing, exploitation, and dissemination data into the SOF Information Enterprise (SIE). DCGS-SOF develops and integrates SOF networks providing USSOCOM with unique decision capabilities to include: measurement and signature data, sensor exploitation, data compressions and man-portable workstations. DCGS-SOF provides the supporting architecture to link the Global Sensor Network (GSN) to those who will interpret the data for rapid transmission to collaborative partners via the SIE. DCGS-SOF will initially provide SOF with capabilities to conduct exploitation of Full Motion Video from unmanned aerial vehicle assets organic to SOF. DCGS-SOF will integrate and implement the DCGS Integration Backbone standards and architecture on the SIE that will support net-centric data sharing between SOF fixed, tactical capabilities, and sensors. In coming years, DCGS-SOF will expand to incorporate connectivity to attended and unattended sensors via the GSN. DCGS-SOF will employ non-developmental commercial and government off-the-shelf hardware and software and will leverage from existing technology as much as possible.

APPROPRIATION / BUDGET ACTIVITY
RDT&E, DEFENSE-WIDE / 7

R-1 ITEM NOMENCLATURE / PROJECT NO.

PE 0305208BB Distributed Common Ground/Surface System (DCGS)/S400A

B. Program Change Summary:

| | FY07 | FY08 | FY09 |
|----------------------------------|------|------|--------|
| Previous President's Budget | | | 3.170 |
| Current President's Budget | | | 3.165 |
| Total Adjustments | | | -0.005 |
| Congressional Program Reductions | | | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| Other Program Adjustments | | | -0.005 |
| SBIR Transfer | | | |

Funding:

FY07: No change.

FY08: No change.

FY09: Decrease of (-\$0.005 million) is due to economic inflation adjustments.

Schedule: None.

Technical: None.

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 7

Distributed Common Ground/Surface System (DCGS)/Project S400A

| -Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|------|------|-------|-------|-------|-------|-------|
| DCGS | | | 3.165 | 3.627 | 4.266 | 1.487 | 1.532 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: This project provides for the identification, development, and testing of the Distributed Common Ground System (DCGS). The DCGS Special Operations Forces (SOF) architecture interconnects the warfighter and sensors to “find and fix” terrorist and/or individuals. DCGS-SOF provides SOF leadership with situational awareness for planning and executing SOF missions. DCGS-SOF integrates tactical processing, exploitation, and dissemination data into the SOF Information Enterprise (SIE). DCGS-SOF develops and integrates SOF networks providing USSOCOM with unique decision capabilities to include: measurement and signature data, sensor exploitation, data compressions and man-portable workstations. DCGS-SOF provides the supporting architecture to link the Global Sensor Network (GSN) to those who will interpret the data for rapid transmission to collaborative partners via the SIE. DCGS-SOF will initially provide SOF with capabilities to conduct exploitation of Full Motion Video from unmanned aerial vehicle assets organic to SOF. DCGS-SOF will integrate and implement the DCGS Integration Backbone standards and architecture on the SIE that will support net-centric data sharing between SOF fixed, tactical capabilities, and sensors. In coming years, DCGS-SOF will expand to incorporate connectivity to attended and unattended sensors via the GSN. DCGS-SOF will employ non-developmental commercial and government off-the-shelf hardware and software and will leverage from existing technology as much as possible.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|-------------------------|------|------|-------|
| DCGS-SOF | | | 3.165 |
| RDT&E Articles Quantity | | | |

FY09 Begins the development of resource connectors required to integrate the SOF unique systems and sensors into the service-common mobile DCGS.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| PROC, SOF Intelligence Systems | | 12.358 | 2.290 | | | 9.318 | 6.295 | Cont. | Cont. |

Appropriation/Budget Activity
RDT&E BA # 7

Distributed Common Ground/Surface System (DCGS)/Project S400A

D. Acquisition Strategy:

- Distributed Common Ground/Surface System-Special Operations Forces (DCGS-SOF) will leverage available funds against ongoing efforts by other government agencies to meet SOF-peculiar documented requirements. DCGS-SOF technology will allow for seamless integration with DOD, interagency, or coalition Intelligence Surveillance and Reconnaissance tactical processing, exploitation, and dissemination systems.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 Distributed Common Ground/Surface System (DCGS)/PE0305208BB Distributed Common Ground/Surface System (DCGS)/S400A

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|--|-----------------------------------|------------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Prime Mission Equipment DCGS-SOF | Perf Based/ Time & Material | L3 Communications San Diego, CA | | | | | | 1.065 | Dec-08 | Cont. | Cont. |
| Subtotal Product Dev | | | 0.000 | 0.000 | | 0.000 | | 1.065 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Support Costs | Perf Based/ Time & Material | L3 Communications San Diego, CA | | | | | | 0.300 | Dec-08 | Cont. | Cont. |
| Subtotal Support Costs | | | 0.000 | 0.000 | | 0.000 | | 0.300 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Test & Evaluation | Perf Based/ Time & Material | L3 Communications San Diego, CA | | | | | | 0.300 | Dec-08 | Cont. | Cont. |
| Subtotal T&E | | | 0.000 | 0.000 | | 0.000 | | 0.300 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Management Services | Perf Based/ Time & Material | L3 Communications San Diego, CA | | | | | | 1.500 | Dec-08 | Cont. | Cont. |
| Subtotal Management | | | 0.000 | 0.000 | | 0.000 | | 1.500 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 0.000 | 0.000 | | 0.000 | | 3.165 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | |
|---|------|---|---|---|------|---|---|---|------|---|---------------------|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|---|---|---|---|
| Appropriation/Budget Activity | | Program Element and Name | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | | | | | | | |
| RDT&E/7 | | PE0305208BB/Distributed Common Ground/Surface Systems (MIP) | | | | | | | | Project S400A/Distributed Common Ground/Surface Systems | | | | | | | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | |
| | 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 | | | | |
| Distributed Common Ground/Surface Systems-SOF | | | | | | | | | Δ | — | — | Δ | Δ | — | — | Δ | Δ | — | — | Δ | Δ | — | — | Δ | Δ | — | — | Δ | Δ | — | — | Δ |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | Date: FEBRUARY 2008 | | | | |
|--|--|---------------|---|---------------|---------------|---------------|---------------|
| <u>Appropriation/Budget Activity</u> | <u>Program Element Number and Name</u> | | <u>Project Number and Name</u> | | | | |
| RDT&E/7 | PE0305208BB/Distributed Common Ground/Surface System | | Project S400A/Distributed Common Ground/Surface Systems | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> |
| Distributed Common Ground/Surface Systems-SOF | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
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| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0305219BB Predator Medium Altitude Long Endurance Tactical (MALET)/S400B |
|--|--|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|----------------------------|------|--------|--------|-------|-------|-------|-------|------------------|------------|
| PE 0305219BB | | 12.765 | 13.679 | 3.813 | 3.888 | 4.531 | 4.635 | Cont. | Cont. |
| S400B, Predator MALET | | 12.765 | 13.679 | 3.813 | 3.888 | 4.531 | 4.635 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: This program element identifies, develops, and tests Special Operations Forces (SOF) organic MALET Unmanned Aerial Vehicle platforms, intelligence payloads, and control systems. As the supported combatant command in the Global War on Terror, USSOCOM requires the capability to find, fix, and finish time-sensitive high-value targets. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This program element addresses the primary areas of intelligence, surveillance, reconnaissance, and target acquisition.

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | | 13.100 | 13.699 |
| Current President's Budget | | 12.765 | 13.679 |
| Total Adjustments | | -0.335 | -0.020 |
| Congressional Program Reductions | | | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| Other Program Adjustments | | -0.083 | -0.020 |
| SBIR Transfer | | -0.252 | |

| | | |
|--|--|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0305219BB Predator Medium Altitude Long Endurance Tactical (MALET)/S400B | |
| <p>Funding:</p> <p>FY07: No change.</p> <p>FY08: Congressional reductions include Section 8097 (-\$0.335 million) and Section 8104 (-\$0.062 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.252 million).</p> <p>FY09: Decrease (-\$0.020 million) is the result of economic inflation adjustments.</p> <p>Schedule: None.</p> <p>Technical: None.</p> | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

| | |
|---|--|
| Appropriation/Budget Activity RDT&E BA # 7 | Predator Medium Altitude Long Endurance Tactical (MALET)/Project S400B |
|---|--|

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|------|--------|--------|-------|-------|-------|-------|
| Predator MALET | | 12.765 | 13.679 | 3.813 | 3.888 | 4.531 | 4.635 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: This project provides for the identification, development, and testing of Special Operations Forces (SOF) organic MALET Unmanned Aerial Vehicle (UAV) platforms, payloads, and control systems. As the supported combatant command in the Global War on Terror, USSOCOM requires the capability to find, fix, and finish time-sensitive high-value targets. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This project addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Target (ISR&T) acquisition.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|-------------------------|------|--------|--------|
| Predator MALET | | 12.765 | 13.679 |
| RDT&E Articles Quantity | | | |

FY08 Begins the development, test, and integration of MALET UAV payload and ground control station improvements.

FY09 Continues development, test, and integration of MALET UAV payload and ground control station improvements.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| PROC, Unmanned Vehicles | 23.900 | 18.185 | 22.561 | 13.206 | 8.595 | 9.273 | 9.500 | Cont. | Cont. |

D. Acquisition Strategy:

- Predator MALET is an evolutionary acquisition program that provides improvements to SOF Predator MALET aircraft, payloads, and ground control stations to increase the ISR&T acquisition capabilities of SOF.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

APPROPRIATION / BUDGET ACTIVITY
RDT&E DEFENSE-WIDE / 7

Predator Medium Altitude Long Endurance Tactical (MALET)/PE0305219BB
Predator MALET/S400B

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|--|------------------------------|--------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Product Development Predator MALET | TBD | TBD | | | | 7.305 | Various | 7.672 | Various | Cont. | Cont. |
| Subtotal Product Dev | | | 0.000 | 0.000 | | 7.305 | | 7.672 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Support Costs | | | | | | | | | | | |
| Subtotal Support Costs | | | 0.000 | 0.000 | | 0.000 | | 0.000 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Test & Evaluation Predator MALET | TBD | TBD | | | | 5.210 | Various | 5.759 | Various | Cont. | Cont. |
| Subtotal T&E | | | 0.000 | 0.000 | | 5.210 | | 5.759 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Management Services Predator MALET | TBD | TBD | | | | 0.250 | Dec-07 | 0.248 | Dec-08 | Cont. | Cont. |
| Subtotal Management | | | 0.000 | 0.000 | | 0.250 | | 0.248 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 0.000 | 0.000 | | 12.765 | | 13.679 | | Cont. | Cont. |
| Remarks | | | | | | | | | | | |

Exhibit R-4, RDT&E Program Schedule Profile

Date: FEBRUARY 2008

| Appropriation/Budget Activity RDT&E/7 | Program Element and Name PE0305219BB/MQ-1 Predator A UAV (MIP) | | | | | | | | | | | | | | | | Project Number and Name Project S400B/Predator Medium Altitude Long Endurance Tactical (MALET) | | | | | | | | | | | | | | | |
|--|---|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|---|---|---|---|------|---|---|---|------|---|---|---|------|--|--|--|
| | Fiscal Year | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | | 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 | | | |
| Predator MALET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development/Integration | | | | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | △ | | | | |
| Test & Evaluation/User Assessment | | | | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | △ | | | | |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | <u>Date:</u> FEBRUARY 2008 | | | | | |
|--|--|--------------------------------|----------------------------|---------------|---------------|---------------|---------------|--|
| <u>Appropriation/Budget Activity</u> | <u>Program Element Number and Name</u> | <u>Project Number and Name</u> | | | | | | |
| RDT&E/7 | PE0305219BB/Predator Medium Altitude Long Endurance Tactical (MALET) | Project S400B/Predator MALET | | | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> | |
| Predator MALET | | | | | | | | |
| - Development/Integration | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| - Test & Evaluation/User Assessment | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE FEBRUARY 2008 | | | | |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160279BB Small Business Innovative Research (SBIR) | | | | | | |

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|----------------------------|--------|-------|------|------|------|------|------|------------------|------------|
| PE1160279BB | 12.213 | 7.883 | | | | | | Cont. | Cont. |
| S050, SBIR | 12.213 | 7.883 | | | | | | Cont. | Cont. |

A. Mission Description and Budget Item Justification:

The Small Business Innovative Research (SBIR) program element consists of a highly competitive three-phase award system which provides qualified small business concerns with the opportunity to propose high quality innovative ideas that meet specific research and development needs of USSOCOM. SBIR is a result of the Small Business Development Act of 1992. It was enacted by Congress in Public Law 97-219, reenacted by Public Law 99-443, and reauthorized by the SBIR Program Reauthorization Act of 2001. Starting in FY 1994, the SBIR program was refocused toward dual use and defense reinvestment efforts. Phase I projects evaluate the scientific technical merit and feasibility of an idea. Awards are up to \$.100M with a maximum six-month period of performance. Phase II projects expand the results of, and further pursue, the developments of Phase I. Awards are up to \$.750M with a maximum two-year period of performance. Phase III is for commercialization of the results of Phase II and requires the use of private or non-SBIR federal funding. DOD publishes government agency proposal projects twice per year for a consolidated DOD Request for Proposal. USSOCOM then awards its proposed SBIR projects.

APPROPRIATION / BUDGET ACTIVITY
RDT&E, DEFENSE-WIDE / 7

R-1 ITEM NOMENCLATURE / PROJECT NO.

PE 1160279BB Small Business Innovative Research (SBIR)

| | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> |
|----------------------------------|---------------|---------------|---------------|
| Previous President's Budget | 12.213 | 0.000 | |
| Current President's Budget | 12.213 | 7.883 | |
| Total Adjustments | 0.000 | 7.883 | |
| Congressional Program Reductions | | | |
| Congressional Rescissions | | | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| SBIR Transfer | | 7.883 | |

B. Program Change Summary:

Funding:

FY07: No Change.

FY08: Increase (\$7.883 million) is the result of transferring funds from other program elements to the SBIR account.

FY09: No change.

Schedule: None.

Technical: None.

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
|---|-----------------------|

| | |
|--|--|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160403BB Special Operations Aviation Systems Advanced Development/Project SF100 |
|--|--|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|--|--------|--------|--------|--------|--------|--------|--------|------------------|------------|
| PE1160403BB | 67.695 | 55.451 | 43.977 | 41.033 | 42.356 | 27.848 | 30.409 | Cont. | Cont. |
| SF100, Special Operations Aviation Systems Advanced Development | 67.695 | 55.451 | 43.977 | 41.033 | 42.356 | 27.848 | 30.409 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: This project provides for the investigation, evaluation, demonstration and integration of current and maturing technologies for Special Operations Forces (SOF)-unique aviation requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: Low Probability of Intercept/Low Probability of Detection, Terrain Following/Terrain Avoidance radar; digital terrain elevation data and electronic order of battle; digital maps; enhanced situational awareness; near-real-time intelligence to include data fusion; threat detection and avoidance; electronic support measures for threat geo location and specific emitter identification; navigation, target detection, evaluation of iridium and global positioning technologies, and identification technologies; aerial refueling; and studies for future SOF aircraft requirements such as small-aircraft Gunship Platforms.

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | 76.679 | 60.750 | 51.529 |
| Current President's Budget | 67.695 | 55.451 | 43.977 |
| Total Adjustments | -8.984 | -5.299 | -7.552 |
| Congressional Program Reductions | | -4.203 | |
| Congressional Increases | | | |
| Reprogrammings | 8.984 | | |
| Other Program Adjustments | | | -7.552 |
| SBIR Transfer | | -1.096 | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160403BB Special Operations Aviation Systems Advanced Development/Project SF100 | |
| <p>Funding:</p> <p>FY07: Net decrease (-\$8.984 million) due to decreases to Common Avionics Architecture for Aviation (-\$29.961 million) and Sustaining Engineering (-0.450 million) for higher command requirements, partially offset by increases to Aviation Engineering Analysis (\$21.344 million) and Silent Knight Radar (\$0.083 million).</p> <p>FY08: Net decrease (-\$5.299 million) due to Congressional Mark (-\$3.841 million) and Congressional reduction to include (-\$0.091 million) Section 8097 and Section 8104 (-\$0.271 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$1.096 million).</p> <p>FY09: Net decrease (\$-7.552 million) is due to an adjustment to Silent Knight Radar (\$-7.991 million), an increase for EC-130J support (\$0.500 million), and economic inflation adjustment (\$-0.061 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p> | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Aviation Systems Advance Development/Project SF100 | |

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|
| Aviation Sys Adv Dev | 67.695 | 55.451 | 43.977 | 41.033 | 42.356 | 27.848 | 30.409 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: This project provides for the investigation, evaluation, demonstration, and integration of current and maturing technologies for Special Operations Forces (SOF)-unique aviation requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: Low Probability of Intercept/Low Probability of Detection (LPI/LPD) Terrain Following/Terrain Avoidance (TF/TA) radar; digital terrain elevation data and electronic order of battle; digital maps; enhanced situational awareness; near-real-time intelligence to include data fusion, threat detection and avoidance; electronic support measures for threat geolocation and specific emitter identification; navigation, target detection and identification technologies; aerial refueling; and studies for future SOF aircraft requirements such as Gunship-Lite concepts.

- Aviation Engineering Analysis. Provides a rapid response capability to support SOF fixed wing aircraft and unmanned aircraft systems. The purpose is to correct system deficiencies, improve asset life, and enhance mission capability through the means of feasibility studies, analysis of alternatives, pre-developmental risk reduction studies, and engineering analyses. This sub-project provides the engineering required to improve the design and performance integrity of the aircraft support systems, sub-systems, equipment, and embedded computer software as they relate to the maintenance, overhaul, repair, quality assurance, modifications, materiel improvements, and service life extensions. Conduct risk reduction studies, analyses, and demonstrations to support Gunship-Lite Concepts.
- On-Board Enhanced Situational Awareness System (OBESA). This program continues development of OBESA, which consolidates threat data from on and off-board sensors into a single coherent image to the crew. OBESA includes the Below Line-Of-Sight Electronic Support Measures (BLOSESM) processing software. BLOSESM is an advanced receiver system which provides geo-location data on threats that are below the line of sight of the current SOF threat warning systems. The Command decided to defer transition from the Advanced Concepts Technology Demonstrations due to higher command priorities.
- SOF K-band TF/TA Radar. Continues system design and development of a SOF common K-band LPI/LPD radar (Silent Knight Radar) to defeat advanced passive detection threat while maintaining ability to fly safe TF. This radar is targeted for use on all MH-47G Heavy Assault helicopters, MH-60M Blackhawk helicopters, MC-130H Combat Talon II and CV-22 Tilt-Rotor aircraft.
- Iridium-Global Positioning System (I-GPS). Conducts a proof of concept study of I-GPS to evaluate the capability to provide handsets

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Aviation Systems Advance Development/Project SF100 | |

capable of using signals from iridium and global positioning system satellites to provide anti-jam, positioning, and timing accuracy capabilities.

- EC-130J Commando Solo Upgrades. Provides for new technology development to the EC-130J platform and SOF-unique equipment used to conduct Psychological Operations broadcast missions.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|-------------------------------|--------|-------|-------|
| Aviation Engineering Analysis | 28.125 | 1.578 | 5.515 |
| RDT&E Articles Quantity | | | |

FY07 Conducted engineering studies and analyses for Fixed Wing aviation SOF unique equipment and missions. Conducted feasibility study and user evaluation of the Viper Strike munition on SOF special mission purpose equipment.

FY08 Continue engineering studies and analyses for Fixed Wing aviation SOF unique equipment and missions.

FY09 Continue engineering studies and analyses for Fixed Wing aviation SOF unique equipment and missions. Conduct risk reduction studies, analyses, and demonstrations to support Gunship-Lite concepts

| | FY07 | FY08 | FY09 |
|---|--------|------|------|
| On-Board Enhanced Situational Awareness (OBESA) | 10.894 | | |
| RDT&E Articles Quantity | | | |

FY07 Performed aircraft integration of Below Line-of-Sight Electronic Support Measures (BLOSESM) on MC-130 flight test aircraft. Conducted MC-130 BLOSESM system flight test. Provided BLOSESM system transition documentation to USSOCOM to support OBESA legacy APR-46 system replacement on AC/MC-130 aircraft.

| | FY07 | FY08 | FY09 |
|---|--------|--------|--------|
| SOF K-band Terrain Following /Terrain Avoidance (TF/TA) Radar | 28.676 | 43.873 | 37.965 |
| RDT&E Articles Quantity | | | |

FY07 Awarded contract for SOF common K-band TF/TA radar System Design and Development (SDD). Specific activities include hardware and software development, aircraft integration design, and initiation of developmental test plans for MH-47G Heavy Assault helicopter platform.

FY08 Continue SDD of SOF common K-Band TF/TA radar. Continue hardware and software design and integration and refinement of developmental test plans for MH-47G platform.

FY09 Continues SDD of SOF common K-Band TF/TA radar. Continue hardware and software design and integration and refinement of developmental test plans for MH-47G platform.

| | | |
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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Aviation Systems Advance Development/Project SF100 | |

| | | | |
|--|------|--------|-------|
| | FY07 | FY08 | FY09 |
| Iridium-Global Positioning System (I-GPS) | | 10.000 | |
| RDT&E Articles Quantity | | | |
| FY08 Conduct a proof of concept study of I-GPS to evaluate the capability to provide handsets capable of using signals from iridium and global positioning system satellites to provide anti-jam, positioning, and timing accuracy capabilities. | | | |
| | FY07 | FY08 | FY09 |
| EC-130 Upgrades | | | 0.497 |
| RDT&E Articles Quantity | | | |
| FY09 Develops upgrades to the EC-130 Commando Solo SOF-unique transmitters and antenna arrays for SOF missions. | | | |

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| Proc, C130 Mods | 101.268 | 118.744 | 47.018 | 21.386 | 15.976 | 24.675 | 40.328 | Cont. | Cont. |

D. Acquisition Strategy :

- Aviation Engineering Analysis. Continue engineering analysis activities to correct system deficiencies, improve asset life, analyze alternatives, and enhance mission capability of SOF fixed-wing aircraft and unmanned aircraft systems. Conduct risk reduction studies, analyses, and demonstrations to support Gunship-Lite concepts.
- SOF K-band Terrain Following/Terrain Avoidance Radar. In December 2006, a competitive System Design and Development (SDD) contract was awarded to Raytheon McKinney Company, Dallas TX. The SDD contract is for development of a SOF common radar, integration into an MH-47G Heavy Assault helicopter and system qualification/operational testing. The SDD contract includes a procurement option for six low rate initial production units, and an option for interim contractor support.

| Exhibit R-3 RDT&E Project Cost Analysis | | | | | | DATE: FEBRUARY 2008 | | | | | |
|---|------------------------------|------------------------------------|----------------------|--|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| APPROPRIATION / BUDGET ACTIVITY | | | | Special Operations Aviation Systems Advanced Development/PE1160403BB | | | | | | | |
| RDT&E DEFENSE-WIDE / 7 | | | | Aviation Systems Advance Development/SF100 | | | | | | | |
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/ Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Primary Hardware Development | | | | | | | | | | | |
| Terrain Following/Terrain Avoidance (TF/TA) Radar Risk Reduction | CPIF | Raytheon, McKinney TX and Northrop | 8.225 | | | | | | | | 8.225 |
| TF/TA Radar System Design & Development | CPIF | Raytheon, McKinney TX | | 28.676 | Dec-06 | | | | | | 28.676 |
| MH-47 Prime Mission Product | | | | | | 31.993 | Jan-08 | 22.839 | Dec-08 | | |
| MH-47 Engineering | | | | | | 5.789 | Jan-08 | 4.215 | Dec-08 | | |
| On-Board Enhanced Situational Awareness | CPIF | Northrop Grumman, Dayton, Ohio | 39.817 | 10.894 | Various | | | | | | 50.711 |
| EC-130J | TBD | TBD | | | | | | 0.497 | Dec-08 | Cont. | Cont. |
| Subtotal Product Dev | | | 48.042 | 39.570 | | 37.782 | | 27.551 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Development Support | | | | | | | | | | | |
| Engineering/Studies | | | | | | | | | | | |
| Aviation Engineering Analysis | Various | Various | 24.020 | 28.125 | Various | 1.578 | Various | 5.515 | Various | Cont. | Cont. |
| Iridium-Global Pos System | TBD | TBD | | | | 10.000 | Mar-08 | | | | 10.000 |
| TF/TA Radar | | | | | | | | | | | |
| MH-47 Production Support | | | | | | 6.091 | Jan-08 | 8.025 | Dec-08 | | |
| Subtotal Spt | | | 24.020 | 28.125 | | 17.669 | | 13.540 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Development Test & Evaluation (T&E) | | | | | | | | | | | |
| MH-47 T&E | | | | | | | | 2.886 | Dec-08 | | |
| Subtotal T&E | | | | | | | | 2.886 | | | |
| Total Cost | | | 72.062 | 67.695 | | 55.451 | | 43.977 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|---|---|---|------|---|---|---|------|---------------------|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160403BB/Special Operations Aviation Systems Advanced Dev | | | | | | | | | | SF100/Aviation System Advance Development | | | | | | | | | | | | | | | | | |
| Fiscal Year | | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | | | | | 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 |
| Aviation Engineering Analysis | | | | | ▲ | | | | | | | | | | | | | | | | | | | | △ | | | | | | | |
| SOF Tanker Capabilities Development Document | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C-130 Avionics Study | | | | | | | | | ▲ | | | | △ | | | | | | | | | | | | | | | | | | | |
| On-Board Enhanced Situational Awareness System | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gunship-Lite Studies and Analyses | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | | | | |
| Terrain Following/Terrain Avoidance Radar System Design and Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone B | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Design Phase | | | | | △ | | | | | | | | | | | | | | | | | | | | △ | | | | | | | |
| Preliminary Design Review | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | | | | |
| Critical Design Review | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | |
| Development Testing | | | | | | | | | | | | | | | | | △ | | | | | | | | △ | | | | | | | |
| Operational Testing | | | | | | | | | | | | | | | | | | | | | | | | | △ | | | | | | | |
| Iridium-Global Positioning System (I-GPS) | | | | | | | | | △ | | | | △ | | | | | | | | | | | | | | | | | | | |
| EC-130J Commando Solo Upgrades | | | | | | | | | | | | | △ | | | | | | | | | | | | △ | | | | | | | |
| Software Development | | | | | | | | | | | | | △ | | | | | | | | | | | | △ | | | | | | | |

| Exhibit R-4a, RDT&E Program Schedule Detail | | Date: FEBRUARY 2008 | | | | | |
|---|---|--|--------|--------|--------|--------|--------|
| Appropriation/Budget Activity | Program Element Number and Name | Project Number and Name | | | | | |
| RDT&E/7 | PE1160403BB/Special Operations Aviationl Systems Adv Dev | Project SF100/Aviation Systems Advance Development | | | | | |
| Schedule Profile | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 |
| Aviation Engineering Analysis | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| SOF Tanker Capability Development Document | 1-2Q | | | | | | |
| C-130 Avionics Study | 3-4Q | 1-3Q | 1-3Q | | | | |
| On-Board Enhanced Situational Awareness System | 1-4Q | | | | | | |
| Gunship-Lite Studies and Analysis | | 2-4Q | 1-4Q | | | | |
| Terrain Following/Terrain Avoidance Radar System Design and Development | | | | | | | |
| Milestone B/Contract Award | 1Q | | | | | | |
| System Design Phase | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-2Q |
| Preliminary Design Review | | 3Q | | | | | |
| Critical Design Review | | | 4Q | | | | |
| Development Testing | | | 4Q | 1-4Q | 1-4Q | 1-4Q | |
| Operational Testing | | | | | | | 1-3Q |
| Inridium-Global Positioning System | | 2-4Q | 1-2Q | | | | |
| EC-130J Commando Solo Upgrades | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Software Development | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE FEBRUARY 2008 | | | | |
|--|--------|--------|--|-------|-----------------------|-------|-------|------------------|------------|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations (SO) Tactical Systems Development | | | | | | |
| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
| PE1160404BB | 85.058 | 58.816 | 13.263 | 2.272 | 2.324 | 2.376 | 2.428 | Cont. | Cont. |
| 3326 AC-130U GUNSHIP | 8.433 | | | | | | | Cont. | Cont. |
| D476 PSYOPS ADV DEV | 9.402 | 6.754 | | | | | | Cont. | Cont. |
| D615 SOF AVIATION | 2.959 | 5.230 | | | | | | Cont. | Cont. |
| S0417 UNDERWATER SYSTEMS ADV DEV | .614 | 1.753 | | | | | | Cont. | Cont. |
| S1684 SOF SURFACE CRAFT ADVANCE SYSTEMS | 3.118 | 6.715 | | | | | | Cont. | Cont. |
| S350 SO MISSION PLANNING ENVIRONMENT | 6.051 | | | | | | | 0.0 | 85.492 |
| S375 WEAPONS SYSTEMS ADV DEV | 24.768 | 16.540 | | | | | | Cont. | Cont. |
| S625 SOF TRAINING SYSTEMS | | | | | | | | 0.0 | 120.811 |
| S700 SO COMMUNICATIONS ADV DEV | 28.445 | 17.353 | | | | | | Cont. | Cont. |
| S710 SOF AUTOMATION SYSTEMS | | | 13.263 | 2.272 | 2.324 | 2.376 | 2.428 | Cont. | Cont. |
| S800 SO MUNITIONS ADV DEV | | 1.949 | | | | | | Cont. | Cont. |
| S900 SO MISCELLANEOUS EQUIPMENT ADV DEV | 1.268 | 2.522 | | | | | | Cont. | Cont. |
| <p>Beginning in FY 2009, new Program Elements (PE) were created for most of the projects in this PE. A complete listing of new PEs for the projects and the resource amount moved can be found under paragraph B (Funding changes). Also, a new project, S710 SOF Automation Systems, was created in this PE with resources moving out of project S700, SO Communications Advanced Development.</p> | | | | | | | | | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
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| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations (SO) Tactical Systems Development |
|--|--|

A. Mission Description and Budget Item Justification: This program element provides for development, testing, and integration of specialized automation equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized automation equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success.

B. Program Change Summary:

Funding:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | 82.143 | 42.262 | 48.986 |
| Current President's Budget | 85.058 | 58.816 | 13.283 |
| Total Adjustments | 2.915 | 16.554 | -35.703 |
| Congressional Program Reductions | | -0.384 | |
| Congressional Increases | | 18.100 | |
| Reprogrammings | | | |
| Other Program Adjustments | | | |
| SBIR Transfer | | -1.162 | |

FY07: Net increase (\$2.915 million) by project:

- Project 3326: Increase (\$6.870 million) is due to internal reprogramming for the GMS-2 operation flight program, tech order development, and logistics analysis.
- Project D476: Increase (\$2.000 million) is due to FY 2007 OMNIBUS Reprogramming No. FY07-28R PA for Psychological Operations.
- Project D615: Decrease (-\$0.974 million) is due to Above Threshold Reprogramming No. FY07-41R of Congressional add for Next Generation Navigation to Procurement for proper execution.

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations (SO) Tactical Systems Development | |
| <ul style="list-style-type: none"> - Project S0417: Decrease (-\$3.897 million) is due to internal reprogramming of Congressional add, Mark V Craft Prototype Development, to PE 1160402BB for proper execution. - Project S350: Decrease (-\$0.400 million) is due to internal reprogramming for higher command priorities. - Project S375: Net increase (\$0.560 million) is due to Above Threshold Reprogramming No. FY07-41R of Congressional add, MARSOC BRITE M22, to Procurement (\$2.144 million); FY 2007 OMNIBUS Reprogramming No. FY07-28R PA for Precision Laser Targeting Device (\$1.800 million); internal reprogramming of Congressional add, Integrated Warfighter (-\$2.046 million) to PE 1160402BB for proper execution; and internal reprogramming for higher command priorities (\$1.500 million). - Project S700: Net decrease (-\$0.270 million) is due to internal reprogramming of Congressional adds Warrior Reach (-\$0.974 million) and C2 Mission Manager (-\$0.974 million) to PE 1160427BB for proper execution and internal reprogramming for higher command priorities (\$1.678 million). - Project S900: Decrease (-\$0.974 million) is due to internal reprogramming of Congressional add, Closed Circuit Rebreather, to PE 1160402BB for proper execution. <p>FY08: Net increase (\$16.554 million) by project:</p> <ul style="list-style-type: none"> - Project D476: Congressional reductions include Section 8097 (-\$0.011 million) and Section 8104 (-\$0.033 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.133 million). - Project D615: Congressional reductions include Section 8097 (-\$0.009 million) and Section 8104 (-\$0.025 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.104 million). - Project S0417: Congressional reductions include Section 8097 (-\$0.003 million) and Section 8104 (-\$0.009 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.035 million). - Project S1684: Net increase (\$3.524 million) is due to congressional reductions Section 8097 (-\$0.011 million) and Section 8104 (-\$0.033 million) transfer to Small Business Innovative Research account (-\$0.132 million), and the following Congressional adds: <ul style="list-style-type: none"> - Small Boat Family Integrated Combat System , \$1.600 million - Naval Special Warfare RIB Payload Capacity Project, \$2.100 million - Project S375: Net increase (\$6.967 million) is due to congressional reductions for Section 8097 (-\$0.027 million) and Section 8104 (-\$0.080 million), transfer to Small Business Innovative Research account (-\$0.326 million), and the following Congressional adds: | | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations (SO) Tactical Systems Development |
| <ul style="list-style-type: none"> - Special Operations Forces Advanced Mission Planning Tools, \$3.200 million - Expendable Airdrop Delivery Systems, \$0.800 million - Special Operations Forces Tagging, Tracking, and Locating Tool Kit, \$1.000 million - Multi-User Panoramic Synthetic Vision System, \$2.400 million - Project S700: Net increase (\$6.543 million) is due to congressional reductions for Section 8097 (-\$0.029 million) and Section 8104 (-\$0.085 million), transfer to Small Business Innovative Research account (-\$0.343 million), and the following Congressional adds: <ul style="list-style-type: none"> - Covert WPM Waveform Modules, \$2.000 million - Command and Control Mission Manager Spiral 5, \$1.600 million - Semi-autonomous or Unattended Psychological Operations, \$1.600 million - Communications Enhancements to Fielded TACTI-NET Systems, \$0.800 million - SOCOM Computer Research, \$1.000 million - Project S800: Congressional reductions include Section 8097 (-\$0.003 million) and Section 8104 (-\$0.009 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.039 million). - Project S900: Congressional reductions include Section 8097 (-\$0.004 million) and Section 8104 (-\$0.013 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.050 million). <p>FY09: Net decrease (-\$35.723 million) by project:</p> <ul style="list-style-type: none"> - Project D476: Decrease (-\$17.000 million) is due to moving resources to new PE 1160488BB, SOF PSYOPS (-\$15.554 million), economic inflation adjustments (-\$0.022 million), and internal realignments for higher command priorities (-\$1.424 million). - Project D615: Decrease (-\$3.827 million) is due to moving resources to new PE 1160482BB, SOF Rotary Wing Aviation (-\$3.822 million) and economic inflation adjustments (-\$0.005 million). - Project S0417: Decrease (-\$3.147 million) is due to moving resources to new PE 1160483BB, SOF Underwater Systems (-\$3.142 million) and economic inflation adjustments (-\$0.005 million). - Project S1684: Decrease (-\$5.213 million) is due to moving resources to new PE 1160484BB, SOF Surface Craft (-\$5.206 million) and economic inflation adjustments (-\$0.007 million). | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations (SO) Tactical Systems Development | |
| <ul style="list-style-type: none"> - Project S375: Decrease (-\$8.571 million) is due to moving resources to new PE 1160477BB, SOF Weapon Systems (\$2.759 million), internal realignment for higher command priorities (-\$3.000 million), and economic inflation adjustments (-\$0.053 million). - Project S700: Decrease (-\$11.228 million) is due to a realignment of resources to a new project, S710 SOF Automation Systems. - Project S710: Net increase (\$13.263 million) is due to realignment of resources from Project S700, SO Communications Advanced Development (\$11.228 million), realignment for higher command priorities (\$2.055 million), and economic inflation adjustments (-\$0.020 million). <p>Schedule: N/A.</p> <p>Technical: N/A.</p> | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Automation Systems/Project S710 | |

| Cost (\$ in million) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|------|------|--------|-------|-------|-------|-------|
| SOF Automation Systems | | | 13.263 | 2.272 | 2.324 | 2.376 | 2.428 |
| RDT&E Articles Quantity | | | | | | | |

A new project, S710, was established for SOF Automation Systems beginning in FY 2009. FY 2009-2013 resources were moved from project S700, Special Operations Communications Advanced Development.

A. Mission Description and Budget Item Justification: The Special Operations Forces (SOF) Automation Systems Project provides for automation systems to meet emergent requirements to support SOF. The SOF mission mandates that SOF systems remain technologically superior to any threat to provide a maximum degree of survivability. SOF Automation Systems is a continuing effort to procure interoperable SOF Command, Control, Communications, and Computer (C4) capabilities.

United States Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Command, Control, Communications, Computer and Intelligence (C4I) systems continue to provide SOF with the required capabilities throughout the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and the timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration within the Global Information Grid (GIG). The GIG infosphere is a multitude of existing and projected national assets that allows SOF elements to operate with any force combination in multiple environments. The C4 programs funded in this project meet annual emergent requirements.

OPERATIONAL ELEMENT (TEAM)

- C4I Automation Systems (C4IAS)-Distributed Common Ground System (DCGS): C4IAS is a garrison infrastructure directly supporting the Command's global mission by providing a seamless and interoperable interface with SOF, Department of Defense (DoD), and Service information systems. It provides the capabilities to exercise command and control and collaboration, process and share intelligence data, and facilitate mission planning and the operational preparation of the battlespace, connecting numerous data repositories while maintaining information assurance. Additionally, it provides the critical reachback for SOF tactically deployed local area networks/wide area networks. C4IAS-DCGS is composed of state-of-the-art automated systems (firewalls, routers, switches, hubs, and modems), servers, storage devices, workstations and associated peripherals. The program supports a myriad of SOF user requirements, and uses a variety of government-off-the-shelf/commercial-off-the-shelf software and databases to ensure interoperability between SOF units.
- Tactical Local Area Network (TACLAN): The TACLAN program provides SOF operational commanders and forward deployed forces

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Automation Systems/Project S710 | |

advanced automated data processing and display capabilities to support situational awareness, mission planning and execution, and command and control of forces. The TACLAN program consists of TACLAN Suites, Mission Planning Kits (MPK) and Field Computing Devices (FCD). Each TACLAN Suite consists of three easily transportable, multiple integrated networks; 60 general use laptops; 10 intelligence laptops; routers; and ancillary equipment used by SOF Command and Control Nodes, forming a deployed Local Area Network (LAN). MPKs consist of four general use laptops and ancillary equipment used by SOF teams for detailed mission planning support. FCDs are small hand-held computing devices used by the most forward deployed SOF teams to automatically interface with the TACLAN suite via tactical communications.

ABOVE OPERATIONAL ELEMENT

A. Special Operations Resource Business Information System (SORBIS). This initiative is to provide an enterprise-wide solution that will bring together resource and acquisition management data from disparate systems and databases (both internal and external) used throughout USSOCOM into an integrated business system that can provide a common user interface and common source view of the data. It will enable users to perform acquisition management as well as planning, programming, and budgeting collaborative decision processes. The system will retain information on validated mission requirements, generate standard and ad hoc reports, graphically display performance metrics and data, and conduct in-depth data analysis and reporting.

B. Accomplishments/Planned Program

| Cost (\$ in million) | FY07 | FY08 | FY09 |
|--|------|------|-------|
| Command, Control, Communications, Computers and Intelligence Automation Systems | | | 0.111 |
| RDT&E Articles Quantity | | | |
| FY09 Begins development of SOF Distributed Common Ground System (DCGS) resource adapters that will ensure DCGS service data can be seamlessly ingested into the DCGS-SOF capability. | | | |
| Cost (\$ in million) | FY07 | FY08 | FY09 |
| TACLAN | | | 2.111 |
| RDT&E Articles Quantity | | | |
| FY09 Continues development and integration of Blue Force Tracking secure wireless biometrics, Embedded National Tactical Receiver and DCGS data sharing capabilities. | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Automation Systems/Project S710 | |

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|---|------|------|--------|
| Cost (\$ in million) | FY07 | FY08 | FY09 |
| Special Operations Resource Business Information System (SORBIS) | | | 11.041 |
| RDT&E Articles Quantity | | | |
| FY09 Completes software application development and test for resource planning, programming, and budgeting capabilities, an effort that begins in FY 2008 under project S700. | | | |

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| PROC, SOF Automation Systems | | | 55.248 | 42.879 | 43.418 | 41.699 | 42.379 | Cont | Cont |
| PROC, Communication Equipment and Electronics | 42.101 | 54.137 | | | | | | | |
| RDT&E, SOF Communications Advanced Development | | 11.314 | | | | | | | |

D. Acquisition Strategy:

- Command, Control, Communications, Computers and Intelligence Automation Systems (C4IAS)-Distributed Common Ground System (DCGS) is a post Milestone C fielded SOF communication infrastructure that will evaluate and develop infrastructure technologies adaptors that support the seamless transmission of critical DCGS Intelligence, Surveillance, and Reconnaissance products.

- Tactical Local Area Network is a post-Milestone C fielded program that is being upgraded to reduce the footprint of deployable networks and related equipment.

SORBIS acquisition strategy seeks to optimize a cost, schedule, and performance mix, pursuing a commercial-off-the-shelf materiel solution through full and open competition. Commercial and Government agency sources will be leveraged for required certifications, functional and operational test and acceptance support.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

APPROPRIATION / BUDGET ACTIVITY: RDT&E DEFENSE-WIDE / 7
 Special Operations Tactical Systems Development/PE 1160404BB
 SOF Automation Systems/S710

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|--|------------------------------|--------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Primary Hardware Development | | | | | | | | | | | |
| C4IAS - Develop SOF Distributed Common Ground System Capability | TBD | TBD | | | | | | 0.111 | Jan-09 | Cont | Cont |
| Tactical Local Area Network - Develop/Integrate Evolutionary Technology Insertion Capabilities | IDIQ | iGov Technolgies, Tampa, FL | | | | | | 2.111 | Jan-09 | Cont | Cont |
| Subtotal Product Dev | | | 0.000 | 0.000 | | 0.000 | 0.000 | 2.222 | | Cont | Cont |
| Remarks: | | | | | | | | | | | |
| Development Support Software Development | | | | | | | | | | | |
| Special Operations Resource Business Information System - Software Application Development | TBD | TBD | | | | | | 11.041 | Jan-09 | | 11.041 |
| Subtotal Support | | | 0.000 | 0.000 | | 0.000 | | 11.041 | | | 11.041 |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 0.000 | 0.000 | | 0.000 | | 13.263 | | Cont | Cont |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------|---|---|---|---------------------|---|---|---|------|-------------------------------------|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|---|---|---|
| Appropriation/Budget Activity | | Program Element and Name | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | | | | | | | |
| RDT&E/7 | | PE1160404BB/Special Operations Tactical Systems Development | | | | | | | | Project S710/SOF Automation Systems | | | | | | | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | |
| | 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 | | | | |
| C4IAS - Develop SOF Distributed Common Ground System Capability | | | | | | | | | | △ | — | △ | | △ | — | △ | | △ | — | △ | | △ | — | △ | | △ | — | △ | | △ | — | △ |
| Tactical Local Area Network - Develop/Integrate Evolutionary Technology Insertion Capabilities | | | | | | | | | | △ | — | △ | | △ | — | △ | | △ | — | △ | | △ | — | △ | | △ | — | △ | | △ | — | △ |
| Special Operations Resource Business Information System - Software Application Development | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | | | |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | | Date: FEBRUARY 2008 | | | | |
|--|--|---|--------|-------------------------------------|--------|--------|--------|--------|
| Appropriation/Budget Activity | | Program Element Number and Name | | Project Number and Name | | | | |
| RDT&E/7 | | PE1160404BB/Special Operations Tactical Systems Development | | Project S710/SOF Automation Systems | | | | |
| Schedule Profile | | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 |
| C4IAS - Develop SOF Distributed Common Ground System Capability | | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Tactical Local Area Network - Develop/Integrate Evolutionary Technology Insertion Capabilities | | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Special Operations Resource Business Information System - Software Application Development | | | | 2-4Q | | | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
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|--|---|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations (SO) Intelligence Systems Development/S400 |
|--|---|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|------------------|------------|
| PE1160405BB | 58.562 | 62.417 | 39.125 | 34.177 | 35.586 | 36.417 | 37.269 | Cont. | Cont. |
| S400, SO INTELLIGENCE | 58.562 | 62.417 | 39.125 | 34.177 | 35.586 | 36.417 | 37.269 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: This program element provides for the identification, development, and testing of SOF intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, integrated threat warning to SOF mission platforms, and tactical exploitation of national system capabilities.

USSOCOM has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities into the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments.

APPROPRIATION / BUDGET ACTIVITY
RDT&E, DEFENSE-WIDE / 7

R-1 ITEM NOMENCLATURE / PROJECT NO.
PE 1160405BB Special Operations (SO) Intelligence Systems Development/S400

B. Program Change Summary:

| | FY07 | FY08 | FY09 |
|----------------------------------|--------|--------|--------|
| Previous President's Budget | 63.357 | 35.783 | 37.736 |
| Current President's Budget | 58.562 | 62.417 | 39.125 |
| Total Adjustments | -4.795 | 26.634 | 1.389 |
| Congressional Program Reductions | | -0.402 | |
| Congressional Increases | | 27.480 | |
| Reprogrammings | -4.795 | | |
| Other Program Adjustments | | | 1.389 |
| SBIR Transfer | | -0.444 | |

Funding:

FY07: Net decrease (-\$4.795 million) is due to internal reprogrammings of Congressional adds for proper execution; High Altitude Airship (\$0.974 million) and Transliteration/Geneology (\$0.974 million) from PE 1160402BB and Nanotechnology Integration (-\$1.871 million) and SOF Long Endurance Demonstrator (-\$4.782 million) were reprogrammed to PE 1160402BB.

FY08: Net increase \$26.634 million is due to Congressional reductions for Section 8097 (-\$0.102 million) and Section 8104 (-\$0.300 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.444 million), as well as the following Congressional adds:

- Direction Finding (DF) Light: Advance Packaging and DF in Support of Joint Threat Warning System, \$1.200 million
- Unattended SIGINT Node, \$3.200 million
- Integrated Bridge System, \$1.000 million
- SOCOM Imagery Dissemination System, \$1.600 million

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|---|---|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations (SO) Intelligence Systems Development/S400 | |
| <ul style="list-style-type: none"> - Tactical SIGINT and GEO-Location Cognitive Analysis, \$0.400 million - Advanced Long Endurance Unattended Ground Sensor, \$2.080 million - Advanced Tactical Threat Warning Radio, \$1.600 million - Application Specific Integrate Circuit Development, \$4.000 million - Automated Threat Warning for Improved Warfighter Survivability, \$1.600 million - Joint METOC Program, \$1.600 million - Multi-spectral Laboratory and Analytical Service Program, \$0.800 million - Picoceptor and Processor for Manportable Threat Warning, \$2.400 million - Lightweight Weapon/Anit-Structure Munition Heat Rocket Confined Spaces, \$6.000 million <p>FY09: Net increase (\$1.389 million) is due to adding \$1.500 million for Locating, Tagging, and Tracking and economic inflation adjustments (-\$0.111 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p> | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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RDT&E BA # 7

Special Operations Intelligence/Project S400

| Cost (\$ in millions) | | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|--|--------|--------|--------|--------|--------|--------|--------|
| SO Intelligence | | 58.562 | 62.417 | 39.125 | 34.177 | 35.586 | 36.417 | 37.269 |
| RDT&E Articles Quantity | | | | | | | | |

A. Mission Description and Budget Item Justification: This project provides for the identification, development, and testing of SOF intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, integrated threat warning to SOF mission platforms, and tactical exploitation of national system capabilities. The systems acquired in this line item are Special Operations Command, Research, Analysis and Threat Evaluation System (SOCRATES); Special Operations Tactical Video System (SOTVS); Joint Threat Warning System (JTWS); Tactical Local Area Network (TACLAN); the Special Operations Joint Interagency Collaboration Center (SOJICC); Locating, Tagging, and Tracking for Global War on Terrorism (LTTG); Distributed Common Ground Systems (DCGS); and Sensitive Site Exploitation (SSE).

USSOCOM has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities throughout the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments. The intelligence programs funded in this project will meet annual emergent requirements and are grouped by the level of organizational element they support: Operational Element (Team) and Above Operational Element (Garrison).

OPERATIONAL ELEMENT (TEAM)

- National Systems Support to SOF (NSSS). NSSS is a research and development rapid prototyping program focused on technology insertions into SOF programs. NSSS improves the combat effectiveness of USSOCOM, its components, and the Theater Special Operations Commands by leveraging service and national agency development efforts on space-based intelligence and communications technologies and systems. This includes Imagery Intelligence, Signals Intelligence, and Measurement and Signature Intelligence processing and tactical display technologies and capabilities; evolving global information dominance technologies; and related meteorological, oceanographic, and space weather developments and architectures. NSSS coordinates and facilitates concepts and technologies for inclusion in Joint Chiefs of Staff Special Projects and selected Joint Concept Technology Demonstrations that use space systems to support tactical military operations.
- Joint Threat Warning System (JTWS). JTWS is an evolutionary acquisition (EA) program that provides threat warning, force protection, enhanced situational awareness, and target identification/acquisition information to SOF via signal intercept, direction finding and Signals Intelligence (SIGINT). JTWS will employ continuing technology updates to address the changing threat environment. SOF

Appropriation/Budget Activity

RDT&E BA # 7

Special Operations Intelligence/Project S400

SIGINT operators are globally deployed and fully embedded within Special Operations (SO) teams and aircrews in every operational environment. The JTWS state-of-the-art technology enables these operators to provide critical time sensitive targeting and actionable intelligence to the operational commander during mission execution. Intelligence derived from JTWS operations supports campaign objectives and the National Military Strategy. JTWS provides variant systems utilizing common core software that allows operators to task, organize, and scale equipment based on anticipated signal environments and areas of operation. Systems will be modular; lightweight with minimal power requirements; and configurable to support body worn, man-pack, team-transportable, remote unattended, air and maritime operations in support of all SOF missions. Each JTWS variant, except Team Transportable, will be capable of operation by a single trained operator. The five variants are Ground SIGINT Kit (GSK), Team Transportable (TT), Air, Maritime, and Precision Geo-Location (PGL).

- Optimal Placement of Unattended Sensors (OPUS). OPUS provides for the research and integration of a commercial lightweight, modular handheld sensor interface device. This effort will provide the capability to identify the optimal placement of unattended ground sensors in support of SOF mission planning efforts.

ABOVE OPERATIONAL ELEMENT (GARRISON)

- Special Operations Joint Interagency Collaboration Center (SOJICC) is an EA program providing a state-of-the-art capability designed to process, analyze, visualize and collaborate operations and intelligence data supporting SOF core missions, with an emphasis on counter-terrorism, counter-proliferation, information operations, and unconventional warfare. SOJICC applications fuse data from both open source and classified intelligence and operational data for use by SOF mission planners and intelligence personnel as directed by the Commander, USSOCOM. SOJICC continues to employ technology updates to bridge the gap between operations and intelligence to support deliberate and crisis action planning while addressing the changing threat environment. Operational Preparation of the Environment provides a mechanism for research, awareness for pre-deployment, and a bridge to mitigate the information gaps and seams between theaters.
- Counter-Proliferation Analysis and Planning System (CAPS). Department of Defense (DoD) has a planning mission for Counter-Proliferation (CP) contingency operations. The Office of the Secretary of Defense (OSD) has identified CAPS as the standard CP planning toolset for DOD, and the Assistant to the Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs has consolidated RDT&E funding at USSOCOM for overall program management. U.S. Strategic Command serves as the coordinator for CAPS production requirements and provides O&M funding. The Defense Threat Reduction Agency provides science and technology expertise and integration support to enhance Counter-Proliferation Analysis and Planning System (CAPS) capabilities. CAPS provides tools and assessments to DoD and SOF mission planners to aid in worldwide identification and analysis of suspected Weapons of Mass Destruction and potential targets; assesses the associated effectiveness, costs and risks of various Counter-Proliferation (CP) options and their collateral effects; and develops alternative plans. CAPS is a primary source of CP mission planning information for Combatant Commanders who are

the principal customers. CAPS requires ongoing development, integration and testing of “leading edge technology” for operational planning and processes in order to provide the best possible engineering analysis and to support consequence engineering tools to meet changing threats.

- Global Sensor Network (GSN). The GSN communications architecture supports the warfighter to find and fix terrorist networks and/or individuals by networking attended and unattended sensors. GSN leverages the Global Video Surveillance Activity (GVSA) for the development and integration of biometric; Special Operations Tactical Video System (SOTVS); and Locating, Tagging, and Tracking for Global War on Terrorism (LTTG) capabilities. SOCOM, in collaboration with DoD, external agencies and Coalition partners, will develop, deploy, and employ a GSN directly supporting SOF operations against terrorist activities. Leveraging progress already achieved through sensor research and development within SOCOM, other agencies, and commercial industry, the DoD will create a GSN that makes processing, exploitation, and data dissemination available through a horizontally integrated architecture.
- LTTG. LTTG provides global Combatant Commanders and SOF operators with an immediate capability to locate, tag, and track people, things, and activities. LTTG provides actionable intelligence for SOF planners. The LTTG mission sets are systems which are comprised of a mix of different classes of tags and their associated detection, interrogation, viewing, tracking and communications systems including GPS datalogger and radio frequency (RF) beacon capabilities, radar, and passive and active infrared/ultra violet optical capabilities.
- Application Specific Integrated Circuit (ASIC) Development is an initiative to establish a SOCOM dedicated center for application specific integrated circuits technology design and development. ASIC development supports the design, development, test and support integration of an ASIC chipset for projects being developed under the Special Reconnaissance Capabilities Program. It provides a reduction in the size of the current chips and increases reliability while decreasing power consumption.
- High Altitude Long Endurance Airships is an initiative to develop a Direction Finding antenna system for employment in high altitude airship, Unmanned Aerial Vehicle, and Joint Threat Warning System–A platforms/systems.
- Transliteration and Geneology Search. Allowed continued test and evaluation of Foxhound Software.
- SOCOM Power Sources Integration Team is an effort to develop an innovative power source capability by assessing current and emerging alternative power sources, and developing a new battery technology module and new power source modules for Joint Threat Warning System variants.

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- Biometrics Signatures Research is a joint research project with the University of Louisville and industry to improve the military's ability to covertly locate, identify and track specific individuals. This research examines biometric signatures such as gait and signatures such as gait and stand-off biometrics identification.
- Long Endurance Unattended Ground Sensor (UGS) Technology supports research and development of advanced, low power UGS technologies that will provide the warfighter with total, reliable and up-to-the-minute battlefield situational awareness. The program will include the development of ad-hoc networks of small, low power Radio Frequency transceiver nodes that support: (1) high resolution mono- and multi-static radar for target detection, classification and tracking; (2) high bandwidth, covert communication of data, voice, and video; and (3) data/information exfiltration via satellite communications for display using advanced visualization technologies. This is a potential technology insertion for Special Operations Tactical Video System/Reconnaissance Surveillance Target Acquisition.
- Meteorological and Oceanographic Airdropped Sensors is an effort to develop small, lightweight and easily deployable sensors that can be dropped from an aircraft or helicopter to transmit data via satellite. This data can be viewed anywhere in the world within minutes after deployment. These sensors measure weather conditions and a variety of other environmental and situational parameters (meteorological and oceanographic data).
- Microelectromechanical Systems & Nanotechnology Defense Lab will develop evaluation prototypes to explore the functional operation of a range of micro-miniaturization technologies with the main focus on developing applications for tagging, tracking and locating, special communications, sensors, and related Global War on Terrorism (GWOT) requirements.
- Multi-Spectral Laboratory & Services is a research effort concentrating on next-generation, multi-spectral sensors to support both the warfighter and first responder communities. Testing of bio-metrics and Psychological Operations efforts.
- Payload Interface Master Module (PIMM). Enhances functionality of prototype PIMMs developed under Small Business Innovative Research projects. Enhancements include security mechanisms, miniaturization, and power management improvements.
- SOF Tactical Interface (SBIR 01-0006). Continues the development and testing of manpack antennas, receivers, direction finding algorithms, and software technologies supporting the Joint Threat Warning System (JTWS) family of systems.
- Tactical Miniature Shortwave Receiver is an effort to develop a miniature shortwave receiver.

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- **Advanced Tactical Threat Warning Radio.** Develop a handheld threat warning and communications radio through the use of reconfigurable software radio techniques. Radio should be minimal in size, weight and power consumption. Include innovative use of reliable and durable packaging for a mixed-signal product.
- **Direction Finding (DF) Light: Advanced Packaging and Direction Finding in Support of JTWS.** Advanced Packaging and Direction Finding in Support of JTWS. Continue the development of the Team Transportable DF Node into a ruggedized solution. Field testing will characterize the geo-location using DF collaboration. This DF node may present a solution for the Ground Signals Intelligence Kit (GSK) 2 Tactical DF Requirements. The camouflage packaging will be characterized to determine the performance of the system using camouflage. This will assist the operators in determining which camouflage to use.
- **Picoceptor and Processor for Manportable Threat Warning.** This is a continuation of an FY07 initiative for pico-processor development. The proof-of concept will be tested in FY08.
- **Lightweight Weapon/Anit-Structure Munition (LAW/ASM).** The M72 66mm Lightweight Anti-Armor Weapon is a shoulder-fired, man-portable, self-contained, single use, Lightweight rocket. The LAW has two warhead variants—the Anti-Armor (AA) and ASM warheads. The LAW has two proposion variants—the current rocket motor and Fire From Enclosure propulsion system that is under development.
- **Joint Meteorological and Oceanographic Program (SOCOM).** Provide USSOCOM with deployable sensors to measure weather conditions and other environmental and situational parameters. Develops an air-droppable version and meets requirements for additional measurement capabilities.
- **Automated Threat Warning for Improved Warfighter Survivability.** During a typical mission the warfighter is overwhelmed with multiple tasking and tools. Automation allows the operator to configure the system pre-mission with known Signals of Interest and the tasking (audio routing, record, DF, etc.) required once the signal is acquired.
- **SOCOM Imagery Dissemination System.** Explore an end-to-end technology system that consists of a Personal Computer (PC)-based Commercial Off the Shelf software package for end user situation awareness clients, and a UNIX-based software package for the remote imagery dissemination server.
- **Advanced Long Endurance Unattended Ground Sensor Technologies** is an initiative to support the research and development of

Exhibit R-2a, RDT&E Project Justification

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advanced, low power unattended ground sensor technologies that provide the warfighter with total, reliable and up-to-the-minute battlefield situational awareness with information ex-filtration via satellite communications for display using advanced visualization technologies.

- **Tactical Signals Intelligence (SIGINT) and Geo-location Cognitive Analysis.** The operator is overwhelmed with data from all sources (SIGINT system, other networks, etc). The development of an analytical tool will aid the operator in compiling all the information on a specific interest. This interest could be all known information on a Signal (Frequency), Person, Location, etc.
- **Unattended SIGINT Node.** This is a continuation of FY07 development of a SOF tactical interface which will integrate the systems that were developed in previous years under the ManPack Advanced Concept Technology Demonstration.
- **Integrated Bridge System.** A system that enhances maritime craft bridge-console and operator interface through human factors engineering and integration with console designs and displays.

B. Accomplishments/Planned Program

| | | FY07 | FY08 | FY09 |
|--|--|-------|-------|-------|
| National Systems Support to SOF (NSSS) | | 0.911 | 0.925 | 0.998 |
| RDT&E Articles Quantity | | | | |

FY07 Continued to leverage space intelligence, surveillance, and reconnaissance (ISR) technology developments with SOF utility from the National Community and Military Services. NSSS assessed the operational utility of leveraged and developed technology for technology insertions.

FY08 Continue to leverage space ISR technology developments with SOF utility from the National Community and Military Services. NSSS will assess the operational utility of leveraged and developed technology.

FY09 Continues to leverage space ISR technology developments with SOF utility from the National Community and Military Services. NSSS will assess the operational utility of leveraged and developed technology.

| | | FY07 | FY08 | FY09 |
|------------------------------------|--|-------|-------|-------|
| Joint Threat Warning System (JTWS) | | 8.781 | 4.006 | 4.547 |
| RDT&E Articles Quantity | | | | |

FY07 Continued Team Transportable (TT) and Ground Signals Intelligence Kit (GSK) future increment development. Completed Unmanned Aerial Vehicle payload development. FY07 included a Congressional add for JTWS Network Variants development. Started Air Variant 2 Development.

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | | |
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|---|--|--------|--------|--------|
| FY08 Continue TT and GSK future increment development and test and evaluation. Continue Air Variant Increment 2 development and testing. | | | | |
| FY09 Continues TT and GSK future increment development and test and evaluation. Continues development and testing of Air Variant Increment 2. | | | | |
| | | FY07 | FY08 | FY09 |
| Optical Placement of Unattended Sensors | | 1.608 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was the continuation of a Congressional add. Continued development and demonstration of commercial technology used to identify the optimal placement of unattended ground sensors. | | | | |
| | | FY07 | FY08 | FY09 |
| Special Operations Joint Interagency Collaboration Center | | 3.092 | 2.780 | 2.983 |
| RDT&E Articles Quantity | | | | |
| FY07 Continued systems engineering and program management efforts to achieve data compatibility by integrating different Commercial-off-the-shelf (COTS) hardware and software applications for data mining and retrieval, link and nodal analysis, and data visualization. | | | | |
| FY08 Continue systems engineering and program management efforts to achieve data compatibility by integrating different COTS hardware and software applications for data mining and retrieval, link and nodal analysis, and data visualization. | | | | |
| FY09 Continues systems engineering and program management efforts to achieve data compatibility by integrating different COTS hardware and software applications for data mining and retrieval, link and nodal analysis, and data visualization. | | | | |
| | | FY07 | FY08 | FY09 |
| Counter-Proliferation Analysis and Planning System (CAPS) | | 17.673 | 18.378 | 20.046 |
| RDT&E Articles Quantity | | | | |
| FY07 Continued development of the CAPS database, intelligence support procedures, Information Technology systems planning, system integration and interface control, software development, and development of analytical tools and system interfaces. | | | | |
| FY08 Continue development of the CAPS database, intelligence support procedures, Information Technology systems planning, system integration and interface control, software development, and development of analytical tools and system interfaces. | | | | |
| FY09 Continues development of the CAPS database, intelligence support procedures, Information Technology systems planning, system integration and interface control, software development, and development of analytical tools and system interfaces. | | | | |

Exhibit R-2a, RDT&E Project Justification

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| Appropriation/Budget Activity RDT&E BA # 7 | Special Operations Intelligence/Project S400 |
|---|--|

| | | FY07 | FY08 | FY09 |
|---|--|-------|-------|-------|
| Global Sensor Network (GSN) | | | 9.552 | 9.051 |
| RDT&E Articles Quantity | | | | |
| <p>FY07 This initiative was a continuation of a Congressional add. Continued efforts to establish a dedicated center for application specific integrated circuits technology design and development.</p> <p>FY08 This initiative is a continuation of a Congressional add. Continued efforts to establish a dedicated center for application specific integrated circuits technology design and development. Support the design, development, test and support integration of an ASIC chipset for projects being developed under the Special Reconnaissance Capabilities Program.</p> | | | | |
| | | FY07 | FY08 | FY09 |
| Locating, Tagging and Tracking for Global War on Terrorism | | | | 1.500 |
| RDT&E Articles Quantity | | | | |
| <p>FY09 Begin development to rapidly integrate commercial/government available tagging, tracking, and locating hardware into specialized mission products.</p> | | | | |
| | | FY07 | FY08 | FY09 |
| High Altitude Long Endurance Airships | | 0.974 | | |
| RDT&E Articles Quantity | | | | |
| <p>FY07 This initiative was a Congressional add. Continued development of a direction finding antenna system for employment in high altitude airships, Unmanned Aerial Vehicle, and Joint Threat Warning System-Air platforms/systems.</p> | | | | |
| | | FY07 | FY08 | FY09 |
| Transliteration and Geneology Search | | 0.974 | | |
| RDT&E Articles Quantity | | | | |
| <p>FY07 This initiative was a continuation of a Congressional add. Continued testing and evaluation of Foxhound Software.</p> | | | | |
| | | FY07 | FY08 | FY09 |
| SOCOM Power Sources Integration Team | | 1.948 | | |
| RDT&E Articles Quantity | | | | |
| <p>FY07 This initiative was a continuation of a Congressional add. Continued efforts to evaluate alternative power sources to replace traditional batteries.</p> | | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | | |
| Appropriation/Budget Activity RDT&E BA # 7 | | Special Operations Intelligence/Project S400 | | |

| | | FY07 | FY08 | FY09 |
|--|--|-------|------|------|
| Biometrics Signatures Research | | 1.948 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Began initial research into refining biometric signatures, such as gait and chemical functions, for use in DoD systems. | | | | |
| | | FY07 | FY08 | FY09 |
| Long Endurance Unattended Ground Sensor (UGS) Technology | | 1.657 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Began research and development of advanced, low power UGS technologies that will provide the warfighter with total, reliable and up-to-the-minute battlefield situational awareness. | | | | |
| | | FY07 | FY08 | FY09 |
| Meteorological and Oceanographic (METOC) Airdropped Sensors | | 1.364 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Began development of sensors that can be dropped from aircraft or helicopters to collect METOC data. | | | | |
| | | FY07 | FY08 | FY09 |
| Microelectromechanical Systems & Nanotechnology Defense Laboratory | | 2.240 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Developed prototypes of micro-sensor and optical navigation devices, implemented desired features, and transitioned the tagging, tracking and locating devices to field applications. | | | | |
| | | FY07 | FY08 | FY09 |
| Multi-Spectral Laboratory & Services | | 1.461 | .780 | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Began research of next-generation, multi-spectral sensors to support both the warfighter and first responder communities. Testing of bio-metrics and Psychological Operations efforts. FY08 This initiative is a continuation of a Congressional add. | | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | | |
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| | | FY07 | FY08 | FY09 |
|--|--|-------|-------|------|
| Payload Interface Master Module (PIMM) | | .974 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Began development of PIMM. | | | | |
| | | FY07 | FY08 | FY09 |
| SOF Tactical Interface (SBIR 01-0006) | | 8.183 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Continued development and testing of manpack antennas, receivers, direction finding algorithms, and software technologies supporting the Joint Threat Warning System (JTWS) family of systems. | | | | |
| | | FY07 | FY08 | FY09 |
| Tactical Miniature Shortwave Receiver | | 1.559 | | |
| RDT&E Articles Quantity | | | | |
| FY07 This initiative was a Congressional add. Developed a miniature shortwave receiver. | | | | |
| | | FY07 | FY08 | FY09 |
| Advanced Tactical Threat Warning Radio (ATTWR) | | | 1.558 | |
| RDT&E Articles Quantity | | | | |
| FY08 This initiative is a Congressional add. Develop a handheld threat warning and communications radio using reconfigurable software radio techniques. | | | | |
| | | FY07 | FY08 | FY09 |
| Direction Finding (DF) Light Advanced Packaging and Direction Finding in Support of JTWS | | | 1.169 | |
| RDT&E Articles Quantity | | | | |
| FY08 This initiative is a Congressional add. Continue the development of the Team Transportable DF Node into a ruggedized solution. | | | | |
| | | FY07 | FY08 | FY09 |
| Picoceptor and Processor for Manportable Threat Warning | | | 2.339 | |
| RDT&E Articles Quantity | | | | |
| FY08 Congressional add. This is a continuation of a FY07 initiative for pico-processor development. The proof-of concept will be tested in FY08. | | | | |

| | | | | |
|--|--|--|--|--|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | | |
| Appropriation/Budget Activity RDT&E BA # 7 | | Special Operations Intelligence/Project S400 | | |

| | | FY07 | FY08 | FY09 |
|---|--|------|-------|------|
| Lightweight Anti-Armor Weapon (LAW)/Anti-Structural Munition (ASM) | | | 5.847 | |
| RDT&E Articles Quantity | | | | |
| FY08 This is a Congressional add. Continue development of the LAW M72 variants. Complete development of the M72E8 with the Anti-Armor warhead and the Fire From Enclosure (FFE) propulsion, and the M72E10 with the ASM warhead and the FFE propulsion. | | | | |
| | | FY07 | FY08 | FY09 |
| Joint Meteorological and Oceanographic (METOC) Program (SOCOM) | | | 1.558 | |
| RDT&E Articles Quantity | | | | |
| FY08 This initiative is a Congressional add. Provide USSOCOM with deployable sensors to measure weather conditions and other environmental and situational parameters. | | | | |
| | | FY07 | FY08 | FY09 |
| Automated Threat Warning for Improved Warfighter Survivability | | | 1.558 | |
| RDT&E Articles Quantity | | | | |
| FY08 This initiative is a Congressional add. During a typical mission the warfighter is overwhelmed with multiple tasking and tools. Automation allows the operator to configure the system pre-mission with known Signals of Interest and the tasking (audio routing, record, DF, etc.) required once the signal is acquired. | | | | |
| | | FY07 | FY08 | FY09 |
| SOCOM Imagery Dissemination System | | | 1.558 | |
| RDT&E Articles Quantity | | | | |
| FY08 This initiative is a Congressional add. Continue exploration of an end-to-end technology for Personnel Computer-based end user situation awareness system for remote imagery dissemination. | | | | |
| | | FY07 | FY08 | FY09 |
| Advanced Long Endurance Unattended Ground Sensor Technologies | | | 2.027 | |
| RDT&E Articles Quantity | | | | |
| FY08 This initiative is a Congressional add. Support research and development of advanced, low power unattended ground sensor technologies that provide the warfighter with total, reliable and up-to-the-minute battlefield situational awareness with information ex-filtration via satellite communications for display using advanced visualization technologies. | | | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 7

Special Operations Intelligence/Project S400

| | | | | |
|---|--|------|-------|------|
| | | FY07 | FY08 | FY09 |
| Tactical Signal Intelligence (SIGINT) and Geo-location Cognitive Analysis | | | 0.392 | |
| RDT&E Articles Quantity | | | | |

FY08 This initiative is a Congressional add. The operator is overwhelmed with data from all sources (SIGINT system, other networks, etc). The development of an analytical tool will aid the operator in compiling all the information on a specific interest. This interest could be all known information on a Signal (Frequency), Person, Location, etc.

| | | | | |
|-------------------------|--|------|-------|------|
| | | FY07 | FY08 | FY09 |
| Unattended SIGINT Node | | | 3.118 | |
| RDT&E Articles Quantity | | | | |

FY08 This is a Congressional add. This is a continuation of FY07 development of a SOF tactical interface which will integrate the systems that were developed in previous years under the ManPack Advanced Concept Technology Demonstration.

| | | | | |
|--------------------------|--|------|-------|------|
| | | FY07 | FY08 | FY09 |
| Integrated Bridge System | | | 0.974 | |
| RDT&E Articles Quantity | | | | |

FY08 This is a Congressional add. A system that enhances maritime craft bridge-console and operator interface through human factors engineering and integration with console design and displays.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | <u>To Complete</u> | <u>Total Cost</u> |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------------|
| PROC, SOF Intelligence System | 49.099 | 116.796 | 54.122 | 72.081 | 68.737 | 66.536 | 64.408 | Cont. | Cont. |
| PROC, Unmanned Vehicles | 189.634 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 9.400 |
| PROC, Combat Mission Requirements | 2.562 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Cont. | Cont. |

D. Acquisition Strategy:

- National Systems Support to SOF (NSSS) is a project to introduce and integrate national systems capabilities into the SOF force structure and operations. NSSS activities include increasing national and commercial systems awareness, demonstrating the tactical utility of national systems and commercial data, testing technologies and evaluating operational concepts in biennial Joint Staff Special Projects, and

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transitioning promising concepts and technologies to other SOF program offices for execution.

- Joint Threat Warning System (JTWS) is an Evolutionary Acquisition (EA) program that provides threat warning, force protection, enhanced situational awareness, and target identification/ acquisition information to SOF via signals intercept, direction finding and Signals Intelligence (SIGINT). JTWS will employ continuing technology updates to address the changing threat environment.
- Special Operations Joint Interagency Collaboration Center (SOJICC) is an EA program providing a state-of-the-art capability designed to process, analyze, visualize and collaborate operations and intelligence data supporting SOF core missions, with an emphasis on counter-terrorism, counter-proliferation, information operations, and unconventional warfare. SOJICC applications fuse data from both open source and classified intelligence and operational data for use by SOF mission planners and intelligence personnel as directed by the Commander, USSOCOM. SOJICC will continue to employ technology updates to bridge the gap between operations and intelligence to support deliberate and crisis action planning while addressing the changing threat environment.
- Counter-Proliferation Analysis and Planning System is an on-going developmental initiative chartered by the Assistant to the Secretary of Defense for Nuclear, Chemical and Biological Defense Programs, which was transferred to USSOCOM from the Defense Threat Reduction Agency to develop, integrate and test “leading edge technology” for operational planning to provide engineering analysis and support consequence engineering tools to meet changing threats.
- Global Sensor Network (GSN) will utilize leading edge technology to develop capabilities to collect, exploit, store, and retrieve information from multiple sensor fields. The GSN communications architecture supports the war fighter to find and fix terrorist networks and/or individuals by networking attended and unattended sensors. GSN leverages the Global Video Surveillance Activity for the development and integration of biometric; Special Operations Tactical Video System; and Locating, Tagging, and Tracking for Global War on Terrorism (LTTG) capabilities. SOCOM, in collaboration with DoD, external agencies and Coalition partners, will develop, deploy, and employ a GSN directly supporting SOF operations against terrorist activities. Leveraging progress already achieved through sensor research and development within SOCOM, other agencies, and commercial industry, the DoD will create a GSN that makes processing, exploitation, and dissemination data available through a horizontally integrated architecture.

The LTTG Program is an EA program that provides Global Combatant Commanders and SOF operators with an immediate capability to locate, tag, and track, high value targets in the Global War on Terrorism (GWOT). The systems provide situational awareness and targeting information from autonomous tracking and close target reconnaissance systems. The LTTG program will provide commercial-off-the-shelf and government-off-the-shelf tagging, tracking, and local commodities in the form of the mission sets tailored to support SOF missions.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

| APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 | | | Special Operations Intelligence Systems Development/PE1160405BB Special Operations Intelligence/S400 | | | | | | | | |
|--|------------------------------|---|---|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Product Development- Joint Threat Warning System (JTWS) | | | | | | | | | | | |
| JTWS Air Increment 1 Dev | MIPR | SPAWAR, Charleston, SC | 9.266 | | | | | | | | 9.266 |
| JTWS Air Increment 2 Dev | MIPR | SPAWAR, Charleston, SC | | 0.488 | Dec-06 | 0.489 | Nov-07 | 1.200 | Nov-08 | Cont. | Cont. |
| JTWS Team Transportable Dev | MIPR | SPAWAR, Charleston, SC | 1.600 | 4.673 | Dec-06 | 1.867 | Nov-07 | 0.549 | Nov-08 | Cont. | Cont. |
| JTWS Ground Signal Intelligence (GSK) Increment 2 Dev | MIPR | SPAWAR, Charleston, SC | 6.100 | 1.000 | Dec-06 | 1.330 | Nov-07 | 2.428 | Nov-08 | Cont. | Cont. |
| JTWS GSK/UAV Add | MIPR | SPAWAR-Charleston, SC & SRC, Charleston, SC | 2.957 | | | | | | | | 2.957 |
| JTWS Network Variants Add | MIPR | OGA | | 2.193 | Jan-07 | | | | | | 2.193 |
| Counter-Proliferation Analysis and Planning System (CAPS) Development | MIPR | Lawrence Livermore National Labs (LLNL), Livermore, CA | 44.642 | 16.991 | Nov-06 | 17.621 | Nov-07 | 19.239 | Nov-08 | Cont. | Cont. |
| Global Sensor Network (GSN) Development National System Support to SOF (NSSS) Development | TBD | TBD | | | | 4.730 | Dec-07 | 7.124 | Dec-08 | Cont. | Cont. |
| Power Source Integration | MIPR | Various Government Agencies | 0.386 | 0.472 | Dec-06 | 0.469 | Dec-07 | 0.509 | Dec-08 | Cont. | Cont. |
| Application Specific Integrated Circuit Dev | MIPR | SPAWAR, Charleston, SC | 2.267 | 1.948 | Jan-07 | | | | | | 4.215 |
| High Altitude Long Endurance Airships | MIPR | Networld Exchange, Inc, Carlsbad, CA | 7.494 | 3.215 | Jan-07 | | | | | | 10.709 |
| Optimal Placement of Unattended Sensors (OPUS) | MIPR | REDCOM, Aberdeen Proving Ground, MD | 1.016 | 0.974 | Jan-07 | | | | | | 1.990 |
| Biometrics Signatures Research | FFP | Prologix Incorporated, Fairmount, WV | 1.945 | 1.608 | Jan-07 | | | | | | 3.553 |
| Long Endurance Unattended Ground Sensor (UGS) Technology | MIPR | NAVSEA | | 1.948 | Dec-06 | | | | | | 1.948 |
| Meteorological and Oceanographic (METOC) Airdropped Sensors | MIPR | SPAWAR, Charleston, SC | | 1.657 | Sep-07 | | | | | | 1.657 |
| Microelectromechanical System (MEMS) & Nanotechnology Defense Laboratory | TBD | TBD | | 1.364 | Mar-08 | | | | | | 1.364 |
| Multi-Spectral Laboratory & Services | IDIQ | Blackbird Industries, Herdon, VA | | 2.240 | Dec-06 | | | | | | 2.240 |
| Payload Interface Master Module | MIPR | SPAWAR-Charleston, SC & SRC, Charleston, SC | | 1.461 | Dec-06 | | | | | | 1.461 |
| SOF Tactical Interface (SBIR 01-0006) | CPFF/IDIQ | Trident Systems Inc., Fairfax, VA | | 0.974 | Jan-07 | | | | | | 0.974 |
| Tactical Miniature S/W Receiver | CPFF/IDIQ | Trident Systems Inc., Fairfax, VA | | 8.183 | Jan-07 | | | | | | 8.183 |
| Transliteration and Geneology Search | MIPR | SPAWAR, Charleston, SC | | 1.559 | Jan-07 | | | | | | 1.559 |
| Advanced Tactical Threat Warning Radio | TBD | TBD | | 0.974 | Mar-08 | | | | | | 0.974 |
| Lightweight Anti-Armor Weapon (LAW)/Anti- Structural Munitions (ASM) Heat Rocket Confined Spaces | TBD | TBD | | | | 1.558 | Various | | | | 1.558 |
| | | | | | | 3.880 | Various | | | | 3.880 |

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

| APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 | | | Special Operations Intelligence Systems Development/PE1160405BB Special Operations Intelligence/S400 | | | | | | | | |
|---|------------------------------|--------------------------------|---|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Automated Threat Warning for Improved War Integrated Bridge System | TBD | TBD | | | | 1.558 | Various | | | | 1.558 |
| | TBD | TBD | | | | 0.974 | Various | | | | 0.974 |
| Subtotal Product Dev | | | 77.673 | 53.922 | | 34.476 | | 31.049 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Support Costs | | | | | | | | | | | |
| Joint Threat Warning System (JTWS) Support | MIPR | Various Government Agencies | 2.019 | 0.097 | Jan-07 | | | | | | 2.116 |
| Counter-Proliferation Analysis and Planning System (CAPS) Support | MIPR | Various Government Agencies | 1.732 | 0.682 | Nov-06 | 0.757 | Nov-07 | 0.807 | Nov-08 | Cont. | Cont. |
| Special Operations Joint Interagency Collaboration Center (SOJICC) Support | MIPR | Various Government Agencies | 0.074 | | | | | | | | 0.074 |
| Subtotal Support Costs | | | 3.825 | 0.779 | | 0.757 | | 0.807 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | |
| SOJICC Inter Op Test | MIPR | JITC, Ft. Huachuca, AZ | 0.159 | | | | | | | | 0.159 |
| JTWS Test (DT/OT/Support) | MIPR | JITC, Ft. Huachuca, AZ | | 0.330 | Jun-07 | 0.320 | Jun-08 | 0.370 | Jun-09 | Cont. | Cont. |
| Subtotal T&E | | | 0.159 | 0.330 | | 0.320 | | 0.370 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Management Services | | | | | | | | | | | |
| SOJICC Integration Support | MIPR | MITRE, Tampa, FL | 3.846 | 3.092 | Dec-06 | 1.198 | Dec-07 | 1.251 | Dec-08 | Cont. | Cont. |
| SOJICC Integration Support | C-CPAF | L3 Communications, Tampa, FL | | | | 1.582 | Dec-07 | 1.732 | Dec-08 | Cont. | Cont. |
| National System Support to SOF (NSSS) Program Support | C-CPAF | Jacobs, Tampa, FL | 1.997 | 0.439 | Oct-06 | 0.456 | Oct-07 | 0.489 | Oct-08 | Cont. | Cont. |
| JTWS Program Support | C-CPAF | Jacobs, Tampa, FL | 0.829 | | | | | | | | 0.829 |
| Global Sensor Network (GSN) Integration | TBD | TBD | | | | 4.822 | Dec-07 | 1.927 | Dec-08 | Cont. | Cont. |
| Man-Portable Threat Warning System | TBD | TBD | | | | 2.339 | Various | | | | 2.339 |
| Application Specific Integrated Circuits | TBD | TBD | | | | 3.898 | Various | | | | 3.898 |
| Imagery Dissemination System | TBD | TBD | | | | 1.558 | Various | | | | 1.558 |

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

APPROPRIATION / BUDGET ACTIVITY Special Operations Intelligence Systems Development/PE1160405BB
 RDT&E DEFENSE-WIDE / 7 Special Operations Intelligence/S400

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|---|------------------------------|--------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Management Services (Cont'd) | | | | | | | | | | | |
| Long Endurance Unattended Sensor | TBD | TBD | | | | 2.027 | Various | | | | 2.027 |
| Advanced Multi-Special Lab & Analytical Ssyems | TBD | TBD | | | | 0.780 | Various | | | | 0.780 |
| Tactical SIGINT and Gelocation | TBD | TBD | | | | 0.392 | Various | | | | 0.392 |
| Unattended SIGINT Node | TBD | TBD | | | | 3.118 | Various | | | | 3.118 |
| JTWS DF Light Advanced Packing & Direction Finding | TBD | TBD | | | | 1.169 | Various | | | | 1.169 |
| LAW/ASM Heat Rocket Confined Spaces | TBD | TBD | | | | 1.967 | Various | | | | 1.967 |
| Joint METOC Program | TBD | TBD | | | | 1.558 | Various | | | | 1.558 |
| Locating, Tagging, and Tracking for Global War on Terrorism (LTTG) | TBD | TBD | | | | | | 1.500 | | | 1.500 |
| Subtotal Management | | | 6.672 | 3.531 | | 26.864 | | 6.899 | | Cont. | Cont. |

Remarks:

Total Cost 88.329 58.562 62.417 39.125 Cont. Cont.

Remarks

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | |
|---|------|---|---|---|---|---|---|---|------|---|------------------------------|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|
| Appropriation/Budget Activity | | | | | Program Element and Name | | | | | | Project Number and Name | | | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160405BB/Special Operations Intelligence Systems Development (MIP) | | | | | | Project S400/SO Intelligence | | | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | |
| | 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 | |
| NSSS Participation in Space Technology Development and Demonstrations | ▲ | | | ▲ | ▲ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | |
| JTWS Ground - Team Transportable Development | ▲ | | | ▲ | ▲ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | |
| JTWS Ground - SIGINT Kit Future Increment Development | ▲ | | | ▲ | ▲ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | |
| JTWS Air Variant Development (Increment 1 and Increment 2) | ▲ | | | ▲ | ▲ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | |
| JTWS GSK-UAV Development | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OPUS Concept Development | ▲ | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| SOJICC Integration and Test | ▲ | | | ▲ | ▲ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | |
| CAPS Integration | ▲ | | | ▲ | ▲ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | |
| GSN Development and Integration | | | | | ▲ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | △ | | | △ | |
| Application Specific Integrated Circuit Development | ▲ | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Transliteration and Geneology Foxhound Arabic S/W T&E | | | | | ▲ | | | △ | | | | | | | | | | | | | | | | | | | | | |
| High Altitude Long Endurance Airships Development | ▲ | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| SOCOM Power Sources Evaluation | ▲ | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Biometrics Signature Research | ▲ | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Long Endurance UGS Technology Development | ▲ | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| METOC Airdropped Sensors Development | ▲ | | | ▲ | ▲ | | | △ | | | | | | | | | | | | | | | | | | | | | |
| MEMS & Nanotechnology Defense Lab Prototype Development | ▲ | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | |
|--|------|---|---|---|---|---|---|---|------|---|------------------------------|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| Appropriation/Budget Activity | | | | | Program Element and Name | | | | | | Project Number and Name | | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160405BB/Special Operations Intelligence Systems Development (MIP) | | | | | | Project S400/SO Intelligence | | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | 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 |
| Multi-Spectral Laboratory & Services Research | ▲ | — | — | ▲ | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Payload Interface Master Module Prototype Development | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| SOF Tac. Interface Development and Testing | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| Tactical Miniature S/W Receiver Development | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| Advanced Tactical Threat Warning Radio | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| LAW/ASM Warhead and propulsion development | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Automated Threat Warning for Improved Warfighter Survivability | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Application Specific Integrated Circuits | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Imagery Dissemination System | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Advanced Long Endurance Unattended Sensor | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Tactical SIGINT and GEO-Location | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unattended SIGINT Node | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| JTWS DF Light Advanced Packaging & Direction Finding | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Joint METOC Program | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Integrated Bridge System | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Locating, Tagging, and Tracking for Global War on Terrorism | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |

| Exhibit R-4a, RDT&E Program Schedule Detail | | | Date: FEBRUARY 2008 | | | | |
|---|---------------|---------------|--|---------------|---------------|---------------|---------------|
| <u>Appropriation/Budget Activity</u> RDT&E/7 | | | <u>Project Number and Name</u> Project S400/SO Intelligence | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> |
| NSSS Participation in Space Technology Development and Demonstrations | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| JTWS Ground - Team Transportable Future Increment Development | 1-4Q | 1-4Q | 1Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| JTWS Ground - SIGINT Kit Future Increment Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| JTWS Air Variant Future Increment Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| JTWS GSK-UAV Development | 1-2Q | | | | | | |
| Optimal Placement of Unattended Sensors Concept Development | 1-4Q | | | | | | |
| SOJICC Integration | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| CAPS Integration | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Global Sensor Network (GSN) Development and Integration | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Application Specific Integrated Circuit Development | 1-4Q | | | | | | |
| Transliteration and Geneology Foxhand Arabic Software Test and Evaluation | | 1-4Q | | | | | |
| High Altitude Long Endurance Airships Development | 1-4Q | | | | | | |
| SOCOM Power Sources Evaluation | 1-4Q | | | | | | |
| Biometrics Signatures Research | 1-4Q | | | | | | |
| Long Endurance UGS Technology Development | 1-4Q | | | | | | |
| METOC Airdropped Sensors Development | | 1-4Q | | | | | |
| MEMS & Nanotechnology Defense Lab. Prototype Development | 1-4Q | | | | | | |
| Multi-Spectral Laboratory & Services Research | 1-4Q | 1-4Q | | | | | |
| Payload Interface Master Module Prototype Development | 1-4Q | | | | | | |
| SOF Tactical Interface Development and Testing | 1-4Q | | | | | | |
| Tactical Miniature S/W Receiver Development | 1-4Q | | | | | | |
| Advanced Tactical Threat Warning Radio | | 1-4Q | | | | | |
| LAW/ASM Warhead and Propulsion Development | | 1-4Q | | | | | |
| Automated Threat Warning for Improved Warfighter Survivability | | 1-4Q | | | | | |
| Application Specific Integrated Circuits | | 1-4Q | | | | | |
| Imagery Dissemination System | | 1-4Q | | | | | |
| Advanced Long Endurance Unattended Sensor | | 1-4Q | | | | | |
| Tactical SIGINT and Geo-location | | 1-4Q | | | | | |

| Exhibit R-4a, RDT&E Program Schedule Detail | | | <u>Date:</u> FEBRUARY 2008 | | | | |
|--|---------------|---------------|--|---------------|---------------|---------------|---------------|
| <u>Appropriation/Budget Activity</u> RDT&E/7 | | | <u>Project Number and Name</u> Project S400/SO Intelligence | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> |
| Locating, Tagging and Tracking for Global War on Terrorism | | 1-4Q | | | | | |
| Unattended SIGINT Node | | 1-4Q | | | | | |
| JTWS DF Light Advanced Packaging & Direction Finding | | 1-4Q | | | | | |
| LAW/ASM Heat Rocket Confined Spaces | | 1-4Q | | | | | |
| Joint METOC Program | | 1-4Q | | | | | |
| Integrated Bridge System | | 1-4Q | | | | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE | | | | |
|---|------|--------|---|--------|---------------|--------|--------|------------------|------------|
| | | | | | FEBRUARY 2008 | | | | |
| APPROPRIATION / BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE / PROJECT NO. | | | | | | |
| RDT&E, DEFENSE-WIDE / 7 | | | PE 1160421BB Special Operations CV-22 Development/SF200 | | | | | | |
| | | | | | | | | | |
| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
| PE1160421BB | | 22.872 | 38.229 | 27.140 | 42.064 | 29.304 | 30.491 | Cont. | Cont. |
| SF200 CV-22 | | 22.872 | 38.229 | 27.140 | 42.064 | 29.304 | 30.491 | Cont. | Cont. |
| <p>A. Mission Description and Budget Item Justification: The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical lift, multi-mission aircraft. The CV-22 will provide long range, high speed, infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by existing aircraft. The CV-22 acquisition program delayed incorporation of some operational capabilities until the completion of a Block 10 CV-22 program. This strategy was agreed to by the Department of the Navy and USSOCOM. The V-22 Joint Program Office is using spiral acquisition to develop improved capabilities in block increments. The Block 10 increment was completed in FY07 and the Block 20 increment starts in FY08.</p> <p>Block 10: Integrate and test Directional Infrared Countermeasures, a system that protects against infrared guided missiles; design, integrate and validate the Troop Commander Situational Awareness station to provide the embarked troop commander access to the CV-22's communication, navigation and mission management system; relocate the ALE-47 chaff and flare dispenser control head to allow any cockpit crew member to activate defensive countermeasures; add a second forward firing chaff and flare dispenser to provide an adequate quantity of consumable countermeasures for the extended duration of SOF infiltration, exfiltration, and resupply missions; and incorporate a dual access feature to the Digital Map System to allow both the pilot and co-pilot to independently access and control the digital map display from the mission computer.</p> <p>Block 20: Design, integrate, test, and validate enhancements required to meet SOF unique mission requirements and correct deficiencies identified in previous testing. This block will provide improved capabilities to include, but not limited to, more robust performance in navigation, weapons, avionics, survivability, maneuverability mission deployment and improved reliability and maintainability of the CV platform. Initial risk reduction and trade studies were initiated in FY06, and System Design and Development starts in FY08.</p> | | | | | | | | | |

APPROPRIATION / BUDGET ACTIVITY
RDT&E, DEFENSE-WIDE / 7

R-1 ITEM NOMENCLATURE / PROJECT NO.
PE 1160421BB Special Operations CV-22 Development/SF200

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | | 23.473 | 26.375 |
| Current President's Budget | | 22.872 | 38.229 |
| Total Adjustments | | -0.601 | 11.854 |
| Congressional Program Reductions | | -0.149 | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| Other Program Adjustments | | | 11.854 |
| SBIR Transfer | | -0.452 | |

Funding:

FY07: No change.

FY08: Congressional reduction includes (-\$0.038 million) Section 8097 and Section 8104 (-\$0.111 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.452 million).

FY09: Increase (\$11.854 million) is due to realignment of funds to meet joint program funding requirements.

Schedule: None.

Technical: None.

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

| | |
|---|---------------------|
| Appropriation/Budget Activity RDT&E BA # 7 | CV-22/Project SF200 |
|---|---------------------|

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|------|--------|--------|--------|--------|--------|--------|
| CV-22 | | 22.872 | 38.229 | 27.140 | 42.064 | 29.304 | 30.491 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical lift, multi-mission aircraft. The CV-22 will provide long range, high speed infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by existing aircraft. The CV-22 acquisition program delayed incorporation of some operational capabilities until the completion of a Block 10 CV-22 program. This strategy was agreed to by the Department of the Navy and the USSOCOM. The V-22 Joint Program Office is using spiral acquisition to develop improved capabilities in block increments supported with rapid prototyping. The Block 10 increment is completing in FY 2007 and the Block 20 increment is starting in FY 2008.

Block 10: Integrate and test Directional Infrared Countermeasures, a system that protects against infrared guided missiles; design, integrate and validate the Troop Commander Situational Awareness station to provide the embarked troop commander access to the CV-22's communication, navigation and mission management system; relocate the ALE-47 chaff and flare dispenser control head to allow any cockpit crew member to activate defensive countermeasures; add a second forward firing chaff and flare dispenser to provide an adequate quantity of consumable countermeasures for the extended duration of SOF infiltration/exfiltration/resupply missions; and incorporate a dual access feature to the Digital Map System to allow both the pilot and co-pilot to independently access and control the digital map display from the mission computer.

Block 20: Design, integrate, test, and validate enhancements required to meet SOF unique mission requirements and correct deficiencies identified in previous testing. This block will provide improved capabilities to include, but not limited to, robust performance in navigation, weapons, avionics, survivability, maneuverability, mission deployment, improved reliability and maintainability of the CV platform. Initial risk reduction and trade studies were initiated in FY 2006, and System Development and Demonstration starts in FY 2008.

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

| | |
|---|---------------------|
| Appropriation/Budget Activity RDT&E BA # 7 | CV-22/Project SF200 |
|---|---------------------|

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|-------------------------|------|--------|--------|
| Block 20 | | 22.872 | 38.229 |
| RDT&E Articles Quantity | | | |

FY08 Start design and development of Block 20.
 FY09 Continues design and development of Block 20.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| PROC, CV-22 SOF Osprey | 195.151 | 213.759 | 161.971 | 152.629 | 151.910 | 154.251 | 175.721 | 215.359 | 1,420.745 |

D. Acquisition Strategy.

The CV-22 program is managed by the Navy V-22 Joint Program Office (NAVAIR PMA-275). This ensures that the CV-22 changes are incorporated into the ongoing V-22 production line with minimum impact. Funding for the baseline CV-22 Engineering Manufacturing and Development, known as Block 0, is embedded in the Navy budget. Block 10 Research, Development, Testing, and Evaluation funding was sent from USSOCOM to PMA-275 to be placed on contract with the V-22 prime contractor. Block 10 capability is required for full compliance with the Joint Operational Requirements Document and associated Milestone III Capabilities Production Document (CPD). Future Block upgrades are planned to follow the same acquisition strategy, with PMA-275 ensuring the integration of SOF unique systems with the ongoing basic vehicle improvements supporting both the CV-22 and the Marine Corps MV-22.

| Exhibit R-3 RDT&E Project Cost Analysis | | | | | | DATE: FEBRUARY 2008 | | | | | |
|--|------------------------------|--|----------------------|--|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| APPROPRIATION / BUDGET ACTIVITY | | | | Special Operations CV-22 Development/PE1160421BB | | | | | | | |
| RDT&E DEFENSE-WIDE / 7 | | | | CV-22/SF200 | | | | | | | |
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/ Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Prior Year Completed Efforts (Block 10) Block 20 Development/Flight Test | Various SS/CPAF/IF | Various NAVAIR/PMA-275 & Bell-Boeing, Patuxent River, MD | 359.134 | | | 13.044 | Dec-07, Jun-08 | 29.677 | Dec-08 | Cont. | 359.134 Cont. |
| Subtotal Product Dev | | | 359.134 | 0.000 | | 13.044 | | 29.677 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Engineering and Logistics Support | Various | Various | 39.692 | | | 4.350 | Various | 1.158 | Various | | 45.200 |
| Flight Test Support | Various | Various | | | | 5.478 | Dec-07 | 7.394 | Dec-08 | Cont. | Cont. |
| Subtotal Management | | | 39.692 | 0.000 | | 9.828 | | 8.552 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 398.826 | 0.000 | | 22.872 | | 38.229 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------|---|---|--|------|---|---|---|------|---|---|---|------|---|---|-------------------------|------|---|---|---|------|---|---|---|------|---|---|---|---|---|---|---|
| Appropriation/Budget Activity | | | | Program Element Number and Name | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | PE1160421BB/Special Operations CV-22 Development | | | | | | | | | | | | SF200/CV-22 | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | |
| | 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 | | | | |
| CV-22 Block 10 Development | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Block 0/10 Flight Test | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CV-22 IOT&E * | | | | | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| CV-22 Block 20 Trade Studies & Risk Reduction | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CV-22 Block 20 Development/Test | | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| CV-22 Deliveries | ▲ | ▲ | ▲ | ▲ | | | | | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | SUPP | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ |
| CV-22 IOC | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | |
| * Air Force Funded | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| <u>Exhibit R-4a, Schedule Detail</u> | | Date: SEPTEMBER 2007 | | | | | | |
|---|--|----------------------|--------------------------------|---------------|---------------|---------------|---------------|--|
| <u>Appropriation/Budget Activity</u> | <u>Program Element Number and Name</u> | | <u>Project Number and Name</u> | | | | | |
| RDT&E/7 | PE1160421BB/Special Operations CV-22 Development | | Project SF200/CV-22 | | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> | |
| CV-22 Block 10 Development | 1-4Q | | | | | | | |
| Block 0/10 Flight Test | 1-4Q | | | | | | | |
| CV-22 IOT&E * | | 1-3Q | | | | | | |
| CV-22 Block 20 Trade Studies & Risk Reduction | 1-4Q | 1Q | | | | | | |
| CV-22 Block 20 Development/Test | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| CV-22 Deliveries | 1-2Q, 4Q | 2Q, 4Q | 1Q, 3Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| CV-22 IOC | | | 2Q | | | | | |
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| | | | | | | | | |
| * Air Force Funded | | | | | | | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
|---|-----------------------|

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|--|--|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160425BB Special Operations Aircraft Defensive Systems / Project 3284 |
|--|--|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|---|-------|-------|------|------|------|------|------|------------------|------------|
| PE1160425BB | 3.760 | 5.062 | | | | | | | |
| 3284, Special Operations Aircraft Defensive Systems | 3.760 | 5.062 | | | | | | | |

A. Mission Description and Budget Item Justification: This program element provides for the definition, development, prototyping and testing of aircraft defensive avionics systems. It includes the identification and development of hardware and software enhancements for each Special Operations Forces (SOF) aircraft to reduce detection, vulnerability, and threat engagement from threat radars and Infrared (IR) missiles, thereby increasing the overall survivability of SOF assets. This program element funds dispenser upgrade and improvement programs, threat and missile warning receiver enhancements, radio frequency jammer improvements, and enhanced IR jamming systems. In FY07, the IR jamming system Directional Infrared Countermeasures transitioned from development to sustainment. The development of the IR software updates is scheduled for FY08. Support for SOF-unique portions of the Electronic Warfare Avionics Integrated Systems Facility concludes in FY08.

B. Program Change Summary:

| | FY07 | FY08 | FY09 |
|----------------------------------|--------|--------|--------|
| Previous President's Budget | 4.726 | 5.195 | 5.272 |
| Current President's Budget | 3.760 | 5.062 | |
| Total Adjustments | -0.966 | -0.133 | -5.272 |
| Congressional Program Reductions | | 0.033 | |
| Congressional Increases | | | |
| Reprogrammings | -0.966 | | |
| Other Program Adjustments | | | -5.272 |
| SBIR Transfer | | -0.100 | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160425BB Special Operations Aircraft Defensive Systems / Project 3284 | |
| <p>Funding:</p> <p>FY07: Net decrease (-\$0.966 million) due to funds being reprogrammed to support higher command priorities.</p> <p>FY08: Congressional reduction includes (-\$0.008 million) Section 8097 and Section 8104 (-\$0.025 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.100 million).</p> <p>FY09: Developmental program for EWASIF and DIRCM completed; \$2.141 million realigned from EWASIF to support higher command priorities; \$3.131 million realigned to support DIRCM sustainment requirements.</p> <p>Schedule: None.</p> <p>Technical: None.</p> | | |

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|---|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FBRRUARY 2008 |
|---|-----------------------|

| | |
|--|--|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160426BB Special Operations Advanced SEAL Delivery System Development/S0418 |
|--|--|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|--|--------|--------|-------|-------|-------|------|------|------------------|------------|
| PE1160426BB | 31.616 | 19.772 | 7.090 | 1.488 | 1.487 | | | | 84.118 |
| S0418, Advanced SEAL Delivery System Dev | 31.616 | 19.772 | 7.090 | 1.488 | 1.487 | | | | 84.118 |

A. Mission Description and Budget Item Justification: This program element provides for development, testing, and integration of specialized equipment for the Advanced SEAL Delivery System (ASDS) to meet the unique requirements of Special Operations Forces (SOF). Specifically, this program element provides for the ASDS-1 Improvement Program with the goal of improving the performance to the required level and insertion of technologies to avoid obsolescence. The Improvement Program consists of integration, testing and installation of reliability improvements resulting from a series of critical system reviews. The improved performance of ASDS-1 will permit small, highly trained forces to conduct required operations to operate in denied areas controlled by a sophisticated threat that mandates SOF systems remain technologically superior to threat forces to ensure mission success.

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President Budget | 31.616 | 20.292 | 7.100 |
| Current President's Budget | 31.616 | 19.772 | 7.090 |
| Total Adjustments | 0.000 | -0.520 | -0.010 |
| Congressional Program Reductions | | -0.129 | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| Other Program Adjustments | | | -0.010 |
| SBIR Transfer | | -0.391 | |

Funding:

| | |
|---|--|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FBRRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160426BB Special Operations Advanced SEAL Delivery System Development/S0418 |
| <p>FY07: No change.</p> <p>FY08: Congressional reductions include Section 8097 (-\$0.033 million) and Section 8104 (-\$0.096 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.387).</p> <p>FY09: Decrease of (-\$0.10 million) is due to economic inflation adjustments.</p> <p>Schedule: Updates Critical Systems Review (CSR) Phase II initiation to 1st Qtr FY08 vs 4th FY07 and extends CSR completion to 1st Qtr FY09 vs 2nd Qtr FY08.</p> <p>Technical: None.</p> | |

| | | |
|--|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Advanced SEAL Delivery System Development(ASDS)/Project S0418 | |

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|--------|--------|-------|-------|-------|------|------|
| ASDS Development | 31.616 | 19.772 | 7.090 | 1.488 | 1.487 | | |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: This project provides for development, testing, and integration of specialized equipment for the Advanced SEAL Delivery System (ASDS) to meet the unique requirements of Special Operations Forces (SOF). Specifically, this project provides for the ASDS-1 Improvement Program with the goal of improving the performance to the required level and insertion of technologies to avoid obsolescence. The Improvement Program consists of integration, testing and installation of reliability improvements resulting from a series of critical system reviews. The improved performance of ASDS-1 will permit small, highly trained forces to conduct required operations to operate in denied areas controlled by a sophisticated threat that mandates SOF systems remain technologically superior to threat forces to ensure mission success.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|------------------|--------|--------|-------|
| ASDS Development | 31.616 | 19.772 | 7.090 |

FY07 Conducted concept studies, critical system reviews, technical peer reviews, and an Analysis of Alternatives. Developed and integrated reliability improvements (Engineering Change Proposals, obsolescence, technical insertion, builds) based on reviews.
 FY08 Continues Improvement Program.
 FY09 Address emergent Reliability and Safety Issues.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | <u>To Complete</u> | <u>Total Cost</u> |
|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------------|
| ASDS PROC | 12.578 | 10.549 | 5.760 | 5.911 | 6.117 | | | | 494.831 |

| | | |
|---|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Advanced SEAL Delivery System Development(ASDS)/Project S0418 | |

D. Acquisition Strategy:

- Under Secretary of Defense, Acquisition, Technology and Logistics Acquisition Decision Memorandum (ADM) dated 06 April 2006 canceled the ASDS program because it was not ready to proceed and directed the establishment of an ASDS-1 Improvement Program with the goal of improving ASDS-1 performance to the required level, inserting technologies to avoid obsolescence, and assessing alternate materiel solutions for fulfilling remaining operational requirements.
- ADM signed on 22 June 2007 approved conduct of an Alternate Materiel Solutions Analysis in accordance with the Office for Program Analysis and Evaluation guidance dated 10 April 2007.

The ASDS Improvement Program is managed by Naval Sea Systems Command, PMS-399, SOF Undersea Mobility office. The Program Executive Officer Maritime at USSOCOM provides oversight. One system has been built to date. The program has been restructured to focus on improving the reliability of ASDS. In July 2007, after ASDS-1 had demonstrated the effectiveness of a number of significant reliability improvements, USSOCOM reissued its Fielding and Deployment Release.

APPROPRIATION / BUDGET ACTIVITY Special Operations Tactical Systems Development/PE1160426BB
 RDT&E DEFENSE-WIDE / 7 Advanced SEAL Delivery System Development/S0418

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|--|------------------------------|--------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Primary Hardware Dev | | | | | | | | | | | |
| ASDS | CPIF/C | Northrop-Grumman | 310.026 | | | | | | | | 310.026 |
| ASDS | CPFF | Newport News Ship Yard, VA | 8.605 | | | | | | | | 8.605 |
| ASDS P3I and Host Support | Various | Various | 37.280 | | | | | | | | 37.280 |
| ASDS Reliability Improvements | CPFF/CPIF/CPAF | Various | 22.110 | 31.616 | Various | 19.772 | Various | 7.090 | Various | | 80.588 |
| Subtotal Product Dev | | | 378.021 | 31.616 | | 19.772 | | 7.090 | | | 436.499 |
| Remarks | | | | | | | | | | | |
| Technical Data | | | | | | | | | | | |
| ASDS | Various | Northrop-Grumman | 10.894 | | | | | | | | 10.894 |
| Subtotal Supt. | | | 10.894 | | | | | | | | 10.894 |
| Remarks | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | |
| OT&E (ASDS) | Various | OPTEVFOR, Norfolk, VA | 6.285 | | | | | | | | 6.285 |
| Host Testing (ASDS) | Various | NAVSEA, Washington Navy Yard | 20.615 | | | | | | | | 20.615 |
| LFT&E (ASDS) | Various | NAVSEA, Washington Navy Yard | 2.995 | | | | | | | | 2.995 |
| Subtotal T&E | | | 29.895 | | | | | | | | 29.895 |
| Remarks | | | | | | | | | | | |
| Management | | | | | | | | | | | |
| Various (ASDS) | Various | Various | 14.085 | | | | | | | | 14.085 |
| Subtotal Management | | | 14.085 | 0.000 | | | | | | | 14.085 |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 432.895 | 31.616 | | 19.772 | | 7.090 | | 0.000 | 491.373 |
| Remarks: | | | | | | | | | | | |

Exhibit R-4, RDT&E Program Schedule Profile Date: FEBRUARY 2008

Appropriation/Budget Activity: RDT&E/7 Program Element Number and Name: PE1160426BB/Special Operations Advanced SEAL Delivery System Development Project Number and Name: Project S0418/Advanced SEAL Delivery System Development

| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | |
|--|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|---|
| | 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 | |
| Reliability Improvement Program | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| - Critical Systems Reviews | ▲ | — | ▲ | — | ▲ | — | — | — | — | — | — | — | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| - Reliability Builds/Testing* | ▲ | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| - Obsolescence Tech Insertion Efforts* | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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* Reliability Builds install reliability improvements resulting from the Critical Sytem Reviews. The reviews will address obsolescence and technical insertions.

| Exhibit R-4a, RDT&E Program Schedule Detail | | | | Date: FEBRUARY 2008 | | | |
|--|--|-------------|-------------|---|-------------|-------------|-------------|
| <u>Appropriation/Budget Activity</u> RDT&E/7 | <u>Program Element Number and Name</u> PE1160426BB/Special Operations Advanced Sea, Air, Land (SEAL) Delivery System Development | | | <u>Project Number and Name</u> Project S0418/Advanced SEAL Delivery System | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>2008</u> | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> |
| Advanced SEAL Delivery System | | | | | | | |
| Reliability Improvement Program | 1-4Q | 1-4Q | 1-3Q | | | | |
| - Critical Systems Reviews | 1-3Q | 1-4Q | 1Q | | | | |
| - Reliability Builds/Testing (1-4) | 1-2Q | 3-4Q | 2-3Q | | | | |
| Obsolescence Tech Insertion Efforts | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | DATE FEBRUARY 2008 | | | | | |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160427BB Mission Training and Preparation Systems (MTPS)/S750 | | | | | | |

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|------------------|------------|
| PE1160427BB | 3.684 | 6.241 | 4.052 | 4.064 | 4.104 | 4.145 | 9.227 | Cont. | Cont. |
| S750, MTPS | 3.684 | 6.241 | 4.052 | 4.064 | 4.104 | 4.145 | 9.227 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: This program element funds the definition, design, development, prototyping, integration, and testing of Mission Training and Preparation Systems (MTPS) to support training, avoid obsolescence, and maintain simulator concurrency with weapon systems' configurations; support mission planning and rehearsal systems enhancements required to meet SOF unique mission requirements and correct deficiencies identified in previous testing; support mission planning and rehearsal capabilities in current training devices. The MTPS program element also includes systems engineering, configuration management, architecture development, risk reduction, and trade study initiatives, as well as initiatives to assure interoperability and commonality between diverse SOF training systems.

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | 1.736 | 6.405 | 4.058 |
| Current President's Budget | 3.684 | 6.241 | 4.052 |
| Total Adjustments | 1.948 | -0.164 | -0.006 |
| Congressional Program Reductions | | -0.041 | |
| Congressional Increases | | | |
| Reprogrammings | 2.348 | | |
| Other Program Adjustments | | | -0.006 |
| SBIR Transfer | | -0.123 | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160427BB Mission Training and Preparation Systems (MTPS)/S750 | |
| <p>Funding:</p> <p>FY07: Increase of \$1.948 million is due to reprogramming of Congressional adds C2 Mission Manager Spiral 4 Development (\$0.974 million) and Warrior Reach (\$0.974 million) to the correct program element (PE) for execution.</p> <p>FY08: Congressional reductions include Section 8097 (-\$0.010 million) and Section 8104 (-\$0.031 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.123 million).</p> <p>FY09: Decrease is due to economic inflation adjustments (-\$0.005 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p> | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Mission Training and Preparation Systems (MTPS)/Project S750 | |

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|
| MTPS | 3.684 | 6.241 | 4.052 | 4.064 | 4.104 | 4.145 | 9.227 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: This project funds the definition, design, development, prototyping, integration, and testing of Mission Training and Preparation Systems to support training, avoid obsolescence, and maintain simulators concurrency with weapon system's configurations; mission planning and rehearsal systems enhancements required to meet Special Operations Force (SOF) unique mission requirements and correct deficiencies identified in previous testing; mission planning and rehearsal capabilities in current training devices. The MTPS project also includes systems engineering, configuration management, architecture development, risk reduction, and trade study initiatives, as well as initiatives to assure interoperability and commonality between diverse SOF training systems.

Sub-projects include:

- United States Special Operations Command (USSOCOM) Simulator Block Update: Funds the necessary developmental upgrades to USSOCOM training systems to overcome obsolescence and concurrency issues and enhance mission rehearsal capabilities.
- Distributed Mission Training Rehearsal System (DMTRS): Consolidates existing common environment and common database components and conducts further development of those components to provide a complete system for Distributed Mission Operations, Training and Rehearsal (DMO/DMT/DMR). This initial development is focused on a common database and common environment solution which can be applied to all MTPS training and rehearsal systems. The development builds on an existing SOF Common Database (SOF CDB) specification and a common Computer Generated Forces (CGF) Analysis of Alternatives developed under US Army Special Operations Command Simulator Block Updates.
- Special Operations Mission Planning Environment (SOMPE): The SOMPE project develops, integrates, tests, and validates enhancements required to meet SOF unique requirements for, and correct deficiencies to, mission planning, mission preview and mission execution tools to support all phases of SOF operations from deliberate to time critical. The SOMPE program automates time-sensitive planning activities and provides enhanced situational awareness during mission execution. SOMPE provides the interoperable environment for SOF adaptive planning to integrate global operations including, but not limited to Precision Strike Software, Digital Navigation, and Unmanned Aerial Systems Command & Control. Spanning all elements of USSOCOM, SOMPE is embedded in the Center for Special Operations (CSO), Theater Special Operations Commands (TSOCs), Joint Special Operations Task Force (JSOTF), Joint Special Operations Aviation Components (JSOAC), SOF war fighters, and their war fighting platforms.

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 | |
| Appropriation/Budget Activity RDT&E BA # 7 | | Mission Training and Preparation Systems (MTPS)/Project S750 | |

| | | | |
|--|-------|-------|-------|
| <ul style="list-style-type: none"> Warrior Reach: Develops and transitions a capability for rapid range instrumentation and Blue Force Tracking (BFT) training. Command and Control (C2) Mission Manager Spiral 4 Development: Automation of operational level planning process and interfaces with command and control. | | | |
| B. Accomplishments/Planned Program | | | |
| USSOCOM Simulator Block Update | FY07 | FY08 | FY09 |
| Combat Mission Simulator | 1.536 | | |
| RDT&E Articles Quantity | | | |
| FY07 Updated USSOCOM simulators to overcome obsolescence and concurrency issues and enhanced mission planning and rehearsal capabilities. | | | |
| Distributed Mission Training Rehearsal System | FY07 | FY08 | FY09 |
| Common Environment/Common Database | | 2.223 | |
| RDT&E Articles Quantity | | | |
| FY08 Develop SOF Common Database/Common Environment solution and integrate into all MTPS systems. | | | |
| | FY07 | FY08 | FY09 |
| Special Operations Mission Planning Environment (SOMPE) | * | 4.018 | 4.052 |
| RDT&E Articles Quantity | | | |
| *FY07 Reported under PE 1160404BB, project S350. | | | |
| FY08 Develop software for mission data loading software to interface with mission planning system. Seamless data sharing for time sensitive collaborative and intelligence planning, situational awareness and mapping/visualization systems. | | | |
| FY09 Continues software development for mission for mission data loading software to interface with mission planning system. | | | |
| C2 Mission Manager Spiral 4 Development | .974 | | |
| RDT&E Articles Quantity | | | |
| FY07 This initiative was a Congressional add. Developed automated operational level planning tools that interface with command and control systems to manage Special Operations Forces air support requests. | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Mission Training and Preparation Systems (MTPS)/Project S750 | |

| | | | |
|-------------------------|------|------|------|
| | FY07 | FY08 | FY09 |
| Warrior Reach | .974 | | |
| RDT&E Articles Quantity | | | |

FY07 This initiative was a Congressional add. Set up "Range Set" of Blue Force Tracking (BFT) systems and developed BFT desk top training capability.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| MTPS PROC | 22.201 | 69.541 | 34.151 | 20.424 | 19.703 | 49.576 | 18.527 | Cont. | Cont. |

D. Acquisition Strategy:

- **USSOCOM Simulator Block Updates (SBUD):** Program activities are managed by various Program Management Offices (PMOs). The Simulator Block Update funding is sent from USSOCOM to the PMO to be placed on contract with selected contractors under each program, respectively. Individual acquisition strategies, including contract types, are developed for each major update.
- **Distributed Mission Training Rehearsal System (DMTRS):** The program is managed by the Program Manager for Simulation and Training Systems (PM STS) at the Program Executive Office for Simulation, Training and Instrumentation (PEO STRI), Orlando, Florida. The DMTRS funding is sent from USSOCOM to the PMO to be placed on contract with competitively selected contractors.
- **Special Operations Mission Planning Environment (SOMPE):** The program is managed by the Special Operations Mission Planning Office at Fort Eustis, VA. Funding is sent from USSOCOM to the PMO to be awarded via competition or sole source with various contractors under each project. Individual acquisition strategies are developed as projects are identified.
- **Warrior Reach:** Program activities are managed by Naval Aviation Systems (NAVAIR) through developmental contracts with multiple contractors.
- **Command and Control (C2) Mission Manager Spiral 4:** The program is managed by the Special Operations Mission Planning Office at Fort Eustis, VA. Funding is sent from USSOCOM to the PMO to be awarded sole source to Science Application International Corporation, Morgantown, WV, for this project.

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | |
|---|------|---|---|---|---|---|---|---|------|---|---|---|------|---|---|---|-------------------------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|--|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | |
| RDT&E/ | | | | | PE1160427BB/Mission Training and Preparation Systems (MTPS) | | | | | | | | | | | | Project S750/MTPS | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | | |
| | 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 | | | | | |
| USSOCOM Simulator Block Update | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distributed Mission Training Rehearsal System | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Award | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development and Integration | | | | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | | | | | | | | | | | | | | | | | |
| Special Operations Mission Planning Environment (SOMPE) - Software Development Contract | | | | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| Command and Control Mission Manager | | | | ▲ | — | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Warrior Reach | | | | ▲ | — | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| SOMPE Development Support | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| SOMPE and C2 Mission Manager Test and Evaluation | | ▲ | — | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Test & Evaluation | | | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | Date: FEBRUARY 2008 | | | | |
|---|--|---------------|--|---------------|---------------|---------------|---------------|
| <u>Appropriation/Budget Activity</u> | <u>Program Element Number and Name</u> | | <u>Project Number and Name</u> | | | | |
| RDT&E/ | PE1160427BB/Mission Training and Preparation System (MTPS) | | Mission Training and Preparation Systems (MTPS)/Project S750 | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> |
| USSOCOM Simulator Block Update | 1-4Q | | | | | | |
| Distributed Mission Training and Rehearsal System | | | | | | | |
| Contract Award | | 1Q | | | | | |
| Development and Integration | | 1-4Q | 1-4Q | | | | |
| Special Operations Mission Planning Environment (SOMPE) - Software Development Contract | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Command and Control Mission Manager | 1-4Q | 1-4Q | | | | | |
| Warrior Reach | | 1-4Q | | | | | |
| SOMPE Development Support | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| SOMPE and C2 Mission Manager Test and Evaluation | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-2Q |
| Developmental Test &Evaluation | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-3Q |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | DATE FEBRUARY 2008 | | | | | |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160428BB Unmanned Vehicles/S850 | | | | | | |

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|----------------------------|--------|-------|-------|-------|-------|-------|-------|------------------|------------|
| PE1160428BB | 10.040 | 6.334 | 1.527 | 1.547 | 1.577 | 1.606 | 1.636 | Cont. | Cont. |
| S850, Unmanned Vehicles | 10.040 | 6.334 | 1.527 | 1.547 | 1.577 | 1.606 | 1.636 | Cont. | Cont. |

A. Mission Description and Budget Item Justification: This program element addresses spiral development efforts validated in requirements documents; supports development testing; and integrates system upgrades such as heavy fuel engine, increased endurance, reduced signature, increased telemetry range, and increased payload capacity for the Vehicle Craft Unmanned Aircraft System (VCUAS) and Logistics Support Vehicles to meet Special Operations Forces (SOF) mission requirements.

B. Program Change Summary:

| | FY07 | FY08 | FY09 |
|----------------------------------|--------|--------|--------|
| Previous President's Budget | 3.040 | 1.500 | 1.530 |
| Current President's Budget | 10.040 | 6.334 | 1.527 |
| Total Adjustments | 7.000 | 4.834 | -0.003 |
| Congressional Program Reductions | | -0.041 | |
| Congressional Increases | | 5.000 | |
| Reprogrammings | 7.000 | | |
| Other Program Adjustments | | | -0.003 |
| SBIR Transfer | | -0.125 | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160428BB Unmanned Vehicles/S850 |
| <p>Funding:</p> <p>FY07: Increase (\$7.000 million) is due to FY 2007 OMNIBUS Reprogramming No. FY07-28R PA for Global Observer Joint Capability Technology Demonstration.</p> <p>FY08: Net increase is due to congressional reductions for Section 8097 (-\$0.010 million) and Section 8104 (-\$0.031 million) and congressional add for Trident Reach (\$5.000 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.125 million).</p> <p>FY09: Decrease is due to economic inflation adjustments (-\$0.003 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p> | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Unmanned Vehicles/Project S850 | |

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|--------|-------|-------|-------|-------|-------|-------|
| UV | 10.040 | 6.334 | 1.527 | 1.547 | 1.577 | 1.606 | 1.636 |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: This project addresses spiral development efforts validated in requirements documents; supports development testing; integrates system upgrades under an evolutionary acquisition strategy to obtain objective SOF mission requirements; and develops upgrades which include payload integration, platform improvements, targeting capabilities and digital datalink for the Rucksack Portable Unmanned Aircraft System (RPUAS); and heavy fuel engine, increased endurance, reduced signature, increased telemetry range, and increased payload capacity for the Vehicle Craft Unmanned Aircraft System (VCUAS); and develops a Logistics Support Vehicle (LSV); and the high-altitude, long-endurance unmanned aircraft system development with the Global Observer (GO) Joint Capability Technology Demonstration.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|-------------------------|-------|------|------|
| RPUAS | 1.481 | | |
| RDT&E Articles Quantity | | | |

FY07 Completed payload integration, platform improvements, targeting capabilities and digital datalinks.

| | FY07 | FY08 | FY09 |
|-------------------------|------|-------|-------|
| VCUAS | | 1.462 | 1.527 |
| RDT&E Articles Quantity | | | |

FY08 Develop, test, and integrate VCUAS aircraft, payload, and ground control station improvements.

FY09 Develops, tests, and integrates VCUAS aircraft, payload, and ground control station improvements.

| | FY07 | FY08 | FY09 |
|-------------------------|-------|------|------|
| LSV | 1.559 | | |
| RDT&E Articles Quantity | | | |

FY07 This initiative was a Congressional add. Evaluated unmanned logistic support vehicle technologies.

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Unmanned Vehicles/Project S850 | |

| | | | |
|-------------------------|-------|------|------|
| | FY07 | FY08 | FY09 |
| Global Observer | 7.000 | | |
| RDT&E Articles Quantity | | | |

FY07: This initiative was a reprogramming from the U.S. Air Force for the Global Observer Joint Capability Technology Demonstration. Designs, develops, tests, and evaluates high-altitude, long-endurance unmanned aircraft system technologies.

| | | | |
|-------------------------|------|-------|------|
| | FY07 | FY08 | FY09 |
| Trident Reach | | 4.872 | |
| RDT&E Articles Quantity | | | |

FY08: This is a Congressional add to test the system for the MQ-9 Reaper Unmanned Vehicle.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | <u>To Complete</u> | <u>Total Cost</u> |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------------|
| Unmanned Vehicles PROC | 189.634 | 52.609 | 27.194 | 17.553 | 13.027 | 16.055 | 16.419 | Cont. | Cont. |

D. Acquisition Strategy: Preplanned product improvements to be implemented as evolutionary upgrades to Vehicle Craft Unmanned Aircraft System.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

| APPROPRIATION / BUDGET ACTIVITY | | | Program Element 1160428BB/Unmanned Vehicles | | | | | | | | |
|--|------------------------------|-------------------------------------|---|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| RDT&E DEFENSE-WIDE / 7 | | | Project Name and Number S850 | | | | | | | | |
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Product Development | | | | | | | | | | | |
| Vehicle Craft Unmanned Aircraft System (VCUAS) Primary Hardware Improvement | Various | USSOCOM, MacDill AFB, FL | | | | 0.762 | Mar-08 | 0.818 | Dec-08 | Cont. | Cont. |
| VCUAS Ancillary Hardware Development | Various | USSOCOM, MacDill AFB, FL | | | | 0.250 | Mar-08 | 0.253 | Dec-08 | | |
| Subtotal Product Development | | | 0.000 | 0.000 | | 1.012 | | 1.071 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Test & Evaluation (T&E) | | | | | | | | | | | |
| Rucksack Portable Unmanned Aircraft System Developmental (T&E) | Various | NATICK | | 1.481 | Nov-06 | | | | | | 1.481 |
| VCUAS Developmental T&E | Various | NAVQIR | | | | 0.100 | Apr-08 | 0.101 | Feb-09 | Cont. | Cont. |
| Logistical Support Vehicle Development T&E | Various | | | 1.559 | Jan-07 | | | | | | 1.559 |
| Trident Reach Development T&E | Various | 645 AESS, Wright Patterson, AFB, OH | | | | 4.872 | Feb-08 | | | | |
| Subtotal T&E | | | 0.000 | 3.040 | | 4.972 | | 0.101 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Contractor Engineering Support | | | | | | | | | | | |
| VCUAS Contractor Engineering Support | TBD | USSOCOM, MacDill AFB, FL | | | | 0.350 | Mar-08 | 0.355 | Dec-08 | Cont. | Cont. |
| Subtotal Management | | | 0.000 | 0.000 | | 0.350 | | 0.355 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Design & Development (D&D) | | | | | | | | | | | |
| Global Observer Joint Capability Technology Demonstration D&D | Various | USSOCOM, MacDill AFB, FL | | 7.000 | Sep-07 | | | | | | |
| Subtotal D&D | | | 0.000 | 7.000 | | 0.000 | | 0.000 | | | |
| Total Cost | | | | | | | | | | | |
| | | | 0.000 | 10.040 | | 6.334 | | 1.527 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | |
|--|------|---|---|---|---------------------------------|---|---|---|------|---|---------------------|---|------|---|-------------------------|---|------|---|---|---|------|---|---|---|------|---|---|---|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | |
| RDT&E, Defense-Wide/7 | | | | | PE1160428BB/Unmanned Vehicles | | | | | | | | | | S850/UV | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | 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 |
| Vehicle Craft Unmanned Aircraft System (VCUAS) Block I | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VCUAS Block II | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VCUAS Block III | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rucksack Portable Unmanned Aircraft System | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Exhibit R-4, RDT&E Program Schedule Profile

Date: FEBRUARY 2008

| Appropriation/Budget Activity | | Program Element Number and Name | | | | | | | | | | | | | | | | Project Number and Name | | | | | | | | | | |
|--|------|---------------------------------|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|-------------------------|---|---|------|---|---|---|------|---|---|---|
| RDT&E, Defense-Wide/7 | | PE1160428BB/Unmanned Vehicles | | | | | | | | | | | | | | | | S850/UV | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | 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 |
| Testing | | | | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | |
| Unmanned Logistics Support Vehicle | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development | | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | |
| Integration | | | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | |
| Testing | | | | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | |
| Global Observer Joint Capability Technology Demonstration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development | | | | ▲ | ▲ | — | △ | △ | — | △ | | | | | | | | | | | | | | | | | | |
| Integration | | | | | | | | △ | △ | — | △ | △ | | | | | | | | | | | | | | | | |
| Testing | | | | | | | | | | | | △ | △ | △ | — | △ | | | | | | | | | | | | |
| Trident Reach | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testing | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | | Date: FEBRUARY 2008 | | | | |
|---|------------------------------------|---------|---------|-------------------------|--------|--------|--------|--|
| Appropriation/Budget Activity | Program Element Number and Name | | | Project Number and Name | | | | |
| RDT&E, Defense-Wide/7 | PE1160428BB/Unmanned Vehicles (UV) | | | Project S850 | | | | |
| Schedule Profile | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 | |
| Vehicle Craft Unmanned Aircraft System (VCUAS) Block I | | | | | | | | |
| Design | | 1-2Q | | | | | | |
| Development | | 2-4Q | | | | | | |
| Integration | | | 1-2Q | | | | | |
| Testing | | | 3-4Q | | | | | |
| VCUAS Block II | | | | | | | | |
| Design | | | | 1-2Q | | | | |
| Development | | | | 3-4Q | | | | |
| Integration | | | | | 1-2Q | | | |
| Testing | | | | | 3-4Q | | | |
| VCUAS Block III | | | | | | | | |
| Design | | | | | | 1-2Q | | |
| Development | | | | | | 3-4Q | | |
| Integration | | | | | | | 1-2Q | |
| Testing | | | | | | | 3-4Q | |
| Rucksack Portable Unmanned Aircraft System | | | | | | | | |
| Development | 1Q - 4Q | | | | | | | |
| Integration | 3Q - 4Q | 1Q | | | | | | |
| Testing | 4Q | 1Q | | | | | | |
| Unmanned Logistic Support Vehicle | | | | | | | | |
| Development | 2Q - 4Q | 1Q | | | | | | |
| Integration | 3Q - 4Q | 1Q | | | | | | |
| Testing | 4Q | 1Q | | | | | | |
| Global Observer Joint Capability Technology Demonstration | | | | | | | | |
| Development | 4Q | 1Q - 4Q | 1Q - 4Q | | | | | |
| Integration | | 4Q | 1Q - 4Q | 1Q | | | | |
| Testing | | | 3Q - 4Q | 1Q - 4Q | | | | |
| Trident Reach | | | | | | | | |
| Testing | | 2Q-4Q | | | | | | |

| | |
|---|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
|---|-----------------------|

| | |
|--|--|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160429BB SOF Tanker Recapitalization/S875 |
|--|--|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|-----------------------------------|------|--------|-------|-------|-------|-------|------|------------------|------------|
| PE 1160429BB | | 12.375 | 4.659 | 4.211 | 2.748 | 3.031 | | | 27.024 |
| S875, SOF Tanker Recapitalization | | 12.375 | 4.659 | 4.211 | 2.748 | 3.031 | | | 27.024 |

A. Mission Description and Budget Item Justification:

The Special Operations Forces (SOF) Tanker line funds the recapitalization of aging MC-130E Combat Talon I and MC-130P Combat Shadow airframes to perform clandestine or low visibility, single- or multi-ship low-level missions intruding politically-sensitive or hostile territories to provide air refueling for special operations helicopters and CV-22 aircraft. Secondary missions include airdrop of leaflets, small special operations teams, resupply bundles and combat rubber raiding craft. Additional capabilities include low-light navigation and in-flight refueling as a receiver. The Air Force will procure and field basic aircraft (Block 1), common support equipment, and trainers for USSOCOM. A block upgrade approach will be used to incorporate SOF capabilities onto the aircraft.

Block 2: Integrate and test core mission capabilities such as minor software enhancements for integration with the special mission processor, improved navigation, and situational awareness capabilities.

Block 3: Initiate development, integration, testing, and validation of enhancements to meet SOF-unique requirements for a special mission processor, enhanced defensive systems, secure digital map enhanced situational awareness, enhanced vision system, improved refueling performance, and SOF communications. Capabilities developed under Block 3 will result in post-production modifications.

APPROPRIATION / BUDGET ACTIVITY
RDT&E, DEFENSE-WIDE / 7

R-1 ITEM NOMENCLATURE / PROJECT NO.
PE 1160429BB SOF Tanker Recapitalization/S875

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | | 12.701 | 4.666 |
| Current President's Budget | | 12.375 | 4.659 |
| Total Adjustments | | -0.326 | -0.007 |
| Congressional Program Reductions | | -0.081 | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| Other Program Adjustments | | | -0.007 |
| SBIR Transfer | | -0.245 | |

Funding:

FY08: Congressional reductions include Section 8097 (-\$0.020 million) and Section 8104 (-\$0.061 million). Other program adjustments include transfer to Small Business Innovative Research account (-\$0.245 million).

FY09: Decrease (-\$0.007 million) is due to economic inflation adjustments.

Schedule: None.

Technical: Refinement of SOF-unique capabilities completed upon establishment of service-common Block 1 baseline.

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 7

SOF Tanker Recapitalization/S875

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-----------------------------|------|--------|-------|-------|-------|-------|------|
| SOF Tanker Recapitalization | | 12.375 | 4.659 | 4.211 | 2.748 | 3.031 | |
| RDT&E Articles Quantity | | | | | | | |

A. Mission Description and Budget Item Justification: The Special Operations Forces (SOF) Tanker line funds the recapitalization of aging MC-130E Combat Talon I and MC-130P Combat Shadow airframes to perform clandestine or low visibility, single- or multi-ship low-level missions intruding politically-sensitive or hostile territories to provide air refueling for special operations helicopters. Secondary missions include airdrop of leaflets, small special operations teams, resupply bundles and combat rubber raiding craft. Additional capabilities include low-light navigation and in-flight refueling as a receiver. The Air Force will procure and field basic aircraft (Block 1), common support equipment, and trainers for USSOCOM. A block upgrade approach will be used to incorporate SOF capabilities on to the aircraft.

Block 2: Develop, integrate, test and validate enhancements to meet SOF-unique mission requirements for variable drag drogue upgrades to the common refueling system.

Block 3: Initiate development, integration, testing, and validation of enhancements to meet SOF-unique requirements for a special mission processor, enhanced defensive systems, secure digital map enhanced situational awareness, enhanced vision system, improved refueling performance, and SOF communications. Capabilities developed under Block 3 will result in post-production modifications.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|--|------|-------|-------|
| Block 2 | | 6.551 | 1.913 |
| RDT&E Articles Quantity | | | |
| FY08 Start integration of Block 2 equipment into service-common tanker. | | | |
| FY09 Continue integration of Block 2 equipment into service-common tanker. | | | |
| | FY07 | FY08 | FY09 |
| Block 3 | | 5.824 | 2.746 |
| RDT&E Articles Quantity | | | |
| FY08 Start development of enhancements for SOF-unique requirements. | | | |
| FY09 Continue development and start integration of Block-3 improvements. | | | |

Appropriation/Budget Activity
RDT&E BA # 7

SOF Tanker Recapitalization/S875

C. Other Program Funding Summary.

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | <u>To Complete</u> | <u>Total Cost</u> |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------------------|-----------------------|
| SOF Tanker Recap PROC | | 18.439 | 36.286 | 44.687 | 54.439 | 95.439 | 78.792 | 118.465 | 446.547 |

D. Acquisition Strategy. The Acquisition Strategy will be developed prior to the Milestone B in 3rd Quarter FY08 and approved by the Special Operations Acquisition Executive. Given the technological maturity of the United States Air Force service-common aircraft, USSOCOM is pursuing parallel System Development and Design and production block upgrade phases.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

| APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 | | | | Program Element 1160429BB/SOF Tanker Recapitalization Project Name and Number SOF Tanker Recapitalization/S875 | | | | | | | |
|--|------------------------------|--------------------------------|----------------------|---|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Variable Drag Drogue Development Block 2 | TBD | TBD | | | | 6.551 | Apr-08 | 1.913 | Dec-08 | | 8.464 |
| Subtotal Product Development | | | 0.000 | 0.000 | | 6.551 | | 1.913 | | 0.000 | 8.464 |
| Remarks: | | | | | | | | | | | |
| Software & Integration Block 3 | TBD | TBD | | | | 5.374 | May-08 | 1.946 | Dec-08 | 6.640 | 13.960 |
| Subtotal Support | | | 0.000 | 0.000 | | 5.374 | | 1.946 | | 6.640 | 13.960 |
| Remarks: | | | | | | | | | | | |
| Developmental Test & Evaluation (T&E) Block 3 | TBD | TBD | | | | | | 0.300 | Dec-08 | 1.850 | 2.150 |
| Subtotal T&E | | | 0.000 | 0.000 | | 0.000 | | 0.300 | | 1.850 | 2.150 |
| Remarks: | | | | | | | | | | | |
| Contractor Engineering Support Block 1 | TBD | TBD | | | | 0.450 | Dec-07 | 0.500 | Dec-08 | 1.500 | 2.450 |
| Subtotal Management | | | 0.000 | 0.000 | | 0.450 | | 0.500 | | 1.500 | 2.450 |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 0.000 | 0.000 | | 12.375 | | 4.659 | | 9.990 | 27.024 |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|---|---|---|---|------|---|---|---|------|---|---|---------------------|------|---|---|---|--|---|---|---|------|---|---|---|------|---|---|---|--|--|--|---|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | |
| RDT&E, Defense-Wide/7 | | | | | PE1160429BB/SOF Tanker Recapitalization | | | | | | | | | | | | | | | | Project S875/SOF Tanker Recapitalization | | | | | | | | | | | | | | | |
| Fiscal Year | | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | |
| | | | | | 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 | | | | |
| Block 2 Development | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Variable Drag Drogue (VDD) Milestone (MS) B | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | | | | | |
| Integration and Test | | | | | | | | | | | | △ | | | | △ | | | | | | | | | | | | | | | | | | | | |
| VDD MS C | | | | | | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | |
| Block 3 Development | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS B | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | | | | | |
| Integration and Test | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Block 3 MS C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | △ |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | | Date: FEBRUARY 2008 | | | | |
|---|---|---------------|---------------|--|---------------|---------------|---------------|--|
| <u>Appropriation/Budget Activity</u> RDT&E, Defense-Wide/7 | <u>Program Element Number and Name</u> PE1160429BB/SOF Tanker Recapitalization | | | <u>Project Number and Name</u> Project S875/SOF Tanker Recapitalization | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> | |
| Block 2 Development | | 1-4Q | 1-4Q | | | | | |
| Variable Drag Drogue (VDD) Milestone (MS) B | | 1-3Q | | | | | | |
| Integration and Test | | 3-4Q | 1-4Q | | | | | |
| VDD MS C | | | | 1Q | | | | |
| Block 3 Development | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| MS B | | 3Q | | | | | | |
| Integration and Test | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Block 3 MS C | | | | | | | 1Q | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
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| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160474BB SOF Communications Equipment and Electronics Systems/S700 |
|--|---|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|---|------|------|------|-------|-------|-------|-------|------------------|------------|
| PE1160474B | | | | 1.295 | 3.028 | 1.907 | 1.081 | Cont. | Cont. |
| S700 SO Communications Advanced Development | | | | 1.295 | 3.028 | 1.907 | 1.081 | Cont. | Cont. |

A new program element (PE)(1160474BB) was established beginning in FY 2009 for SOF Communications Equipment and Electronics Systems. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.

A. Mission Description and Budget Item Justification: This program element provides for communication systems to meet emergent requirements to support Special Operations Forces (SOF). The SOF mission mandates that SOF systems remain technologically superior to any threat to provide a maximum degree of survivability. SOF units require communications equipment that improves their warfighting capability without degrading their mobility. Therefore, SOF Communications Advanced Development is a continuing effort to develop lightweight and efficient SOF Command, Control, Communications, and Computer (C4) capabilities.

B. Program Change Summary: No change.

Funding: No change.

Schedule: None.

Technical: None

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
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| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160476BB SOF Tactical Radio Systems/S725 |
|--|---|

| COST (Dollars in Millions) | FY06 | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
|---------------------------------|------|------|------|------|------|-------|-------|------|------------------|------------|
| PE1160476B | | | | | | 3.201 | 3.261 | | Cont. | Cont. |
| S725 SOF Tactical Radio Systems | | | | | | 3.201 | 3.261 | | Cont. | Cont. |

A new program element (PE)(1160476BB) was established beginning in FY 2009 for SOF Tactical Radio Systems. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.

A. Mission Description and Budget Item Justification: The Tactical Radio Systems is a new line item that identifies all SOF radio programs. Tactical radios were a part of the Communications Equipment and Electronics line item which provides for communication systems to meet emergent requirements to support Special Operations Forces (SOF). The SOF mission mandates that SOF systems remain technologically superior to any threat to provide a maximum degree of survivability. SOF units require radio communication equipment that improves their warfighting capability without degrading their mobility. Therefore, SOF Tactical Radio Systems communications equipment and electronics will be a continuing effort to procure lightweight, efficient and interoperable SOF radios.

United States Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Tactical Radio Systems continue to provide SOF with the required capabilities throughout the 21st century. The Tactical Radios provide the critical Command, Control, and Communication link between SOF Commanders and SOF Teams involved in Global War On Terrorism operations and training exercises. They also provide interoperability with all Services, various agencies of the US Government, Air Traffic Control (ATC), commercial agencies, and allied foreign forces. Tactical Radios rapidly and seamlessly establish and maintain mobile and fixed Command and Control communications between infiltrated/operational elements and higher echelon headquarters allowing SOF to operate with any force combination in multiple environments.

B. Program Change Summary:

| | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160476BB SOF Tactical Radio Systems/S725 | |
| <p>Funding: No change.</p> <p>Schedule: None</p> <p>Technical: None</p> | | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
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| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160477BB SOF Weapon Systems/S375 |
|--|---|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY12 | Cost to Complete | Total Cost |
|--|------|------|-------|-------|------|------|------|------------------|------------|
| PE1160477B | | | 2.759 | 1.290 | .298 | .298 | .298 | Cont. | Cont. |
| S375 Weapon Systems Advanced Development | | | 2.759 | 1.290 | .298 | .298 | .298 | Cont. | Cont. |

A new Program Element (PE)(1160477BB) was established beginning in FY 2009 for SOF Weapon Systems. FY 2009-2013 resources were moved from PE 1160404BB Special Operations Tactical Systems Development.

A. Mission Description and Budget Item Justification: This program element provides for development, testing, and integration of specialized weapon systems, weapon accessories and ammunition to meet the unique requirements of Special Operations Forces (SOF). This specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success.

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | | | |
| Current President's Budget | | | 2.759 |
| Total Adjustments | | | 2.759 |
| Congressional Program Reductions | | | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| Other Program Adjustments | | | 2.759 |
| SBIR Transfer | | | |

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|--|---|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160477BB SOF Weapon Systems/S375 | |
| <p>Funding:</p> <p>FY07: No change.</p> <p>FY08: No change.</p> <p>FY09: Increase of \$2.759 million is the result of establishing a new PE. Funds were moved from PE 1160404BB Special Operations Tactical Systems Development.</p> <p>Schedule: None.</p> <p>Technical: None</p> | | |

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

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| Appropriation/Budget Activity RDT&E.A BA # 7 | Weapons and Support Systems Advanced Development /Project S375 |
|---|--|

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|---------------------------------|--------|--------|-------|-------|------|------|------|
| Weapons and Support Sys Adv Dev | 24.768 | 16.540 | 2.759 | 1.290 | .298 | .298 | .298 |
| RDT&E Articles Quantity | | | | | | | |

A new program element 1160477BB, SOF Weapons Systems was established for this project beginning in FY 2009. FY 2009-2013 resources were moved from program element 1160404BB, Special Operations Tactical Systems Development.

A. Mission Description and Budget Item Justification: This project provides for development and testing of specialized, lightweight individual weapons, fire control/surveillance devices, and combat equipment to meet the unique requirements of Special Operations Forces (SOF). SOF often deploy as small, independent, quick reaction, foot-mobile teams independent of primary logistics support. Existing weapons and combat equipment are frequently unsuited to these conditions. Sub-projects include:

- Family of Sniper Detection Systems (FSDS). Provides the capability for SOF units to rapidly locate the position of a sniper’s origin of fire in near-real-time. Detects and locates small arms gunfire from 5.56mm, 7.62mm and .50 caliber weapons for the conduct of counter-sniper operations. This system also provides passive area surveillance at day or night and can be configured for urban or rural environments. This program was increased by an FY 2007 Congressional add.

- Family of Sniper Weapons (FSW) formerly Heavy Sniper Rifle (HSR). Precision Sniper Rifle (PSR) will characterize .338 ammunition and upgrade existing MK13 sniper weapons (300 WinMag) to a new caliber. The .338 round provides SOF with a highly accurate round for target engagements with ranges up to 1500 meters or more. The Anti-Materiel Rifle (AMR) will pursue technology that will provide SOF with accurate engagement capabilities on hard target, critical nodes, and other materiel.

- Lightweight Anti-Armor Weapon (LAW) Confined Space. The M72 66mm Lightweight Attack Weapon is a shoulder-fired, man-portable, self-contained, single use, lightweight rocket. The LAW has two warhead variants--the Anti Armor (AA) and Anti Structural Munitions (ASM) warheads. The LAW has two propulsion variants--the current rocket motor and the Fire From Enclosure (FFE) propulsion system that is under development. This program was increased by an FY 2006 Congressional add.

- Weapons Accessories formerly M4A1 SOF Carbine Accessory Kit (M4MOD). The Weapons Accessories program, enhances all SOF weapons by using the latest technological advances in optional accessories (up to 30 different functions/capabilities) such as day scopes, night scopes, active aiming laser module, visible lights, grenade launchers, suppressors, hand grips, and close quarters battle sights. These accessories greatly enhance the lethality of the weapon system and the survivability of the SOF operator. This program was

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increased by FY 2004, FY 2005, FY 2006, and FY 2007 Congressional adds.

- Weapons Shot Counter. This was a FY 2007 Congressional add to develop a device to improve the reliability and maintainability of weapons used by the SOF operator. These devices will provide the Unit Armorer a means to track the number of rounds fired and anticipate the need for maintenance and repair prior to the firearms failure, ultimately minimizing or eliminating parts failures and malfunctions in combat.
- SOF Laser Range Finder and Designator (SOFLRD). The SOFLRD will be a combined laser range finder, geological locator, and laser designator for directing both Global Positioning System (GPS) and laser guided munitions.
- SOF Visual Augmentation Systems Binocular/Monocular (SOVAS B/M). The SOVAS B/M program is developing the next generation SOF night vision goggle. This goggle will incorporate a fusion sensor that includes both image intensification and thermal imagery. This capability will allow the SOF operator to conduct mission in the full spectrum of ambient light levels.
- Precision Laser Targeting Device (PLTD). The PLTD will be a hand-held laser range finder and targeting device with an embedded GPS to provide the SOF operator with the ability to direct close air support missions by determining the geo-location of a target to support the delivery of GPS-guided munitions.
- SOF Combat Assault Rifle (SCAR). SCAR is an evolutionary acquisition, incremental approach that will provide the SOF operator with a 5.56 mm (SCAR-L) and a 7.62mm (SCAR-H) family of rifles that are modular in barrel length. SCAR variants will replace a suite of weapons currently in the SOF inventory. The objective design of SCAR is a single upper receiver assembly that is capable of accepting 5.56 NATO, 7.62 NATO and any other caliber ammunition developed and will be the primary focus. SCAR includes the 40mm Enhanced Grenade Launcher Module (EGLM), which replaces the M203 grenade launcher. EGLM includes a fire control unit (FCU) that provides precision ballistic solution. Enhanced ammunition for both SCAR and EGLM will be developed. This program was increased by a FY 2007 Congressional add.
- SOF Personal Equipment Advanced Requirements (SPEAR). SPEAR develops and acquires items that provide SOF Personnel required protection from natural threats (environmental, terrain, etc.), enemy (ballistics, laser, blunt trauma) threats, and survival items that allow them to perform at the required level to meet SOF Missions. SPEAR Kit includes; 1), ballistic armor, helmets, and eye wear, 2) cold weather, maritime and other protective clothing, 3) communication headsets and equipment, 4) load carriage and backpack

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Weapons and Support Systems Advanced Development /Project S375

systems, and other systems that address SOF operator deficiencies with regard to survival and mission execution in all terrains, climates and environments world wide.

- Artic/Mountain Climbing Warfare Boot. This was a FY 2006 and FY 2007 Congressional add to conduct market surveys for Commercial-off-the-shelf (COTS) products to conduct combat evaluations or develop a warfare boot that can provide the SOF operator footwear flexibility and protection in harsh warfare environments.
- Combat Boot-Polyurethane. This was a FY 2007 Congressional add to conduct market surveys for COTS products to conduct combat evaluations or develop a Polyurethane Combat Boot that can provide the SOF operator footwear flexibility and protection in harsh warfare environments.
- SOF Tactical Boot Suite Development. This was a FY 2007 Congressional add to develop a family of boots for use by the SOF operator in various mission sets and environments.
- Tactical Combat Casualty Care Equipment – Kit (TCCCEKIT). The TCCCEKIT is a technology transfer initiative to identify a variety of medical items and equipment approved by the Food and Drug Administration to include intraosseous infusion devices, patient monitoring and assessment devices, emergency airway kits, and devices that support patient management and enroute care capabilities for the far-forward treatment of SOF casualties in remote and austere environments.
- Multi-User Panoramic Synthetic Vision System. This initiative is a FY 2008 Congressional add. Provides for the evaluation of panoramic synthetic vision systems technology. Supports development of enhancements for perimeter protection and situational awareness.
- Nickel Boron Coating. This initiative was funded by Congressional adds in FY 2006 and FY 2007. Nickel Boron Coatings technology has the potential to provide a lubrication-free operation and corrosion protection to pistols, semi-automatic rifles and machine guns.
- Holographic Close Combat Optic. This initiative was funded by a FY 2007 Congressional add. Holographic sights provide operators with a rapid target acquisition display to engage in close quarters as well as distant targets with increased identification and accuracy.
- Special Operations Forces Advanced Mission Planning Tools. This initiative was funded by a FY 2008 Congressional add.

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Provides modernization to flight performance modules used to quickly calculate aircraft performance in preparation for SOF missions.

- SOF Special Purpose Tagging, Tracking and Locating Tool Kit. This initiative is a FY 2008 Congressional add. Provides for the development of tools for the operators to locate, identify, and defeat enemy forces in the Global War on Terror (GWOT).
- Expendable AirDrop Delivery Systems: Demonstrate utility of low-cost guided and unguided small cargo payload system for SOF resupply operations.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|---|-------|------|------|
| Family of Sniper Detection Systems (FSDS) (formerly HSR) | 1.170 | | |
| RDT&E Articles Quantity | | | |
| FY07 This initiative was a Congressional add. Developed a version of the FSDS to integrate onto combatant craft. | | | |
| | FY07 | FY08 | FY09 |
| Family of Sniper Weapons (FSW) | | .487 | .497 |
| RDT&E Articles Quantity | | | |
| FY08 Pursue a Precision Sniper Rifle capability. Conduct market research, industry conferences, and developmental testing. | | | |
| FY09 Conducts both developmental and operational test on the Anti-Materiel Rifle (AMR) capability. | | | |
| | FY07 | FY08 | FY09 |
| Lightweight Anti-Armor Weapon (LAW) Confined Space (CS) | 5.271 | | |
| RDT&E Articles Quantity | | | |
| FY07 Continued development of the LAW M72 variants. Continued development of the M72E8 with the Anti-Armor (AA) warhead and the Fire From Enclosure (FFE) propulsion, and the M72E10 with the Anti-Structural Munition (ASM) warhead and the FFE propulsion. The M72A9 with the ASM warhead and the rocket motor propulsion will have a Fielding & Deployment Release (F&DR) in FY08. | | | |
| | FY07 | FY08 | FY09 |
| Weapons Accessories (Formerly M4MOD) | .237 | .249 | .261 |
| RDT&E Articles Quantity | | | |
| FY07 Tested and evaluated Mini Day/Night Sight (MDNS) project improvements. | | | |
| FY08 Pursue fused clip-on imaging device through market research, industry conference, and solicitation to replace two systems: Image | | | |

Exhibit R-2a, RDT&E Project Justification

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| Appropriation/Budget Activity RDT&E.A BA # 7 | Weapons and Support Systems Advanced Development /Project S375 |
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|---|-------|-------|-------|
| Intensified Clip-on Night Vision Device (CVND- I2) and Thermal Clip-on Night Vision Device (CNVD-T). FY09 Conducts user assessments, test and evaluation and source selection of CNVD-F (Fused), and begins efforts on Family of Muzzle Brake Suppressors. | | | |
| | FY07 | FY08 | FY09 |
| Weapons Shot Counter | .974 | | |
| RDT&E Articles Quantity | | | |
| FY07 This initiative was a Congressional add. Developed a shot counter capability for machine guns and heavy weapons. | | | |
| | FY07 | FY08 | FY09 |
| SOF Laser Range Finder and Designator (SOFLRD) | | 3.411 | |
| RDT&E Articles Quantity | | | |
| FY08 Develop the next generation laser range finder and designator to support the delivery of laser guided and Global Positioning System (GPS) guided missiles and munitions. | | | |
| | FY07 | FY08 | FY09 |
| Special Operations Visual Augmentation Systems Binocular/Modular (SOVAS B/M) | | 1.463 | |
| RDT&E Articles Quantity | | | |
| FY08 Develop an advanced Night Vision Goggle system (i.e., sensor fusion), increasing the capabilities of the existing goggles. | | | |
| | FY07 | FY08 | FY09 |
| Precision Laser Target Device (PLTD) | 3.300 | .973 | |
| RDT&E Articles Quantity | | | |
| FY07 Procured long lead items for the development of four Low Rate Initial Production (LRIP) PLTDs. FY08 Continues weight reduction and miniaturization of the inertial navigation system. | | | |
| | FY07 | FY08 | FY09 |
| SOF Combat Rifle (SCAR) | 4.904 | | 2.001 |
| RDT&E Articles Quantity | | | |
| FY07 Continued development of the SCAR Sniper Support Rifle (SSR) and the Fire Control Unit (FCU) on the Enhanced Grenade Launcher Module (EGLM). The Initial Operational Test and Evaluation of the SCAR was funded by a FY 2007 Congressional add. FY09 Completes development of SCAR SSR and FCU on the EGLM. Conduct user assessment, test and evaluation of objective SCAR SSR. | | | |

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| Appropriation/Budget Activity RDT&E.A BA # 7 | Weapons and Support Systems Advanced Development /Project S375 |
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| | FY07 | FY08 | FY09 |
|--|-------|-------|------|
| Polyurethane Combat Boot | .974 | | |
| RDT&E Articles Quantity | | | |
| FY07 This initiative was a Congressional add. Developed United States manufacturing capability for polyurethane direct injection and conducted early user assessment. | | | |
| | FY07 | FY08 | FY09 |
| SOF Personal Equipment Advanced Requirement (SPEAR) | 3.543 | 2.048 | |
| RDT&E Articles Quantity | | | |
| FY07 Completed development of ballistic eyewear, body armor, eye protection, and backpacks. FY08 Initiate development of the next generation headset for the Modular Integrated Communication Helmet (MICH) and environmental protection for extremities and maritime. | | | |
| | FY07 | FY08 | FY09 |
| SPEAR-Artic/Mountain Climbing Warfare Boot | .974 | | |
| RDT&E Articles Quantity | | | |
| FY07 This initiative was a Congressional add. Research, develop, test and evaluate an extreme cold weather boot for SOF operators. | | | |
| | FY07 | FY08 | FY09 |
| SOF Tactical Boot Suite Development | .974 | | |
| RDT&E Articles Quantity | | | |
| FY07 This initiative was a Congressional add. Researched, developed, tested and evaluated a SOF peculiar boot suite. | | | |
| | FY07 | FY08 | FY09 |
| Tactical Combat Casualty Care Equipment Kit (TCCCEKIT) | .499 | .698 | |
| RDT&E Articles Quantity | | | |
| FY07 Entered concept development for modernization of SOF medical capabilities for operating in austere environments. Initiated prototype demonstrations of lighter, more efficient medical Sets, Kits and Outfits (SKOs) and far-forward surgical capabilities. Conduct operational assessment of SKOs in preparation for procurement and fielding. FY08 Initiates evaluation and qualification of SOF Surgeon and Casualty Evacuation (CASEVAC) kits. | | | |

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| Appropriation/Budget Activity RDT&E.A BA # 7 | Weapons and Support Systems Advanced Development /Project S375 |
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| | FY07 | FY08 | FY09 |
|--|------|-------|------|
| Multi_User Panoramic Synthetic Vision System | | 2.339 | |
| RDT&E Articles Quantity | | | |
| FY08 This initiative was a Congressional add. Developed technology associated panoramic vision systems. | | | |
| | FY07 | FY08 | FY09 |
| Nickel Boron Coating | .974 | | |
| RDT&E Articles Quantity | | | |
| FY07 This initiative was a Congressional add. Continued the effort to test and evaluate a nickel boron coating on SOF machine guns. | | | |
| | FY07 | FY08 | FY09 |
| Holographic Close Combat Optic | .974 | | |
| RDT&E Articles Quantity | | | |
| FY07 This initiative was a Congressional add. Developed a Holographic Close Combat Optic application to be utilized on low velocity 40mm weapons and heavy machine guns. | | | |
| | FY07 | FY08 | FY09 |
| Special Operations Forces Advanced Mission Planning Tools | | 3.118 | |
| RDT&E Articles Quantity | | | |
| FY08 This initiative is a Congressional add. Develops software tools that enable management flight performance modules in preparation for SOF missions. | | | |
| | FY07 | FY08 | FY09 |
| Special Operations Forces Special Purpose Tagging, Tracking, and Locating Took Kit | | .974 | |
| RDT&E Articles Quantity | | | |
| FY08 This initiative is a Congressional add. Provides for the development of tools for operators to locate, identify and defeat enemy forces. | | | |
| | FY07 | FY08 | FY09 |
| Expendable AirDrop Delivery System | | .780 | |
| RDT&E Article Quantity | | | |
| FY08 This initiative is a Congressional add. Provides for the evaluation of technology associated with expendable airdrop delivery systems. | | | |

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Weapons and Support Systems Advanced Development /Project S375

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| PROC, Small Arms and Weapons | 192.184 | 201.397 | 15.689 | 30.089 | 29.501 | 4.341 | 12.839 | Cont. | Cont. |

D. Acquisition Strategy.

- FSW (formerly HSR). Precision Sniper Rifle will pursue a .338 round to meet range capability gap from 1000-1500m. Anti-Materiel Rifle will pursue technology that will provide SOF with accurate engagement on hard targets, critical nodes, and other materiel.
- SCAR. SCAR program develops a weapon system to replace current M4A1, MK18 Close Quarters Battle Rifle (CQBR), MK11 and MK12 Sniper Support Rifles, the M14 Assault Rifle, and the M203 Grenade Launcher. SCAR in its threshold design is a 5.56mm (SCAR-L) and a 7.62mm (SCAR-H) weapon that will have modular barrel lengths to ensure versatility to mission requirement. Spiral development within the program seeks the objective of a single weapon capable of complete caliber modularity. Additionally, the Enhanced Grenade Launcher Module (EGLM) will provide SOF with a 40mm shoulder fired capability. EGLM is compatible with both SCAR-H and SCAR-L and has spiral developments within 40mm ammunition as well as Fire Control capability furthering the combat effectiveness of SOF.
- Weapons Accessories (formerly M4MOD). The Weapons accessories program funds efforts to optimize the effectiveness of all SOF weapons in order to increase their operational effectiveness through improved target recognition, acquisition and hit capability during day and night from close quarters to maximum effective range of each weapon. The program spiral develops new capabilities in block upgrades that are first developed and tested, and then fielded to the full spectrum of SOF operators. This program will leverage and then drive the advancement of accessories within this program. All SOF weapons programs leverage the weapons accessories program to increase operational effectiveness. Blocks include family of muzzle brake suppressors, Clip-On Night Vision Devices (CNVD)–Image Intensified, CNVD-Thermal, and CNVD-Fused, as well as numerous other components designed to enhance the capabilities of the weapon while at the same time combining capabilities into single, smaller devices.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 SOF Weapons Systems/PE1160477BB Weapons Systems Advance Development/S375

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|--|------------------------------|--------------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Hardware Dev | | | | | | | | | | | |
| Family Sniper Detection System (FSDS) - CP | FFP/T&M | PM-CCS, Picatinny, NJ | 1.687 | 0.845 | Dec-06 | | | | | | 2.532 |
| Light Weight Anti-Armor Weapon (LAW) | Various | NSWC-Crane, Crane, IN | 1.664 | 1.881 | Dec-06 | | | | | | 3.545 |
| Weapons Accessories (formerly M4MOD) | Various | NSWC-Crane, Crane, IN | 5.213 | 0.163 | Jan-07 | | | | | | 5.376 |
| Nickle Boron Coating - CP | ALLOT | NSWC-Crane, Crane, IN | | 0.259 | Jun-07 | | | | | | 0.259 |
| M4MOD Shot Counter -SOF Machine Gun (SMG) - CP | ALLOT | NSWC-Crane, Crane, IN | | 0.269 | Dec-07 | | | | | | 0.269 |
| SOF Laser Rangefinder (SOFLRD) | ALLOT | TBD | | | | 3.411 | Jun-08 | | | | 3.411 |
| SOF VAS Bino/Mono | ALLOT | Various | | | | 1.463 | Jun-08 | | | | 1.463 |
| Precision Laser Targeting Device | CPFF | PM Sensors & Lasers, Ft. Belvoir, VA | 2.870 | 3.300 | Sep-07 | 0.973 | Jan-08 | | | | 7.143 |
| SOF Combat Assault Rifle (SCAR) - Sniper Support Rifle (SSR) | ALLOT | NSWC-Crane, Crane, IN | | 1.294 | Jan-07 | | | | | Cont. | Cont. |
| SCAR - Enhanced Grenade Launcher Module (EGLM) - Fire Control Unit | ALLOT | NSWC-Crane, Crane, IN | | 1.200 | | | | | | | 1.200 |
| SOF Personal Equipment Advanced Requirements (SPEAR) | Various | PM Spear, Natick, MA | 3.507 | 1.202 | Jun-07 | | | | | | 4.709 |
| Tactical Combat Casualty Care Equipment Kit (TCCCE) Kit | Various | Various | 0.051 | 0.499 | Mar-07 | 0.200 | Mar-08 | | | | 0.750 |
| Holographic Close Combat Optic-CP | TBD | TBD | | 0.974 | TBD | | | | | | 0.974 |
| Advanced Planning Tools-CP | CPFF | SAIC Morgantown WV | | | | 3.118 | Feb-08 | | | | 3.118 |
| Subtotal Product Dev | | | 14.992 | 11.886 | | 9.165 | | 0.000 | | Cont. | Cont. |

Remarks:

| | | | | | | | | | | | |
|-------------------------------------|---------|--------------------------------------|-------|-------|---------|--|--------|--|--|--|-------|
| Development Spt | | | | | | | | | | | |
| Lightweight Anti-Armor Weapon (LAW) | Various | NSWC-Crane, Crane, IN | 1.314 | 1.397 | Dec-06 | | | | | | 2.711 |
| Weapons Accessories | ALLOT | NSWC-Crane, Crane, IN | 0.413 | 0.042 | Various | | | | | | 0.455 |
| Nickle Boron Coating -CP | ALLOT | NSWC-Crane, Crane, IN | | 0.245 | May-07 | | | | | | 0.245 |
| Shot Counter -SMG CP | ALLOT | NSWC-Crane, Crane, IN | | 0.199 | Dec-07 | | | | | | 0.199 |
| PLTD | CPFF | PM Sensors & Lasers, Ft. Belvoir, VA | 0.250 | 0.200 | Sep-07 | | Feb-08 | | | | 0.450 |

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 SOF Weapons Systems/PE1160477BB Weapons Systems Advance Development/S375

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|--|------------------------------|--------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| SCAR | ALLOT | NSWC-Crane, Crane, IN | 0.443 | 0.240 | Jan-07 | | | | | | 0.683 |
| SPEAR | Various | PM Spear, Natick, MA | 2.414 | 0.589 | Various | | Various | | | | 3.003 |
| SPEAR Combat boot-CP | ALLOT | PM Spear, Natick, MA | 0.000 | 0.374 | May-07 | | | | | | 0.374 |
| SPEAR Arctic boot-CP | ALLOT | PM Spear, Natick, MA | 0.000 | 0.350 | May-07 | | | | | | 0.350 |
| SPEAR Tactical Boot Suite-CP | ALLOT | PM Spear, Natick, MA | 0.000 | 0.454 | Jul-07 | | | | | | 0.454 |
| Integrated Logistics Spt | | | | | | | | | | | |
| SCAR | ALLOT | NSWC-Crane, Crane, IN | | 0.112 | Jan-07 | | | | | Cont. | Cont. |
| Configuration Mgmt | | | | | | | | | | | 0.000 |
| SPEAR | ALLOT | PM Spear, Natick, MA | 0.000 | 0.066 | Various | | | | | | 0.066 |
| Subtotal Spt | | | 4.834 | 4.268 | | 0.000 | | | | Cont. | Cont. |

Remarks:

| | | | | | | | | | | | |
|--|---------|-----------------------|--|-------|---------|-------|--------|-------|--------|-------|-------|
| Developmental Test | | | | | | | | | | | |
| Family of Sniper Weapons (FSW) Anti-Materiel Rifle (AMR) | ALLOT | NSWC-Crane, Crane IN | | | | | | 0.497 | TBD | Cont. | Cont. |
| FSW Precision Sniper Rifle (PSR) | ALLOT | NSWC-Crane, Crane IN | | | | 0.487 | Feb-08 | | | Cont. | Cont. |
| Shot Counter -SMG CP | ALLOT | NSWC-Crane, Crane, IN | | 0.139 | Apr-07 | | | | | | 0.139 |
| Nickle Boron Coating -CP | ALLOT | NSWC-Crane, Crane, IN | | 0.220 | Various | | | | | | 0.220 |
| Weapons Accessories-Enhanced Combat Optical Sight (ECOS) - Close quarter | Various | NSWC-Crane, Crane, IN | | | | 0.038 | Mar-08 | | | Cont. | Cont. |
| Weapons Accessories-CNVD-Fused Image | Various | NSWC-Crane, Crane, IN | | | | 0.092 | | 0.099 | Jan-09 | Cont. | Cont. |
| Weapons Accessories-Image Intensified | Various | NSWC-Crane, Crane, IN | | | | 0.050 | | 0.025 | Jan-09 | Cont. | Cont. |
| Weapons Accessories-CNVD-Thermal | Various | NSWC-Crane, Crane, IN | | | | 0.050 | | 0.025 | Jan-09 | Cont. | Cont. |
| Weapons Accessories-ECOS | Various | NSWC-Crane, Crane, IN | | | | | | 0.010 | Feb-09 | Cont. | Cont. |
| Weapons Accessories-ECOS- Close quarter | Various | NSWC-Crane, Crane, IN | | | | | | 0.010 | Feb-09 | Cont. | Cont. |
| Family of Muzzle Breaks and Suppressors Carbine (FMBS-C) | Various | NSWC-Crane, Crane, IN | | | | 0.014 | Jan-08 | 0.010 | Jan-09 | Cont. | Cont. |
| Family of Muzzle Breaks and Suppressors Heavy (FMBS-H) | Various | NSWC-Crane, Crane, IN | | | | | | 0.005 | Jan-09 | Cont. | Cont. |

| APPROPRIATION / BUDGET ACTIVITY | | | SOF Weapons Systems/PE1160477BB | | | | | | | | |
|--|------------------------------|--------------------------------|--|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| RDT&E DEFENSE-WIDE / 7 | | | Weapons Systems Advance Development/S375 | | | | | | | | |
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Family of Muzzle Breaks and Suppressors Pistol (FMBS-P) | Various | NSWC-Crane, Crane, IN | | | | | | 0.005 | Apr-09 | Cont. | Cont. |
| Family of Muzzle Breaks and Suppressors Sniper (FMBS-S) | Various | NSWC-Crane, Crane, IN | | | | | | 0.010 | Apr-09 | Cont. | Cont. |
| Visible Bright Light Illuminator | Various | NSWC-Crane, Crane, IN | | | | 0.005 | Jan-08 | 0.005 | Jan-09 | Cont. | Cont. |
| SCAR - Light | ALLOT | NSWC-Crane, Crane, IN | 0.654 | 0.010 | Jan-07 | | | 2.001 | Jan-09 | Cont. | Cont. |
| SPEAR | ALLOT | NSWC-Crane, Crane, IN | | | | | | | | | |
| SPEAR Body Armor P3I | ALLOT | PM Spear, Natick, MA | 1.719 | 0.200 | Various | 0.300 | Various | | | Cont. | Cont. |
| SPEAR Modular Side Armor Protection (MSAP) | ALLOT | PM Spear, Natick, MA | | 0.189 | Various | | | | | | 0.189 |
| SPEAR Backpacks | ALLOT | PM Spear, Natick, MA | | 0.030 | Various | | | | | | 0.030 |
| SPEAR Eye Protection | ALLOT | PM Spear, Natick, MA | | 0.015 | Various | | | | | | 0.015 |
| SPEAR MICH Helmet | ALLOT | PM Spear, Natick, MA | | 0.246 | Nov-08 | 1.251 | Various | | | | 1.497 |
| SPEAR Environmental Protection | ALLOT | PM Spear, Natick, MA | | | | 0.398 | Various | | | | 0.398 |
| SPEAR Maritime | ALLOT | PM Spear, Natick, MA | | | | 0.099 | Various | | | | 0.099 |
| Operational Test | | | | | | | | | | | |
| FSDS - CP | ALLOT | PM-CCS, Picatinny, NJ | 0.075 | 0.245 | Dec-06 | | | | | | 0.320 |
| Weapons Accessories | ALLOT | NSWC-Crane, Crane, IN | 2.982 | | | | | | | Cont. | Cont. |
| Shot Counter -SMG- CP | ALLOT | NSWC-Crane, Crane, IN | | 0.367 | Various | | | | | | 0.367 |
| Nickle Boron Coating - CP | ALLOT | NSWC-Crane, Crane, IN | | 0.250 | Various | | | | | | 0.250 |
| SPEAR | | | | | | | | | | | |
| SPEAR MSAP | ALLOT | PM Spear, Natick, MA | | 0.060 | Various | | | | | | 0.060 |
| SPEAR Backpacks | ALLOT | PM Spear, Natick, MA | | 0.030 | Nov-07 | | | | | | 0.030 |
| SPEAR Eye Protection | ALLOT | PM Spear, Natick, MA | | 0.051 | Nov-07 | | | | | | 0.051 |
| SPEAR Combat boot-CP | ALLOT | PM Spear, Natick, MA | | 0.350 | May-07 | | | | | | 0.350 |
| SPEAR Artic boot-CP | ALLOT | PM Spear, Natick, MA | | 0.474 | May-07 | | | | | | 0.474 |
| SPEAR Tactical Boot Suite-CP | ALLOT | PM Spear, Natick, MA | | 0.520 | Various | | | | | | 0.520 |
| SCAR -SSR | ALLOT | NSWC-Crane, Crane, IN | 1.592 | 1.194 | Jan-07 | | | | Dec-08 | Cont. | Cont. |
| SCAR - EGLM - FCU | ALLOT | NSWC-Crane, Crane, IN | | 0.350 | Nov-07 | | | | | | 0.350 |
| SOF Special Purpose Tagging, Tracking, and Locating Tool | ALLOT | TBD | | | | 0.974 | TBD | | | | 0.974 |

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

APPROPRIATION / BUDGET ACTIVITY SOF Weapons Systems/PE1160477BB
 RDT&E DEFENSE-WIDE / 7 Weapons Systems Advance Development/S375

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|--|------------------------------|--------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Tactical Combat Casualty Care Equipment TCCCE-Kits | ALLOT | USAMMA-Medical Material | | | | 0.498 | Jan-08 | | | | 0.498 |
| Subtotal T & E | | | 7.022 | 4.940 | | 4.256 | | 2.702 | | Cont. | Cont. |

Remarks:

| | | | | | | | | | | | |
|---------------------------------|-------|-----------------------|-------|-------|---------|-------|---------|-------|--------|-------|-------|
| Government Eng Spt SPEAR | ALLOT | PM Spear, Natick, MA | 0.447 | 0.717 | Various | | | | | | 1.164 |
| Engineering Support LAW | ALLOT | NSWC-Crane, Crane, IN | 0.200 | 1.993 | Dec-06 | | | | | | 2.193 |
| SCAR | ALLOT | NSWC-Crane, Crane, IN | 0.300 | 0.144 | Jan-07 | | | | | Cont. | Cont. |
| SPEAR Combat boot-CP | ALLOT | PM Spear, Natick, MA | | 0.250 | May-07 | | | | | | 0.250 |
| SPEAR Artic boot-CP | ALLOT | PM Spear, Natick, MA | | 0.150 | May-07 | | | | | | 0.150 |
| Multi-Panoramic Vision Sys-CP | ALLOT | TBD | | | | 2.339 | Various | | | | 2.339 |
| Expendable Airdrop Del-CP | ALLOT | TBD | | | | 0.780 | Various | | | | 0.780 |
| Weapons Accessories-Sustain Eng | ALLOT | TBD | | | | | | 0.057 | Jan-09 | Cont. | Cont. |
| Travel FSDS | ALLOT | PM-CCS, Picatinny, NJ | 0.125 | 0.080 | Dec-06 | | | | | | 0.205 |
| M4MOD | ALLOT | NSWC-Crane, Crane, IN | 0.384 | 0.032 | Various | | | | | | 0.416 |
| SCAR | ALLOT | NSWC-Crane, Crane, IN | 0.070 | 0.160 | Various | | | | | Cont. | Cont. |
| SPEAR | ALLOT | PM Spear, Natick, MA | 0.323 | 0.148 | Various | | | | | | 0.471 |
| Subtotal Management | | | 1.849 | 3.674 | | 3.119 | | 0.057 | | Cont. | Cont. |
| Systems Engineering | | | | | | | | | | | |
| Subtotal Sytems Engineering | | | | | | | | | | Cont. | |

Remarks:

| | | | | | | | | | | | |
|------------|--|--|--------|--------|--|--------|--|-------|--|-------|-------|
| Total Cost | | | 28.697 | 24.768 | | 16.540 | | 2.759 | | Cont. | 0.000 |
|------------|--|--|--------|--------|--|--------|--|-------|--|-------|-------|

Remarks

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|---|---|---|---|------|---|---|---|---------------------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160477BB/Special Operations Forces Weapons Systems | | | | | | | | | | | | | Project S375/Weapons Systems Advanced Development | | | | | | | | | | | | | | |
| Fiscal Year | | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | | | | | 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 |
| SOF Advanced Planning Tools-CP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | | | | |
| Expendable Airdrop Delivery System-CP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Support | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | | | | |
| Family of Sniper Detection Systems (FSDS) - CP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FSDS Block I Variant Hardware Development | | | | | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| FSDS OT | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | |
| Family of Sniper Weapons (FSW) - (formerly HSR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FSW-PSR DT/OT | | | | | | | | | △ | — | △ | | | | | △ | | | | △ | | | | | | | | | | | | |
| FSW Anti Materiel Rifle Development | | | | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | |
| SOF Special Purpose Tagging Tracking Locating Tool-CP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Test | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | | | | |
| Lightweight Anti-Armor Weapon (LAW) M72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LAW Confined Space Development | | | | | | | ▲ | — | △ | | | | | | | | | | | | | | | | | | | | | | | |
| LAW-CS MS C | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | |
| Weapons Accessories (Formerly M4MOD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Weapon Shot Counter LRIP - CP | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | |
| Weapon Shot Counter SMG Development -CP | | | | | | | | | ▲ | — | △ | | | | | | | | | | | | | | | | | | | | | |
| Weapon Nickel Boron Coating Lube-free M-4 - CP | | | | | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| Weapon Nickel Boron Coating Development SMG- CP | | | | | | | | | ▲ | — | — | △ | | | | | | | | | | | | | | | | | | | | |
| Mini Day/Night Sight (MDNS) Development | | | | | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|---|---|---|---|------|---|---|---|---------------------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160477BB/Special Operations Forces Weapons Systems | | | | | | | | | | | | | Project S375/Weapons Systems Advanced Development | | | | | | | | | | | | | | |
| Fiscal Year | | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | | | | | 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 |
| MDNS DT | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| Clip-On Night Vision Device - Fused (CNVD-F) - Development (Formerly under MDNS) | | | | | | | | ▲ | — | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ |
| CNVD-F DT | | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | |
| CNVD - Image Intensified (I2) Development | | | | | | | | ▲ | — | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ |
| CNVD-I2 DTMDNS Image Intensified DT | | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | |
| CNVD-Thermal Development | | | | | | | | ▲ | — | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ |
| CNVD-T DT | | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | |
| Enhanced Combat Optical Sight (ECOS) Close Quarter DT | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | |
| ECOS Close Quarter OT | | | | | | | | | | | | | | | | △ | — | — | △ | | | | | | | | | | | | | |
| Family of Muzzle Break and Suppressors (FMBS) - Carbine System Engineering | | | | | | | | ▲ | — | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ |
| FMBS-H (Heavy) Systems Engineering | | | | | | | | | | | | | | | | △ | — | — | △ | | | | | | | | | △ | — | — | △ | |
| FMBS - P(Pistol) Systems Engineering | | | | | | | | | | | | | | | | △ | | | △ | | | | △ | | | | △ | | | | | |
| FMBS-S (Sniper) Systems Engineering | | | | | | | | | | | | | | | | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | | | | | |
| Visible Bright Light Illuminator Systems Engineering | | | | | | | | △ | — | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | △ | — | — | △ | | | | |
| SOF Laser Rangefinder and Designator (SOFLRD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Development | | | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | |
| Special Operations Visual Aug Sys Bino/Mono | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Development | | | | | | | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | |
| Multi-User Panoramic Synthetic Vision System-CP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Engineering Support | | | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | |
| Precision Laser Targeting Device (PLTD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PLTD Block I MS C | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|---|---|---|---|------|---|---|---|---------------------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160477BB/Special Operations Forces Weapons Systems | | | | | | | | | | | | | Project S375/Weapons Systems Advanced Development | | | | | | | | | | | | | | | | |
| Fiscal Year | | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | |
| | | | | | 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 | | |
| PLTD BLK II Inertial Navigational System Minaturization, P3I | | | | | | | | | ▲ | — | — | — | △ | | | | | | | | | | | | | | | | | | | | | |
| SOF Combat Assault Rifle - Light | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initial Operation Test and Evaluation (IOT&E) | | | | | | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS-C Full Rate Product (FRP) | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | | | |
| First Unit and Equipment (FUE) | | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | |
| SCAR - EGLM System Engineering | | | | | | | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | |
| SCAR - SSR System Engineering | | | | | | | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | |
| SOF Personnel Equipment Advanced Requirements (SPEAR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPEAR Body Armor P3I | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT | | | | | | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| OT | | | | | | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS C | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IOC | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPEAR Body Armor Modular Side Armor (MSAP) P3I | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT/OT | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS C | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IOC | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPEAR Backpacks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OT | | | | | | | ▲ | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS C | | | | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | |
| SPEAR Eye Protection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS A/B | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT | | | | | | | ▲ | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|
| Appropriation/Budget Activity | | | | | | | | | | | | | Program Element Number and Name | | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | | | | | | | | | PE1160477BB/Special Operations Forces Weapons Systems | | | | | | | | | | | | | Project S375/Weapons Systems Advanced Development | | | | | | | | | | | | | | | |
| Fiscal Year | | | | | | | | | | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | |
| | | | | | | | | | | | | | 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 | |
| Tactical Combat Casualty Care Kit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SOF Surgeon Kits Development (test articles) | | | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Testing | | | | | | | | | | | | | | | | | | | △ | △ | | | | | | | | | | | | | | | | | | | | | |
| Tactical Combat Casualty Evacuation (CASEVAC) Kits | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Concept Development CASEVAC Kits | | | | | | | | | | | | | ▲ | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Demonstrations CASEVAC Kits | | | | | | | | | | | | | | | | | △ | △ | △ | △ | | | | | | | | | | | | | | | | | | | | | |
| Holographic Close Combat Optic Development - CP | | | | | | | | | | | | | ▲ | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | Date: FEBRUARY 2008 | | | | | |
|--|--|--|---------------------|--------|--------|--------|--------|--------|
| Appropriation/Budget Activity | Program Element Number and Name | Project Number and Name | | | | | | |
| RDT&E/7 | PE1160404BB/Special Operations Tactical Systems Development (FY06-08)/PE1160477BB/SOF Weapon Systems (FY09-13) | Project 375/Weapons Systems Advanced Development | | | | | | |
| Schedule Profile | | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 |
| SOF Advanced Planning Tools-CP | | | | | | | | |
| Hardware Development | | | 2-4Q | | | | | |
| Expendable Airdrop Delivery System-CP | | | | | | | | |
| Developmental Support | | | 2-4Q | | | | | |
| Family of Sniper Detection Systems (FSDS) - CP | | | | | | | | |
| FSDS Block I Variant - Hardware Development & Fabrication | | 1 - 4Q | 1Q | | | | | |
| FSDS OT | | | 1Q | | | | | |
| Family of Sniper Weapon (FSW) - (Formerly HSR) | | | | | | | | |
| DT/OT | | | 2 - 3Q | 3Q | 1Q | | | |
| Anti-Materiel Rifle Development | | | | 1 - 4Q | | | | |
| SOF Special Purpose Tagging Tracking Locating Tool-CP | | | | | | | | |
| Developmental Test | | | 2-3Q | | | | | |
| Lightweight Anti-Armor Weapon (LAW) M72 | | | | | | | | |
| Develop LAW Confined Space | | 3-4Q | 1-2Q | | | | | |
| LAW - CS MS C | | | 4Q | | | | | |
| Weapons Accessories (formerly M4MOD) | | | | | | | | |
| Weapon Shot Counter LRIP-CP | | 4Q | | | | | | |
| SOF Machine Gun (SMG) Shot Counter Development-CP | | 4Q | 1-2Q | | | | | |
| Nickel Boron Coating Lube-free M-4-CP | | 1 - 4Q | | | | | | |
| Nickel Boron Coating Development SMG-CP | | 4Q | 1-4Q | | | | | |
| Mini Day/Night Sight (MDNS) Development | | 2 -4Q | | | | | | |
| MDNS DT | | 4Q | | | | | | |
| Clip-on Night Vision Device - Fused Image Development | | | 1-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q |
| Clip-on Night Vision Device - Fused Image DT | | | | 3 Q | | | | |
| Clip-on Night Vision Device - I2 Development | | | 1-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q |
| Clip-on Night Vision Device - I2 DT | | | | 4Q | | | | |
| Clip-on Night Vision Device - T Development | | | 1-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q |
| Clip-on Night Vision Device Thermal DT | | | | 4Q | | | | |
| Enhanced Combat Optical Sight (ECOS) DT | | | 3Q | 2-4Q | | | | |
| ECOS Close Quarter OT | | | | 2-4Q | | | | |
| Family of Muzzle Break and Suppressors (FMBS)-Carbine System Engineering | | | 1-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q | 1-2Q |

| Exhibit R-4a, RDT&E Program Schedule Detail | | | Date: FEBRUARY 2008 | | | | |
|--|--|--------|--|--------|--------|--------|--------|
| Appropriation/Budget Activity | Program Element Number and Name | | Project Number and Name | | | | |
| RDT&E/7 | PE1160404BB/Special Operations Tactical Systems Development (FY06-08)/PE1160477BB/SOF Weapon Systems (FY09-13) | | Project 375/Weapons Systems Advanced Development | | | | |
| Schedule Profile | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 |
| FMBS- H (Heavy) Systems Engineering | | | 2-4Q | 2-4Q | | 2Q | 1-2Q |
| FMBS-P (Pistol) Systems Engineering | | | 3Q | 3Q | 3Q | 3Q | 3Q |
| FMBS-S (Sniper Rifle) Systems Engineering | | | 2-4Q | 1-2Q | 3-4Q | 1-2Q | |
| Visible Bright Light Illuminator Systems Engineering | | 1-4Q | 2-4Q | 1-2Q | 2-4Q | 1-2Q | |
| SOF Laser RangeFinder and Designator | | | | | | | |
| Prototype Development | | 3-4Q | | | | | |
| Special Operations Visual Augmentation System Binocular/Monocular | | | | | | | |
| Prototype Development | | 2-4Q | | | | | |
| Multi-Use Panoramic Synthetic Vision System | | | | | | | |
| Engineering Support | | 2 - 4Q | | | | | |
| Precision Laser Target Device (PLTD) | | | | | | | |
| Block I PLTD - MS C | 4Q | | | | | | |
| Block II PLTD Inertial Navigation System (INS) Minaturization, P3I | | 1-4Q | | | | | |
| SOF Combat Assault Rifle - Light | | | | | | | |
| Initial Operational Test and Evaluation (IOT&E) | 2 - 4Q | 1Q | | | | | |
| MS C Full Rate Production (FRP) | | 2Q | | | | | |
| First Unit and Equipped (FUE) | | | 2Q | | | | |
| SCAR - EGLM Systems Engineering | | | 3-4Q | 3-4Q | | | |
| SCAR - SSR Systems Engineering | | | 1-2Q | 1-2Q | | | |
| SOF Personal Equipment Advanced Requirements (SPEAR) | | | | | | | |
| SPEAR Body Armor P3I | | | | | | | |
| DT | 1 - 4Q | | | | | | |
| OT | 1 - 4Q | | | | | | |
| MS C | 3Q | | | | | | |
| IOC | 1Q | | | | | | |
| SPEAR Body Armor P3I Modular Side Armor (MSAP) | | | | | | | |
| DT/OT | 1Q | | | | | | |
| MS C | 2Q | | | | | | |
| IOC | 4Q | | | | | | |
| SPEAR Backpacks | | | | | | | |
| DT | 2Q | | | | | | |

| Exhibit R-4a, RDT&E Program Schedule Detail | | | Date: FEBRUARY 2008 | | | | |
|--|--|--|---------------------|--------|--------|--------|--------|
| Appropriation/Budget Activity | Program Element Number and Name | Project Number and Name | | | | | |
| RDT&E/7 | PE1160404BB/Special Operations Tactical Systems Development (FY06-08)/PE1160477BB/SOF Weapon Systems (FY09-13) | Project 375/Weapons Systems Advanced Development | | | | | |
| Schedule Profile | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 |
| SPEAR Backpacks (Cont'd) | | | | | | | |
| OT | 2 - 3Q | | | | | | |
| MS C | | 1Q | | | | | |
| SPEAR Eye Protection | | | | | | | |
| MS A/B | 1Q | | | | | | |
| DT | 2 - 3Q | | | | | | |
| OT | 2 - 3Q | | | | | | |
| MS C | | 1Q | | | | | |
| IOC | | 3Q | | | | | |
| SPEAR Modular Integrated Communications Helmet | | | | | | | |
| Next Generation Communications Headsets DT/OT | | 1 - 4Q | 1Q | | | | |
| SPEAR Protective Combat Uniform (PCU) | | | | | | | |
| SPEAR-Environmental Protection (Developmental Testing) | | 2Q | | | | | |
| SPEAR-Maritime (Developmental Testing) | | 2Q | | | | | |
| Extremity Protection Gloves - MS B | | 2Q | | | | | |
| Extremity Protection - Gloves - DT | | 4Q | | | | | |
| SPEAR Polyurethane Combat Boot-CP | | | | | | | |
| Concept Development | 2 - 3Q | | | | | | |
| Early User Assessment | 3 - 4Q | 1 - 2Q | | | | | |
| SPEAR Arctic Warfare Mountaineering Boot-CP | | | | | | | |
| Concept Development | 2 - 3Q | | | | | | |
| Early User Assessment | 3 - 4Q | 1 - 2Q | | | | | |
| SPEAR SOF Tactical Boot Suite Development-CP | | | | | | | |
| Concept Development | 2 - 3Q | | | | | | |
| Early User Assessment | 3 - 4Q | 1 - 2Q | | | | | |
| Tactical Combat Casualty Care Equipment Kit | | | | | | | |
| Medical and Operator Kits | | | | | | | |
| Prototype Demonstrations | 1Q | | | | | | |
| Operational Assessment | 1 - 2Q | | | | | | |
| Initial Fielding | 3Q | | | | | | |
| Tactical Combat Casualty Evacuation (CASEVAC) Kits | | | | | | | |
| CASEVAC - Concept Development | 1-4Q | 1Q | | | | | |
| CASEVAC - Prototype Demonstrations | | 2 - 4Q | | | | | |
| Tactical-Combat Casualty Care Equipment Kit | | | | | | | |
| SOF Surgeon Kits Development (test articles) | | 2Q | | | | | |
| Developmental Testing | | 3-4Q | | | | | |

| Exhibit R-4a, RDT&E Program Schedule Detail | | | Date: FEBRUARY 2008 | | | | |
|--|--|---------------|--|---------------|---------------|---------------|---------------|
| <u>Appropriation/Budget Activity</u> | <u>Program Element Number and Name</u> | | <u>Project Number and Name</u> | | | | |
| RDT&E/7 | PE1160404BB/Special Operations Tactical Systems Development (FY06-08)/PE1160477BB/SOF Weapon Systems (FY09-13) | | Project 375/Weapons Systems Advanced Development | | | | |
| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> |
| Holographic Close Combat Optic Development -CP | 2-4Q | 1Q | | | | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------------|---|-------|---------------|-------|-------|------------------|------------|--|-------------|-------------|-------------|-----------------------------|--|--|--|----------------------------|--|--|-------|-------------------|--|--|-------|----------------------------------|--|--|--|-------------------------|--|--|--|----------------|--|--|--|---------------------------|--|--|-------|---------------|--|--|--|
| | | | | | FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPROPRIATION / BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE / PROJECT NO. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RDT&E, DEFENSE-WIDE / 7 | | | PE 1160478BB SOF Soldier Protection and Survival Systems/S385 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY12 | Cost to Complete | Total Cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PE1160478BB | | | 3.190 | 1.467 | 1.488 | 1.524 | 1.923 | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S385 SOF Soldier Protection and Survival Systems | | | 3.190 | 1.467 | 1.488 | 1.524 | 1.923 | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p><i>A new program element (PE)(1160478BB) was established beginning in FY 2009 for SOF Soldier Protection and Survival Systems. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.</i></p> <p>A. Mission Description and Budget Item Justification: This program element provides for development, testing, and integration of specialized equipment to meet the unique soldier protection and survival requirements of Special Operations Forces (SOF). Specialized equipment will improve survivability and mobility of Special Operations Forces (SOF) while conducting varied missions. These missions are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy.</p> <p>B. Program Change Summary:</p> <table border="0"> <thead> <tr> <th></th> <th><u>FY07</u></th> <th><u>FY08</u></th> <th><u>FY09</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Current President's Budget</td> <td></td> <td></td> <td>3.190</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td></td> <td>3.190</td> </tr> <tr> <td> Congressional Program Reductions</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Increases</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Program Adjustments</td> <td></td> <td></td> <td>3.190</td> </tr> <tr> <td> SBIR Transfer</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | Previous President's Budget | | | | Current President's Budget | | | 3.190 | Total Adjustments | | | 3.190 | Congressional Program Reductions | | | | Congressional Increases | | | | Reprogrammings | | | | Other Program Adjustments | | | 3.190 | SBIR Transfer | | | |
| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Previous President's Budget | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Current President's Budget | | | 3.190 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Adjustments | | | 3.190 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Program Reductions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Increases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reprogrammings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other Program Adjustments | | | 3.190 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SBIR Transfer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160478BB SOF Soldier Protection and Survival Systems/S385 | |
| <p>Funding:</p> <p>FY07: No change.</p> <p>FY08: No change.</p> <p>FY09: A new PE (1160478BB) and Project (S385) were established beginning in FY 2009 for SOF Soldier Protection and Survival Systems. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development and Project S375, Weapon Systems Advanced Development.</p> <p>Schedule: None.</p> <p>Technical: None</p> | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Soldier Protection and Survival Systems/Project S385 | |

| Cost (\$ in million) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|---|------|------|-------|-------|-------|-------|-------|
| SOF Soldier Protection and Survival Systems | | | 3.190 | 1.467 | 1.488 | 1.524 | 1.923 |
| RDT&E Articles Quantity | | | | | | | |

A new project S385 was established for SOF Soldier Protection and Survival Systems beginning in FY 2009. FY 2009-2013 resources were moved from project S375, Weapons Systems Advanced Development. .

A. Mission Description and Budget Item Justification: This project provides for development, testing, and integration of specialized equipment to meet the unique soldier protection and survival requirements of Special Operations Forces (SOF). Specialized equipment will improve survivability and mobility of SOF while conducting varied missions. These missions are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. Sub-projects include:

- SOF Personal Equipment Advanced Requirements (SPEAR).
 - SPEAR Body Armor/Load Carriage Systems (BALCS). BALCS improves the survivability and mobility of SOF while conducting their varied missions. The BALCS will maximize ballistic protection, buoyancy compensation and load carrying capacity while minimizing the burden of weight, bulk and heat stress. Body armor efforts address the emerging ballistics threats, and the Load Carriage System efforts continue to provide the ability to modularize the load carriage systems for specific missions.
 - SPEAR Environmental Protection. SPEAR Environmental Protection allows the SOF operator to maintain effectiveness while operating in all environmental conditions (cold weather, jungle, alpine, maritime, etc). It allows the operator to tailor the environmental protection necessary to operate in extreme environmental conditions, while allowing for seamless transition between conditions.
 - SPEAR Next Generation Helmet Communications. The SPEAR Next Generation Helmet Communications effort will provide reliable helmet headset communications across multiple networks. The system will allow the operator to communicate using a variety of SOF-unique and Service Common communication systems and platform Internal Communication Systems (ICS) throughout a mission from insertion to extraction.

- SOF Tactical Combat Casualty Care Equipment (TCCCE). SOF TCCCE will reduce preventable battle deaths and minimize the effects of injuries by providing SOF-unique equipment for tactical trauma care.

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Soldier Protection and Survival Systems/Project S385 | |

| B. Accomplishments/Planned Program | | | | | | | | | | |
|--|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| Cost (\$ in million) | | | | | | | | | | |
| SOF Personal Equipment Advanced Requirements (SPEAR) Body Armor/Load Carriage Systems Development | | | | | | | | | | 0.305 |
| RDT&E Articles Quantity | | | | | | | | | | |
| FY09 Continues development of the next generation body armor. Completes development of SOF Backpack System. | | | | | | | | | | |
| Cost (\$ in million) | | | | | | | | | | |
| SPEAR Environmental Protection | | | | | | | | | | 0.407 |
| RDT&E Articles Quantity | | | | | | | | | | |
| FY09 Continues development of Environment Protective Combat Uniform by beginning technology insertion and Developmental Testing of the SOF Modular Glove System. | | | | | | | | | | |
| Cost (\$ in million) | | | | | | | | | | |
| SPEAR Next Generation Helmet Communications | | | | | | | | | | 1.744 |
| RDT&E Articles Quantity | | | | | | | | | | |
| FY09 Initiates development of Next Generation Helmet Communications Headsets. | | | | | | | | | | |
| Cost (\$ in million) | | | | | | | | | | |
| SOF Tactical Combat Casualty Care Equipment | | | | | | | | | | 0.734 |
| RDT&E Articles Quantity | | | | | | | | | | |
| FY09 Initiates evaluation and qualification of new variations of SOF Surgeon and Casualty Evacuation kits. | | | | | | | | | | |
| C. Other Program Funding Summary: | | | | | | | | | | |
| | | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
| PROC, SOF Soldier Protection and Survival Systems | | | | 15.455 | 41.980 | 22.835 | 21.052 | 11.641 | Cont. | Cont. |
| PROC, Small Arms and Weapons | | 51.367 | 86.709 | | | | | | | |
| RDTE, S375 Weapons Systems Advanced Development | | 6.964 | 2.746 | | | | | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Soldier Protection and Survival Systems/Project S385 | |

D. Acquisition Strategy:

- SOF Personal Equipment Advanced Requirements (SPEAR) Body Armor/Load Carriage Systems Development. SPEAR is an evolutionary acquisition program that utilizes a variety of acquisition methods, including Commercial Off the Shelf (COTS), Modified COTS (MCOTS), Non Developmental Items and developmental acquisition strategies to accomplish program objectives. Many items will undergo spiral development to achieve continuous improvement and objective level requirements. Maximum use of Javits-Wagner-O'Day set asides (i.e., National Institute of the Severely Handicapped (NISH)) will be used.
- Environmental Protection. SOF environmental protection will be acquired using a Competitive Demonstration Model (CDM). The CDM teams commercial vendors with NISH production facilities to combine the strengths of the commercial garment industry with the domestic fabrication capabilities of NISH.
- Next Generation Helmet Communications. The Next Generation Helmet Communications will be acquired using full and open competitive procedures to acquire COTS or MCOTS items.
- SOF Tactical Combat Casualty Care Equipment (TCCCE). TCCCE will leverage Federal Drug Administration-approved COTS equipment and devices to provide modernized, standardized SOF medical lifesaving capabilities for use in austere environments during extended delays in casualty evacuation.

| Exhibit R-3 RDT&E Project Cost Analysis | | | | | | DATE: FEBRUARY 2008 | | | | | |
|--|------------------------------|---------------------------------------|----------------------|---|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| APPROPRIATION / BUDGET ACTIVITY | | | | SOF Soldier Protection and Survival Systems/PE1160478BB | | | | | | | |
| RDT&E DEFENSE-WIDE / 7 | | | | SOF Soldier Protection and Survival Systems/S385 | | | | | | | |
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| System Test and Evaluation | | | | | | | | | | | |
| SOF Personal Equipment Advanced Requirements (SPEAR) Body Armor Load Carriage Systems | Various | PM SOF Soldier Systems, Natick, MA | | | | | | 0.305 | Various | Cont. | Cont. |
| SPEAR Environmental Protection | Various | PM SOF Soldier Systems, Natick, MA | | | | | | 0.407 | Various | Cont. | Cont. |
| SPEAR Next Generation Helmet Communications | Various | PM SOF Soldier Systems, Natick, MA | | | | | | 1.190 | Various | Cont. | Cont. |
| Tactical Combat Casualty Care Kits | Various | PM TCCC Ft. Detrick, MD | | | | | | 0.734 | Various | Cont. | Cont. |
| Subtotal Product Dev | | | 0.000 | 0.000 | | | 0.000 | 0.000 | 2.636 | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Program Management | | | | | | | | | | | |
| Next Generation Helmet Communications | Various | PM SOF Soldier Systems, Natick, MA | | | | | | 0.554 | Various | Cont. | Cont. |
| Subtotal Spt | | | 0.000 | 0.000 | | | 0.000 | 0.554 | | Cont. | Cont. |
| Total Cost | | | 0.000 | 0.000 | | | 0.000 | 3.190 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | |
|---|--|--|--|---|---|---|---|------|---|---|---|------|---|---------------------|---|---|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| Appropriation/Budget Activity | | | | Program Element Number and Name | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | PE1160478BB/Special Operations Forces (SOF) Soldier Protection and Survival Systems | | | | | | | | | | | | Project S385/SOF Soldier Protection and Survival System | | | | | | | | | | | | | | | |
| Fiscal Year | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | |
| | | | | 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 |
| SOF Personal Equipment Advanced Requirements (SPEAR) Body Armor/Load Carriage Systems | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Body Armor P3I | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spiral Technology Insertion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPEAR Next Generation Helmet Communications | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test (DT)/Operational Test (OT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initial Operational Capability | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPEAR Environmental Protection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Protective Combat Uniform Extremity Protection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Modular Glove System Technology Insertion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Protective Combat Uniform Product Improvement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spiral Technology Insertion for Flame Resistance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spiral Technology Insertion to Reduce Weight & Bulk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tactical Combat Casualty Care Equipment Kit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Casualty Evacuation Kits | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Evaluation and Qualification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Surgeon Kits | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|---|---|---|------|---|---|---|------|---|--|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|---|--|---|
| Appropriation/Budget Activity RDT&E/7 | | | | Program Element Number and Name PE1160478BB/Special Operations Forces (SOF) Soldier Protection and Survival Systems | | | | | | | | | | Project Number and Name Project S385/SOF Soldier Protection and Survival System | | | | | | | | | | | | | | | | | | | | | |
| Fiscal Year | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | |
| | | | | 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 | | | | |
| Concept Development | | | | | | | | | | | | | | | | | △ | | | | △ | | | | | | | | | | | | | | |
| Prototype Demonstrations | | | | | | | | | | | | | | | | | | | | | | | | | △ | | | | | △ | | | | | |
| Operational Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | △ | | | | △ | | |
| Initial Fielding | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | △ |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | | <u>Date:</u> FEBRUARY 2008 | | | | | | |
|---|--|---|--|--|---------------|---------------|---------------|---------------|---------------|---------------|
| <u>Appropriation/Budget Activity</u> RDT&E/7 | | <u>Program Element Number and Name</u> PE1160478BB/SOF Soldier Protection and Survival Systems | | <u>Project Number and Name</u> Project S385/SOF Soldier Protection and Survival Systems | | | | | | |
| <u>Schedule Profile</u> | | | | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> |
| SOF Personal Equipment Advanced Requirements (SPEAR) Body Armor P31 | | | | | | | | | | |
| Spiral Technology Insertion | | | | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| SPEAR Next Generation Helmet Communications | | | | | | | | | | |
| Development Test (DT)/Operational Test (OT) | | | | | | 1-3Q | | | | |
| Milestone (MS) C | | | | | | | 2Q | | | |
| Initial Operational Capability | | | | | | | | 2Q | | |
| SPEAR Environment Protection | | | | | | | | | | |
| Protective Combat Uniform Extremity Protection | | | | | | | | | | |
| Modular Glove System Technology Insertion | | | | | | 1-3Q | | | | |
| MS B | | | | | | | 2Q | | | |
| DT | | | | | | | 3Q | | | |
| OT | | | | | | | 3-4Q | | | |
| MS C | | | | | | | | 2Q | | |
| Protective Combat Uniform Product Improvement | | | | | | | | | | |
| Spiral Technology Insertion for Flame Resistance | | | | | | | | 3-4Q | 1-4Q | 1-4Q |
| Spiral Technology Insertion to Reduce Weight & Bulk | | | | | | | | 3-4Q | 1-4Q | 1-4Q |
| Tactical Combat Casualty Care Equipment | | | | | | | | | | |
| Casualty Evacuation Kits | | | | | | | | | | |
| Evaluation and Qualification | | | | | | 1-2 Q | | | | |
| Initial Fielding | | | | | | | 3Q | | | |
| Surgeon Kits | | | | | | | | | | |
| Concept Development | | | | | | | 2-4Q | 1-4Q | | |
| Prototype Demonstrations | | | | | | | | | 2-4 Q | |
| Operational Assessment | | | | | | | | | | 1-2Q |
| Initial Fielding | | | | | | | | | | 3Q |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160479BB SOF Visual Augmentation, Lasers and Sensor Systems/S395 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY12 | Cost to Complete | Total Cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PE1160479BB | | | 3.495 | .496 | | | | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S395, SOF Visual Augmentation, Lasers and Sensor Systems | | | 3.495 | .496 | | | | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p><i>A new program element (PE)(1160479BB) was established beginning in FY 2009 for SOF Visual Augmentation, Lasers and Sensor Systems. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.</i></p> <p>A. Mission Description and Budget Item Justification: This program element provides for development, testing, and integration of specialized visual augmentation, laser and sensor systems equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to enemy threats to ensure mission success.</p> <p>B. Program Change Summary:</p> <table style="margin-left: 40px;"> <tr> <td></td> <td style="text-align: center;"><u>FY07</u></td> <td style="text-align: center;"><u>FY08</u></td> <td style="text-align: center;"><u>FY09</u></td> </tr> <tr> <td>Previous President's Budget</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Current President's Budget</td> <td></td> <td></td> <td style="text-align: right;">3.495</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td></td> <td style="text-align: right;">3.495</td> </tr> <tr> <td> Congressional Program Reductions</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Increases</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Program Adjustments</td> <td></td> <td></td> <td style="text-align: right;">3.495</td> </tr> <tr> <td> SBIR Transfer</td> <td></td> <td></td> <td></td> </tr> </table> | | | | | | | | | | | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | Previous President's Budget | | | | Current President's Budget | | | 3.495 | Total Adjustments | | | 3.495 | Congressional Program Reductions | | | | Congressional Increases | | | | Reprogrammings | | | | Other Program Adjustments | | | 3.495 | SBIR Transfer | | | |
| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Previous President's Budget | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Current President's Budget | | | 3.495 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Adjustments | | | 3.495 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Program Reductions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Increases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reprogrammings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other Program Adjustments | | | 3.495 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SBIR Transfer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160479BB SOF Visual Augmentation, Lasers and Sensor Systems/S395 | |
| <p>Funding: FY09: A new PE (1160479BB) and project (S395), were established beginning in FY 2009 for SOF Visual Augmentation, Laser and Sensor Systems. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development and Project S375, Weapons Systems Advanced Development.</p> <p>Schedule: None.</p> <p>Technical: None</p> | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Visual Augmentation, Lasers and Sensor Systems/Project 395 | |

| Cost (\$ in million) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|--|------|------|-------|------|------|------|------|
| SOF Visual Augmentation, Lasers and Sensor Systems | | | 3.495 | .496 | | | |
| RDT&E Articles Quantity | | | | | | | |

A new project, S395, was established for SOF Visual Augmentation, Lasers and Sensor Systems beginning in FY 2009. FY 2009-2013 resources were moved from project S375, Weapons Systems Advanced Development. .

A. Mission Description and Budget Item Justification: This project provides for development, testing, and integration of specialized visual augmentation, laser and sensor systems equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to enemy threats to ensure mission success.

- Precision Laser Targeting Device (PLTD) - PLTD Block II is a combined day/night optical system with a laser range finder to allow the detection and observation of targets. The range finder calculates the Global Positioning System (GPS) location of the target for identification and targeting purposes. The PLTD provides precision accuracy in the geo-location of targets for the precision delivery of GPS-guided munitions. The system will greatly reduce fratricide incidents and reduce collateral damage during close air support missions.
- SOF Laser Rangefinder and Designator (SOFLRD) – The SOFLRD is a combined laser rangefinder and designator to support the combat air controller mission for the precise delivery of both GPS and laser guided munitions. The SOFLRD will employ both day/night optical systems to allow the detection and observation of targets. The range finder calculates the GPS location of the target for identification and targeting purposes. The laser designator will provide an encoded laser spot for the missile seeker head to track. The system will greatly reduce fratricide incidents and reduce collateral damage during close air support and air interdiction missions.
- SOF Visual Augmentation Systems Binocular/Monocular (SOVAS B/M) - The SOVAS B/M program procures head/helmet mounted night vision goggle systems. The current SOF standard goggle is the AN/PVS-15A binocular goggle. These goggles provide the SOF operator the ability to maneuver, conduct fire control operations, and perform surveillance and reconnaissance. Research and development

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|---|--|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Visual Augmentation, Lasers and Sensor Systems/Project 395 | |

of increased capability and performance goggles are essential to the SOF operator. Such improvements include fusion, wide field of view, and color night vision goggles.

B. Accomplishments/Planned Program

| | | | |
|----------------------------------|------|------|------|
| Cost (\$ in million) | FY07 | FY08 | FY09 |
| Precision Laser Targeting Device | | | .993 |
| RDT&E Articles Quantity | | | |

FY09 Continues the size, weight and power reduction of the overall system and miniaturization of the inertial navigation system.

| | | | |
|----------------------------------|------|------|-------|
| Cost (\$ in million) | FY07 | FY08 | FY09 |
| SOF Laser Rangefinder Designator | | | 1.509 |
| RDT&E Articles Quantity | | | |

FY09 Continues the development of the next generation laser range finder and designator to support the delivery of laser guided and GPS-guided missiles and munitions.

| | | | |
|--|------|------|------|
| Cost (\$ in million) | FY07 | FY08 | FY09 |
| SOF Visual Augmentation Systems Binocular/Monocular | | | .993 |
| RDT&E Articles Quantity | | | |

FY09 Develops an advanced night vision goggle (e.g., sensor fusion, wide field of view, color), providing the SOF operator an increased capability over existing goggles.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| PROC SOF Visual Augmentation, Laser and Sensor Systems | | | 30.201 | 32.136 | 31.721 | 30.824 | 17.820 | Cont. | Cont. |
| PROC Small Arms and Weapons | 48.466 | 45.191 | | | | | | | |
| RDTE S375, Weapons Systems and Advanced Development | 3.300 | .973 | | | | | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Visual Augmentation, Lasers and Sensor Systems/Project 395 | |

D. Acquisition Strategy:

- Precision Laser Targeting Device (PLTD). The PLTD program will leverage an Army warfighter rapid acquisition program to develop a SOF version of a laser targeting device capable of providing geo-location of a target for the delivery of Global Positioning System guided munitions. This version is required to improve the accuracy of coordinate geo-location to reduce the possibility of fratricide incidents.
- SOF Laser Rangefinder and Designator (SOFLRD). The SOFLRD program will use an evolutionary acquisition and block approach to achieve user requirements. The program will develop a SOF version of a laser targeting device capable of providing geo-location of a target for the delivery of GPS guided munitions combined with the ability to laser designate targets for the delivery of laser guided munitions.
- SOF Visual Augmentation Systems Binocular/Monocular (SOVAS B/M). Develops the SOF next generation night vision goggle. Program will use an evolutionary acquisition approach.

APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 SOF Visual Augmentation, Lasers and Sensor Systems/PE1160479BB SOF Visual Augmentation, Lasers and Sensor Systems/S395

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|--|------------------------------|--------------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Primary Hardware Dev | | | | | | | | | | | |
| Precision Laser Targeting Device (PLTD) | CPFF | PM Sensors & Lasers, Ft. Belvoir, VA | | | | | | 0.900 | Jan-09 | | 0.900 |
| SOF Laser Rangefinder and Designator (SOFLRD) | CPFF | NSWC-Crane, Crane, IN | | | | | | 1.300 | Jan-09 | | 1.300 |
| Special Operations Visual Augmentation System Binocular/Monocular (SOVAS B/M) | CPFF | GAPO, Ft Belvoir, VA | | | | | | 0.900 | Jan-09 | 0.496 | 1.396 |
| Subtotal Product Dev | | | 0.000 | 0.000 | | 0.000 | 0.000 | 3.100 | | 0.496 | 3.596 |

Remarks:

| Developmental Test & Eval | | | | | | | | | | | |
|---------------------------|--|--------------------------------------|-------|-------|--|-------|--|-------|--------|-------|-------|
| PLTD | | PM Sensors & Lasers, Ft. Belvoir, VA | | | | | | 0.093 | Jan-09 | | 0.093 |
| SOFLRD | | NSWC-Crane, Crane, IN | | | | | | 0.209 | Mar-08 | | 0.209 |
| SOVAS B/M | | GAPO, Ft Belvoir, VA | | | | | | 0.093 | Jan-09 | | 0.093 |
| Subtotal T&E | | | 0.000 | 0.000 | | 0.000 | | 0.395 | | 0.000 | 0.395 |

Remarks:

| Contractor Engineering Spt | | | | | | | | | | | |
|----------------------------|--|--|--|--|--|--|--|--|--|--|--|
| Subtotal Management | | | | | | | | | | | |

Remarks:

| | | | | | | | | | | | |
|------------|--|--|-------|-------|--|-------|--|-------|--|-------|-------|
| Total Cost | | | 0.000 | 0.000 | | 0.000 | | 3.495 | | 0.496 | 3.991 |
|------------|--|--|-------|-------|--|-------|--|-------|--|-------|-------|

Remarks:

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | |
|---|------|---|---|---|--|---|---|---|------|---|---------------------|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|
| Appropriation/Budget Activity | | | | | Program Element and Name | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160479BB/Special Operations Forces Visual Augmentation, Lasers and Sensor Systems | | | | | | | | | | | Project S395/SOF Visual Augmentation, Lasers and Sensor Systems | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | |
| | 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 | | | | |
| Precision Laser Targeting Device | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inertial Navigation System Minaturization, P3I development | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | | | |
| Development test | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | |
| SOF Laser Range Finder Designator | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Development | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | | | |
| Prototype Development Test | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | | | | |
| Special Operations Visual Augmentation System Binocular/Monocular | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Development | | | | | | | | | | △ | — | △ | | | | | | | | | | | | | | | | | | | | |
| Prototype Development Test | | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | | |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | | Date: FEBRUARY 2008 | | | | |
|---|--|---|--------|--|--------|--------|--------|--------|
| Appropriation/Budget Activity RDT&E/7 | | Program Element Number and Name PE1160479BB/SOF Visual Augmentation, Lasers and Sensor Systems | | Project Number and Name Project S395/SOF Visual Augmentation, Lasers and Sensor Systems | | | | |
| Schedule Profile | | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 |
| Precision Laser Targeting Device | | | | | | | | |
| Inertial Navigation System Minaturization, P3I | | | | 2 - 4Q | | | | |
| Developmental Test | | | | 4Q | | | | |
| SOF Laser Range Finder Designator | | | | | | | | |
| Prototype Development | | | | 2Q | | | | |
| Developmental Test | | | | 4Q | | | | |
| Special Operations Visual Augmentation System Binocular/Monocular | | | | | | | | |
| Prototype Development | | | | 2 - 4Q | | | | |
| Developmental Test | | | | | 1Q | | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE | | | | |
|---|------|------|---|-------|---------------|------|------|------------------|------------|
| | | | | | FEBRUARY 2008 | | | | |
| APPROPRIATION / BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE / PROJECT NO. | | | | | | |
| RDT&E, DEFENSE-WIDE / 7 | | | PE 1160480BB SOF Tactical Vehicles/S910 | | | | | | |
| | | | | | | | | | |
| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost |
| PE1160480BB | | | | 1.490 | 2.952 | | | Cont. | Cont. |
| S910, SOF Tactical Vehicles | | | | 1.490 | 2.952 | | | Cont. | Cont. |
| <p><i>A new program element (PE)(1160480BB) was established beginning in FY 2009 for SOF Tactical Vehicles. FY 2009-2013 resources were moved from PE 1160404BB Special Operations Tactical Systems Development.</i></p> <p>A. Mission Description and Budget Item Justification: This program element provides for the development and testing of a variety of spiral upgrades to Family of Special Operations Vehicles and ancillary equipment. The current Special Operations Forces (SOF) tactical vehicles include: Lightweight All Terrain Vehicles, four configurations of Ground Mobility tactical vehicles, Non-Standard Commercial Vehicles for use in tactical mission and Mine Resistant Ambush Protected vehicles. The SOF mission mandates that SOF vehicles remain technologically superior, operate in multiple environments and be able to meet any threat to provide a maximum degree of survivability.</p> <p>B. Program Change Summary:</p> <p>Funding: No change.</p> <p>Schedule: None.</p> <p>Technical: None</p> | | | | | | | | | |

| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------------|--|--------|---------------|-------|------|------------------|------------|--|-------------|-------------|-------------|-----------------------------|--|--|--|----------------------------|--|--|-------|-------------------|--|--|-------|----------------------------------|--|--|--|-------------------------|--|--|--|----------------|--|--|--|---------------------------|--|--|-------|---------------|--|--|--|
| | | | | | FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPROPRIATION / BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE / PROJECT NO. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RDT&E, DEFENSE-WIDE / 7 | | | PE 1160482BB SOF Rotary Wing Aviation/D615 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PE1160482BB | | | 3.822 | 15.294 | 12.428 | 3.493 | | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D615, SOF Rotary Wing Aviation | | | 3.822 | 15.294 | 12.428 | 3.493 | | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p><i>A new program element (PE)(1160482BB) was established beginning in FY 2009 for SOF Rotary Wing Aviation. FY 2009-2013 resources were moved from PE 1160404BB Special Operations Tactical Systems Development.</i></p> <p>A. Mission Description and Budget Item Justification: This program element develops/upgrades SOF rotary wing aircraft systems that operate in increasingly hostile environments. Rotary wing aircraft supported by this project include: MH-60L/K/M, MH-47D/E/G, and A/MH-6M. These aircraft provide aviation support to Special Operations Forces (SOF) in worldwide contingency operations and low-intensity conflicts, and they must be capable of rapid deployment; undetected penetration of hostile areas; and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters.</p> <p>B. Program Change Summary:</p> <table border="0"> <thead> <tr> <th></th> <th><u>FY07</u></th> <th><u>FY08</u></th> <th><u>FY09</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Current President's Budget</td> <td></td> <td></td> <td>3.822</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td></td> <td>3.822</td> </tr> <tr> <td> Congressional Program Reductions</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Increases</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Program Adjustments</td> <td></td> <td></td> <td>3.822</td> </tr> <tr> <td> SBIR Transfer</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | Previous President's Budget | | | | Current President's Budget | | | 3.822 | Total Adjustments | | | 3.822 | Congressional Program Reductions | | | | Congressional Increases | | | | Reprogrammings | | | | Other Program Adjustments | | | 3.822 | SBIR Transfer | | | |
| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Previous President's Budget | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Current President's Budget | | | 3.822 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Adjustments | | | 3.822 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Program Reductions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Increases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reprogrammings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other Program Adjustments | | | 3.822 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SBIR Transfer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|---|---|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160482BB SOF Rotary Wing Aviation/D615 | |
| <p>Funding:</p> <p>FY09: A new PE (1160483BB) was established beginning in FY 2009 for SOF Rotary Wing Aviation. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.</p> <p>Schedule: None.</p> <p>Technical: None.</p> | | |

Exhibit R2-a, RDT&E Project Justification

Date: FEBRUARY 2008

| | |
|---|--|
| Appropriation/Budget Activity RDT&E.A BA # 7 | Special Operations Forces (SOF) Aviation /Project D615 |
|---|--|

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|--------|--------|-------|--------|--------|-------|------|
| SOF Aviation | 2.959* | 5.230* | 3.822 | 15.294 | 12.428 | 3.493 | |
| RDT&E Articles Quantity | | | | | | | |

*** A new program element 1160482BB, SOF Rotary Wing Aviation was established for this project beginning in FY 2009. FY 2009-2013 resources were moved from program element 1160404BB, Special Operations Tactical Systems Development.**

A. Mission Description and Budget Item Justification: This project develops/upgrades SOF rotary wing aircraft systems that operate in increasingly hostile environments. Rotary wing aircraft supported by this project include: MH-60L/K/M, MH-47D/E/G, and A/MH-6M. These aircraft provide aviation support to Special Operations Forces (SOF) in worldwide contingency operations and low-intensity conflicts, and they must be capable of rapid deployment; undetected penetration of hostile areas; and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters. Efforts include:

- MH-47/MH-60/A/MH-6M Aircraft. (1) Develops a follow-on weapon system to the currently fielded M-134 Mini Gun. The modernized weapon system will provide a lighter and more reliable/maintainable system with improved suppressive fire capability. (2) Develops an infrared (IR) exhaust suppressor for A/MH-6M aircraft to provide a passive countermeasure capability that is compatible with A/MH-6M's higher performance engine.
- MH-47/MH-60 Avionics/Sensors. Develops the Aircraft Occupant Ballistic Protection System (AOBPS) to reduce weight to permit additional critical payloads on mission aircraft while maintaining or improving armor effectiveness.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|--------------------------------|-------|-------|-------|
| MH-47/MH-60/A/MH-6M - Aircraft | 2.959 | 4.320 | 2.175 |
| RDT&E Articles Quantity | | | |

FY07 Completed the development qualification and testing of the weapons modernization program.

FY08 Begin development of the infrared exhaust suppressor for the A/MH-6M.

FY09 Completes the qualification and testing of the infrared exhaust suppressor for the A/MH-6M.

Exhibit R2-a, RDT&E Project Justification

Date: FEBRUARY 2008

| | |
|---|--|
| Appropriation/Budget Activity RDT&E.A BA # 7 | Special Operations Forces (SOF) Aviation /Project D615 |
|---|--|

| | | | |
|---|------|-------|-------|
| | FY07 | FY08 | FY09 |
| MH-47/MH-60 – Passive Rotary Wing Survivability | | 0.910 | 1.647 |
| RDT&E Articles Quantity | | | |

FY08 Begin development of improved lightweight armor for the AOBPS.
 FY09 Continues development of the AOBPS.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | <u>To Complete</u> | <u>Total Cost</u> |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------------|
| Rotary Wing Upgs & Sust PROC | 104.057 | 72.996 | 51.629 | 65.781 | 55.143 | 74.287 | 77.978 | Cont. | Cont. |

D. Acquisition Strategy:

- A/MH-6M - This effort provides necessary drive train analyses, a passive IR countermeasure capability, component development and testing, and test support/data analysis efforts required to improve operational safety margins of the A/MH-6M aircraft. A competitive source selection process will be conducted for the weapons system replacement to the extent possible. Proprietary considerations may direct some efforts to the original equipment manufacturer.
- MH-47/MH-60 Aircraft - This effort develops and qualifies a replacement for the M-134 machine gun, a potential light weight battery, and components of the weapons system. A competitive source selection process will be conducted for the weapons system replacement to the extent possible. Proprietary considerations may direct some efforts to the original equipment manufacturer.
- MH-47/MH-60 Avionics/Sensors - Develops next-generation improvements, enhancements, and upgrades to avionics and sensors. Active and passive survivability systems will be conducted using competitive processes to the maximum extent practicable. Proprietary considerations may direct some efforts to the original equipment manufacturer.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

| | | |
|---|--------------------------------------|-------------------|
| APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 | SOF Rotary Wing Aviation/PE1160482BB | SOF Aviation/D615 |
|---|--------------------------------------|-------------------|

Actual or Budget Value (\$ in millions)

| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
|---|------------------------------|--------------------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Primary Hardware Development | | | | | | | | | | | |
| MH-47/60 Weapons Modernization | Various | PM TAPO/Ft Eustis, VA | 16.918 | 2.959 | Various | | | | | | 19.877 |
| MH-47/60 Passive RW Survivability Aircraft Occupant Ballistic Protection System | Various | PM TAPO/Ft Eustis, VA | 60.200 | | | 0.910 | Various | 1.647 | Various | 5.033 | 67.790 |
| A/MH-6M | Various | PM MELB, Ft. Eustis, VA | 11.611 | | | 4.320 | Various | 2.175 | Various | | 18.106 |
| Subtotal Product Development | | | 88.729 | 2.959 | | 5.230 | | 3.822 | | 5.033 | 105.773 |

Remarks:

| | | | | | | | | | | | |
|--------------|--|--|--|--|--|--|--|--|--|--|-------|
| Management | | | | | | | | | | | 0.000 |
| Subtotal Spt | | | | | | | | | | | 0.000 |

Remarks:

| | | | | | | | | | | | |
|---------------------------|--|--|--|--|--|--|--|--|--|--|--|
| Developmental Test & Eval | | | | | | | | | | | |
|---------------------------|--|--|--|--|--|--|--|--|--|--|--|

Remarks:

| | | | | | | | | | | | |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|
| Subtotal Management | | | | | | | | | | | |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|

| | | | | | | | | | | | |
|------------|--|--|--------|-------|--|-------|--|-------|--|-------|---------|
| Total Cost | | | 88.729 | 2.959 | | 5.230 | | 3.822 | | 5.033 | 105.773 |
|------------|--|--|--------|-------|--|-------|--|-------|--|-------|---------|

Remarks:

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | |
|--|------|---|---|--|------|---|---|---|------|---|---|---|------|---------------------------|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|
| Appropriation/Budget Activity | | | | Program Element and Name | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | PE1160482BB/Special Operations Forces (SOF) Rotary Wing Aviation | | | | | | | | | | Project D615/SOF Aviation | | | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | |
| | 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 | | | | |
| Next Generation Forward Looking Infrared Development/Qualification Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Machine Gun Replacement Development/Qualification Testing | ▲ | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A/MH-6M Infrared Exhaust Suppressor Development/Qualification Testing | | | | | ▲ | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aircraft Occupant Ballistic Protection System Development/Qualification/Test | | | | | ▲ | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Secure Real Time Video Development/Qualification/Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reduced Optical Signature Emissions Solution Development/Qualification/Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Exhibit R-4a, RDT&E Program Schedule Detail | | | | Date: FEBRUARY 2008 | | | | |
|--|--|--|--------|---------------------------|--------|--------|--------|--------|
| Appropriation/Budget Activity | | Program Element Number and Name | | Project Number and Name | | | | |
| RDT&E/7 | | PE1160404BB/Special Operations Tactical Systems Dev (FY06-08)/PE1160482BB SOF Rotary Wing Aviation (FY09-13) | | Project D615/SOF Aviation | | | | |
| Schedule Profile | | FY2007 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 |
| Next Generation Forward Looking Infrared Development/Qualification Testing | | | | | 2-4Q | 1-4Q | | |
| Machine Gun Replacement Development/Qualification Testing | | 1-4Q | | | | | | |
| A/MH-6M Infrared Exhaust Suppressor Development/Qualification Testing | | | 2-4Q | 1-4Q | | | | |
| Aircraft Occupant Ballistic Protection System Development/Qualification/Test | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Secure Real Time Video Development/Qualification/Test | | | | | 2-4Q | 1-4Q | | |
| Reduced Optical Signature Emissions Solution Development/Qualification/Test | | | | | 2-4Q | 1-4Q | 1-4Q | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------------|---|------|---------------|------|------|------------------|------------|--|-------------|-------------|-------------|-----------------------------|--|--|--|----------------------------|--|--|-------|-------------------|--|--|-------|----------------------------------|--|--|--|-------------------------|--|--|--|----------------|--|--|--|---------------------------|--|--|-------|---------------|--|--|--|
| | | | | | FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPROPRIATION / BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE / PROJECT NO. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RDT&E, DEFENSE-WIDE / 7 | | | PE 1160483BB SOF Underwater Systems/S0417 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | Cost to Complete | Total Cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PE1160483BB | | | 3.142 | .992 | .991 | .496 | .496 | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S0417, Underwater Systems Advanced Development | | | 3.142 | .992 | .991 | .496 | .496 | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p><i>A new program element (PE)(1160483BB) was established beginning in FY 2009 for SOF Underwater Systems. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.</i></p> <p>A. Mission Description and Budget Item Justification: This PE provides for development of Naval Special Warfare Underwater Systems support items used during infiltration/extractions, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other direct action missions of Special Operations Forces (SOF). The capabilities and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF Maritime Missions.</p> <p>B. Program Change Summary:</p> <table style="margin-left: 40px;"> <thead> <tr> <th></th> <th><u>FY07</u></th> <th><u>FY08</u></th> <th><u>FY09</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Current President's Budget</td> <td></td> <td></td> <td>3.142</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td></td> <td>3.142</td> </tr> <tr> <td> Congressional Program Reductions</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Increases</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Program Adjustments</td> <td></td> <td></td> <td>3.142</td> </tr> <tr> <td> SBIR Transfer</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | Previous President's Budget | | | | Current President's Budget | | | 3.142 | Total Adjustments | | | 3.142 | Congressional Program Reductions | | | | Congressional Increases | | | | Reprogrammings | | | | Other Program Adjustments | | | 3.142 | SBIR Transfer | | | |
| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Previous President's Budget | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Current President's Budget | | | 3.142 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Adjustments | | | 3.142 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Program Reductions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Increases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reprogrammings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other Program Adjustments | | | 3.142 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SBIR Transfer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160483BB SOF Underwater Systems/S0417 | |
| <p>Funding: FY07: No change. FY08: No change. FY09: A new PE (1160483BB) was established beginning in FY 2009 for SOF Underwater Systems. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.</p> <p>Schedule: None.</p> <p>Technical: None</p> | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Underwater Systems Advanced Development/Project S0417 | |

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|------|-------|-------|------|------|------|------|
| Underwater Systems | .614 | 1.753 | 3.142 | .992 | .991 | .496 | .496 |
| RDT&E Articles Quantity | 1 | | | | | | |

A new program element (PE)(1160483BB) was established for this project beginning in FY 2009. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.

A. Mission Description and Budget Item Justification: This project funds the development of Naval Special Warfare support items used during hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other direct action missions. Sub-projects include:

- Non-Gasoline Burning Outboard Engine (NBOE). Evaluation of a submersible alternative fuel outboard engine for use on Special Operations Forces (SOF) Combat Rubber Raiding Craft.
- Undersea Systems. Development of undersea systems, which provide SOF combat swimmers with the necessary diving and diving related equipment to fulfill assigned underwater combat missions. Includes the following:
 - SEAL Delivery Vehicle (SDV). Develop replacements for obsolete and/or unsupportable electronics with current technology to improve safety, reliability and performance. Conduct concept and technology development for potential replacement platform (SDV Next Generation.)

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|--|------|-------|-------|
| NBOE | .614 | | |
| RDT&E Articles Quantity | | | |
| FY07 Evaluated submersible alternative outboard engines. | | | |
| | FY07 | FY08 | FY09 |
| SEAL Delivery Vehicle (SDV) | | 1.753 | 3.142 |
| RDT&E Articles Quantity | | | |
| FY08 Concept and technology development/demonstration for potential follow-on platform. Continues to develop and upgrade/replace obsolete and/or unsupportable electronic equipment. | | | |

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| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | Underwater Systems Advanced Development/Project S0417 | |

FY09 Continues concept and technology development for potential follow-on platform.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | To <u>Complete</u> | Total <u>Cost</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|----------------------|
| PROC, SOF Maritime Equip | | 1.245 | .198 | .099 | .099 | .099 | .099 | TBD | TBD |
| PROC, MK8 MOD1 SDV | 2.463 | 8.682 | 7.061 | 1.487 | 2.825 | 9.913 | 2.974 | TBD | TBD |

D. Acquisition Strategy:

- NBOE. Develop/conduct market survey for existing commercial off the shelf engines that meet revised requirements. Conduct performance testing on candidate engines with follow-on suitability tests. Evaluate potential technical modifications as required.
- SDV. This effort replaces obsolete and/or unsupportable electronics equipment with current equipment. Identification and development of equipment for installing, upgrading and/or replacing systems on the SDV will be accomplished through either Best-Value acquisition or, where appropriate, original equipment manufacturer replacement efforts. Conduct concept studies and technology development for a potential next generation platform following completion of an analysis of alternatives in FY08.

| Exhibit R-3 RDT&E Project Cost Analysis | | | | | | DATE: FEBRUARY 2008 | | | | | |
|--|------------------------------|--------------------------------|----------------------|--|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| APPROPRIATION / BUDGET ACTIVITY | | | | SOF Underwater Systems/PE1160483BB | | | | | | | |
| RDT&E DEFENSE-WIDE / 7 | | | | Underwater Systems Advance Development/S0417 | | | | | | | |
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Electronic Obsolescence SEAL Delivery Vehicle (SDV) | WR | NSWC NSWC, Panama City, FL | 0.201 | | | 0.500 | Jan-08 | | | | 0.701 |
| Subtotal Product Dev | | | 0.201 | 0.000 | | 0.500 | | 0.000 | | | 0.701 |
| Remarks | | | | | | | | | | | |
| Concept and Technology Development SDV | WR | NSWC NSWC, Panama City, FL | | | | 1.253 | Various | 3.142 | Dec-08 | Cont. | Cont. |
| Subtotal T&E | | | 0.000 | 0.000 | | 1.253 | | 3.142 | | Cont. | Cont. |
| Remarks | | | | | | | | | | | |
| Primary Hardware | | | | | | | | | | | |
| Subtotal Performance Testing | | | | 0.000 | | | | | | | 0.000 |
| Performance Testing | | | | | | | | | | | |
| Non-Gasoline Burning Outboard Engine | WR | NSWC Panama City FL | | 0.614 | Feb-07 | | | | | | 0.614 |
| Subtotal Performance Testing | | | | 0.614 | | | | | | | 0.614 |
| Total Cost | | | | | | | | | | | |
| | | | 0.201 | 0.614 | | 1.753 | | 3.142 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|---|---|---|------|---|---|---------------------|------|---|---|---|--|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|---|---|--|--|--|
| Appropriation/Budget Activity | | | | Program Element Number and Name | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | PE1160483BB/Special Operations Forces Underwater Systems | | | | | | | | | | | | Project S0417/Underwater System Advanced Development | | | | | | | | | | | | | | | | | | | | |
| Fiscal Year | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | | |
| | | | | 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 | | | | | |
| SEAL Delivery Vehicle (SDV) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Develop and Test Improved Electronics | | | | | | | | ▲ | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDV Next Generation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technology Development | | | | | | | | ▲ | — | — | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technology Demonstration | | | | | | | | | | | | | | | | ▲ | — | — | — | ▲ | | | | | | | | | | | | | | | | |
| Management, Support FOT&E | | | | | | | | ▲ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | ▲ | | | |
| MS B | | | | | | | | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | |
| Non-Gasoline Burning Outboard Engine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Exhibit R-4a, Schedule Profile Date: FEBRUARY 2008

| <u>Appropriation/Budget Activity</u> RDT&E/7 | <u>Program Element Number and Name</u> PE1160483BB/SOF Underwater Systems | <u>Project Number and Name</u> Project S0417/Underwater Systems Advanced Development | | | | | |
|---|--|---|--|--|--|--|--|
|---|--|---|--|--|--|--|--|

| <u>Schedule Profile</u> | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
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|-----------------------------|--|--|--|--|--|--|--|
| SEAL Delivery Vehicle (SDV) | | | | | | | |
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|---------------------------------------|--|-------|--|--|--|--|--|
| Develop and Test Improved Electronics | | 2Q-4Q | | | | | |
|---------------------------------------|--|-------|--|--|--|--|--|

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|---------------------|--|--|--|--|--|--|--|
| SDV Next Generation | | | | | | | |
|---------------------|--|--|--|--|--|--|--|

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|------------------------|--|-------|-------|--|--|--|--|
| Technology Development | | 2Q-4Q | 1Q-3Q | | | | |
|------------------------|--|-------|-------|--|--|--|--|

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|--------------------------|--|--|-------|-------|-------|--|--|
| Technology Demonstration | | | 3Q-4Q | 1Q-4Q | 1Q-3Q | | |
|--------------------------|--|--|-------|-------|-------|--|--|

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|-----------------------------|--|-------|-------|-------|-------|-------|-------|
| Management, Support & FOT&E | | 2Q-4Q | 1Q-4Q | 1Q-4Q | 1Q-4Q | 1Q-4Q | 1Q-4Q |
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| Milestone B | | | 3Q | | | | |
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|--------------------------------------|-------|-------|--|--|--|--|--|
| Non-Gasoline Burning Outboard Engine | 2Q-4Q | 1Q-2Q | | | | | |
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| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE FEBRUARY 2008 |
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| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160484BB SOF Surface Craft/S1684 |
|--|---|

| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY12 | Cost to Complete | Total Cost |
|--|------|------|-------|-------|------|------|------|------------------|------------|
| PE1160484BB | | | 5.206 | 1.984 | | | | Cont. | Cont. |
| S1684, SOF Surface Craft Advance Systems | | | 5.206 | 1.984 | | | | Cont. | Cont. |

A new program element (PE)(1160484BB) was established beginning in FY 2009 for SOF Surface Craft. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development .

A. Mission Description and Budget Item Justification: This PE provides for development and testing of small to medium surface craft and selected items of specialized equipment to meet the unique requirements of Special Operations Forces (SOF). The craft capabilities and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF Maritime Missions.

B. Program Change Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> |
|----------------------------------|-------------|-------------|-------------|
| Previous President's Budget | | | |
| Current President's Budget | | | 5.206 |
| Total Adjustments | | | 5.206 |
| Congressional Program Reductions | | | |
| Congressional Increases | | | |
| Reprogrammings | | | |
| Other Program Adjustments | | | 5.206 |
| SBIR Transfer | | | |

| | | |
|---|---|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160484BB SOF Surface Craft/S1684 | |
| <p>Funding:</p> <p>FY07: No change.</p> <p>FY08: No change.</p> <p>FY09: A new PE (1160484BB) was established beginning in FY 2009 for SOF Surface Craft. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.</p> <p>Schedule: None.</p> <p>Technical: None</p> | | |

| | | |
|---|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Surface Craft Advance Systems S1684 | |

| Cost (\$ in million) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-----------------------------------|-------|-------|-------|-------|------|------|------|
| SOF Surface Craft Advance Systems | 3,118 | 6.715 | 5.206 | 1.984 | | | |
| RDT&E Articles Quantity | 2 | 1 | 1 | | | | |

A new program element 1160484BB, SOF Surface Craft was established for this project beginning in FY 2009. FY 2009-2013 resources were moved from program element 1160404BB, Special Operations Tactical Systems Development.

A. Mission Description and Budget Item Justification: This project provides for development and testing of surface craft and selected items of specialized equipment to meet the unique requirements of Special Operations Forces (SOF). The craft capabilities and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF Maritime Missions. Project also includes Congressional Add funding for Integrated Bridge System (IBS) and Integrated Combat System (ICS).

- NSW RIB Program: This program provides engineering support, for design and specification development of an improved Naval Special Warfare (NSW) Rigid Inflatable Boat (RIB) capability. The resulting capability will be a multi-mission craft with improved sea keeping and maneuverability, reduced detectability with enhanced shock mitigation, and human systems integration. Requirements include being air transportable, air droppable, and increased reliability and maintainability.
- Combatant Craft Forward Looking Infrared (CCFLIR) Program: This program provides for engineering and development of performance improvements to the current FLIR system on the Special Operations Craft Riverine (SOCR), Mark V Special Operations Craft (MK V SOC), NSW RIB and the next generation RIB.

B. Accomplishments/Planned Program

| Cost (\$ in million) | FY07 | FY08 | FY09 |
|-------------------------|------|-------|-------|
| NSW RIB Program | | 1.949 | 4.001 |
| RDT&E Articles Quantity | | | |

FY08 Conduct technology risk reduction activities for NSW RIB replacement craft.

FY09 Continue risk reduction activities and release Request for Proposal (RFP) for design and fabrication of prototypes.

| Cost (\$ in million) | FY07 | FY08 | FY09 |
|-------------------------|------|-------|-------|
| CCFLIR Program | | 1.161 | 1.205 |
| RDT&E Articles Quantity | | 1 | 1 |

| | | |
|---|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | SOF Surface Craft Advance Systems S1684 | |

FY08 Conduct engineering and development efforts, integration, and begins Development and Test (DT).
 FY09 Completes DT and conducts Operational Test (OT).

| | | | |
|--------------------------------|------|------|------|
| Cost (\$ in million) | FY07 | FY08 | FY09 |
| Integrated Bridge System (IBS) | .974 | | |
| RDT&E Articles Quantity | 1 | | |

FY07 Congressional Add. Integrated and tested IBS test article.

| | | | |
|--------------------------------|-------|-------|------|
| Cost (\$ in million) | FY07 | FY08 | FY09 |
| Integrated Combat System (ICS) | 2.144 | 1.558 | |
| RDT&E Articles Quantity | 1 | | |

FY07 Congressional Add. Developed, integrated and tested ICS Prototype.
 FY08 Congressional Add. Continues development, integration and testing of ICS.

| | | | |
|----------------------------------|------|-------|------|
| Cost (\$ in million) | FY07 | FY08 | FY09 |
| NSW RIB Payload Capacity Project | | 2.047 | |
| RDT&E Articles Quantity | | | |

FY08 Congressional Add. Conduct engineering and development efforts to increase the payload on the NSW RIB.

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | <u>To Complete</u> | <u>Total Cost</u> |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------------|
| PROC, NSW RIB | 11.069 | 10.316 | 12.132 | 9.616 | 12.537 | 12.813 | 13.094 | Cont. | Cont. |
| PROC, CCFLIR | 16.900 | 2.481 | 2.474 | 2.486 | 2.499 | 2.633 | 2.680 | Cont. | Cont. |
| PROC, ICS | .996 | | | | | | | | |

D. Acquisition Strategy:

- CCFLIR – Spiral development improvements thru existing contract with FLIR Systems, Inc.

Rigid Inflatable Boat – Prepare for Milestone B approval, release Request For Approval. Conduct Source Selection for prototype development and manufacturing.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: FEBRUARY 2008

| APPROPRIATION / BUDGET ACTIVITY | | | | SOF Surface Craft/PE1160484BB | | | | | | | |
|--|------------------------------|---------------------------------|----------------------|--|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| RDT&E DEFENSE-WIDE / 7 | | | | SOF Surface Craft Advanced Systems/S1684 | | | | | | | |
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Primary Hardware Dev | | | | | | | | | | | |
| Integrated Bridge System (IBS) | CPFF | Azimuth Inc., Morgantown, W. Va | 0.964 | 0.974 | Jul-07 | | | | | | 1.938 |
| Combatant Craft Forward Looking Infrared (CCFLIR) | CPFF | FSI, Boston, MA | | | | 0.700 | Mar-08 | 0.735 | Mar-09 | Cont. | Cont. |
| Integrated Combat System (ICS) | CPFF | Trident Inc., Fairfax, VA | | 2.094 | Jul-07 | 1.374 | Jul-08 | | | | 3.468 |
| Subtotal Product Dev | | | 0.964 | 3.068 | | 2.074 | | 0.735 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Support and Management Organizations | | | | | | | | | | | |
| Rigid Inflatable Boat Next Gen | Various | Various | | | | 1.949 | Various | 4.001 | Nov-08 | Cont. | Cont. |
| CCFLIR | CPFF | FSI, Boston, MA | | | | 0.161 | Various | 0.210 | Jan-09 | Cont. | Cont. |
| ICS | CPFF | Trident Inc., Fairfax, VA | | 0.050 | Mar-07 | 0.184 | Apr-08 | | | | 0.234 |
| NSW RIB Payload Capacity Eng | Various | Various | | | | 0.215 | Mar-08 | | | | 0.215 |
| Subtotal Spt | | | 0.000 | 0.050 | | 2.509 | | 4.211 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Developmental Test & Eval | | | | | | | | | | | |
| CCFLIR | CPFF | FSI, Boston, MA | | | | 0.100 | Jul-08 | | | Cont. | 0.100 |
| Subtotal T&E | | | 0.000 | | | 0.100 | | | | Cont. | 0.100 |
| Remarks: | | | | | | | | | | | |
| Contractor Engineering Spt | | | | | | | | | | | |
| CCFLIR | CPFF | FSI, Boston, MA | | | | 0.200 | Mar-08 | 0.260 | Mar-09 | Cont. | Cont. |
| NSW RIB Payload Capacity Eng | TBD | | | | | 1.832 | Apr-08 | | | | 1.832 |
| Subtotal Engineering Spt | | | 0.000 | | | 2.032 | | 0.260 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 0.964 | 3.118 | | 6.715 | | 5.206 | | Cont. | Cont. |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | |
|---|------|---|---|---|---------------------------------|---|---|---|------|---|---|---|---------------------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160484BB/SOF Surface Craft | | | | | | | | | | | | | Project S1684 SOF Surface Craft Adv Dev | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | |
| | 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 | | |
| Next Gen Rigid Inflatable Boat (RIB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Risk Reduction Activities | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone (MS) B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Release RFP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Delivery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combined Development and Test (DT)/Operational Test (OT)-A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LRIP Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation Production Readiness Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Full Rate Production Decision Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initial Operational Capability | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combatant Craft Forward Looking Infrared | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P3I Development Program | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Engineering & Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Engineering Change Proposal Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Verification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Adds | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Special Operations Craft Riverine Integrated Combat System Development, Integration and Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Integrated Bridge System Integration and Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rib Payload Capacity Project | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Exhibit R-4a, RDT&E Program Schedule Detail | | | | Date: FEBRUARY 2008 | | | | |
|---|--|---------------|---------------|---|---------------|---------------|---------------|--|
| <u>Appropriation/Budget Activity</u> | <u>Program Element Number and Name</u> | | | <u>Project Number and Name</u> | | | | |
| RDT&E/7 | PE1160484BB/SOF Surface Craft | | | Project S1684/SOF Surface Craft Advance Development | | | | |
| | <u>FY2007</u> | <u>FY2008</u> | <u>FY2009</u> | <u>FY2010</u> | <u>FY2011</u> | <u>FY2012</u> | <u>FY2013</u> | |
| Next Gen Rigid Inflatable Boat | | | | | | | | |
| Risk Reduction Activities | | 2Q-4Q | | | | | | |
| Milestone (MS) B | | | 2Q | | | | | |
| Release Request For Proposal | | | 2Q | | | | | |
| Design Contract Award | | | | 1Q | | | | |
| Prototype Delivery | | | | | 1Q | | | |
| Combined Development and Test (DT)/Operational Test (OT)-A | | | | | 2Q-4Q | | | |
| MS C | | | | | | 2Q | | |
| LRIP Contract Award | | | | | | 2Q | | |
| Operational Evaluation Production Readiness Review | | | | | | | 1Q | |
| Full Rate Production Readiness | | | | | | | 2Q | |
| Initial Operational Capability | | | | | | | 4Q | |
| | | | | | | | | |
| Combatant Craft Forward Looking Infrared | | | | | | | | |
| P3I Development Program | | 3Q-4Q | 1Q-4Q | 1Q-4Q | 1Q | | | |
| Engineering & Development | | 3Q-4Q | 1Q-2Q | | | | | |
| Engineering Change Proposal Testing | | | 3Q-4Q | | | | | |
| Production Verification | | | 4Q | 1Q | | | | |
| | | | | | | | | |
| Congressional Adds | | | | | | | | |
| Special Operations Craft Riverine Integrated Combat System Development, Integration and Testing | 3Q-4Q | 1Q-4Q | 1Q-4Q | | | | | |
| Integrated Bridge System Integration and Testing | 1Q-4Q | 1Q-4Q | | | | | | |
| RIB Payload Capacity Project | | 3Q-4Q | 1Q-3Q | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | | DATE FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------------|--|-------|------|-----------------------|------|------------------|------------|--|-------------|-------------|-------------|-----------------------------|--|--|--|----------------------------|--|--|--------|-------------------|--|--|--------|----------------------------------|--|--|--|-------------------------|--|--|--|----------------|--|--|--|---------------------------|--|--|--------|---------------|--|--|--|
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | | | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160488BB SOF PSYOP/D476 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COST (Dollars in Millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY12 | Cost to Complete | Total Cost | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PE1160488BB | | | 15.554 | 9.174 | .697 | | | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D476, PSYOPS Advanced Development | | | 15.554 | 9.174 | .697 | | | Cont. | Cont. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>A new program element (PE)(1160488BB) was established beginning in FY 2009 for SOF Psychological Operations (PSYOP). FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>A. Mission Description and Budget Item Justification: This program element provides for the development, test and integration of Psychological Operations (PSYOP) equipment. PSYOP are planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This program element funds transformational systems and equipment to conduct PSYOP in support of combatant commanders.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>B. Program Change Summary:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="text-align: center;"><u>FY07</u></th> <th style="text-align: center;"><u>FY08</u></th> <th style="text-align: center;"><u>FY09</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Current President's Budget</td> <td></td> <td></td> <td style="text-align: right;">15.554</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td></td> <td style="text-align: right;">15.554</td> </tr> <tr> <td> Congressional Program Reductions</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Increases</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Program Adjustments</td> <td></td> <td></td> <td style="text-align: right;">15.554</td> </tr> <tr> <td> SBIR Transfer</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | Previous President's Budget | | | | Current President's Budget | | | 15.554 | Total Adjustments | | | 15.554 | Congressional Program Reductions | | | | Congressional Increases | | | | Reprogrammings | | | | Other Program Adjustments | | | 15.554 | SBIR Transfer | | | |
| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Previous President's Budget | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Current President's Budget | | | 15.554 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Adjustments | | | 15.554 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Program Reductions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Congressional Increases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reprogrammings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other Program Adjustments | | | 15.554 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SBIR Transfer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|---|--|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | DATE FEBRUARY 2008 |
| APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7 | R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160488BB SOF PSYOP/D476 | |
| <p>Funding: FY07: No change. FY08: No change. FY09: A new PE (1160488BB) was established beginning in FY 2009 for SOF PSYOP. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.</p> <p>Schedule: None.</p> <p>Technical: None</p> | | |

| | | |
|--|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | PSYOP Advanced Development/Project D476 | |

| Cost (\$ in millions) | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 |
|-------------------------|-------|-------|--------|-------|------|------|------|
| | 9.402 | 6.754 | 15.554 | 9.174 | .697 | | |
| RDT&E Articles Quantity | | | | | | | |

A new program element (PE) 1160488BB was established for this project beginning in FY 2009. FY 2009-2013 resources were moved from PE 1160404BB, Special Operations Tactical Systems Development.

A. Mission Description and Budget Item Justification: This project provides for the development and acquisition of Psychological Operations (PSYOP) equipment. PSYOP is planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This project funds transformational systems and equipment to conduct PSYOP in support of combatant commanders. The PSYOP sub-projects funded are grouped by the level of organization they support. Sub-projects include:

- PSYOP Broadcast System (POBS) consists of fixed and deployable multi-media production facilities for radio and television programming, distribution systems, and dissemination systems to provide PSYOP support to theater commanders. POBS is comprised of several interfacing systems that can stand alone or interoperate with other PSYOP systems as determined by mission requirements. POBS includes: the fixed site Media Production Center (MPC), a deployable Theater MPC (TMPC); the PSYOP Distribution System (PDS) that provides a PSYOP product distribution link to POBS systems worldwide; the Special Operations Media System (SOMS), and the transit case Fly-Away Broadcast Systems (FABS) both consisting of any combination of Amplitude Modulation (AM), Frequency Modulation (FM), Shortwave (SW), and Television (TV) transmitters and radio/TV production systems; and Long Range Broadcast System (LRBS). LRBS subsystems will include unmanned aerial vehicle (UAV) payloads, scatterable media, telephony, and Internet broadcast. PSYOP Media Displays (POMD) will consist of easily transportable, state of the art, electronic media displays designed to disseminate and direct broadcast electronic messages, which will influence foreign Target Audiences (TA), and will support the PSYOP direct broadcast mission requirements.
- Family of Loudspeakers (FOL). The FOL consists of modular amplifiers and speakers that can be interconnected to form sets of loudspeakers that will provide high quality recorded audio, live dissemination, and acoustic deception capability. FOL is transported, operated, and mounted in ground vehicles, watercraft, and rotary wing aircraft, and dismounted for ground operations (tripod/manpack). FOL replaced current AN/UIH-6 (250 watt) Public Address Systems, and AN/UIH-6A (450 watt), AEM-1492 (900 watt), and LSS-40 (AN/PIH-1) portable loudspeakers. FOL permits loudspeaker missions to be conducted over larger areas than previous equipment and

| | | |
|--|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | PSYOP Advanced Development/Project D476 | |

provides a greater standoff distance for U.S. Forces/assets. The replacement for the Family of Loudspeakers (FOL) is the Next Generation Loudspeaker System (NGLS) consisting of 7 variants: NGLS - Manpack variant; NGLS - Vehicle / Watercraft variant; NGLS - Unmanned Air Vehicle (UAV) variant; NGLS -Unmanned Ground Vehicle (UGV) variant; NGLS - Scatterable Media Long Duration (SMLD) variant; NGLS - Scatterable Media Short Duration (SMSD) variant; and NGLS -Sonic Projection (focused sound) variant. The NGLS provides capability improvements to include wireless networking, improved acoustic performance, unmanned ground and air vehicle transportability, scatterable speaker, long distance sonic projection sound and solid state modular amplifiers/speakers that can be interconnected using secure wireless technology to form sets of loudspeakers that provides high quality recorded audio, live dissemination, and acoustic deception capability.

- Next Generation Leaflet Delivery System (NGLDS). The NGLDS will provide PSYOP forces a family of systems consisting of UAVs, drones, missiles, and leaflet boxes that safely and accurately disseminates variable size and weight paper and electronic leaflets to large area targets, at short (10-750 miles) and long (>750 miles) ranges. These systems can be utilized in peacetime and all threat environments across the spectrum of conflict, and are compatible with current and future U.S. aircraft.

B. Accomplishments/Planned Program

| | FY07 | FY08 | FY09 |
|--|-------|-------|-------|
| Psychological Operations (PSYOP) Broadcast System (POBS) | 9.402 | 6.024 | 8.328 |
| RDT&E Articles Quantity | | | |

FY07 Continued primary hardware development, system engineering, and Developmental, Test and Evaluation (DT&E) on the Long Range Broadcast System (LRBS), POBS modernization efforts, and PSYOP planning and analysis system.
 FY08 Continue primary hardware development, system engineering, and DT&E on the LRBS, POBS modernization efforts, and PSYOP planning and analysis system. Commence primary hardware and software development, systems engineering and DT&E on PSYOP Media Displays (POMD).
 FY09 Continues primary hardware development, system engineering, and DT&E on the LRBS, POBS modernization efforts, and POMD.

| | | |
|--|---|---------------------|
| Exhibit R-2a, RDT&E Project Justification | | Date: FEBRUARY 2008 |
| Appropriation/Budget Activity RDT&E BA # 7 | PSYOP Advanced Development/Project D476 | |

| | | | |
|---|------|-------|-------|
| | FY07 | FY08 | FY09 |
| Family of Loudspeakers (FOL) | | 0.730 | 4.966 |
| RDT&E Articles Quantity | | | |
| FY08 Operational Test and Evaluation (OT&E) on Next Generation Loudspeaker System (NGLS) manpack and vehicle watercraft variants. FY09 Primary hardware and software development, systems engineering, and Developmental, Test and Evaluation (DT&E) on the sonic projection variant; and OT&E on NGLS Unmanned Ground Vehicle, NGLS Unmanned Aerial Vehicle, NGLS Scatterable Media Long Duration, and NGLS Scatterable Media Short Duration variants. | | | |
| | FY07 | FY08 | FY09 |
| Next Generation Leaflet Delivery System (NGLDS) | | | 2.260 |
| RDT&E Articles Quantity | | | |
| FY09 Develops NGLDS variants identified by the FY08 Analysis of Alternatives and market analysis. | | | |

C. Other Program Funding Summary:

| | <u>FY07</u> | <u>FY08</u> | <u>FY09</u> | <u>FY10</u> | <u>FY11</u> | <u>FY12</u> | <u>FY13</u> | <u>To Complete</u> | <u>Total Cost</u> |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------------|
| Proc, PSYOP Equipment | 57.358 | 58.183 | 64.778 | 51.087 | 42.257 | 0.000 | 28.917 | Cont. | Cont. |

D. Acquisition Strategy:

- Psychological Operations (PSYOP) Broadcast System (POBS) consists of wide-area systems providing radio, television programming and multi-media production, distribution and dissemination support to the theater commander. POBS is comprised of several interfacing systems that can stand alone or interoperate with other PSYOP systems as determined by mission requirements. These various sub-programs are in a post-Milestone C or various stages of milestone decisions. PSYOP Media Displays consists of Electronic Media Displays, Modular Systems, Electronic Paper, and Electronic Games. The program acquires and modifies, as necessary, commercial-off-the-shelf and governmental-off-the-shelf systems and equipment to provide the system capabilities.

Exhibit R-2a, RDT&E Project Justification

Date: FEBRUARY 2008

Appropriation/Budget Activity
RDT&E BA # 7

PSYOP Advanced Development/Project D476

- Next Generation Leaflet Delivery System (NGLDS) - The NGLDS system consists of four variants: Unmanned Aerial Vehicle (UAV) System, Drone, Missile, and Leaflet Box. The program will conduct an Alternative of Analysis; acquire and modify, as necessary, commercial-off-the-shelf and governmental-off-the-shelf (COTS/GOTS) systems and equipment to replace the legacy Leaflet Delivery System; and facilitate the additional NGLDS requirements.

The Family of Loudspeakers replacement is the Next Generation Loudspeaker System that consists of seven variants: Manpack System; Vehicle/Watercraft System; UAV System; Unmanned Ground Vehicle System; Scatterable Media Long Duration System; Scatterable Media Short Duration System; and Sonic Projection System. The program acquires and modifies, as necessary, COTS/GOTS systems and equipment to replace or enhance current system capabilities.

| APPROPRIATION / BUDGET ACTIVITY RDT&E DEFENSE-WIDE / 7 | | | SOF PSYOP/PE1160488BB PSYOP Advanced Development /D476 | | | | | | | | |
|--|------------------------------|--------------------------------|---|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|------------------|
| Actual or Budget Value (\$ in millions) | | | | | | | | | | | |
| Cost Categories (Tailor to WBS, or System/Item Requirements) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | Budget Cost FY07 | Award Date FY07 | Budget Cost FY08 | Award Date FY08 | Budget Cost FY09 | Award Date FY09 | To Complete | Total Program |
| Primary Hardware Dev | Various | Various | 9.674 | | | | | | | | 9.674 |
| POBS - POMD Dev & Design | REQN | TBD | | | | | | 2.000 | Dec-08 | | |
| POBS - Wireless Ntwkg, Media Predictors | MIPR | NAVSEA, Washington, D.C. | | 1.168 | Jan-07 | 1.265 | Jan-08 | 3.300 | Dec-08 | | Cont. |
| POBS - NGLS Dev/Design | REQN | TEAMCOR, Warner Robbins, GA | | 2.400 | Nov-07 | 0.964 | Jan-08 | | | | |
| POBS - PDS Lite Dev/Design | MIPR | CERDAC, Ft Monmouth, NJ | | 0.951 | Mar-07 | 0.724 | Jan-08 | | | | Cont. |
| Systems Engineering | Various | Various | 3.537 | | | | | | | | 3.537 |
| NGLDS | TBD | TBD | | | | | | 2.260 | Dec-08 | | |
| | MIPR | NAVAIR, St. Inigoes, MD | 3.500 | 0.451 | Jul 07 | | | | | | 3.951 |
| Subtotal Product Dev | | | 16.711 | 4.970 | | 2.953 | | 7.560 | | | Cont. |
| Remarks: | | | | | | | | | | | |
| Development Spt | | | | | | | | | | | |
| Subtotal Spt | | | 0.000 | 0.000 | | 0.000 | | 0.000 | | | |
| Developmental Test & Eval | Various | Various | 0.955 | | | | | | | | Cont. |
| | MIPR | Army ATC, Aberdeen Prov Gd, MD | 0.758 | 0.766 | Nov-06 | | | | | | Cont. |
| POBS - Rotary Generator | REQN | Chenega, Tampa, FL | | 0.120 | | 0.487 | Feb-08 | | | | |
| POBS - POMD Dev Test | REQN | TBD | | | | 0.566 | Apr-08 | | | | |
| | MIPR | JITC, Ft Huachuca, AZ | 1.844 | 0.500 | Feb-07 | | | | | | Cont. |
| POBS | MIPR | NAVAIR, St. Inigoes, MD | 0.140 | 0.651 | Aug-07 | 0.729 | Dec-07 | | | | 1.520 |
| POBS | MIPR | SPAWAR, Charleston, SC | 0.446 | 2.395 | Mar-07 | 0.295 | Dec-07 | | | | Cont. |
| POBS-Payload Dev & Test | REQN | Chenega, Tampa, FL | | | | 0.994 | Feb-08 | 3.028 | Dec-08 | | |
| FOL Operational Test & Evaluation | REQN | TEAMCOR, Warner Robbins, GA | | | | 0.730 | Dec-07 | 4.966 | Dec-08 | | |
| Subtotal T&E | | | 4.143 | 4.432 | | 3.801 | | 7.994 | | | Cont. |
| Contractor Engineering Spt | | | | | | | | | | | |
| Subtotal Management | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | |
| Total Cost | | | 20.854 | 9.402 | | 6.754 | | 15.554 | | 0.000 | Cont |
| Remarks: | | | | | | | | | | | |

| Exhibit R-4, RDT&E Program Schedule Profile | | | | | | | | | | | Date: FEBRUARY 2008 | | | | | | | | | | | | | | | | | | | | | |
|---|------|---|---|---|---------------------------------|---|---|---|------|---|---------------------|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|
| Appropriation/Budget Activity | | | | | Program Element Number and Name | | | | | | | | | | | Project Number and Name | | | | | | | | | | | | | | | | |
| RDT&E/7 | | | | | PE1160488BB/SOF PSYOP | | | | | | | | | | | Project D476/PSYOP Advanced Development | | | | | | | | | | | | | | | | |
| Fiscal Year | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | | | | |
| | 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 | | | | |
| Psychological Operations (PSYOP) Broadcast System Long Range Broadcast System (LRBS) UAV-P HW Dev & Testing | ▲ | ▲ | | | | | ▲ | ▲ | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | | | | | | | | |
| POBS LRBS Scatterable Media Testing | | ▲ | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POBS Fly-Away Broadcast System (FABS) Testing (FM & TV) | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Family of Loudspeakers Next Generation Loudspeaker | | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | | | | | | | | | | | | |
| PSYOP Distribution System Light Architecture Support | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| FABS/Special Operations Media System B Antenna Testing | | | | ▲ | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| Next Generation Leaflet Delivery System | | | | | | | | | | | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | |
| PSYOP Media Displays | | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | |
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