

# **United States Special Operations Command**

**Fiscal Year (FY) 2010 Budget Estimates**

**May 2009**



**Research, Development, Test and Evaluation, Defense-Wide**

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UNITED STATES SPECIAL OPERATIONS COMMAND  
 FISCAL (FY) 2010 BUDGET ESTIMATES  
 RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE

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## ***ORGANIZATIONS***

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ISOW	1st Special Operations Wing
160th SOAR	160th Special Operations Aviation Regiment
AFSOC	Air Force Special Operations Command
ARSOA	Army Special Operations Aviation
BGAD	Bluegrass Army Depot
CERDEC	Communications-Electronics Research, Development and Engineering Center
CSO	Center for Special Operations
DARPA	Defense Advanced Research Projects Agency
DTRA	Defense Threat Reduction Agency
FDA	Federal Drug Administration
JSOAC	Joint Special Operations Aviation Component
MARSOC	Marine Special Operations Command
NATO	North Atlantic Treaty Organization
NAVAIR	Naval Aviation Systems
NAVSCIATTS	Naval Small Craft Instructor and Technical Training School
NAVSPECWARCOM	Naval Special Warfare Command
NSA	National Security Agency
NSWC	Naval Special Warfare Command
PMA-275	V-22 Joint Program Office
SOFSA	Special Operations Forces Support Facility
TAPO	Technology Applications Program Office
TSOC	Theater Special Operations Command
USAF	United States Air Force
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
AEP	Alternate Engine Program
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
AM	Amplitude Modulation
AMP	Avionics Modernization Program
AMR	Anti-Materiel Rifle
AOBPS	Aircraft Occupant Ballistic Protection System
ARAP	ASDS Reliability Action Panel
ARH	Armed Reconnaissance Helicopter
AS&C	Advanced Systems Concept
ASD	Assistant Secretary of Defense
ASDS	Advanced Sea, Air, Land Delivery System
ASE	Aircraft Survivability Equipment
ASIC	Application Specific Integrated Circuit
ASM	Anti Structural Munitions
ATACMS	Army Tactical Missile System
ATC	Air Traffic Control
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

## *ACRONYMS*

ATPS	Advanced Tactical Parachute System
ATTWR	Advanced Tactical Threat Warning Radio
ATV	All Terrain Vehicle
AWE	Aircraft, Weapons, Electronics
BALCS	Body Armor Load Carriage System
BFT	Blue Force Tracking
BIO	Basic Input Output
BLOS	Beyond Line-of-Site
BLOSESM	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
CAMS	Combat Autonomous Mobility System
CAPS	Counter-Proliferation Analysis and Planning System
CASEVAC	Casualty Evacuation
CBN	Chemical, Biological and Nuclear
CCCEKIT	Combat Casualty Care Equipment Kit
CCD	Coherent Change Detection
CCD	Charged Coupled Device (Forward Looking Infrared Radar Only)
CCFLIR	Combatant Craft Forward Looking Infrared
CDB	Common Database
CDR	Critical Design Review
CERP	Capital Equipment Replacement Plan
CESE	Civil Engineering Support Equipment
CFE	Contractor Furnished Equipment
CGF	Computer Generated Forces
CINC	Commander in Chief

## *ACRONYMS*

CLR	Combat Loss Replacement
CMNS	Combat Mission Needs Statement
CMR	Combat Mission Requirement
CMS	Combat Mission Simulator
CNVD	Clip-On Night Vision Device
COIL	Chemical Oxygen Iodine Laser
COMSEC	Communications Security
CONOPS	Concept of Operations
COTM	Communications On-the-Move
COTS	Commercial-Off-The-Shelf
COW	Cost of War
CP	Counter-Proliferation
CPAF	Cost Plus Award Fee
CQBR	Close Quarters Battle Rifle
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
DBP	Demolitions and Bleaching Program
DCGS	Data Common Ground/Surface System
DCS	Decompression Sickness
DDRE	Director, Defense Research & Engineering
DDS	Dry Deck Shelter
DERF	Defense Emergency Response Fund
DF	Direction Finding'
DHEA	Dehydroepiandrosterone
DHIP	Defense Human Intelligence Program
DIAM	Data Interface Acquisition Module

## *ACRONYMS*

DIRCM	Directional Infrared Countermeasures
DISN	Defense Information Systems Network
DMCS	Deployable Multi-Channel SATCOM
DMS	Diminished Manufacturing Sources (ASDS)
DMS	Defense Message System
DMO	Distributed Mission Operations
DMR	Distributed Mission Rehearsal
DMT	Distributed Mission Training
DMTRS	Distributed Mission Training Rehearsal System
DDP	Detachment Deployment Package
DPPC	Deployable Print Production Center
DT	Development and Test
DT&E	Development, Test and Evaluation
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
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
EP	Extension Packages
EPRO	Environmental Protection
ESA	Enhanced Situational Awareness
ETCAS	Enhanced Traffic Alert and Collision Avoidance System
EUE	Extended User Evaluation
ETI	Evolutionary Technology Insertion

## *ACRONYMS*

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
FCU	Fire Control Unit
FDEK	Forward Deployed Equipment Kits
F&DR	Fielding & Deployment Release
FEPSO	Field Experimentation Program for Special Operations
FFE	Fire From Enclosure
FLIR	Forward Looking Infrared Radar
FM	Frequency Modulation
FMBS	Family of Muzzle Brake Suppressors
FNM	Foreign & Nonstandard Materiel
FOL	Family of Loud Speakers
FPM	Flight Performance Model
FSDS	Family of Sniper Detection Systems
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
GIG	Global Information Grid
GMS-2	Gunship Multispectral System
GMV	Ground Mobility Vehicles
GMVAS	Ground Mobility Visual Augmentation Systems
GO	Global Observer
GOTS	Government-Off-the-Shelf
GPK	Gunner Protection Kit

## *ACRONYMS*

GPS	Global Positioning System
GSK	Ground Signal Intelligence Kit
GSN	Global Sensor Network
GV	Ground Vehicle
GVSA	Global Video Surveillance Activity
GWOT	Global War on Terrorism
H-SUV	Hardened-Sport Utility Vehicle
HALE	High Altitude Long Endurance
HE	High Explosive
HEI	High Explosive Incendiary
HF	High Frequency
HFIS	Hostile Fire Indicating System
HFTTL	Hostile Forces Tagging, Tracking, and Locating
HLA	High Level Architecture
HMMWV	High Mobility Multi-purpose Wheeled Vehicle
HMU	Hydrographic Mapping Unit
HPFOTD	High Power Fiber Optic Towed Decoys
HPMMR	High Performance Multi-Mission Radio (PRC-117F)
HPS	Human Patient Simulator
HQ	Headquarters
HRLMD	Hydrographic Reconnaissance Littoral Mapping Device
HSB	High Speed Boat
HSR	Heavy Sniper Rifle
HUD	Heads Up Display
IAS/CMS	Integration Avionics System/Cockpit Management System
IBR	Intelligence Broadcast Receiver
IBS	Integrated Bridge System
IBS	Integrated Broadcast Service
IC	Interim Configuration
ICAD	Integrated Control and Display
ICLS	Interim Contractor Logistics Support
ICS	Integrated Combat System
ICS	Interim Contractor Support
ICS	Internal Communication Systems



## *ACRONYMS*

IDAP	Integrated Defensive Armed Penetrator
IDAS	Interactive Defensive Avionics Subsystem
IDS	Infrared Detection System
IED	Improvised Explosive Devices
IFF	Identify Friend or Foe
IGPS	Iridium Global Positioning System
ILM	Improved Limpet Mine
IM	Insensitive Munitions
IMFP	Integrated Multi-Function Probe
ILS	Integrated Logistics Support
INFOSEC	Information Security
INOD	Improved Night/Day Observation/Fire Control Device
INS	Inertial Navigation System
IOC	Initial Operational Capability
IP	Internet Protocol
IPOC	Initial Proof-of-Concept
IPT	Integrated Product Team
IR	Infrared
IRCM	Infrared Countermeasures
ISOCA	Improved Special Operations Communications Assemblage
ISR	Intelligence Surveillance and Reconnaissance
ISR&T	Intelligence Surveillance and Reconnaissance and Target
ISSMS	Improved SOF Manpack System
ITMP	Integrated Technical Management Plan
IWIS	Integrated Warfare Info System
JBS	Joint Base Station
JCAS	Joint Close Air Support
JCIDS	Joint Capabilities Integration and Development System
JCS	Joint Chiefs of Staff
JCTD	Joint Concept Technology Demonstration
JDISS	Joint Deployable Intelligence Support System
JEM	Joint Enhanced Multi-Purpose Inter/Intra Team Radio
JHL	Joint Heavy Lift
JMPS	Joint Mission Planning System

## *ACRONYMS*

JOS	Joint Operational Stocks
JSOAC	Joint Special Operations Aviation Components
JSOTFS	Joint Special Operations Task Force
JSTAR	Joint Surveillance and Target Attack Radar System
JTA	Joint Table of Allowances
JTC	Joint Terminal Control
JTCITS	Joint Tactical C4I Transceiver System
JTRS	Joint Tactical Radio System
JTWS	Joint Threat Warning System
JWIC	Joint Worldwide Communication 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
LED	Light Emitting Diode
LEP	Lightweight Environmental Protection
LMG	Lightweight Machine Gun
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
LRIP	Low Rate Initial Production
LRU	Line Replaceable Unit
LRV	Light Reconnaissance Vehicle
LSV	Logistics Support Vehicle
LTAV	Lightweight Tactical All Terrain Vehicle
LTD	Laser Target Designator
LTDR	Laser Target Designator/Rangefinder

## *ACRONYMS*

LTI	Lightweight Thermal Imager
LTTG	Locating, Tagging, and Tracking for Global War on Terrorism
LWC	Littoral Warfare Craft
LWCM	Lightweight Counter-Mortar
LWHF	Lightweight Hellfire
M4MOD	M4A1 SOF Carbine Accessory Kit
MAAS	Multimedia Analyst Archive System
MAAWS	Multi-Purpose Anti-Armor/Anti-Personnel Weapons System
MALET	Medium Altitude Long Endurance Tactical
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
MCOTS	Modified Commercial Off the Shelf
MCU	Multipoint Conferencing Unit
MDA	Maritime Domain Awareness
MDNS	Mini Day/Night Sight
MELB	Mission Enhancement Little Bird
MET	Meteorological
METOC	Meteorological and Oceanographic
MICH	Modular Integrated Communications Helmet
MK V	Mark V
MMB	Miniature Multiband Beacon
MMPV	Medium Mine Protected Vehicles
MMR	Multi-Mode Radar
MOA	Memorandum of Agreement
MONO-HUD	Monocular Head Up Display
MP	Manpack
MPARE	Mission Planning, Analysis, Rehearsal and Execution
MPC	Media Production Center

## *ACRONYMS*

MRAP	Mine Resistant Ambush Protected
MPK	Mission Planning Kits
MRD	Mission Rehearsal Device
MTBS	Mobile Television Broadcast System
MTPS	Mission Training and Preparation System
MUA	Military Utility Assessment
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
NGLS	Next Generation Loudspeaker System
NISH	National Institute of Severly Handicapped
NM	Nautical Miles
NOSC	Network Operations Systems Center
NRE	Non-Recurring Engineering
NSAV	Non-Standard Aviation
NSCV	Non Standard Commercial Vehicle
NSM	Nonstandard Materiel
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
OPUS	Optimal Placement of Unattended Sensors
ORD	Operational Requirements Document
OT	Operational Test

## ACRONYMS

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
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
PGL	Precision Geo-Location
PIMM	Payload Interface Master Module
PLTD	Precision Laser Targeting Device
PM	Program Manager
PM-MCD	Project Manager for Mines, Countermeasures and Demolitions
PMO	Program Management Office
PMP	Prime Mission Product
PMT	Program Management
POBS	Psychological Operations Broadcasting System
POMD	Psychological Operations Media Display
POPAS	PSYOP Planning and Analysis System
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

## *ACRONYMS*

RAMS	Remote Activated Munitions System
REITS	Rapid Exploitation of Innovative Technologies for SOF
RF	Radio Frequency
RFP	Request for Proposal
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
RPG	Rocket Propelled Grenade
RPUAS	Rucksack Portable Unmanned Aircraft System
RSTA	Reconnaissance Surveillance Target Acquisition
RW	Rotary Wing
RWR	Radar Warning Receivers
SA	Situational Awareness
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	SOF Deployable Node
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

## *ACRONYMS*

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
SLED	SOF Long Endurance Demonstrator
SLEP	Service Life Extension Program
SMAX	Special Operations Command Multipurpose Antenna, X-Band
SMG	SOF Machine Gun
SMLD	Scatterable Media Long Duration
SMSD	Scatterable Media Short Duration
SMRS	Special Mission Radio System
SO	Special Operations
SOC	Special Operations Craft
SOC	Special Operations Command
SOCR	Special Operations Craft-Riverine
SOCRATES	Special Operations Command, Research, Analysis and Threat Evaluation System
SOEP	Special Operations Eye Protection
SOF	Special Operations Forces
SOFC	Solid Oxide Fuel Cell
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	Special Operations Media Systems
SOPGM	Standoff Precision Guided Munition

## *ACRONYMS*

SOPMOD	SOF Peculiar Modification
SOPMODM-4	SOF Peculiar Modification-M4 Carbine
SORBIS	Special Operations Resouce Business Information System
SOST	Special Operations Special Technology
SOTD	Special Operations Technology Development
SOTVS	Special Operations Tactical Video System
SOVAS B/M	Special Operations Visual Aumentation System Binocular/Monocular
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
SRTV	Secure Real Time Video
SSE	Sensitive Site Exploitation
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
STEP	Standard Tactical Entry Point
STD	Swimmer Transport Device
SW	Short-Wave
SWALIS	Special Warfare Automated Logistic Information System
SWIR	Short-Wave Infrared Sensor
SWORDS	Special Weapons Observation and Remote Direct-Action System
SYDET	Sympathetic Detonator
TA	Target Audiences
TACLAN	Tactical Local Area Network
TACTICOMP	Tactical Computer
TAT	To-Accompany Troops
TCCCE	Tactical Combat Casualty Care Equipment
TCCCEKIT	Tactical Combat Casualty Care Equipment Kit



## *ACRONYMS*

TCV	Transit Case Variant
TDFD	Time Delay Firing Device
TDE	Technology Development Exploitation
TF/TA	Terrain Following/Terrain Avoidance
TMPC	Theater Media Production Center
TPE	Theater Provided Equipment
TPED	Tactical Processing, Exploitation, and Dissemination
TEI	Technology Exploitation Initiative
TRR	Test Readiness Review
TRS	Tactical Radio System
TRS	Training and Rehearsal System
TSOC	Theater Special Operations Command
TT	Team Transportable
TTHM	Titanium Tilting Helmet Mount
TTL	Tagging, Tracking & Locating
TV	Television
UARRSI	Universal Aerial Refueling Receptacle Slipaway
UAS	Unmanned Aerial System
UAV	Unmanned Aerial Vehicle
UBA	Underwater Breathing Apparatus
UGS	Unattended Ground Sensor
UGV	Unmanned Ground Vehicle
UHF	Ultra High Frequency
UHMS	Undersea and Hyperbaric Medicine Society
UK	United Kingdom
US	United States
UTB	Unclassified Test Bed
UTC	Unit Type Code
UV	Unmanned Vehicles
UVT	Unmanned Vehicle Targeting
VBL	Visible Bright Lights
VCUAS	Vehicle Craft Unmanned Aircraft System
VESTA	Vibro-Electronic Signature Target Analysis
VHF	Very High Frequency

## *ACRONYMS*

VSD	Variable Speed Drogue
VSAT	Very Small Aperture Terminal
VSWMCM	Very Shallow Water Mine Countermeasures
VTC	Video Teleconferencing
W	Watercraft
WIFI	Wireless Fidelity
WIN-T	Warfighter Information Network-Tactical
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
WST	Weapon System Trainer

## SPECIAL OPERATIONS COMMAND RDT&amp;E PROGRAM

Appropriation: 0400 Research Development Test &amp; Evaluation Defense-Wide

TOA, \$ in Millions

<u>R-1</u>	<u>Program</u> <u>Element #</u>	<u>Item</u>	<u>Budget</u> <u>Activity</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u> <u>Incremental</u> <u>War Request</u>	<u>FY 2010</u> <u>Total</u> <u>Request</u>	
21	1160401BB	Special Operations Technology Development	2	32.996	35.400	27.384	27.384	
22	1160407BB	SOF Medical Technology Development	2	2.313	2.452			
65	1160402BB	Special Operations Advanced Technology Development	3	54.695	65.684	31.675	31.675	
66	1160422BB	Aviation Engineering Analysis	3			3.544	3.544	
67	1160472BB	SOF Information and Broadcast Systems Advanced Technology	3		10.960	4.988	4.988	
203	0304210BB	Special Applications for Contingencies	7	21.245	26.254	16.381	16.381	
221	0305208BB	Distributed Common Ground/Surface Systems (MIP)	7	2.921	0.763	1.407	0.325	1.732
226	0305219BB	MQ-1 Predator A UAV (MIP)	7	11.467	13.642	2.067	3.630	5.697
242	1150219BB	MQ-9 UAV	7			4.380	4.380	
243	1130435BB	STORM (MIP) <sup>1</sup>	7	26.935				
244	1160279BB	Small Business Innovative Research	7	8.655				
245	1160403BB	Special Operations Aviation Systems Advanced Development	7	60.687	43.856	82.621	82.621	
246	1160404BB	Special Operations Tactical Systems Development	7	55.441	20.392	6.182	6.182	
247	1160405BB	Special Operations Intelligence Systems Development (MIP)	7	47.102	39.866	21.273	21.273	
248	1160408BB	SOF Operational Enhancements <sup>1</sup>	7	61.901	53.587	60.310	60.310	
249	1160421BB	Special Operations CV-22 Development	7	22.739	40.120	12.687	12.687	
250	1160423BB	Joint Multi-Mission Submersible	7			43.412	43.412	
251	1160425BB	Special Operations Aircraft Defensive Systems	7	0.862				
252	1160426BB	Advanced SEAL Delivery System (ASDS) Development	7	19.658	8.666	1.321	1.321	
253	1160427BB	Mission Training and Preparation Systems	7	11.970	5.637	3.192	3.192	
254	1160428BB	Unmanned Vehicles	7	36.471	41.409			
255	1160429BB	MC-130J SOF Tanker Recapitalization	7	9.780	4.646	5.957	5.957	

Appropriation: 0400 Research Development Test & Evaluation Defense-Wide

TOA, \$ in Millions

R-1	Program Element #	Item	Budget Activity	FY 2008	FY 2009	FY 2010		FY 2010
						FY 2010	War Request	Total Request
256	1160474BB	SOF Communications Equipment and Electronics Systems	7			0.733		0.733
257	1160476BB	SOF Tactical Radio Systems	7			2.368		2.368
258	1160477BB	SOF Weapons Systems	7		3.952	1.081		1.081
259	1160478BB	SOF Soldier Protection and Survival Systems	7		3.181	0.597		0.597
260	1160479BB	SOF Visual Augmentation, Lasers, and Sensor Systems	7		6.967	3.369		3.369
261	1160480BB	SOF Tactical Vehicles	7		1.600	1.973		1.973
262	1160482BB	SOF Rotary Wing Aviation	7		3.243	18.863		18.863
263	1160483BB	SOF Underwater Systems	7		8.727	3.452		3.452
264	1160484BB	SOF Surface Craft	7		6.392	12.250		12.250
265	1160488BB	SOF PSYOP	7		15.512	9.887		9.887
266	1160489BB	SOF Global Video Surveillance Activities <sup>1</sup>	7		14.646	4.944		4.944
267	1160490BB	SOF Operational Enhancements Intelligence <sup>1</sup>	7		8.705	11.547		11.547
9999	9999999999	Classified Programs <sup>1</sup>	7	2.866	1.663	1.598		1.598
<b>Total Special Operations Command:</b>				<b>490.704</b>	<b>487.922</b>	<b>401.443</b>	<b>3.955</b>	<b>405.398</b>

<sup>1</sup> - Details are classified and will be provided under separate cover.

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**Exhibit R-2, PB 2010 United States Special Operations Command RDT&E Budget Item Justification** **DATE:** May 2009

<b>APPROPRIATION/BUDGET ACTIVITY</b>					<b>R-1 ITEM NOMENCLATURE</b>					
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research					PE 1160401BB Special Operations Technology Development					
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	32.996	35.400	27.384						Cont.	Cont.
S100: SO Technology Development	32.996	35.400	27.384						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 USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technologies 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 (\$ in Millions)**

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Previous President's Budget	32.040	23.104	24.688	
Current BES/President's Budget	32.996	35.400	27.384	
Total Adjustments	0.956	12.296	2.696	
Congressional Program Reductions	0.000	-0.104		
Congressional Rescissions	0.000	0.000		
Total Congressional Increases	0.000	12.400		
Total Reprogrammings	1.150	0.000		
SBIR/STTR Transfer	-0.194	0.000		
rapid exploitation of innovative technologies in all areas of science and technology economic assumptions			3.077	
			-0.381	

**Congressional Increase Details (\$ in Millions)**

**Project: S100, Foliage Penetrating Reconnaissance and Surveillance System**  
**Project: S100, Flashlight Soldier-to-Soldier Combat Identification System (FSCIS)**

	FY 2008	FY 2009
Project: S100, Foliage Penetrating Reconnaissance and Surveillance System	0.000	3.200
Project: S100, Flashlight Soldier-to-Soldier Combat Identification System (FSCIS)	0.000	5.600

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<b>Exhibit R-2, PB 2010 United States Special Operations Command RDT&amp;E Budget Item Justification</b>	<b>DATE:</b> May 2009
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development
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<b>Congressional Increase Details (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>
<b>Project: S100, Extended Lifetime Radioisotope Batteries</b>	0.000	1.600
<b>Project: S100, Miniature Remote Wideband Survey Collection and Recording System</b>	0.000	0.800
<b>Project: S100, Unified Management Infrastructure System</b>	0.000	1.200

**Change Summary Explanation**

Funding:

FY08: Net increase of \$0.956 million is due to an adjustment to the Small Business Innovative Research (SBIR) account (-\$0.194 million), an above threshold reprogramming from ASD SO/LIC for Extended Lifetime Radioisotope Batteries (\$0.800 million); and a reprogramming to implement the Joint System Safety Review Process (\$0.350 million).

FY09: Net Increase of \$12.926 million is due to Section 8101 (-\$0.104 million) and an increase of \$12.400 million for the following Congressional Adds:

- Foliage Penetrating Reconnaissance and Surveillance System (\$3.200 million)
- Flashlight Soldier-to-Soldier Combat Identification System (FSCIS) (\$5.600 million)
- Extended Lifetime Radioisotope Batteries (\$1.600 million)
- Miniature Remote Wideband Survey Collection and Recording System (\$0.800 million)
- Unified Management Infrastructure System (\$1.200 million)

FY10: Net increase of \$2.696 million is due to the added emphasis the command has placed on rapid exploitation of innovative technologies in all areas of science and technology (\$3.077 million) and economic assumptions (-\$0.381 million).

Schedule: None.

Technical: None.

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>								<b>DATE:</b> May 2009		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research				<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development					<b>PROJECT NUMBER</b> S100	
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S100: SO Technology Development	32.996	35.400	27.384						Cont.	Cont.

**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 USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technologies 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:

Rapid Exploitation of Innovative Technologies. This initiative provides USSOCOM the ability to identify, assess and exploit emerging innovative technologies for SOF capability deficiencies and expedite technology transitions from the laboratory to operational use. These technologies will provide new transformational capabilities while providing a compass for the direction of future SOF procurement. Capability areas include intelligence, mobility, sensors, survivability, training, and medical.

Tagging, Tracking, and Locating (TTL) technologies is a key element in the ability of the forces to find, fix, and finish targets in the overseas contingency operation (OCO). This effort invests in critical science and technology efforts to improve operational capabilities for TTL high value individuals and objects in support of the OCO.

Classified.

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.

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>	<b>DATE:</b> May 2009
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development	<b>PROJECT NUMBER</b> S100
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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 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.

Additionally, these efforts were added by Congress in FY 2009:

Flashlight Soldier-to-Soldier Combat ID System. Develop a flashlight soldier-to-soldier combat identification system.

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

Extended Lifetime Radioisotope Batteries. Develop power solutions that will provide long-lasting, high density power for small autonomous devices.

Unified Management Infrastructure System. Develop a network-based remote communication and control platform for monitoring, managing and controlling many different types of net-centric devices and platforms.

Miniature Remote Wideband Survey Collection and Recording System. Design and develop state-of-the-art software and hardware products for the Signals Intelligence (SIGINT) market.

<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Rapid Exploitation of Innovative Technologies for SOF	0.000	0.000	14.794	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development		<b>PROJECT NUMBER</b> S100	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2010 Plans:</i> Initiate the ability to identify, assess, and exploit emerging innovative technologies for SOF capability deficiencies. This initiative is intended to expedite demonstration and rapid fielding of SOF-peculiar technologies.</p>				
<p>Tagging, Tracking, and Locating (TTL) Technologies</p> <p>Tagging, Tracking, and Locating (TTL) Technologies</p> <p><i>FY 2008 Accomplishments:</i> Specific objectives, priorities, and technical approaches are classified. Initiated projects that exploit TTL relevant technologies (nanotechnology, biotechnology, and chemistry) to provide and demonstrate the maturity for the capability enhancements. Enabled very small packaging, functional elements, and increased endurance. Enabled very small sensor packages for object detection and identification, enhancement of biometric observables, and increased processing in small devices. Initiated new forms of communications, forward based and embedded processing. Enhanced long distant TTL and increased communication range and network agility. Projects included leveraging and cooperative efforts with DOD, other government agencies, and industry.</p> <p><i>FY 2009 Plans:</i> Specific objectives, priorities, and technical approaches are classified. Continue projects to exploit nanotechnology, biotechnology, and chemistry for application to TTL systems. Initiate projects identified in the USSOCOM/DoD Roadmap. Support the Joint Chiefs of Staff TTL Quick Look Capability Assessment.</p> <p><i>FY 2010 Plans:</i> Specific objectives, priorities, and technical approaches are classified. Continues projects to exploit nanotechnology, biotechnology, and chemistry for application to TTL systems. Initiates projects identified in the USSOCOM/DoD Roadmap. Supports the Joint Chiefs of Staff TTL Quick Look Capability Assessment.</p>	8.479	12.110	10.487	
Classified	1.997	2.028	2.103	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development		<b>PROJECT NUMBER</b> S100	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2008 Accomplishments:</i> Details provided under separate cover.</p> <p><i>FY 2009 Plans:</i> Details provided under separate cover.</p> <p><i>FY 2010 Plans:</i> Details provided under separate cover.</p>				
<p>Intelligence Technologies</p> <p>FY08 Continued Athena project. Initiated intelligence technology projects to address identified intelligence S&amp;T capability gaps.</p> <p><i>FY 2008 Accomplishments:</i> Continued Athena project. Initiated intelligence technology projects to address identified intelligence S&amp;T capability gaps.</p>	0.512	0.000	0.000	
<p>Mobility Technologies</p> <p><i>FY 2008 Accomplishments:</i> Initiated follow-on studies and Joint Capabilities Integration and Development System support analyses needed to support a Mark V Special Operations Craft (SOC) replacement requirements validation. Initiated mobility technology projects to address mobility S&amp;T capability gaps such as the Seal Delivery Vehicle vertical launch.</p>	1.403	0.000	0.000	
<p>Sensor Technologies</p> <p><i>FY 2008 Accomplishments:</i> Continued investigations of S&amp;T focus areas. Continued Enhanced Hostile Detection Capability, Night Vision Windshield/Distributed Aperture System and Battlefield Helicopter Emulator.</p>	3.559	7.533	0.000	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development		<b>PROJECT NUMBER</b> S100	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2009 Plans:</i> Continue development of FY08 efforts. Continue to exploit technologies to provide SOF with standoff capabilities for targeting and locating personnel and equipment, enhancing sensors and situational awareness. Exploit technologies that enhance logistics, reduce cost and enhance performance of SOF sensors. Continue investigations of S&amp;T focus areas.</p>				
<p>Warrior Technologies</p> <p><i>FY 2008 Accomplishments:</i> Continued Advanced Digital Multispectral Night Vision Goggle.</p>	0.519	0.000	0.000	
<p>Technology Studies</p> <p><i>FY 2008 Accomplishments:</i> Initiated follow-on studies and Joint Capabilities Integration and Development System support analyses needed to support a MK V SOC replacement requirements validation. Continued to conduct concept studies to explore/validate projects that support SOF strategic capability gaps.</p> <p><i>FY 2009 Plans:</i> Continue to conduct concept studies to explore/validate projects that support SOF strategic capability gaps.</p>	2.973	1.675	0.000	
<p>Training Technologies</p> <p><i>FY 2008 Accomplishments:</i> Initiated training technology for the Joint Heavy Lift project.</p>	1.525	0.000	0.000	
<p>Pulsed Energy Projectile</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed secure data storage in support of multi-level and classification stateless networks</p>	0.967	0.000	0.000	
SOF Network-Centric Sharing and Storage	0.967	0.000	0.000	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development		<b>PROJECT NUMBER</b> S100	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed secure data storage in support of multi-level and classification stateless networks</p>				
<p>Nickel Boron Coating for SOCOM Vehicles</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Investigated coatings for military utility within ground vehicles to increase service life as application to support breaching operations, investigated application on propellers to reduce cavitations, and investigated applications as an anti-corrosive coating.</p>	1.549	0.000	0.000	
<p>Athena-Threat Signal Locator</p> <p>FY08</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Designed, developed and demonstrated a modular capability to detect, locate and defeat combatant communications on the asymmetric battlefield.</p>	0.968	0.000	0.000	
<p>Advanced Multi-Purpose Micro-Display System</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add and a follow on to FY07 where the funding was in Program Element 1160402BB. Integrated micro-display and miniature electronics heads-up displays.</p>	0.967	0.000	0.000	
<p>Flashlight Soldier-to-Soldier Combat ID System</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed a flashlight soldier-to-soldier combat identification system.</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Continue FY08 development.</p>	1.937	5.444	0.000	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research		<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development		<b>PROJECT NUMBER</b> S100	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>			<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>
Improved Sensor System <i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Continued development of sensor package design for the Advanced Distributed Aperture system project.			1.937	0.000	0.000
Foliage Penetrating Reconnaissance and Surveillance <i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed and evaluated a Multi-Sensor Foliage Penetrating Reconnaissance and Surveillance system  <i>FY 2009 Plans:</i> This initiative is a Congressional add. Continue FY08 development.			1.937	3.111	0.000
Extended Lifetime Radioisotope Batteries <i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Develop power solutions that will provide long-lasting, high density power for small autonomous devices.  <i>FY 2009 Plans:</i> This initiative is a Congressional add. Continue FY08 development.			0.800	1.555	0.000
Unified Management Infrastructure System <i>FY 2009 Plans:</i> This initiative is a Congressional add. Develop a network-based remote communication and control platform for monitoring, managing and controlling many different types of net-centric devices and platforms.			0.000	1.166	0.000
Miniature Remote Wideband Survey Collection and Recording System			0.000	0.778	0.000

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160401BB Special Operations Technology Development		<b>PROJECT NUMBER</b> S100	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<i>FY 2009 Plans:</i> This initiative is a Congressional add. Design and develop state-of-the-art software and hardware products for the Signals Intelligence market.				
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A				
<b>D. Acquisition Strategy</b> N/A				
<b>E. Performance Metrics</b> N/A				

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**Exhibit R-2, PB 2010 United States Special Operations Command RDT&E Budget Item Justification** **DATE:** May 2009

<b>APPROPRIATION/BUDGET ACTIVITY</b>					<b>R-1 ITEM NOMENCLATURE</b>					
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research					PE 1160407BB SOF MEDICAL TECHNOLOGY					
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	2.313	2.452	0.000						0	0
S275: SOF MEDICAL TECHNOLOGY	2.313	2.452	0.000						0	0

**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 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 (\$ in Millions)**

	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>
Previous President's Budget	2.327	2.459	2.495	
Current BES/President's Budget	2.313	2.452	0.000	
Total Adjustments	-0.014	-0.007	-2.495	
Congressional Program Reductions	0.000	-0.007		
Congressional Rescissions	0.000	0.000		
Total Congressional Increases	0.000	0.000		
Total Reprogrammings	0.000	0.000		
SBIR/STTR Transfer	-0.014	0.000		
medical technology efforts will be addressed under program element 1160401BB under the Rapid Exploitation of Innovative Technologies for SOF project.			-2.495	

**Change Summary Explanation**

Funding:

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<b>Exhibit R-2, PB 2010 United States Special Operations Command RDT&amp;E Budget Item Justification</b>		<b>DATE: May 2009</b>
<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	PE 1160407BB SOF MEDICAL TECHNOLOGY	
<p>FY08: Decrease (-\$0.014 million) is due to an adjustment to the Small Business Innovative Research (SBIR) account.</p> <p>FY09: Decrease (-\$0.007 million) is due to Section 8101 reduction (-\$0.007 million).</p> <p>FY10: Decrease (-\$2.495 million): Beginning in FY10, medical technology efforts will be addressed under program element 1160401BB under the Rapid Exploitation of Innovative Technologies for SOF project.</p> <p>Schedule: None.</p> <p>Technical: None.</p> <p>Technical: None.</p>		

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>								<b>DATE:</b> May 2009		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research				<b>R-1 ITEM NOMENCLATURE</b> PE 1160407BB SOF MEDICAL TECHNOLOGY					<b>PROJECT NUMBER</b> S275	
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S275: SOF MEDICAL TECHNOLOGY	2.313	2.452	0.000						0	0

**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 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: (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 for constantly upgrading the expertise of SOF medical

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160407BB SOF MEDICAL TECHNOLOGY			<b>PROJECT NUMBER</b> S275
<p>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.</p> <p>Thermal protection research into various ensemble clothing and devices that may potentially enhance SOF operator performance.</p> <p>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.</p>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Combat Casualty Care Combat Casualty Care  <i>FY 2008 Accomplishments:</i> Completed ongoing testing and field evaluation studies of the WA Propaq LT and wearable low-power plasma knife. Continued ongoing recombinant hemostatic agents studies for penetrating brain injury. Initiated new studies for SOCOM lab sets.  <i>FY 2009 Plans:</i> Complete ongoing recombinant hemostatic agents studies for penetrating brain injury and SOCOM lab set. Initiate new studies to develop mission essential elements for enroute care.	0.235	0.479	0.000	
Diving Medicine Diving Medicine  <i>FY 2008 Accomplishments:</i> Continued ongoing studies for intravenous perfluorocarbon and recompression therapy after the onset of severe decompression sickness	0.121	0.000	0.000	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	<b>R-1 ITEM NOMENCLATURE</b> PE 1160407BB SOF MEDICAL TECHNOLOGY		<b>PROJECT NUMBER</b> S275	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2009 Plans:</i> Complete ongoing studies for intravenous perfluorocarbon and recompression therapy after the onset of severe decompression sickness.</p>				
<p>Medical Informatics Medical Informatics</p> <p><i>FY 2008 Accomplishments:</i> Completed ongoing studies for SOF nutrition training material, advanced distant learning for 18D course of instruction and the history of the development of the SOF medic. Continued ongoing studies for SOF medical lessons learned</p> <p><i>FY 2009 Plans:</i> Complete ongoing studies for SOF medical lessons learned and initiate new studies to update SOF/Joint Medical Doctrine and Procedures.</p>	0.218	0.577	0.000	
<p>Performance Enhancements Performance Enhancements</p> <p><i>FY 2008 Accomplishments:</i> Completed ongoing studies for prevention of motion sickness and altitude decompression sickness risk assessment computer upgrade - staged in-light decompression. Continued ongoing studies for comparison of flight proficiency and risk taking behavior in aviators given dextroamphetamine or modafinil during extended operations and the effect of exogenous erythropoietin on acute mountain sickness symptoms in humans. Initiated new studies for 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.</p>	1.739	1.396	0.000	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2009 Plans:</i>                      Complete ongoing studies for comparison of flight proficiency and risk taking behavior in aviators given dextroamphetamine or modafinil during extended operations, the effects of exogenous erythropoietin on acute mountain sickness symptoms in humans and anti-clotting agents. Continues ongoing studies for 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 sssays and optimize warfighter fitness. Initiate new studies for ergogenics and ergonomics, and operational performance in adverse environment studies.</p>				
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A				
<b>D. Acquisition Strategy</b> N/A				
<b>E. Performance Metrics</b> N/A				

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**Exhibit R-2, PB 2010 United States Special Operations Command RDT&E Budget Item Justification** **DATE:** May 2009

<b>APPROPRIATION/BUDGET ACTIVITY</b>					<b>R-1 ITEM NOMENCLATURE</b>					
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)					PE 1160402BB SO Advanced Technology Development					
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	54.695	65.684	31.675						Cont.	Cont.
S200: SO Advanced Technology Development	54.695	65.684	31.675						Cont.	Cont.

**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.

**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2008</b></u>	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011</b></u>
Previous President's Budget	41.251	28.930	27.191	
Current BES/President's Budget	54.695	65.684	31.675	
Total Adjustments	13.444	36.754	4.484	
Congressional Program Reductions	0.000	-0.166		
Congressional Rescissions	0.000	0.000		
Total Congressional Increases	0.000	36.920		
Total Reprogrammings	13.691	0.000		
SBIR/STTR Transfer	-0.247			
additional testing funds required to transition items from the SOF national forces to the theater forces			2.000	
Rapid Exploitation of Innovative Technology effort			2.924	
economic assumptions			-0.440	

**Congressional Increase Details (\$ in Millions)**

**Project: S200, Improved Information Transfer for Special Forces**

**Project: S200, Advanced Distributed Aperture System**

	<b>FY 2008</b>	<b>FY 2009</b>
Project: S200, Improved Information Transfer for Special Forces	0.000	2.400
Project: S200, Advanced Distributed Aperture System	0.000	21.120

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**Exhibit R-2, PB 2010 United States Special Operations Command RDT&E Budget Item Justification** **DATE:** May 2009

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	PE 1160402BB SO Advanced Technology Development

<b>Congressional Increase Details (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>
<b>Project: S200, Advanced Craft Tech Demonstrations to Quantify and Mitigate Operator Injury</b>	0.000	2.000
<b>Project: S200, Autonomous Rendezvous/Formation Flight</b>	0.000	2.000
<b>Project: S200, Partnership for Defense Innovation WiFi Test Laboratory</b>	0.000	2.000
<b>Project: S200, Field Experimentation Program for Special Operations</b>	0.000	1.600
<b>Project: S200, Micro-Power Special Operations Generator</b>	0.000	1.600
<b>Project: S200, Photovoltaic Power Supply</b>	0.000	2.400
<b>Project: S200, Small Assault Vehicle Expeditionary</b>	0.000	0.800
<b>Project: S200, Technology Infusion Cell</b>	0.000	1.000

**Change Summary Explanation**

Funding:

FY08: Net increase of \$13.444 million is due to a Small Business Innovative Research (SBIR) account adjustment (-\$.247 million), an increase of \$9.040 million for foliage penetration efforts, an increase of \$0.100 million for a Polymer Light Emitting Diode initiative, FY08 Omnibus reprogramming (FY08-31PA) for the 11 Meter RIB Craft Design Congressional add (-\$0.774 million), DD 1415-3 (FY08-30 IR) increase of \$3.395 million for two Congressional adds reprogrammed to the correct PE for proper execution, DD 1415-3 (FY08-56 IR) increase of \$0.966 million for Congressional add Responsive Textiles, and DD 1415-3 (FY08-41 IR) increase of \$0.964 million for Photovoltaic Power Supply for Autonomous Sensors.

FY09: Net increase of \$36.754 million is due to a decrease for Section 8101(-\$0.166 million) and an increase of \$36.920 million for the following Congressional Adds:

- Improved Information Transfer for Special Forces (\$2.400 million)
- Advanced Distributed Aperture System (\$21.120 million)
- Advanced Craft Tech Demonstrations to Quantify and Mitigate Operator Injury (\$2.000 million)
- Autonomous Rendezvous/Formation Flight (\$2.000 million)
- Partnership for Defense Innovation WiFi Test Laboratory (\$2.000 million)
- Field Experimentation Program for Special Operations (\$1.600 million)
- Micro-Power Special Operations Generator (\$1.600 million)

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<b>Exhibit R-2, PB 2010 United States Special Operations Command RDT&amp;E Budget Item Justification</b>		<b>DATE: May 2009</b>
<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	PE 1160402BB SO Advanced Technology Development	
Photovoltaic Power Supply (\$2.400 million) Small Assault Vehicle Expeditionary (\$0.800 million) Technology Infusion Cell (\$1.000 million)		
FY10: Net increase of \$4.484 million is due to the additional testing funds required to transition items from the SOF national forces to the theater forces \$1.973 million, additional funding to support the Rapid Exploitation of Innovative Technology effort (\$2.071 million) and economic assumptions (-\$0.440 million).		

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>								<b>DATE:</b> May 2009		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)				<b>R-1 ITEM NOMENCLATURE</b> PE 1160402BB SO Advanced Technology Development					<b>PROJECT NUMBER</b> S200	
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S200: SO Advanced Technology Development	54.695	65.684	31.675						Cont.	Cont.

**A. Mission Description and Budget Item Justification**

This project conducts rapid prototyping, Advanced Technology Demonstrations (ATDs) and Advanced Concept Technology Demonstrations (ACTDs) which are 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:

Rapid Exploitation of Innovative Technologies. This initiative provides USSOCOM the ability to identify, assess and exploit emerging innovative technologies for SOF capability deficiencies and expedite technology transitions from the laboratory to operational use. These technologies will provide new transformational capabilities, while providing a compass for the direction of future SOF procurement.

Tagging, Tracking, and Locating (TTL) Technologies. Exploit emerging technologies to utilize the USSOCOM/DoD TTL Science & Technology 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.

National to Theater Transition. Conducts additional testing required to transition items from our national forces to theater forces.

Classified.

Iridium-Global Positioning System (I-GPS). Conducts a proof of concept study of I-GPS to evaluate the capability to provide handsets capable of using signals from iridium and GPS satellites to provide anti-jam, positioning, and timing accuracy capabilities.

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 products to reach target audiences across a variety of media into denied areas to include ranges up to 800 Nautical Miles, 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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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>		<b>DATE:</b> May 2009
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	<b>R-1 ITEM NOMENCLATURE</b> PE 1160402BB SO Advanced Technology Development	<b>PROJECT NUMBER</b> S200
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Additionally, this project executes the following efforts added by Congress:</p> <p>Field Experimentation Program for Special Operations. Prototype and evaluate manned-unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF.</p> <p>Information Networking for Operational Reporting and Monitoring. Develop and test a capability that guarantees critical intelligence information is immediately disseminated.</p> <p>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.</p> <p>Special Operations Portable Power Source. Research and develop Solid Oxide Fuel Cell technology for SOF power needs.</p>		

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	<b>R-1 ITEM NOMENCLATURE</b> PE 1160402BB SO Advanced Technology Development		<b>PROJECT NUMBER</b> S200			
<p>Waterway Threat Detection Sensor System. Research and develop a lightweight sonar system for the detection of swimmers, unmanned underwater vehicles, mines and ships.</p> <p>Photovoltaic Power Supply. Develop high efficiency photovoltaic power sources for the deployment of autonomous sensors.</p> <p>Advanced Distributed Aperture System. Develop a Transformational Night Vision Augmentation System to Operate in No/Low-light Conditions and Adverse Weather.</p> <p>Advanced Craft Technology Demonstrations to Quantify and Mitigate Operator Injury. Rapidly field two operational demonstrators for evaluation of a shock-mitigating craft with advanced composite material and advanced hull design to reduce operational injuries.</p> <p>Autonomous Rendezvous/Formation Flight. Develop the capability for aircraft to maintain position while staying very stable in formation fixed to relative position of other aircraft in instrument meteorological conditions.</p> <p>Partnership for Defense Innovation WiFi Test Laboratory. Rapidly evaluate and integrate Commercial Off-the- shelf (COTS) and Government Off –the- shelf (GOTS) secure wireless network technologies that are relevant to the SOF Warrior.</p> <p>Expendable Airdrop Delivery System. Develop, test, and evaluate a capability that will provide precision delivery of specific critical items to deployed troops.</p> <p>Micro-Power Special Operations Generator. Develop a low signature, rugged, 2-man-portable, multi-fuel, power generator for SOF missions.</p> <p>Responsive Textiles. Develop a Special Forces protective combat uniform that is a seven piece base and thermal layering system to provide the troops flexibility and comfort in the most hostile environments.</p> <p>Small Assault Vehicle Expeditionary. Provide upgrades and optimization to the Small Versatile Maritime Mobility Craft platform through hull design and engine replacement.</p> <p>Technology Infusion Cell. Provide independent, unbiased research and rapid prototype development of emerging technologies to assist SOF to successfully train and fight the war on terror.</p>						
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>			<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Rapid Exploitation of Innovative Technologies for SOF (REITS)			0.000	0.000	14.794	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p>Rapid Exploitation of Innovative Technologies for SOF (REITS)</p> <p><i>FY 2010 Plans:</i> Initiate the ability to identify, assess, and exploit emerging innovative technologies for SOF capability deficiencies. REITS is intended to expedite demonstration and rapid fielding of SOF-peculiar technologies.</p>				
<p>Tagging, Tracking, and Locating (TTL) Technologies</p> <p>Tagging, Tracking, and Locating (TTL) Technologies</p> <p><i>FY 2008 Accomplishments:</i> Initiated projects from the USSOCOM/DoD TTL project database that exploited and integrated 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. Exploited emerging technologies to locate and track targets or items of interest. Projects included leveraging and cooperative efforts with DOD, other government agencies, and industry.</p> <p><i>FY 2009 Plans:</i> Continue projects from the USSOCOM/DoD TTL project database. Exploit emerging technologies to locate and track targets or items of interest. Projects include leveraging and cooperative efforts with DOD, other government agencies, and industry.</p> <p><i>FY 2010 Plans:</i> Continues projects from the USSOCOM/DoD TTL project database that exploit and integrate TTL proven relevant technologies. Exploits 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.</p>	8.821	14.161	12.407	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	<b>R-1 ITEM NOMENCLATURE</b> PE 1160402BB SO Advanced Technology Development		<b>PROJECT NUMBER</b> S200	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
National to Theater Transition National to Theater Transition  <i>FY 2010 Plans:</i> Conduct additional testing and evaluation required on various equipment items to transition to the SOF Theater Forces.	0.000	0.000	1.973	
Iridium Global Positioning System (I-GPS) Iridium Global Positioning System (I-GPS)  <i>FY 2009 Plans:</i> 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.	0.000	4.279	0.000	
PSYOP "Global Reach" ACTD PSYOP "Global Reach" ACTD  <i>FY 2008 Accomplishments:</i> Continued the development and demonstration of advanced broadcast/rebroadcast payloads on Predator and other Unmanned Aerial System's (UAS), to include AM broadcast systems. Perform extended user evaluation on Predator B, Unmanned Aerial Vehicle (UAV) for FM, TV and loudspeaker broadcast payloads. Transition Predator B FM payload and Wind Supported Air Delivery System UAS loudspeaker broadcast payloads. Continues PSYOP Planning and Analysis System development and incremental fielding and transition software/hardware.	5.802	0.000	0.000	
Classified Classified	6.378	4.408	2.501	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2008 Accomplishments:</i> Details provided under separate cover.</p> <p><i>FY 2009 Plans:</i> Details provided under separate cover.</p> <p><i>FY 2010 Plans:</i> Details provided under separate cover.</p>				
<p>Command, Control, Communications, and Computers (C4) Technologies</p> <p>Command, Control, Communications, and Computers (C4) Technologies</p> <p><i>FY 2008 Accomplishments:</i> Continued 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. Continued to exploit emerging technologies to conduct ATDs that provide SOF with increased sensory performance. Continued C4 technology projects to address identified C4 capability gaps.</p> <p><i>FY 2009 Plans:</i> Continue development and evaluation of FY08 efforts. Continue 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. 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. Continue C4 technology projects to address identified C4 capability gaps.</p>	0.138	1.731	0.000	
<p>Mobility Technologies</p> <p>Mobility Technologies</p>	12.041	1.900	0.000	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	<b>R-1 ITEM NOMENCLATURE</b> PE 1160402BB SO Advanced Technology Development		<b>PROJECT NUMBER</b> S200	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2008 Accomplishments:</i> Continued to exploit 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. Continued mobility technology projects to address identified mobility capability gaps. Initiated Joint Sea Hunter and Harbor Intrusion ATDs. Initiated Combat Autonomous Mobility System Joint Concept Technology Demonstration (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. Developed Beyond-Line-of-Sight Satellite Communication data links for the A160T SOF Long Endurance Demonstrator (SLED) program.</p> <p><i>FY 2009 Plans:</i> Continue 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. Continue mobility technology projects to address identified mobility capability gaps.</p>				
<p>Sensor Technologies</p> <p>Sensor Technologies</p> <p><i>FY 2008 Accomplishments:</i> Continued development and evaluation of FY07 efforts. Continued 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. Continued weapons/munitions technology projects to</p>	3.196	2.850	0.000	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p>address identified weapons/munitions capability gaps. Completed Enhanced Performance Long Range Ammunition</p> <p><i>FY 2009 Plans:</i> Continue development and evaluation of FY08 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. Continue weapons/munitions technology projects to address identified weapons/munitions capability gaps. Complete enhanced signature suppression for light weight machine guns.</p>				
<p>SOF Warrior Technologies</p> <p>SOF Warrior Technologies</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Prototyped and evaluated manned/unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF.</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Funds will continue FY08 efforts.</p>	1.760	0.450	0.000	
<p>Field Experimentation Program For SOF</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Prototyped and evaluated manned/unmanned platform and sensor networks to articulate new concepts of operation and employment for SOF.</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Funds will continue FY08 efforts.</p>	1.549	1.556	0.000	
<p>SOF Portable Power Source</p> <p>SOF Portable Power Source</p>	2.324	0.000	0.000	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Conducted research on systems to produce mobile electric power from a variety of fuels.</p>				
<p>Waterway Threat Detection Sensor System. Waterway Threat Detection Sensor System.</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Refined development and tested a lightweight sonar system for swimmers, unmanned underwater vehicles, and ship detection.</p>	2.324	0.000	0.000	
<p>Improved Information Transfer For Special Forces Improved Information Transfer For Special Forces</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Continued application of real-time knowledge management tools using information technologies and cognitive science to meet urgent special operations intelligence requirements.</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Funds will continue FY08 development.</p>	3.100	2.334	0.000	
<p>Information Networking for Operational and Monitoring Information Networking for Operational and Monitoring</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed and tested a capability that guarantees critical intelligence information is immediately disseminated to deployed warfighters and other users.</p>	1.937	0.000	0.000	
Photovoltaic Power Supply	0.964	2.334	0.000	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p>Photovoltaic Power Supply</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Developed high-efficiency photovoltaic power sources for the deployment of autonomous sensors</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Funds will continue FY08 development efforts.</p>				
<p>Advanced Distributed Aperture System</p> <p>Advanced Distributed Aperture System</p> <p><i>FY 2008 Accomplishments:</i> This initiative is a Congressional add. Develop a transformational night vision augmentation system to operate in no/low-light conditions and adverse weather.</p>	0.000	20.540	0.000	
<p>Advanced Craft Tech Demonstrations to Quantify and Mitigate Operator Injury</p> <p>Advanced Craft Tech Demonstrations to Quantify and Mitigate Operator Injury</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Develop the capability for aircraft to maintain position while staying very stable in formation fixed to relative position of other aircraft in instrument meteorological conditions.</p>	0.000	1.945	0.000	
<p>Partnership for Defense Innovation WiFi Test Laboratory</p> <p>Partnership for Defense Innovation WiFi Test Laboratory</p> <p><i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Rapidly evaluate and integrate Commercial Off-the-shelf (COTS) and Government Off-the-shelf (GOTS) secure wireless network technologies that are relevant to the SOF Warrior.</p>	2.615	1.945	0.000	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<i>FY 2009 Plans:</i> This initiative is a Congressional add. Continue FY08 efforts				
Expendable Airdrop Delivery System Expendable Airdrop Delivery System  <i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Develop, test, and evaluate a capability that will provide precision delivery of specific critical items to deployed troops.	0.780	0.000	0.000	
Micro-Power Special Operations Generator Micro-Power Special Operations Generator  <i>FY 2009 Plans:</i> This initiative is a Congressional add. Develop a low signature, rugged, 2-man-portable, multi-fuel, power generator for SOF missions.	0.000	1.556	0.000	
Responsive Textiles Responsive Textiles  <i>FY 2008 Accomplishments:</i> This initiative was a Congressional add. Develop a Special Forces protective combat uniform that is a seven piece base and thermal layering system to provide the troops flexibility and comfort in the most hostile environments.	0.966	0.000	0.000	
Small Assault Vehicle Expeditionary Small Assault Vehicle Expeditionary	0.000	0.778	0.000	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	<b>R-1 ITEM NOMENCLATURE</b> PE 1160402BB SO Advanced Technology Development		<b>PROJECT NUMBER</b> S200	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Provides upgrade and optimization to the Small Versatile Maritime Mobility Craft platform through hull design and engine replacement.</p>				
<p>Technology Infusion Cell Technology Infusion Cell</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Provide independent, unbiased research and rapid prototype development of emerging technologies to assist SOF to successfully train and fight in overseas contingency operations.</p>	0.000	0.972	0.000	
<p>Autonomous Rendezvous/Formation Flight</p> <p><i>FY 2009 Plans:</i> This initiative is a Congressional add. Develop the capability for aircraft to maintain position while staying very stable in formation fixed to relative position of other aircraft in instrument meteorological conditions.</p>	0.000	1.945	0.000	
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A				
<b>D. Acquisition Strategy</b> N/A				
<b>E. Performance Metrics</b> N/A				

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**Exhibit R-2, PB 2010 United States Special Operations Command RDT&E Budget Item Justification** **DATE:** May 2009

<b>APPROPRIATION/BUDGET ACTIVITY</b>					<b>R-1 ITEM NOMENCLATURE</b>					
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)					PE 1160422BB Aviation Engineering Analysis					
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	0.000	3.544						Cont.	Cont.
SF101: Aviation Engineering Analysis	0.000	0.000	3.544						Cont.	Cont.

**Note**

A new Program Element (PE)(1160422BB) and Project SF101 were established beginning in FY 2010 for Aviation Engineering Analysis. Resources were moved from PE 1160403BB, Special Operations Aviation Systems Advanced Development Project SF100.

**A. Mission Description and Budget Item Justification**

This project provides rapid response capability for the investigation, evaluation, and demonstration of 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: sensor integration; 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; and future SOF aircraft requirements.

**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2008</b></u>	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011</b></u>
Previous President's Budget	0.000	0.000	0.000	
Current BES/President's Budget	0.000	0.000	3.544	
Total Adjustments	0.000	0.000	3.544	
Congressional Program Reductions	0.000	0.000		
Congressional Rescissions	0.000	0.000		
Total Congressional Increases	0.000	0.000		
Total Reprogrammings	0.000	0.000		
SBIR/STTR Transfer	0.000	0.000		
realigned from PE 1160403BB			3.545	
decrease for economic assumptions			-0.001	

**Change Summary Explanation**

Funding:

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<b>Exhibit R-2, PB 2010 United States Special Operations Command RDT&amp;E Budget Item Justification</b>		<b>DATE: May 2009</b>
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	<b>R-1 ITEM NOMENCLATURE</b> PE 1160422BB Aviation Engineering Analysis	
<p>FY10: Net increase of \$3.544 million is due to funds being realigned from PE 1160403BB (\$3.545 million), and a decrease for economic assumptions (-\$0.001 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

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**Exhibit R-2a, PB 2010 United States Special Operations Command RDT&E Project Justification** **DATE:** May 2009

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)				<b>R-1 ITEM NOMENCLATURE</b> PE 1160422BB Aviation Engineering Analysis					<b>PROJECT NUMBER</b> SF101	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
SF101: Aviation Engineering Analysis	0.000	0.000	3.544						Cont.	Cont.

**Note**

A new Program Element (PE)(1160422BB) and Project SF101 were established beginning in FY 2010 for Aviation Engineering Analysis. Resources were moved from PE 1160403BB, Special Operations Aviation Systems Advanced Development Project SF100.

**A. Mission Description and Budget Item Justification**

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 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 emerging, time critical weapons and sensor enhancements.

**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2008	FY 2009	FY 2010	FY 2011
Aviation Engineering Analysis	0.000	0.000	3.544	
Aviation Engineering Analysis				
<i>FY 2010 Plans:</i> Perform engineering studies and analyses for Fixed Wing aviation SOF-unique equipment and missions.				

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

N/A

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**Exhibit R-2, PB 2010 United States Special Operations Command RDT&E Budget Item Justification** **DATE:** May 2009

<b>APPROPRIATION/BUDGET ACTIVITY</b>					<b>R-1 ITEM NOMENCLATURE</b>					
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)					PE 1160472BB SOF Information and Broadcast Systems Advanced Technology					
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	10.960	4.988						Cont.	Cont.
S225: SOF Information and Broadcast Systems Advanced Technology	0.000	10.960	4.988						Cont.	Cont.

**A. Mission Description and Budget Item Justification**

This Program Element (PE) conducts rapid prototyping, advanced technology demonstrations, and advanced concept technology demonstrations of information and broadcast systems technology. 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.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Previous President's Budget	0.000	10.990	5.950	
Current BES/President's Budget	0.000	10.960	4.988	
Total Adjustments	0.000	-0.030	-0.962	
Congressional Program Reductions	0.000	-0.030		
Congressional Rescissions	0.000	0.000		
Total Congressional Increases	0.000	0.000		
Total Reprogrammings	0.000	0.000		
SBIR/STTR Transfer	0.000	0.000		
realignment to higher command priorities			-0.893	
economic assumptions			-0.069	

**Change Summary Explanation**

Funding:

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<b>Exhibit R-2, PB 2010 United States Special Operations Command RDT&amp;E Budget Item Justification</b>		<b>DATE: May 2009</b>
<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	PE 1160472BB SOF Information and Broadcast Systems Advanced Technology	
<p>FY09: Net decrease of -\$0.030 million is due to Congressional reduction for Section 8101 (-\$0.030 million).</p> <p>FY10: Decrease of -\$0.962 million is due to realignment to higher command priorities (-\$0.893 million) and a decrease for economic assumptions (-\$0.069 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p> <p>Technical: None</p>		

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>								<b>DATE:</b> May 2009		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)				<b>R-1 ITEM NOMENCLATURE</b> PE 1160472BB SOF Information and Broadcast Systems Advanced Technology					<b>PROJECT NUMBER</b> S225	
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S225: SOF Information and Broadcast Systems Advanced Technology	0.000	10.960	4.988						Cont.	Cont.

**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 products 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, and 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 variety of media into denied areas; and technologies that automate and improve PSYOP planning and analytical capability through integrated capabilities.

**B. Accomplishments/Planned Program (\$ in Millions)**

	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
PSYOP "Global Reach" ACTD	0.000	4.832	0.000	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>			<b>DATE:</b> May 2009	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	<b>R-1 ITEM NOMENCLATURE</b> PE 1160472BB SOF Information and Broadcast Systems Advanced Technology		<b>PROJECT NUMBER</b> S225	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p>PSYOP "Global Reach" ACTD</p> <p><i>FY 2009 Plans:</i> 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 of these EUEs will be in preparation for transition. In addition, demonstrate and perform EUE for the PSYOP Planning and Analysis System, which will lead to the transition of software/hardware.</p>				
<p>PSYOP Modernization</p> <p>PSYOP Modernization</p> <p><i>FY 2009 Plans:</i> 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.</p> <p><i>FY 2010 Plans:</i> 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.</p>	0.000	6.128	4.988	

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<b>Exhibit R-2a, PB 2010 United States Special Operations Command RDT&amp;E Project Justification</b>								<b>DATE:</b> May 2009		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)				<b>R-1 ITEM NOMENCLATURE</b> PE 1160472BB SOF Information and Broadcast Systems Advanced Technology				<b>PROJECT NUMBER</b> S225		
<b>C. Other Program Funding Summary (\$ in Millions)</b>										
	<u><b>FY 2008</b></u>	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011</b></u>	<u><b>FY 2012</b></u>	<u><b>FY 2013</b></u>	<u><b>FY 2014</b></u>	<u><b>FY 2015</b></u>	<u><b>Cost To Complete</b></u>	<u><b>Total Cost</b></u>
RDT&E, S200/Special Operations Technology	5.802	0.000	0.000						0	0
<b>D. Acquisition Strategy</b> N/A										
<b>E. Performance Metrics</b> N/A										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0304210BB Special Applications for Contingencies (SAFC)/9999
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE0304210BB	21.245	26.254	16.381						Cont.	Cont.
9999.PR SAFC	21.245	26.254	16.381						Cont.	Cont.

A. Mission Description and Budget Item Justification: The SAFC program element 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 Research & Development (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:

	FY08	FY09	FY10
Previous President's Budget	16.844	16.225	16.609
Current President's Budget	21.245	26.254	16.381
Total Adjustments	4.401	10.029	-0.228
Congressional Program Reductions		-0.071	
Congressional Increases	4.500	10.100	
Reprogrammings			
Other Program Adjustments			-0.228
SBIR Transfer	-0.099		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
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>FY08: Net increase of \$4.401 million is due to a Congressional add for Comprehensive Port and Maritime Domain Awareness (\$4.500 million) and an adjustment for the Small Business Innovative Research account (-\$0.099 million).</p> <p>FY09: Net increase of \$10.029 million is a due to Section 8101 (-\$0.071 million) and (\$10.100 million) for the following Congressional adds:  Comprehensive Port and Maritime Domain Awareness (\$4.500 million)  Unmanned Aerial Systems Test Facility Upgrade (\$2.400 million)  Advanced Technology Sensors and Payloads (\$1.600 million)  Expeditionary Persistent Power (\$1.600 million)</p> <p>FY10: Decrease of -\$0.228 million is due to economic assumptions.</p> <p>Schedule: None.</p> <p>Technical: None.</p>		



<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Special Applications for Contingencies/Project 9999	

Cost (\$ in millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Special Applications for Contingencies	21.245	26.254	16.381					
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: The Special Applications for Contingencies (SAFC) project 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 ISR sensor systems 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.

	FY08	FY09	FY10	FY11
SAFC - Contingencies	3.573	4.102	8.191	
DT&E Articles Quantity				

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

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

FY10 Continues development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short notice requirements. Continues to evaluate unique sensor technologies, persistent stare and quick reaction systems.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009		
Appropriation/Budget Activity RDT&E BA # 7		Special Applications for Contingencies/Project 9999		

	FY08	FY09	FY10	FY11
SAFC – Sensors	4.358	4.346	8.190	
RDT&E Articles Quantity				

FY08 Continued research and assessment of emerging ISR technologies for maritime, land and air domains. Continued research and development of advanced mobile secure networking and detection technologies to create or enhance deployed, remotely emplaced surveillance architectures. Continued development and evaluation of unique unmanned sensor systems.

FY09 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. Continue development and evaluation of unique unmanned sensor systems.

FY10 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.

	FY08	FY09	FY10	FY11
SAFC – Sensor Platform Systems	7.266	7.984		
RDT&E Articles Quantity				

FY08 Continued to research, develop and evaluate emerging advances in ISR sensor platform capabilities. Continued to assess and improve persistence and acoustic profile. Continued to enhance and evaluate communication architectures including link performance and interoperability. Continued to develop, deploy and evaluate advanced sensor control technologies.

FY09 Continue to research, develop and evaluate emerging advances in ISR sensor platform capabilities. Continue to assess and improve persistence and acoustic profile. Continue to enhance and evaluate communication architectures including link performance and interoperability. Continue to develop, deploy and evaluate advanced sensor control technologies.

	FY08	FY09	FY10	FY11
Mobile Optical Wireless Networking for Intel, Surveillance and Recon	1.548			
RDT&E Articles Quantity				

FY08 This was a congressional add. Applied optical wireless technology to develop an extremely high speed, secure Unmanned Aerial System (UAS) data link.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Special Applications for Contingencies/Project 9999	

	FY08	FY09	FY10	FY11
Comprehensive Port and Maritime Domain Awareness	4.500	4.376		
RDT&E Articles Quantity				
<p>FY08 This was a congressional add. Continued establishment of a national center for maritime and port security to develop a maritime domain awareness (MDA) prototype system. The MDA system will link surveillance systems, maritime sensors, data fusion capabilities, biometrics, and updated analysis and display of fused and network information for mission planning and coalition force protection.</p> <p>FY09 This is a congressional add. Continue establishment of a national center for maritime and port security to develop an MDA prototype system.</p>				
	FY08	FY09	FY10	FY11
SAFC Advanced Technology Sensors and Payloads		1.556		
RDT&E Articles Quantity				
<p>FY09 This is a congressional add. Develop a suite of new communications, control, and data exploitation capabilities for use with small and tactical UAS.</p>				
	FY08	FY09	FY10	FY11
SAFC Expeditionary Persistent Power		1.556		
RDT&E Articles Quantity				
<p>FY09 This is a congressional add. Develop ground based power and alternative propulsion systems for SOF equipment, including ultra-thin solar and small wind-driven regeneration systems.</p>				
	FY08	FY09	FY10	FY11
SAFC Unmanned Aerial Systems Test Facility Upgrade		2.334		
RDT&E Articles Quantity				
<p>FY09 This is a congressional add. Develop a test/training range within approved airspace to test, evaluate, and certify sensor payloads and platforms.</p>				

Exhibit R-2a, RDT&E Project Justification

Date: MAY 2009

Appropriation/Budget Activity  
RDT&E BA #7

Special Applications for Contingencies/Project 9999

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To <u>Complete</u>	Total <u>Cost</u>
PROC, SAFC	11.966	12.447							Cont.	Cont.
Small (Level 0) Tactical UAS			12.223						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.

APPROPRIATION / BUDGET ACTIVITY			SPECIAL APPLICATIONS FOR CONTINGENCIES PE0304210BB								
RDT&E DEFENSE-WIDE / 7											
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 FY09	Date FY09	Cost FY10	Date FY10	Cost FY11	Date FY11	To Complete	Total Program
<b>Product Development</b>											
Sensor Platform Capability Development	MIPR	NAVAIR	47.068	7.984	Dec-08					Cont.	Cont.
Intelligence Surveillance and Reconnaissance Sensor and Networking Development	MIPR	Various	34.312	4.346	Dec-08	8.191	Dec-09			Cont.	Cont.
Near Real Time Contingency	MIPR	Various	14.718	4.102	Various	8.190	Various			Cont.	Cont.
Comprehensive Port and Maritime Domain	MIPR	NAVAIR	11.758	4.376	Apr-09						16.134
Advance Technology Sensors & Payloads				1.556	Apr-09						1.556
Expeditionary Persistent Power				1.556	Apr-09						1.556
Subtotal Product Development			107.856	23.920		16.381				Cont.	Cont.
Remarks:											
<b>Support Development</b>											
Subtotal Support Development											
Remarks:											
<b>Test and Evaluation</b>											
UAS Test Facility Upgrade				2.334	Apr-09						
Subtotal Test and Evaluation				2.334							
Remarks:											
<b>Management Services</b>											
Subtotal Management Services											
Remarks:											
Prior Years			25.053								
Total Cost			132.909	26.254		16.381				Cont.	Cont.
Remarks:											





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0305208BB Distributed Common Ground/Surface System/S400A
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COST (Dollars in Millions)	FY08 Supplemental	FY09	FY 2010 Baseline	FY 2010 Overseas Contingency Operations	FY 2010 Total Request				Cost to Complete	Total Cost
PE 0305208BB	2.921	0.763	1.407	.325	1.732				Cont.	Cont.
S400A, DCGS	2.921	0.763	1.407	.325	1.732				Cont.	Cont.

A. Mission Description and Budget Item Justification: This program element provides for the identification, development, and testing of the Distributed Common Ground/Surface System (DCGS). This architecture interconnects the warfighter and sensors to “find and fix” terrorists and/or individuals. The program integrates tactical processing, exploitation, and dissemination data into the Special Operations Forces (SOF) information enterprise. The program develops and integrates SOF networks providing U. S. Special Operations Command with unique decision capabilities to include: measurement and signature data, sensor exploitation, data compressions and man-portable workstations. The program provides the supporting architecture to link the global sensor network to those who will interpret the data for rapid transmission to collaborative partners via the SOF information enterprise. The program will initially provide SOF with capabilities to conduct exploitation of full motion video from unmanned aerial vehicle assets organic to SOF. The program will integrate and implement the department-level system’s integration backbone standards and architecture on the SOF information enterprise, which will support net-centric data sharing between SOF fixed, tactical capabilities and sensors. This program will employ non-developmental commercial and government off-the-shelf hardware and software and will leverage from existing technology as much as possible.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0305208BB Distributed Common Ground/Surface System/S400A
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B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget		3.165	3.627
Current President's Budget	2.921	0.763	1.407
Total Adjustments	2.921	-2.402	-2.220
Congressional Program Reductions		-2.400	
Congressional Increases			
Reprogrammings		-0.002	
Other Program Adjustments	2.921		-2.220

Funding:

FY08: Increase of \$2.921 million is due to FY08 Supplemental funding.

FY09: Decrease of -\$2.402 million is due to congressional mark (-\$2.400 million) and congressional reduction Section 8101 (-\$0.002 million).

FY10: Decrease of -\$2.220 million is due to realignment to higher command priorities (-\$2.200 million) and economic assumptions (-\$0.020 million).

Schedule: None.

Technical: None.

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity  
RDT&E BA # 7

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

Cost (\$ in millions)	FY08 Supplemental	FY09	FY 2010 Baseline	FY 2010 Overseas Contingency Operations	FY 2010 Total Request			
DCGS	2.921	0.763	1.407	.325	1.732			
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/Surface System (DCGS). This architecture interconnects the warfighter and sensors to “find and fix” terrorists and/or individuals. The program integrates tactical processing, exploitation, and dissemination data into the Special Operations Forces (SOF) information enterprise. The program develops and integrates SOF networks providing U. S. Special Operations Command with unique decision capabilities to include: measurement and signature data, sensor exploitation, data compressions and man-portable workstations. The program provides the supporting architecture to link the global sensor network to those who will interpret the data for rapid transmission to collaborative partners via the SOF information enterprise. The program will initially provide SOF with capabilities to conduct exploitation of full motion video from unmanned aerial vehicle assets organic to SOF. The program will integrate and implement the department-level system’s integration backbone standards and architecture on the SOF information enterprise, which will support net-centric data sharing between SOF fixed, tactical capabilities, and sensors. This program 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

	FY08 Supplemental	FY09	FY 2010 Baseline	FY 2010 Overseas Contingency Operations	FY 2010 Total Request
Distributed Common Ground/Surface System	2.921	0.763	1.407	.325	1.732
RDT&E Articles Quantity					

FY08 This initiative was funded with FY08 Supplemental. Designed distributed common ground/surface system enterprise architecture and unclassified test bed architecture integration.

FY09 Continue system development with test and evaluation of common ground/surface system enterprise architecture and unclassified test bed architecture.

FY10 Continues to integrate the SOF-unique systems and sensors into the service-common mobile system.

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity  
RDT&E BA # 7

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

FY10 Overseas Contingency Operations (OCO): Continues integration of processing exploitation and dissemination equipment.

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To <u>Complete</u> Cont.	Total <u>Cost</u> Cont.
PROC, SOF Intelligence Systems	12.958	2.283	5.028							

D. Acquisition Strategy:

- DCGS will leverage available funds against ongoing efforts by other government agencies to meet SOF-peculiar documented requirements. The technology will allow for seamless integration with DOD, interagency, or coalition Intelligence Surveillance and Reconnaissance tactical processing, exploitation, and dissemination systems.

APPROPRIATION / BUDGET ACTIVITY Distributed Common Ground/Surface System (DCGS)/PE0305208BB  
 RDT&E DEFENSE-WIDE / 7 Distributed Common Ground/Surface System/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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Product Development											
Prime Mission Equipment/Integration	Perf Based/Time & Material	L3 Communications, San Diego, CA				1.732	Dec-08			Cont.	Cont.
Subtotal Product Development						1.732				Cont.	Cont.

Remarks:

Support Costs	Perf Based/Time & Material	L3 Communications, San Diego, CA		0.300	Mar-09					Cont.	Cont.
Subtotal Support Costs				0.300						Cont.	Cont.

Remarks:

Test & Evaluation	Perf Based/Time & Material	L3 Communications, San Diego, CA		0.300	Mar-09					Cont.	Cont.
Subtotal T&E				0.300						Cont.	Cont.

Remarks:

Management Services	Perf Based/Time & Material	L3 Communications, San Diego, CA		0.163	Mar-09					Cont.	Cont.
Subtotal Management				0.163							

Remarks:

Prior Years				2.921							
Total Cost			2.921	0.763		1.732				Cont.	Cont.

Remarks





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE MAY 2009				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0305219BB MQ-1 Predator A UAV/S400B						

COST (Dollars in Millions)	FY08	FY09	FY 2010 Baseline	FY 2010 Overseas Contingency Operations	FY 2010 Total Request				Cost to Complete	Total Cost
PE 0305219BB	11.467	13.642	2.067	3.630	5.697				Cont.	Cont.
S400B, MQ-1 Predator A UAV	11.467	13.642	2.067	3.630	5.697				Cont.	Cont.

A. Mission Description and Budget Item Justification: This program element identifies, develops, integrates, and tests Special Operations Forces (SOF) - unique modifications on the MQ-1 Predator Unmanned Aircraft System, intelligence payloads, and control systems. As the supported combatant command USSOCOM has been designated as the DoD lead for planning, synchronizing, and as directed executing global operations against terrorist networks. 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>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>
Previous President's Budget	12.765	13.679	3.813	
Current President's Budget	11.467	13.642	2.067	
Total Adjustments	-1.298	-0.037	-1.746	
Congressional Program Reductions		-0.037		
Reprogrammings	-1.550			
Other Program Adjustments	0.252		-1.746	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 0305219BB MQ-1 Predator A UAV/S400B
<p>Funding:</p> <p>FY08: Net decrease of -\$1.298 million is due to a reprogramming to PE 1160402BB for Foliage Penetration (-\$1.550 million) and an adjustment for Small Business Innovative Research transfer (\$0.252 million).</p> <p>FY09: Decrease of -\$0.037 million is due to Section 8101 Congressional reduction.</p> <p>FY10: Decrease of -\$1.746 million is due to higher command priorities.</p> <p>Schedule: None.</p> <p>Technical: None.</p>	

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity RDT&E BA # 7	MQ-1 Predator A UAV/Project S400B
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Cost (\$ in millions)	FY08	FY09	FY 2010 Baseline	FY 2010 Overseas Contingency Operations	FY 2010 Total Request		
MQ-1 Predator A UAV	11.467	13.642	2.067	3.630	5.697		
RDT&E Articles Quantity							

A. Mission Description and Budget Item Justification: This project identifies, develops, and tests Special Operations Forces (SOF) organic Unmanned Aerial Vehicle (UAV) platforms, payloads, and control systems. As the supported combatant command USSOCOM has been designated as the DoD lead for planning, synchronizing, and as directed executing global operations against terrorist networks. 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 acquisition.

**B. Accomplishments/Planned Program**

	FY08	FY09	FY 2010 Baseline	FY 2010 Overseas Contingency Operations	FY 2010 Total Request
MQ-1 Predator	11.467	13.642	2.067	3.630	5.697
RDT&E Articles Quantity					

FY08 Began the development, test, and integration of MQ-1 Predator UAV payload and ground control station improvements.  
 FY09 Continues development, test, and integration of MQ-1 Predator UAV payload and ground control station improvements.  
 FY10 Continues development, test, and integration of MQ-1 Predator UAV payload and ground control station improvements.  
 FY10 OCO: Classified.

**C. Other Program Funding Summary:**

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>To Complete</u>	<u>Total Cost</u>
PROC, Unmanned Vehicles	18.185	22.561								
PROC, MQ-1 Predator			10.930							

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity  
RDT&E BA # 7

MQ-1 Predator A UAV/Project S400B

D. Acquisition Strategy: MQ-1 Predator program is an evolutionary acquisition program that provides improvements to SOF MQ-1 aircraft, payloads, and ground control stations to increase the ISR&T acquisition capabilities of SOF.

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

MQ-1 Predator A UAV/PE0305219BB  
MQ-1 Predator A UAV/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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Product Development MQ-1 Predator	TBD	TBD		7.652	Various	2.067	Various			Cont.	Cont.
Subtotal Product Dev				7.652		2.067				Cont.	Cont.

Remarks:

Support Costs											
Subtotal Support Costs										Cont.	Cont.

Remarks:

Test & Evaluation MQ-1 Predator	TBD	TBD		5.571	Various					Cont.	Cont.
FY 2010 Overseas Contingency Operations Request MQ-1 Predator						3.630	Various				
Subtotal T&E				5.571		3.630				Cont.	Cont.

Remarks:

Management Services MQ-1 Predator	Various	Booze Allen Hamilton, Dayton, OH Merlin Ramco Inc. Gray Butte Airfield, CA		0.419	Dec-08					Cont.	Cont.
Subtotal Management				0.419						Cont.	Cont.

Remarks:

Total Cost				13.642		5.697				Cont.	Cont.
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Remarks





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE MAY 2009					
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1105219BB MQ-9 UAV/S851							

COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE 1105219BB			4.380						Cont.	Cont.
S851, MQ-9 UAV			4.380						Cont.	Cont.

A. Mission Description and Budget Item Justification: This program element identifies, develops, integrates, and tests Special Operations Forces (SOF) - unique modifications on MQ-9 Unmanned Aircraft Systems, intelligence payloads, and control systems. As the supported combatant command, USSOCOM has been designated as the DoD lead for planning, synchronizing, and as directed executing global operations against terrorist networks. 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>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>
Previous President's Budget				
Current President's Budget			4.380	
Total Adjustments			4.380	
Congressional Program Reductions				
Reprogrammings				
Other Program Adjustments			4.380	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1105219BB MQ-9 UAV/S851	
<p>Funding:</p> <p>FY10: Increase of \$4.380 million funds integration of MQ-9 SOF-unique payloads.</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity  
RDT&E BA # 7

MQ-9 UAV/Project S851

Cost (\$ in millions)	FY08	FY09	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
MQ-9 UAV			4.380					
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: This program element identifies, develops, integrates, and tests Special Operations Forces (SOF) - unique modifications on MQ-9 Unmanned Aircraft Systems, intelligence payloads, and control systems. As the supported combatant command in overseas contingency operations (OCO), 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. Accomplishments/Planned Program**

	FY08	FY09	FY 2010	FY 2011
MQ-9 UAV			4.380	
RDT&E Articles Quantity				

FY10 Development, test, and integration of MQ-9 UAV payload and ground control station improvements.

**C. Other Program Funding Summary:**

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>To Complete</u>	<u>Total Cost</u>
PROC, MQ-9			12.671							

D. Acquisition Strategy: MQ-9 is an evolutionary acquisition program that provides improvements to SOF MQ-9 aircraft, payloads, and ground control stations to increase the ISR&T acquisition capabilities of SOF.

Exhibit R-3 RDT&E Project Cost Analysis						DATE: MAY 2009					
APPROPRIATION / BUDGET ACTIVITY				MQ-9 UAV/PE1105219BB							
RDT&E DEFENSE-WIDE / 7				MQ-9 UAV/S851							
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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Product Development											
Subtotal Product Dev										Cont.	Cont.
Remarks:											
Support Costs											
Subtotal Support Costs										Cont.	Cont.
Remarks:											
Test & Evaluation MQ-9 UAV	TBD	TBD				4.380	Various			Cont.	Cont.
Subtotal T&E						4.380				Cont.	Cont.
Remarks:											
Management Services											
Subtotal Management										Cont.	Cont.
Remarks:											
Total Cost						4.380				Cont.	Cont.
Remarks											





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160279BB Small Business Innovative Research (SBIR)
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160279BB	8.655								Cont.	Cont.
S050, SBIR	8.655								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 that 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 \$0.100 million 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 \$0.750 million 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)

Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget	7.883		
Current President's Budget	8.655		
Total Adjustments	0.772		
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR Transfer	0.772		

Funding:

FY08: Increase of \$0.772 million is due to recalculation of the intramural and extramural research and development budgets.

Schedule: None.

Technical: None.



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)						DATE MAY 2009																																								
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)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost																																				
PE1160403BB	60.687	43.856	82.621						Cont.	Cont.																																				
SF100, Special Operations Aviation Systems Advanced Development	60.687	43.856	82.621						Cont.	Cont.																																				
<p>A. Mission Description and Budget Item Justification: This program element provides for the development, 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; Precision Strike Package MC-130 Multi-Mission Modification; 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; and aerial refueling.</p> <p>B. Program Change Summary:</p> <table border="0"> <thead> <tr> <th></th> <th>FY08</th> <th>FY09</th> <th>FY10</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td>55.451</td> <td>43.977</td> <td>41.033</td> </tr> <tr> <td>Current President's Budget</td> <td>60.687</td> <td>43.856</td> <td>82.621</td> </tr> <tr> <td>Total Adjustments</td> <td>5.236</td> <td>-0.121</td> <td>41.588</td> </tr> <tr> <td>    Congressional Program Reductions</td> <td></td> <td>-0.121</td> <td></td> </tr> <tr> <td>    Congressional Increases</td> <td></td> <td></td> <td></td> </tr> <tr> <td>    Reprogrammings</td> <td>5.556</td> <td></td> <td></td> </tr> <tr> <td>    Other Program Adjustments</td> <td></td> <td></td> <td>41.588</td> </tr> <tr> <td>    SBIR Transfer</td> <td>-0.320</td> <td></td> <td></td> </tr> </tbody> </table>												FY08	FY09	FY10	Previous President's Budget	55.451	43.977	41.033	Current President's Budget	60.687	43.856	82.621	Total Adjustments	5.236	-0.121	41.588	Congressional Program Reductions		-0.121		Congressional Increases				Reprogrammings	5.556			Other Program Adjustments			41.588	SBIR Transfer	-0.320		
	FY08	FY09	FY10																																											
Previous President's Budget	55.451	43.977	41.033																																											
Current President's Budget	60.687	43.856	82.621																																											
Total Adjustments	5.236	-0.121	41.588																																											
Congressional Program Reductions		-0.121																																												
Congressional Increases																																														
Reprogrammings	5.556																																													
Other Program Adjustments			41.588																																											
SBIR Transfer	-0.320																																													

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
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>FY08: Net increase of \$5.236 million is due to funds being reprogrammed PE's 1160404BB (\$2.000 million), PE 1160425BB (\$1.032 million) and PE 1160429BB (\$2.524 million) for aviation engineering analyses, and an adjustment of to the Small Business Innovative Research account (-\$0.320 million).</p> <p>FY09: Decrease of -\$0.121 million is due to Section 8101 reduction (-\$0.121 million).</p> <p>FY10: Net increase of \$41.588 million is due to funding for development and integration of SOF C-130 Avionics Modifications (\$2.029 million), a Precision Strike Package MC-130 Multi-Mission Modification (\$27.262 million), realignment to proper PE for execution (-\$3.445 million), realignment to higher command priorities (-\$0.666 million), and decrease for economic assumptions (-\$1.592 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Aviation Systems Advance Development/Project SF100	

Cost (\$ in millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Aviation Systems Advance Development	60.687	43.856	82.621					
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; Precision Strike Package MC-130 Multi-Mission Modification; 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 and identification technologies; and aerial refueling.

- SOF C-130 Avionics Modifications. Provides for development necessary to maintain current SOF-unique capabilities for SOF aircraft in U.S. Air Force Avionics Modernization Program.
- EC-130J Commando Solo Upgrades. Provides for integration of SOF-unique implementation of the C-130J block cycle upgrade as installed on the EC-130J Commando Solo aircraft.
- Iridium-Global Positioning System (I-GPS). Conducts 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.
- 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. Conducts risk reduction studies, analyses, and demonstrations to support emerging, time critical weapons and sensor enhancements. **Note: A new Program Element and Project SF101 were created for Aviation Engineering Analysis in Budget Activity 3. The resources moved beginning in FY 2010.**

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Aviation Systems Advance Development/Project SF100	

- Acquisition Development Support. This funding is required to support systems engineering, analysis, and integration. Primary use of funds is to examine commonality and interoperability across systems. Funding will be used in a multitude of avenues across systems to support cost-benefit analysis; provide additional test support; and further reduce cost, schedule, and technical risk. As required, funds will support manpower costs for experts needed to meet certification, safety, reliability, and other requirements required by Office of the Secretary of Defense, Acquisition, Technology and Logistics, as well as commitments for joint programs.
- Precision Strike Package MC-130 Multi-Mission Modification. This program fulfills an urgent combat requirement to rapidly arm and field multi-mission precision strike platforms. Provides an armed over-watch capability including sensors, communication systems, precision guided munitions, and a single medium-caliber gun. An interim kit is being fielded and funded under a Combat Mission Needs Statement in FY 2009.

**B. Accomplishments/Planned Program**

	FY08	FY09	FY10	FY11
SOF C-130 Avionics Modifications			20.029	
RDT&E Articles Quantity				
FY10 Initiate development and integration of aircraft modifications to maintain SOF-unique capabilities.				
	FY08	FY09	FY10	FY11
EC-130J Commando Solo Upgrades		0.486	0.978	
RDT&E Articles Quantity				
FY09 Initiates integration of SOF-unique implementation of the C-130J Block Cycle 7.0 Upgrade as installed on the EC-130J Commando Solo aircraft.				
FY10 Continue development and integration of SOF-unique implementation of the C-130J Block Cycle 7.0 Upgrade as installed on the EC-130J Commando Solo aircraft.				

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Aviation Systems Advance Development/Project SF100	

	FY08	FY09	FY10	FY11
Iridium-Global Positioning System (I-GPS)	9.680			
RDT&E Articles Quantity				
FY08 Conducted 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.				
	FY08	FY09	FY10	FY11
Aviation Engineering Analysis	7.134	5.365		
RDT&E Articles Quantity				
FY08 Continued engineering studies and analyses for Fixed Wing aviation SOF-unique equipment and missions. FY09 Continues engineering studies and analyses for Fixed Wing aviation SOF-unique equipment and missions. Conduct risk reduction studies, analyses, and demonstrations to support AC-XX concepts.				
	FY08	FY09	FY10	FY11
Acquisition Development Support			0.409	
RDT&E Articles Quantity				
FY10 Conduct engineering, analysis and integration support across a multitude of systems to examine commonality and interoperability across systems, to support cost-benefit analyses, to provide additional test support, and to further reduce cost, schedule, and technical risk.				
	FY08	FY09	FY10	FY11
Precision Strike Package MC-130 Multi-Mission Modification			27.262	
RDT&E Articles Quantity				
FY10 Integrate and test precision strike package on an MC-130W aircraft.				

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Aviation Systems Advance Development/Project SF100	

	FY08	FY09	FY10	FY11
SOF K-band Terrain Following /Terrain Avoidance (TF/TA) Radar – Silent Knight	43.873	38.005	33.943	
RDT&E Articles Quantity				

FY08 Continued System Development and Demonstration (SDD) of SOF common K-Band TF/TA radar. Continued 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.

FY10 Continue SDD of SOF common K-Band TF/TA radar. Continue hardware and software design integration and documentation. Begin developmental contractor flight testing and MH-47G kit build.

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To <u>Complete</u>	Total <u>Cost</u>
Proc, C130 Mods										
EC-130 Modifications		0.988							Cont.	Cont.
Precision Strike Package			31.625						Cont.	Cont.

D. Acquisition Strategy :

- SOF C-130 Avionics Modifications. Restoration and integration of existing SOF-unique capabilities will be developed under the USAF C-130 Avionics Modernization Program.
- EC-130J Commando Solo Upgrades. Provide SOF-unique funding in support of ongoing C-130J block modification program in conjunction with other C-130J users.
- Acquisition Development Support. Conduct engineering, analysis and integration support across a multitude of systems to examine commonality and interoperability issues to ensure cost, schedule and technical issues are addressed.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Aviation Systems Advance Development/Project SF100	

- Precision Strike Package MC-130 Multi-Mission Modifications. Provides incremental acquisition strategy with integration and testing for offensive systems, sensors, and mission management.
  
- Terrain Following/Terrain Avoidance Radar (Silent Knight). Incremental acquisition strategy with the MH-47G as the lead platform. A competitive SDD contract with an option for six low-rate initial production (LRIP) units was awarded to Raytheon in FY 2007. A follow-on radar production contract using LRIP price points will be awarded. MH-47G installation and follow-on platform group A design and integration efforts will be competitively awarded.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: MAY 2009

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Development											
SOF C-130 Avionics Modification	TBD	TBD				17.814	Dec-09			Cont.	Cont.
EC-130J Block Cycle Engineering	TBD	TBD	0.642	0.486	Jan-09	0.978	Dec-09			Cont.	Cont.
Precision Strike Package	TBD	Various				23.962	Jan-10			Cont.	Cont.
Terrain Following/Terrain Avoidance (TF/TA) Radar Risk Reduction	CPIF	Raytheon, McKinney TX and Northrop Grumman, Baltimore, MD	8.042								8.042
TF/TA Radar System Design & Dev	CPIF	Raytheon, Dallas TX	28.676								28.676
MH-47 Prime Mission Product	CPIF	Raytheon	31.993	26.328	Dec-08	17.118	Dec-09			Cont.	Cont.
MH-47 Engineering	CPIF	Raytheon	5.789	4.203	Dec-08	3.273	Dec-09			Cont.	Cont.
Subtotal Product Dev			75.142	31.017		63.145				Cont.	Cont.

Remarks:

Support Costs											
Iridium-Global Positioning System Engineering/Studies	CPFF	Naval Research Lab, Washington, DC	9.680								9.680
Aviation Engineering Analysis	Various	Various	62.899	5.365	Various						68.264
Acquisition Development Support	Various	Various				0.409	Mar-10				0.409
Precision Strike Package	TBD	Various				0.500	Jan-10			Cont.	Cont.
Subtotal Spt			72.579	5.365		0.909				Cont.	Cont.

Remarks: Aviation Engineering Analysis moved to PE 1160422BB, Project SF101 starting in FY 2010.

Test & Evaluation (T&E)											
SOF C-130 Avionics Modification	TBD	TBD				2.215	Dec-09			Cont.	Cont.
Precision Strike Package	TBD	Various				2.300	Various			Cont.	Cont.
TF/TA Radar--MH-47	CPIF	Raytheon		2.878	Dec-08	5.606	Dec-09			Cont.	Cont.
Subtotal T&E				2.878		10.121				Cont.	Cont.

Remarks:



Exhibit R-3 RDT&E Project Cost Analysis						DATE: MAY 2009					
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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Management Services											
Precision Strike Package	TBD	Various				0.500	Various			Cont.	Cont.
TF/TA Radar											
MH-47 Production Support	CPIF	Raytheon	6.091	4.596	Dec-08	7.946	Dec-09			Cont.	Cont.
Subtotal Management Services			6.091	4.596		8.446				Cont.	Cont.
Remarks:											
Total Cost			153.812	43.856		82.621				Cont.	Cont.
Remarks:											

Exhibit R-4, RDT&E Program Schedule Profile														Date: MAY 2009																		
Appropriation/Budget Activity RDT&E/7	Program Element Number and Name PE1160403BB/Special Operations Aviation Systems Advanced Dev														Project Number and Name SF100/Aviation System Advance Development																	
Fiscal Year	2008				2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
C-130 Avionics Modification									▲	—	—	▲																				
EC-130J Commando Solo Upgrades													▲	—	—	▲																
Iridium-Global Positioning System (I-GPS)		▲	—	—	▲																											
Aviation Engineering Analysis	▲	—	—	—	▲	—	—	—	▲																							
C-130 Avionics Study	▲	—	▲		▲	—	▲																									
AC-XX Studies and Analyses		▲	—	—	▲	—	—	—	▲																							
Acquisition Development Support									▲	—	—	▲																				
Precision Strike Package MC-130 Multi-Mission Modifications									▲	—	—	▲																				
System Development and Demonstration Silent Knight																																
System Design Phase				▲	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Preliminary Design Review			▲																													
Critical Design Review							▲																									
Developmental Testing									▲	—	—	▲																				



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE MAY 2009					
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)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160404BB	55.541	20.392	6.182						Cont.	Cont.
D476 PSYOPS ADV DEV	6.563								Cont.	Cont.
D615 SOF AVIATION	.960								Cont.	Cont.
S0417 UNDERWATER SYSTEMS ADV DEV	1.742								Cont.	Cont.
S1684 SOF SURFACE CRAFT ADVANCE SYSTEMS	6.406								Cont.	Cont.
S375 WEAPONS SYSTEMS ADV DEV	15.394								Cont.	Cont.
S700 SO COMMUNICATIONS ADV DEV	13.699								Cont.	Cont.
S710 SO TACTICAL SYSTEMS (AUTOMATION)		20.392	6.182						Cont.	Cont.
S800 SO MUNITIONS ADV DEV	8.062								Cont.	Cont.
S900 SO MISCELLANEOUS EQUIPMENT ADV DEV	2.615								Cont.	Cont.

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.

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

R-1 ITEM NOMENCLATURE / PROJECT NO.

PE 1160404BB Special Operations (SO) Tactical Systems Development

**B. Program Change Summary:**

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget	58.816	13.263	2.272
Current President's Budget	55.441	20.392	6.182
Total Adjustments	-3.375	7.129	3.910
Congressional Program Reductions		-0.071	
Congressional Increases			
Reprogrammings	-2.986	7.200	
Other Program Adjustments			3.910
SBIR Transfer	-0.389		

**Funding:**

FY08: Net decrease (-\$3.375 million) is due to FY08 Omnibus reprogramming FY08-31PA (\$2.832 million), DD 1415-3 FY08-30IR (\$0.566 million), reprogramming to higher command priorities (-\$6.384 million) and Small Business Innovation Research adjustment (-\$0.389 million).

FY09: Net increase of \$7.129 million is due to Section 8101 reduction (-\$0.071 million) and the following Congressional adds:

Covert Communication for SOF (\$1.600 million)

Common Unmanned Ground Vehicle Command and Control for PSYOP Programs (\$0.800 million)

Advanced Long Endurance Unattended Ground Sensors (\$3.600 million)

Integration of Force XXI Battle Command, Bridge, and Below with Tactical Handheld Digital Devices (\$1.200 million)

FY10: Net increase of \$3.910 million is due to reprogramming to Special Operations Resource Business Information System to support development timelines (\$4.652 million), reprogramming to higher command priorities (-\$0.656 million), and economic assumptions (-\$0.086 million).

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations (SO) Tactical Systems Development	
<p>Schedule: N/A.</p> <p>Technical: N/A.</p>		

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SO Tactical Systems (Automation)/Project S710	

Cost (\$ in million)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SO Tactical Systems (Automation)		20.392	6.182					
RDT&E Articles Quantity								

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-Distributed Common Ground System: The C4I Automation System 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. The C4I Automation System-Distributed Command Ground System 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.

- The Tactical Local Area Network program provides SOF operational commanders and forward deployed forces advanced automated data processing and display capabilities to support situational awareness, mission planning and execution, and command and control of forces.



Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SO Tactical Systems (Automation)/Project S710	

The program consists of suites, mission planning kits and field computing devices. Each 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). Mission planning kits consist of four general use laptops and ancillary equipment used by SOF teams for detailed mission planning support. Field computing devices are small hand-held computing devices used by the most forward deployed SOF teams to automatically interface with the suite via tactical communications.

- Advanced Long Endurance Unattended Ground Sensors is an FY 2009 Congressional add that will continue the research and development of small, low power, unattended ground sensor technologies.
- Common Unmanned Ground Vehicle (UGV) Command and Control for PSYOP Programs is an FY 2009 Congressional add. The device will provide a wireless command and control capability. The device will consist of a hand held computer that will be wirelessly connected to a payload or multiple payloads.
- Integration of Force XXI Battle Command, Brigade and Below Tactical Handheld Digital Devices is an FY 2009 Congressional add that will provide vertical and horizontal integration of the digital battlespace and the brigade and below tactical unit levels.
- Covert Communications for SOF is an FY 2009 Congressional add that will advance the development of covert waveform technologies.

#### ABOVE OPERATIONAL ELEMENT

A. The Special Operations Resource Business Information System will 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

	FY08	FY09	FY10	FY11
Command, Control, Communications, Computers and Intelligence Automation Systems		0.108		
RDT&E Articles Quantity				

FY09 Begin development of SOF Distributed Common Ground System resource adapters that will ensure service data can be seamlessly ingested into the SOF capability.

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SO Tactical Systems (Automation)/Project S710	

	FY08	FY09	FY10	FY11
Tactical Local Area Network		2.052	1.594	
RDT&E Articles Quantity				
FY09 Continue development and integration of Blue Force Tracking secure wireless biometrics, Embedded National Tactical Receiver and Distributed Common Ground System data sharing capabilities. FY10 Continues development and integration of Blue Force Tracking secure wireless biometrics, Embedded National Tactical Receiver and Distributed Common Ground System data sharing capabilities.				
	FY08	FY09	FY10	FY11
Special Operations Resource Business Information System		11.237	4.588	
RDT&E Articles Quantity				
FY09 Complete software application development for resource planning, programming, and budgeting capabilities, an effort that began in FY 2008 under project S700. FY10 Completes software application testing for resource planning, programming, and budgeting capabilities.				
	FY08	FY09	FY10	FY11
Advanced Long Endurance Unattended Ground Sensors		3.498		
RDT&E Articles Quantity				
FY09 This is a congressional add that will continue the research and development of small, low power, unattended ground sensor technologies.				
	FY08	FY09	FY10	FY11
Common Unmanned Ground Vehicle Command and Control for PSYOP Programs				
RDT&E Articles Quantity		0.777		
FY09 This initiative is a congressional add to continue development of a wireless command and control capability. This capability is applicable to the Next Generation Loudspeaker System Unmanned Ground Vehicle Variant.				
	FY08	FY09	FY10	FY11
Integration of Force XXI Battle Command, Bridge and Below with Tactical Handheld Digital Devices		1.166		
RDT&E Articles Quantity				
FY09 This initiative is a congressional add that will integrate vertical and horizontal digital battlespace and the brigade and below tactical unit levels.				

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SO Tactical Systems (Automation)/Project S710	

	FY08	FY09	FY10	FY11
Covert Communications for SOF		1.554		
RDT&E Articles Quantity				

FY09 This initiative is a congressional add to continue development of new covert communication capability. Develop Low Probability of Intercept/Low Probability of Detection waveforms for SOCOM tactical radio application, an effort that began in FY 2008 under project S700.

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To Complete	Total Cost
PROC, SOF Automation Systems		55.085	60.836						Cont.	Cont.
PROC, Communication Equipment and Electronics	50.614	73.004	55.080						Cont.	
Cont. RDT&E, SOF Communications Advanced Development, PE 1160404BB Project S700	13.699									

D. Acquisition Strategy:

- Command, Control, Communications, Computers and Intelligence Automation Systems Distributed Common Ground System is a post Milestone C fielded SOF communications infrastructure that will evaluate and develop infrastructure technology adaptors that support the seamless transmission of critical 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.
- Special Operations Resource Business Information System 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: MAY 2009

APPROPRIATION / BUDGET ACTIVITY			Special Operations Tactical Systems Development/PE 1160404BB								
RDT&E DEFENSE-WIDE / 7			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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Development Command, Control, Communications, Computers, and Intelligence Automation System - Develop SOF Distributed Common Ground System Capability	TBD	TBD		0.108	Apr-09						0.108
Tactical Local Area Network - Develop/Integrate Evolutionary Technology Insertion Capabilities	IDIQ	iGov Technologies, Tampa, FL		2.052	Jan-09	1.594	Jan-10			Cont.	Cont.
Advanced Long Endurance Unattended Ground Sensors	TBD	TBD		3.498	Sep-09						3.498
Subtotal Product Development				5.658		1.594				Cont.	Cont.
Remarks:											
Development Support Software Development Special Operations Resource Business Information System - Software Application Development and Test	TBD	TBD		11.237	Jun-09	4.588	Jan-10				15.825
Common UGV Command and Control for PSYOP Programs	MIPR	SPAWAR		0.777	Dec-08						0.777
Subtotal Development Support				12.014		4.588					16.602
Remarks:											
Developmental Test & Evaluation Devices	TBD	TBD		1.166	Sep-09						1.166
Covert Communications for SOF	TBD	Scientific Research Corp, Atlanta GA		1.554	Sep-09						1.554
Subtotal Developmental Test & Evaluation				2.720		0.000					2.720
Remarks:											
Contractor Engineering Support											
Subtotal Engineering Support											
Remarks:											
Total Cost				20.392		6.182				Cont.	Cont.

Exhibit R-4, RDT&E Program Schedule Profile														Date: MAY 2009																		
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	2008				2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Command, Control, Communications, Computers, and Intelligence Automation System - 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							△	△	△	—	△																					



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)						DATE MAY 2009				
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)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160405BB	47.102	39.866	21.273						Cont.	Cont.
S400, SO Intelligence Systems	47.102	39.866	21.273						Cont.	Cont.

A. Mission Description and Budget Item Justification: This program element provides for the identification, development, and testing of Special Operations Forces (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:

	FY08	FY09	FY10	FY11
Previous President's Budget	62.417	39.125	34.177	
Current President's Budget	47.102	39.866	21.273	
Total Adjustments	-15.315	0.741	-12.904	
Congressional Program Reductions		-9.159		
Congressional Increases		9.900		
Reprogrammings	-15.767		-4.347	
Other Program Adjustments			-8.557	
SBIR Transfer	0.452			

Funding:

FY08: Decrease (-\$15.315 million) is due to FY08 Omnibus reprogramming FY08-31PA (-\$6.283 million) DD 1415-3 reprogramming FY08-30IR (-\$6.028 million), reprogramming to higher command priorities (-\$3.456 million) and an adjustment to return funds transferred to the Small Business Innovation Research account (\$0.452 million).

FY09: Net increase \$0.741 million is due to a congressional reduction (-\$9.051million), Section 8101 reduction (-\$0.108 million) and the following congressional adds (\$9.900 million):

Advanced Tactical Threat Warning Radio (\$1.200 million)

Biometric Signatures Research (\$2.000 million)

Multi-Spectral Laboratory and Analytical Service Center Program (\$1.600 million)

Picoceptor and Processor man-Portable Threat Warning (\$3.500 million)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations (SO) Intelligence Systems Development/S400
<p style="text-align: center;">Signal Intelligence and Electronic Warfare Developments for Integration of SOF Systems (\$1.600 million)</p> <p>FY10: Decrease (-\$12.904 million) is due to reduction in Counter-Proliferation Analysis and Planning System (-\$4.347), reprogramming for higher command priorities (-\$8.316 million), and economic assumptions (-\$0.241 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>	

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity  
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Special Operations (SO) Intelligence Systems/Project S400

Cost (\$ in millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SO Intelligence Systems	47.102	39.866	21.273					
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; Special Operations Joint Interagency Collaboration Center (SOJICC); Hostile Forces Tagging, Tracking, and Locating (HFTTL); Distributed Common Ground System (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) project is a research and development rapid prototyping project 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 (SIGINT), 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.
- JTWS is an evolutionary acquisition (EA) project that provides threat warning, force protection, enhanced situational awareness, and target identification/acquisition information to SOF via signal intercept, direction finding and SIGINT. JTWS will employ continuing

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RDT&E BA # 7

Special Operations (SO) Intelligence Systems/Project S400

technology updates to address the changing threat environment. SOF SIGINT operators are globally deployed and fully embedded within SO teams and aircrews in every operational environment. This state-of-the-art technology enables SOF operators to provide critical time sensitive targeting and actionable intelligence to the operational commander during mission execution. Intelligence derived from operations supports campaign objectives and the National Military Strategy. This system has variants that utilize common core software allowing operators to task, organize, and scale equipment based on anticipated signal environments and areas of operation. Variants 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 variant, except Team Transportable, will be capable of operation by a single trained operator. The five variants are Ground SIGINT Kit, Team Transportable, Air, Maritime, and Precision Geo-Location.

#### ABOVE OPERATIONAL ELEMENT (GARRISON)

- The 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. Its 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. The program 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, 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 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 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.
- The HFT L program provides global Combatant Commanders and SOF operators with an immediate capability to locate, tag, and track

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Special Operations (SO) Intelligence Systems/Project S400

people, things, and activities. The mission sets are systems comprised of a mix of different classes of tags and their associated detection, interrogation, viewing, tracking and communications systems.

- 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 project. It provides a reduction in the size of the current chips and increases reliability while decreasing power consumption.
- SOCRATES is the SOF extension of the Joint Worldwide Intelligence Communications System (JWICS) network and is used to acquire and support garrison automated intelligence system requirements for SOF organizations worldwide. It provides the capabilities to exercise command and control, planning, collection, collaboration, data processing, video mapping, a wide range of automated intelligence analysis, direction, intelligence dissemination, imagery tools and applications (to include secondary imagery dissemination), as well as news and message traffic. The program ensures intelligence support to mission planning and the intelligence preparation of the battlespace by connecting numerous data repositories while maintaining information assurance. It provides the critical reachback for SOF tactically deployed local area networks/wide area networks. This program is composed of state-of-the-art networking devices (firewalls, routers, switches, hubs, and modems), servers, storage devices, workstations, associated peripherals and GOTS/COTS software.
- 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 biometrics and Psychological Operations efforts is conducted.
- 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. 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 2 Tactical DF Requirements.
- Picoceptor and Processor for Manportable Threat Warning. This is a continuation of an FY07 initiative for pico-processor development. The proof-of concept was tested in FY08.

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Special Operations (SO) Intelligence Systems/Project S400

- 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.
- Imagery Dissemination System. Explore an end-to-end technology system that consists of a personal computer (PC)-based COTS 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 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 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 that will integrate the systems developed in previous years under the ManPack Advanced Concept Technology Demonstration.
- Biometric Signature Research project will develop 3-dimensional facial identification software and integrate it with existing SOTVS collection platforms. This effort will leverage research gained from an ongoing project that is working to develop an independent (self-contained) system capable of collecting images from a distance and generating 3-dimensional images of subjects that can be stored and matched against full or partial facial images.
- The SIGINT and Electronic Warfare (EW) development for integration of SOF Systems will be used for further development and integration of Advanced SIGINT and EW Capabilities into the networked JTWS.

**B. Accomplishments/Planned Program**

	FY08	FY09	FY10	FY11
National Systems Support to SOF	0.945	0.995	0.976	
RDT&E Articles Quantity				
FY08 Continued to leverage space Intelligence Surveillance and Reconnaissance (ISR) technology developments with SOF utility from the				

Exhibit R-2a, RDT&E Project Justification

Date: MAY 2009

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RDT&E BA # 7

Special Operations (SO) Intelligence Systems/Project S400

National Community and Military Services. Assessed the operational utility of leveraged and developed technology.  
 FY09 Continue to leverage space ISR technology developments with SOF utility from the National Community and Military Services. Assess the operational utility of leveraged and developed technology.  
 FY10 Continues to leverage space ISR technology developments with SOF utility from the National Community and Military Services. Assesses the operational utility of leveraged and developed technology.

	FY08	FY09	FY10	FY11
Joint Threat Warning System	4.084	4.535	3.804	
RDT&E Articles Quantity				

FY08 Continued Team Transportable and Ground SIGINT Kits future increment development and test and evaluation. Continued Air Variant Increment 2 development and testing.  
 FY09 Continue Team Transportable and Ground SIGINT Kits future increment development and test and evaluation. Continue development and testing of Air Variant Increment 2.  
 FY10 Continues Team Transportable and Ground SIGINT Kits future increment development and test and evaluation. Continues development and testing of Air Variant Increment 2. Initiates development of Maritime Variant.

	FY08	FY09	FY10	FY11
Counter-Proliferation Analysis and Planning System	17.955	19.990	14.993	
RDT&E Articles Quantity				

FY08 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.  
 FY09 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.  
 FY10 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.

	FY08	FY09	FY10	FY11
Special Operations Command, Research, Analysis, and Threat Evaluation (SOCRATES)			1.500	
RDT&E Articles Quantity				

FY10 Begins spiral development of the SOF Intelligence Data Management System. Develops, integrates, and tests technology upgrades and experimental technologies to include advanced data automation, machine language translation, protection level 5 integration, and multiple technology insertions.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009		
Appropriation/Budget Activity RDT&E BA # 7		Special Operations (SO) Intelligence Systems/Project S400		

	FY08	FY09	FY10	FY11
Joint Interagency Collaboration Center	2.834	2.975		
RDT&E Articles Quantity				

FY08 Continued 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 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.

	FY08	FY09	FY10	FY11
Hostile Forces Tagging, Tracking, and Locating - ARGON ST	.974			
RDT&E Articles Quantity				

FY08 This was a Congressional add to develop a persistent mesh network TTL communications system.

	FY08	FY09	FY10	FY11
Hostile Forces Tagging, Tracking, and Locating		1.496		
RDT&E Articles Quantity				

FY09 Provides capability to rapidly integrate commercial/government available tagging, tracking, and locating hardware into specialized mission products.

	FY08	FY09	FY10	FY11
Application Specific Integrated Circuit (ASIC) Development	5.524			
RDT&E Articles Quantity				

FY08 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. Support the design, development, test and support integration of an ASIC chipset for projects being developed under the Special Reconnaissance Capabilities project.

	FY08	FY09	FY10	FY11
Multi-Spectral Laboratory & Services	0.795	1.596		
RDT&E Articles Quantity				

FY08 This initiative was a continuation of a Congressional add. Began research of next-generation, multi-spectral sensors to support both the warfighter and first responder communities.  
 FY09 This initiative was a continuation of a Congressional add. Continues research of sensor-related technologies.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009		
Appropriation/Budget Activity RDT&E BA # 7		Special Operations (SO) Intelligence Systems/Project S400		

	FY08	FY09	FY10	FY11
Advanced Tactical Threat Warning Radio	1.589	1.197		
RDT&E Articles Quantity				

FY08 This initiative was a Congressional add. Developed a handheld threat warning and communications radio using reconfigurable software radio techniques.  
 FY09 This initiative is a Congressional add. Continue to develop a handheld threat warning and communications radio using reconfigurable software radio techniques.

	FY08	FY09	FY10	FY11
DF Light: Advanced Packaging and Direction Finding	1.192			
RDT&E Articles Quantity				

FY08 This initiative was a Congressional add. Continued the development of the Team Transportable DF node into a ruggedized solution.

	FY08	FY09	FY10	FY11
Picoceptor and Processor for Manportable Threat Warning	2.385	3.491		
RDT&E Articles Quantity				

FY08 This initiative was a Congressional add. This is a continuation of an FY07 initiative for pico-processor development. The proof-of concept was tested in FY08.  
 FY09 This initiative is a Congressional add initiated for pico-processor development.

	FY08	FY09	FY10	FY11
Automated Threat Warning for Improved Warfighter Survivability	1.589			
RDT&E Articles Quantity				

FY08 This initiative was a Congressional add. Developed automated SIGINT capability to include logical work flow of relevant target data to effectively correlate information from multiple sensor sources.

	FY08	FY09	FY10	FY11
Imagery Dissemination System	1.589			
RDT&E Articles Quantity				

FY08 This initiative was a Congressional add. Continued exploration of an end-to-end technology for personnel computer-based end user situation awareness system for remote imagery dissemination.



<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009		
Appropriation/Budget Activity RDT&E BA # 7		Special Operations (SO) Intelligence Systems/Project S400		

	FY08	FY09	FY10	FY11
Advanced Long Endurance Unattended Ground Sensor Technologies	2.067			
RDT&E Articles Quantity				
FY08 This initiative was a Congressional add. Supported 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.				
	FY08	FY09	FY10	FY11
Tactical SIGINT and Geo-location Cognitive Analysis	0.400			
RDT&E Articles Quantity				
FY08 This initiative was a Congressional add. Developed an automated SIGINT data fusion tool that fuses and correlates SIGINT data with geo-location information.				
	FY08	FY09	FY10	FY11
Unattended SIGINT Node	3.180			
RDT&E Articles Quantity				
FY08 This initiative was a Congressional add and continued FY07 development of a SOF tactical interface that integrated the systems developed in previous years under the ManPack Advanced Concept Technology Demonstration.				
	FY08	FY09	FY10	FY11
Biometrics Signature Research		1.995		
RDT&E Articles Quantity				
FY09 This initiative is a Congressional add. It includes research focused on developing 3-dimensional facial identification software that can be used with existing SOF imagery collection systems.				
	FY08	FY09	FY10	FY11
Electronic Development Systems		1.596		
RDT&E Articles Quantity				
FY09 This initiative is a Congressional add. This funding is used for further development and integration of Advanced SIGINT and EW capabilities into the networked Joint Threat Warning System.				

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity  
RDT&E BA # 7

Special Operations (SO) Intelligence Systems/Project S400

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To Complete Cont.	Total Cost Cont.
PROC, SOF Intelligence Systems	117.396	55.957	72.811							

D. Acquisition Strategy:

- NSSS is a project to introduce and integrate national systems capabilities into the SOF force structure and operations. 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 transitioning promising concepts and technologies to other SOF program offices for execution.
- JTWS is an 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. This program will employ continuing technology updates to address the changing threat environment.
- CAPS 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.
- SOCRATES will develop a SOF-peculiar cross-domain solution to support the seamless integration of intelligence data into mission planning and command and control capabilities in both a garrison and tactical environment. USSOCOM will leverage available funds against ongoing efforts by other government agencies to meet SOF-peculiar documented requirements.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: MAY 2009

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Product Development											
Joint Threat Warning System											
Increment 2	MIPR	SPAWAR, Charleston, SC	0.977	1.197	Nov-08	0.921	Nov-09			Cont.	Cont.
Team Transportable	MIPR	SPAWAR, Charleston, SC	8.140	0.547	Nov-08	0.260	Nov-09			Cont.	Cont.
Ground Signal Intelligence Kit, Increment 2	MIPR	SPAWAR, Charleston, SC	8.430	2.422	Nov-08	2.033	Nov-09			Cont.	Cont.
Maritime	MIPR	SPAWAR, Charleston, SC				0.200	Nov-09				
Advanced Tactical Threat Warning Radio	TBD	TBD	1.589	1.197	Sep-09						
Picopceptor and Processor for Manportable Threat											
Warning	TBD	TBD	2.385	3.491	Sep-09						5.876
Signal Intel and Elec Warfare Deve	TBD	TBD		1.596	Sep-09						1.596
Counter-Proliferation Analysis and Planning System (CAPS)	MIPR	Lawrence Livermore National Labs, Livermore, CA	79.254	19.185	Nov-08	14.544	Nov-09			Cont.	Cont.
National System Support to SOF	MIPR	Various Government Agencies	1.327	0.507	Dec-08	0.498	Dec-09			Cont.	Cont.
Special Operations Command, Research, Analysis, and Threat Evaluation						1.500	Dec-09				1.500
Biometric Signatures Research	TBD	TBD		1.995	Apr-09						1.995
Multi Spectral Lab and Analytical Services Center	TBD	TBD		1.596	TBD						1.596
Subtotal Product Dev			102.102	33.733		19.956				Cont.	Cont.
Remarks:											
Support Costs											
CAPS Support											
Subtotal Support Costs	MIPR	Various Government Agencies	3.171	0.805	Nov-08	0.449	Nov-09			Cont.	Cont.
Remarks:											
Test & Evaluation											
Joint Threat Warning System											
Subtotal T&E	MIPR	JITC, Ft. Huachuca, AZ	0.650	0.369	Jun-09	0.390	Jun-10			Cont.	Cont.
Remarks:											
Management Services											
Joint Interagency Collaboration Center											
Joint Interagency Collaboration Center	MIPR	MITRE, Tampa, FL	8.136	1.248	Dec-08						9.384
	C-CPAF	L3 Communications, Tampa, FL	1.582	1.727	Dec-08						3.309
National System Support to SOF Program Support	C-CPAF	Jacobs, Tampa, FL	2.892	0.488	Oct-08	0.478	Oct-09			Cont.	Cont.
Hostile Forces Tagging, Tracking, and Locating	TBD	TBD		1.496	Feb-09						1.496
Subtotal Management			12.610	4.959		0.478				Cont.	Cont.
Remarks:											
Prior Year			85.455								
Total Cost			203.988	39.866		21.273				Cont.	Cont.





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)						DATE MAY 2009				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160421BB Special Operations CV-22 Development/SF200							
COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160421BB	22.739	40.120	12.687						Cont.	Cont.
SF200 CV-22	22.739	40.120	12.687						Cont.	Cont.

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 V-22 Joint Program Office is developing improved capabilities in block increments. The funding in this project supports these block increments as well as associated flight test support. The Block 10 increment was completed in FY 2007, and the Block 20 increment started 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, 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.

Block 20: Design, integrate, test, and validate enhancements required to meet SOF-unique mission requirements and correct deficiencies identified in previous testing. This incremental development 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 FY 2006, and System Design and Development started in FY 2008.

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>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget	22.872	38.229	27.140
Current President's Budget	22.739	40.120	12.687
Total Adjustments	-0.133	1.891	-14.453
Congressional Reductions		-0.109	
Congressional Increases		2.000	
Reprogrammings			
Other Program Adjustments			-14.453
SBIR Transfers	-0.133		

**Funding:**

FY08: Decrease -\$0.133 million is due to an adjustment to the Small Business Innovative Research account.

FY09: Net increase of \$1.891 million includes a Congressional increase for Helmet Mounted Display (\$2.000 million) and a Congressional reduction for Section 8101 (-\$0.109 million).

FY10: Decrease -\$14.453 million reflects a restructure of the Block 20 program due to higher command priorities (-\$14.277 million), and economic assumptions (-\$0.176 million).

Schedule: None.

Technical: None.



**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity RDT&E BA # 7	CV-22/Project SF200
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Cost (\$ in millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
CV-22	22.739	40.120	12.687					
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 V-22 Joint Program Office is developing improved capabilities in block increments supported with rapid prototyping. The funding in this project supports these block increments as well as associated flight test support. The Block 10 increment completed in FY 2007, and the Block 20 increment started 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, 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.

Block 20: Design, integrate, test, and validate enhancements required to meet SOF-unique mission requirements and correct deficiencies identified in previous testing. This incremental development 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 started in FY 2008.

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity RDT&E BA # 7	CV-22/Project SF200
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**B. Accomplishments/Planned Program**

	FY08	FY09	FY10	FY11
CV-22 Block 20	22.739	38.175	12.687	
RDT&E Articles Quantity				

FY08 Continued flight test support and started design and development of Block 20.  
 FY09 Continue flight test support and design and development of Block 20.  
 FY10 Continues flight test support and design and development of Block 20.

	FY08	FY09	FY10	FY11
CV-22 Helmet Mounted Display		1.945		
RDT&E Articles Quantity				

FY09 This initiative is a Congressional add for Helmet Mounted Display.

**C. Other Program Funding Summary:**

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To Complete Cont.	Total Cost Cont.
PROC, CV-22 SOF MOD	357.719	162.490	114.553							

**D. Acquisition Strategy.**

The CV-22 program is managed by the Navy V-22 Joint Program Office (NAVAIRSYSCOM 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 NAVAIRSYSCOM to be placed on contract with the V-22 prime contractor. Block 10 capability is required for compliance with the Joint Operational Requirements Document and associated Milestone III Capabilities Production Document. Block 20 and subsequent block upgrades are planned to follow the same acquisition strategy, with NAVAIRSYSCOM 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: MAY 2009					
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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Product Development											
Prior Year Completed Efforts	Various	Various	385.207								385.207
Integration, Assembly, Test, and Checkout (Helmet Mounted Display)	SS, CPAF	Bell-Boeing, Amarillo, TX		1.945	TBD						1.945
Integration, Assembly, Test, and Checkout (Block 20)	SS, CPAF	Bell-Boeing, Amarillo, TX	15.037	31.524	Various					Cont.	Cont.
Systems Engineering	SS, CPAF	Raytheon, Indianapolis, IN	3.549	2.333	Dec-08	4.762	Dec-09			Cont.	Cont.
Subtotal Product Dev			403.793	35.802		4.762				Cont.	Cont.
Remarks:											
Test and Evaluation											
Prior Year Completed Efforts	Various	Various	43.653								43.653
Systems Test and Evaluation (Block 20)	MIPR	413FLTS, Hurlburt Field, FL	1.065	1.185	Nov-08	3.786	Nov-09			Cont.	Cont.
System Test and Evaluation (ATA)	Various	Bell-Boeing, Amarillo, TX and DynCorp, Fort Worth, TX	3.088	3.133	Dec-08	4.139	Dec-09			Cont.	Cont.
Subtotal Test Eval			47.806	4.318		7.925				Cont.	Cont.
Remarks:											
Total Cost			451.599	40.120		12.687				Cont.	Cont.
Remarks:											





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160423BB Joint Multi-Mission Submersible/S0419
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160423BB			43.412							
S0419, Joint Multi-Mission Submersible			43.412							

A. Mission Description and Budget Item Justification: The Joint Multi-Mission Submersible (JMMS) is a manned, dry combatant submersible that provides a clandestine mobility platform. It will be capable of operating in a wide range of littoral and threat environments and will be tactically transported by specially modified submarines. The JMMS will provide improved performance over the Advanced SEAL Delivery System and will permit small, highly trained forces to operate in denied areas increasingly controlled by a sophisticated threat. The project provides RDT&E funds for analysis and technology development phase efforts.

B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>
Previous President's Budget				
Current President's Budget			43.412	
Total Adjustments			43.412	
Congressional Program Reductions				
Congressional Increases				
Reprogrammings				
Other Program Adjustments				43.412

Funding:

FY10: The JMMS is a new start program for the department (\$43.412). Funding is for pre-design, component development, and management support.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160423BB Joint Multi-Mission Submersible/S0419	
<p>Schedule: None.</p> <p>Technical: None.</p>		



<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Joint Multi-Mission Submersible/Project S0419	

Cost (\$ in millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Joint Multi-Mission Submersible			43.412					
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: The Joint Multi-Mission Submersible (JMMS) is a manned, dry combatant submersible that provides a clandestine mobility platform. It will be capable of operating in a wide range of littoral and threat environments and will be tactically transported by specially modified submarines. The JMMS will provide improved performance over the Advanced SEAL Delivery System and will permit small, highly trained forces to operate in denied areas increasingly controlled by a sophisticated threat. The project provides RDT&E funds for analysis and technology development phase efforts. JMMS is a new start program in FY2010.

B. Accomplishments/Planned Program:	FY08	FY09	FY10	FY11
Matériel Solutions Analysis and Technology Development Phases			43.412	

FY10 Conducts matériel solutions analysis and performs technology development phase efforts prior to the commencement of engineering & manufacturing development (lead ship design).

C. Other Program Funding Summary:	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	To Complete	Total Cost

D. Acquisition Strategy: The acquisition strategy is still in development. Current draft acquisition strategy includes multiple competitively awarded pre-design refinement contracts with options for detailed design and construction of the JMMS. Technology risk will be reduced by encouraging reuse of the reliable technology proven in the Advanced SEAL Delivery System, while permitting industry to compete and propose a new design for JMMS. Cost and schedule risk will be reduced by the use of fixed price contracts whenever feasible.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: MAY 2009

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

PE 1160423BB Joint Multi-Mission Submersible/S0419  
Joint Multi-Mission Submersible/S0419

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Pre-Design Refinement	Competitive Multiple FFP	TBD				15.000	May-10			0.000	15.000
Subtotal						15.000				0.000	15.000
Remarks											
Component Development & Demonstrations	Various	UT-ARL Austin, TX; Yardney Pawcatuck, CT; BST Plainfield, CT; Others				20.412	Various			0.000	20.412
Subtotal						20.412				0.000	20.412
Management Support	Various	NAVSEA Washington DC; PNSY Portsmouth, NH; NSWC Carderock ,MD; Others				8.000	Various			0.000	8.000
Subtotal						8.000				0.000	8.000
Total Cost						43.412				0.000	43.412
Remarks:											





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE MAY 2009					
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160425BB Special Operations (SO) Aircraft Defensive Systems / Project 3284							

COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY12	FY13	Cost to Complete	Total Cost
PE1160425BB	0.862									
3284, SO Aircraft Defensive Systems	0.862									

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 FY 2007, the IR jamming system, Directional Infrared Countermeasures, transitioned from development to sustainment. The development of the IR software updates is scheduled for FY 2008. Support for SOF-unique portions of the Electronic Warfare Avionics Integrated Systems Facility concluded in FY 2008.

B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>
Previous President's Budget	5.062			
Current President's Budget	0.862			
Total Adjustments	-4.200			
Congressional Program Reductions				
Congressional Increases				
Reprogrammings	-4.170			
SBIR Transfer	-0.030			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160425BB Special Operations (SO) Aircraft Defensive Systems / Project 3284	
<p>Funding:</p> <p>FY08: Decrease (-\$4.200 million) includes the FY08 Omnibus reprogramming, FY08-31 PA (-\$3.138 million), reprogramming to higher command priorities (-\$1.032 million), and an additional Small Business Innovative Research adjustment (-\$0.030 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160426BB Special Operations (SO) Advanced SEAL Delivery System Development/S0418
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160426BB	19.658	8.666	1.321							495.492
S0418, SO Advanced SEAL Delivery System Dev	19.658	8.666	1.321							495.492

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). 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>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget	19.772	7.090	1.488
Current President's Budget	19.658	8.666	1.321
Total Adjustments	-0.114	1.576	-0.167
Congressional Program Reductions		-0.024	
Congressional Increases		1.600	
Reprogrammings			
Other Program Adjustments			-0.167
SBIR Transfer	-0.114		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160426BB Special Operations (SO) Advanced SEAL Delivery System Development/S0418
<p>Funding:</p> <p>FY08: Decrease of -\$0.114 million is due to an adjustment for the Small Business Innovative Research account.</p> <p>FY09: Net increase of \$1.576 million is due to a congressional reduction for Section 8101 (-\$0.024 million) and a Congressional add for the Lithium Ion Battery Safety Detection and Control of Impending Catastrophic Failure (\$1.600 million).</p> <p>FY10: Net decrease of -\$0.167 million is due to realignment to higher command priorities (-\$0.149 million) and economic assumptions (-\$0.018 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>	



<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Special Operations (SO) Advanced SEAL Delivery System Development(ASDS)/Project S0418	

Cost (\$ in million)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SO ASDS Development	19.658	8.666	1.321					
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). Specifically, this project provides for the ASDS-1 Improvement Program (AIP) with the goal of improving the performance to the required level and insertion of technologies to avoid obsolescence and address emergent issues. The AIP consists of a series of critical system reviews, at sea operations, and the development, integration, and testing of a series of modifications to improve the performance of the ASDS-1. 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

Cost (\$ in million)	FY08	FY09	FY10	FY11
ASDS	19.658	7.110	1.321	
RDT&E Article Quantity				

FY08 Continued execution of the AIP. Rand completed an independent assessment of alternate materiel solutions. The Executive IPT selected a hybrid of two submersible alternatives for additional analysis and assessment.

FY09 Continue execution of the AIP. One noteworthy emergent issue was the November 08 fire that severely damaged many ASDS sub-systems that are no longer in production. The AIP is supporting the fire repair efforts by examining, developing, and testing alternate technology and sub-systems to replace obsolete fire-damaged systems. Perform government materiel solutions analysis of the hybrid alternative. Solicit industry information and proposals for future hybrid alternative technology development activities.

FY10 Continue execution of the AIP. Continue alternate materiel solutions analysis and technology development (if necessary).

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Special Operations (SO) Advanced SEAL Delivery System Development(ASDS)/Project S0418	

	FY08	FY09	FY10	FY11
Lithium Battery Safety Detection		1.556		
RDT&E Articles Quantity				

FY09 This was a Congressional add. Research and develop failure detection and control for battery system.

C. Other Program Funding Summary:										To	Total
	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>Complete</u>		<u>Cost</u>
PROC, ASDS-1	10.549	5.743	5.326								493.617

D. Acquisition Strategy:

- Under Secretary of Defense, Acquisition, Technology and Logistics Acquisition Decision Memorandum (ADM) dated 06 April 2006 canceled the ASDS production program because it was not ready to proceed and directed the establishment of an ASDS-1 Improvement Program (AIP) and the assessment of alternative materiel solutions to meet the requirement.
- The AIP is managed by Naval Sea Systems Command, PMS-399, SOF Undersea Mobility Office. In July 2007, after ASDS-1 had demonstrated the effectiveness of a number of significant reliability improvements, USSOCOM reissued its Fielding and Deployment Release and returned the ASDS-1 to service. The AIP activities are performed under a variety of contracts by Navy shipyards and warfare centers and by the system and sub-system original equipment manufacturers. The assessment of alternative materiel solutions consists of an initial comprehensive analysis of alternatives by an independent organization (Rand Corporation) followed by an in-depth analysis of the selected alternative and evaluation of technology readiness by DOD and Industry. Industry proposals for technology development activities will be solicited via competitive processes.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: MAY 2009

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Dev											
ASDS	CPIF/C	Northrop-Grumman, Newport News Ship Yard, VA	310.026								310.026
ASDS	CPFF	Northrop-Grumman, Newport News Ship Yard, VA	8.605								8.605
ASDS P3I and Host Support	Various	Various	37.280								37.280
ASDS Improvements	Various	Various	52.726	7.110	Various	1.321	Various				61.157
Subtotal Product Dev			408.637	7.110		1.321					417.068
Remarks											
Technical Data											
ASDS	Various	Northrop-Grumman, Newport News Ship Yard, VA	10.894								10.894
Subtotal Supt.			10.894								10.894
Remarks											
Test & Evaluation											
Operational Test & Evaluation (ASDS)	Various	OPTEVFOR, Norfolk, VA	6.285								6.285
Host Testing (ASDS)	Various	NAVSEA, Washington Navy Yard	20.615								20.615
Live Fire Test & Evaluation (ASDS)	Various	NAVSEA, Washington Navy Yard	2.995								2.995
Subtotal T&E			29.895								29.895
Remarks											
Management											
ASDS	Various	Various	14.085								14.085
Lithium Ion Safety		NSWC Crane In		1.556	Sep-09						1.556
Subtotal Management			14.085	1.556							15.641
Remarks:											
Total Cost			463.511	8.666		1.321					473.498
Remarks:											





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160427BB Mission Training and Preparation Systems (MTPS)/S750
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160427BB	11.970	5.637	3.192						Cont.	Cont.
S750, MTPS	11.970	5.637	3.192						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 Special Operations Forces (SOF) unique mission requirements and correct deficiencies identified in previous testing; and 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>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget	6.241	4.052	4.064
Current President's Budget	11.970	5.637	3.192
Total Adjustments	5.729	1.585	-0.872
Congressional Program Reductions		-0.015	
Congressional Increases		1.600	
Reprogrammings	5.748		
SBIR transfer	-0.019		
Other Program Adjustments			-0.872

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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>FY08: Net increase of \$5.729 million is due to an FY08-31 Prior Approval reprogramming action (\$1.200 million), an FY08-41 Internal Reprogramming action (\$4.648 million) a decrease due to an adjustment to the Small Business Innovative Research account (-\$0.019 million) and reprogramming to higher command priorities (-\$0.100 million).</p> <p>FY09: Net increase of \$1.585 million is due to congressional add SOF Mission and Preparation Systems Interoperability (\$1.600 million) and Section 8101 reduction (-\$0.015 million).</p> <p>FY10: Net decrease of -\$0.872 million is due to realignment to higher command priorities (-\$0.828 million) and economic assumptions (-\$0.044 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>	



Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Mission Training and Preparation Systems (MTPS)/Project S750	

Cost (\$ in millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
MTPS	11.970	5.637	3.192					
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 (MTPS) to support training, avoid obsolescence, and maintain simulator concurrency with weapon systems' configurations; mission planning and rehearsal systems enhancements required to meet Special Operations Force (SOF) unique mission requirements and correct deficiencies identified in previous testing; and 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:

- **Distributed Mission Training Rehearsal System:** 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. This development is focused on a common database and common environment solution that can be applied to all MTPS training and rehearsal systems. The development builds on an existing SOF Common Database specification and a common Computer Generated Forces Analysis of Alternatives.
- **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, preview, rehearsal and execution tools to support all phases of SOF operations from deliberate to time critical. The SOMPE project 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. This project also provides the integration of SOMPE with three-dimensional visualization systems, providing immersive mission rehearsal in minimal timeframes from the SOMPE mission plan. Spanning all elements of USSOCOM, SOMPE is embedded in the USSOCOM Headquarters, Theater Special Operations Commands, Joint Special Operations Task Force, Joint Special Operations Aviation Components, SOF warfighters, and SOF warfighting platforms.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Mission Training and Preparation Systems (MTPS)/Project S750	

<b>B. Accomplishments/Planned Program</b>										
Cost (\$ in million)	FY08	FY09	FY10	FY11						
Distributed Mission Training Rehearsal System - Common Environment/Common Database	3.286									
RDT&E Articles Quantity										
FY08 Developed SOF Common Environment/Common Database solution and integrated into all MTPS systems. Explored the development of training capabilities to be incorporated into the common environment.										
Cost (\$ in million)	FY08	FY09	FY10	FY11						
SOMPE	8.684	5.637	3.192							
RDT&E Articles Quantity										
<p>FY08 Developed software for mission data loading software to interface with mission planning and rehearsal systems. Developed seamless data sharing for time sensitive collaborative and intelligence planning, situational awareness and mapping/visualization systems.</p> <p>FY09 Continue software development for mission data loading software to interface with mission planning and rehearsal systems. Improve ground and maritime planning modules and capabilities.</p> <p>FY10 Continues software development for mission data loading software to interface with mission planning and rehearsal systems and improvement of ground and maritime planning modules and capabilities. Integrates virtual mission rehearsal system into the software baseline.</p>										
<b>C. Other Program Funding Summary:</b>										
	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>To</u>	<u>Total</u>
PROC, MTPS	69.541	36.044	17.265						Complete	Cost
									Cont.	Cont.
<b>D. Acquisition Strategy:</b>										
<ul style="list-style-type: none"> <li>Distributed Mission Training Rehearsal System: The funding is sent from USSOCOM to program management offices to be placed on contract via competition or sole source with selected contractors. Individual acquisition strategies are developed as projects are identified.</li> <li>SOMPE: The funding is sent from USSOCOM to program management offices to be awarded via competition or sole source with various contractors under each project. Individual acquisition strategies are developed as projects are identified.</li> </ul>										

APPROPRIATION / BUDGET ACTIVITY Program Element 1160427BB/Mission Training and Preparation Systems (MTPS)  
 RDT&E DEFENSE-WIDE / 7 Project Name and Number MTPS/S750

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Product Development											
Special Operations Mission Planning Environment (SOMPE) Software Development	CPFF	CAS, Huntsville, AL	0.500	0.418	Dec-08	0.509	Dec-09			Cont.	Cont.
	T&M	Tybrin, Ft., Walton Beach, FL	0.640	1.293	Nov-08	1.027	Nov-09			Cont.	Cont.
	CPFF	TIS, Alameda, CA	0.300	0.090	Nov-08	0.254	Nov-09			Cont.	Cont.
	CPFF	FTI/BAI, San Diego, CA	1.180	0.760	Mar-09						1.940
	CPFF	LM, Dallas, TX	0.750	0.715	Nov-08	0.729	Nov-09			Cont.	Cont.
				1.556							
Subtotal Product Dev			3.370	4.832		2.519				Cont.	Cont.

Remarks:

Support Cost											
SOMPE Development Support	Gov't	Special Operations Mission Planning Office, Ft Eustis, VA	0.230	0.258	Mar-09	0.240	Dec-09			Cont.	Cont.
Subtotal Support			0.230	0.258		0.240				Cont.	Cont.

Remarks

Test and Evaluation (T&E)											
SOMPE and C2 Mission Manager											
DT&E/ OT&E	C/CPFF	CAS, Huntsville, AL	0.418	0.547	Feb-09	0.433	Dec-09			Cont.	Cont.
Subtotal T&E			0.418	0.547		0.433				Cont.	Cont.

Remarks

Prior Years			12.036								3.807
Total Cost			16.054	5.637		3.192				Cont.	Cont.

Remarks:





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE MAY 2009					
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160428BB Unmanned Vehicles/S850							

COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160428BB	36.471	41.409							Cont.	Cont.
S850, Unmanned Vehicles	36.471	41.409							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 for increased aircraft endurance, reduced aircraft signature, increased telemetry range, and increased payload capacity for the Small Unmanned Aircraft System, Vehicle Craft launched Unmanned Aircraft System, Multi-Mission Unmanned Aircraft System, and Global Observer to meet Special Operations Forces mission requirements.

B. Program Change Summary:

	FY08	FY09	FY10
Previous President's Budget	6.334	1.527	1.547
Current President's Budget	36.471	41.409	
Total Adjustments	30.137	39.882	-1.547
Congressional Program Reductions		-0.118	
Congressional Increases	35.018	40.000	
Reprogrammings	-4.844		
Other Program Adjustments			-1.547
SBIR Transfer	-0.037		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160428BB Unmanned Vehicles/S850	
<p>Funding:</p> <p>FY08: Net increase of \$30.137 million is due to an FY08 Supplemental appropriation for Global Observer (\$35.018 million), DD 1415-3IR (FY08-31IR) reprogramming of Congressional add Trident Reach to the appropriate PE for execution(-\$4.844 million), and Small Business Innovative Research adjustment (-\$0.037 million).</p> <p>FY09: Net increase of \$39.882 million is due to Congressional add for Global Observer (\$40.000 million) and Section 8101 reduction (-\$0.118 million).</p> <p>FY10: Decrease of -\$1.547 million is due to higher command priorities.</p> <p>Schedule: None.</p> <p>Technical: None.</p>		



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)						DATE MAY 2009				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160429BB SOF Tanker Recapitalization/S875							
COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE 1160429BB	9.780	4.646	5.957						Cont.	Cont.
S875, SOF Tanker Recapitalization	9.780	4.646	5.957						Cont.	Cont.
<p>A. Mission Description and Budget Item Justification: The Special Operations Forces (SOF) Tanker Recapitalization program element 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, common support equipment, and trainers for USSOCOM. An incremental upgrade approach will be used to incorporate SOF capabilities onto the aircraft.</p> <p>Variable Speed Drogue: Develop, integrate, and test a variable speed air refueling drogue that will permit refueling over a wide range of speed supporting both helicopters and tilt-rotor aircraft without tanker aircraft reconfiguration.</p> <p>SOF Unique Modification Development &amp; Analysis: Conduct trade-off analysis, development, integration, and testing of aircraft enhancements to meet SOF-unique mission requirements. Enhancements include, but are not limited to, SOF communications, aircraft performance enhancements, situational awareness enhancements, and defensive systems.</p>										

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>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget	12.375	4.659	4.211
Current President's Budget	9.780	4.646	5.957
Total Adjustments	-2.595	-0.013	1.746
Congressional Program Reductions		-0.013	
Congressional Increases			
Reprogrammings	-2.524		
Other Program Adjustments			1.746
SBIR Transfer	-0.071		

Funding:

FY08: Net decrease of -\$2.595 million is due to reprogramming for higher command priorities (-\$2.524 million) and an additional Small Business Innovative Research adjustment (-\$0.071 million).

FY09: Decrease of -\$0.013 million is due to Section 8101 reduction (-\$0.013 million).

FY10: Net increase of \$1.746 million funds aircraft improvement to meet SOF-unique requirements \$1.829 million, and economic assumptions (-\$0.083 million).

Schedule: None.

Technical: None.

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity RDT&E BA # 7	SOF Tanker Recapitalization/S875
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Cost (\$ in millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Tanker Recapitalization	9.780	4.646	5.957					
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, common support equipment, and trainers for USSOCOM. An incremental upgrade approach will be used to incorporate SOF capabilities on to the aircraft.

Variable Speed Drogue - Complete development, integration, and test of a variable speed air refueling drogue to meet SOF Initial Operational Capability.

SOF-Unique Modification Development & Analysis: Trade-off analysis, development, integration, and testing of aircraft enhancements to meet SOF-unique mission requirements.

**B. Accomplishments/Planned Program**

	FY08	FY09	FY10	FY11
Variable Speed Drogue	7.008	1.696		
RDT&E Articles Quantity				

FY08 Initiated development of the variable speed drogue.

FY09 Completes development of the variable speed drogue and conduct flight test.

	FY08	FY09	FY10	FY11
SOF-Unique Modification Dev & Analysis	2.772	2.950	5.957	
RDT&E Articles Quantity				

FY08 Initiated development of SOF-unique mission improvements.

FY09 Continues development of SOF-unique mission improvements.

FY10 Continue development of SOF-unique mission improvements.

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity  
RDT&E BA # 7

SOF Tanker Recapitalization/S875

C. Other Program Funding Summary.

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>To</u> <u>Complete</u>	<u>Total</u> <u>Cost</u>
PROC, SOF Tanker Recap	74.651	11.253	34.200						0	278.842

D. Acquisition Strategy. The SOF tanker recapitalization aircraft will be acquired under the United States Air Force HC/MC-130J tanker procurement program. USSOCOM will fund development, integration, test, and production/retrofit of SOF-unique mission equipment.

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Product Development											
Variable Speed Drogue	CPIF	668 AESS Wright Patterson AFB, OH	6.932	1.696	Mar-09						8.628
SOF Unique Mod Dev & Anal	T&M	668 AESS Wright Patterson AFB, OH	2.316	2.95	Mar-09	5.957	Dec-09			Cont.	Cont.
Subtotal			9.248	4.646		5.957				Cont.	Cont.
Remarks:											
Support Costs											
Development Support	ALLOT	668 AESS Wright Patterson AFB, OH	0.532								0.532
Subtotal			0.532								0.532
Remarks:											
Subtotal											
Remarks:											
Subtotal											
Remarks:											
Total Cost			9.780	4.646		5.957				Cont.	Cont.
Remarks:											

Exhibit R-4, RDT&E Program Schedule Profile														Date: MAY 2009																		
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	2008				2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Variable Speed Drogue																																
Drogue Development	▲							△																								
Milestone (MS) B		▲																														
Integration and Test			▲					△																								
SOF-Unique Modification Development & Analysis																																
Development	▲											△																				
Integration and Test	▲											△																				



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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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
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160474BB			.733						Cont.	Cont.
S700 SO Communications Equipment and Electronics Systems			.733						Cont.	Cont.

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:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>
Previous President's Budget			1.295	
Current President's Budget			0.733	
Total Adjustments			-0.562	
Congressional Program Reductions				
Congressional Increases				
Reprogrammings				
Other Program Adjustments			-0.562	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160474BB SOF Communications Equipment and Electronics Systems/S700
<p>Funding:</p> <p>FY10: Decrease of (-\$0.562 million) is due to realignment to higher command priorities (-\$0.552 million) and economic assumptions (-\$0.010 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>	

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF Communications Advanced Development S700	

Cost (\$ in million)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Communications Advance Development	13.699		.733					
RDT&E Articles Quantity								

A. Mission and Description and Budget Justification: This project 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.

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 is a multitude of existing and projected national assets that allows SOF elements to operate with any force combination in multiple environments. The sub-projects funded in this project meet annual emergent requirements and are grouped by the level of organizational element they support: Operational Element (Team), Above Operational Element (Deployed) and Above Operational Element (Garrison).

**OPERATIONAL ELEMENT (TEAM)**

- The SOF Deployable Node provides new technology for the next generation antenna capability for all systems: heavy, medium, and light. This program consists of a family of deployable super high frequency multi-band satellite communications assemblages capable of supporting high-capacity, voice, data, video teleconferencing and video at all levels of classification.
- Covert Waveform III is an FY 2006 and FY 2008 Congressional add. Continued development of new covert communications capability.
- Semi-autonomous or Unattended Psychological Operations and Reconnaissance Tool Set is an FY 2008 Congressional add. This project researched the Psychological Operations (PSYOP) Automated Command and Control (C2) Module to operate on a non-proprietary open network by evaluating their effectiveness. The tests performed were a result of investigating commercial off-the-shelf technologies available

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to accomplish a “system of system” approach. Investigative technology gaps requiring further research and development include, but are not limited to: remote audio interrogation, unattended ground sensors, monitoring/tracking/surveillance, video messaging systems, and integration.

- SOCOM Computer Research is an FY 2008 Congressional add. Pursued acquiring technical support and production services for research, design, development, field test, delivery and implementation of a prototype functional, semi-rugged, modular computer for/on the Light Armored Vehicle (LAV) and the LAV Maintainer for the end user. Pursued support capabilities beyond the current operational infrastructure; support continued total life-cycle system management efforts by enabling access to Embedded Platform Logistics Systems, Global Combat Support System – Marine Corp and computer-based maintenance fielding. Specifically, this effort will be a progression of research and development performed to date with a goal of developing a solution that is field tested and potentially a viable, production ready application. The overall approach of this project increases vehicle readiness, decreasing costs and enables rapid embracement of ongoing logistics modernization initiatives. This project addressed the growing need for rugged maintenance tool systems for ground vehicle platforms currently deployed in operational environments with a specific focus on decreased deadline time.
- Tactical Local Area Network Suites. Provided developmental integration of multiple networks. This program provides SOF operational commanders and forward deployed forces advanced automated data processing and display capabilities to support situational awareness, mission planning and execution, and command and control of forces. The program consists of suites, mission planning kits and field computing devices. Each suite consists of three easily transportable, multiple integrated networks; 60 general use laptops; and 10 intelligence laptops. A network contains commercial servers, routers, and hubs, which can operate at user selectable classification levels [e.g., unclassified, collateral, coalition or Sensitive Compartmented Information networks.] A kit consists of computers and ancillary equipment used by SOF teams for detailed mission planning. Field devices are small hand-held computing devices used by the most forward deployed SOF to automatically interface with the suite via tactical communications.
- Communications Enhancements to Fielded Tactical Network Systems is an FY 2008 Congressional add. This initiative is an enhancement to fielded tactical network systems. The network is a platform that provides netcentric operations and key information to the SOF soldier at the tactical level. The solution uses the commercial implementation of the Defense Advanced Research Projects Agency-developed Mesh Network to provide a scalable, multi-tiered network architecture that supports tactical peer-to-peer connectivity. The integration of the Mesh network enhances SOF battlespace awareness and command and control.

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**ABOVE OPERATIONAL ELEMENT (GARRISON)**

- The Special Operations Resource Business Information System will 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 providing a common user interface and common source and view of the data. It will enable users to complete acquisition management; planning, programming, and budgeting collaborative decision processes; and retain information necessary to satisfy 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)		FY08	FY09	FY10	FY11
SOF Deployable Node				.733	
RDT&E Articles Quantity					
FY10 Develops next generation antennas for all systems: heavy, medium, and light.					
Cost (\$ in million)		FY08	FY09	FY10	FY11
Covert Waveform III		1.937			
RDT&E Articles Quantity					
FY08 This initiative was a Congressional add. Continued development of new covert communication capability. Developed Low Probability of Intercept/Low Probability of Detection waveforms for SOCOM tactical radio application.					
Cost (\$ in million)		FY08	FY09	FY10	FY11
Semi-autonomous or Unattended Psychological Operations and Tool Set		1.548			
RDT&E Articles Quantity					
FY08 This initiative was a Congressional add. Developed technology to integrate various PSYOP dissemination systems. Developed a prototype hand-held wireless device to send and receive audio, video, and text messages.					
Cost (\$ in million)		FY08	FY09	FY10	FY11
SOCOM Computer Research		.968			
RDT&E Articles Quantity					

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FY08 This initiative was a Congressional add. Pursued acquiring technical support and production services for research, design, development, field test, delivery and implementation of a prototype functional semi-rugged, modular computer for/on the LAV and the LAV Maintainer for the end user.

Cost (\$ in million)	FY08	FY09	FY10	FY11
Special Operations Resource Business Information System	6.456			
RDT&E Articles Quantity				

FY08 Provided exploration of integrating resource and acquisition legacy systems and databases to provide an enterprise-wide solution for resource and acquisition management. Provided a common user interface and source for viewing real time data for decision processes retaining information necessary to satisfy mission requirements.

Cost (\$ in million)	FY08	FY09	FY10	FY11
Tactical Local Area Network	2.016			
RDT&E Articles Quantity				

FY08 Began development and integration of field computing devices to expand the functionality of its information technology, while improving reliability and supportability. Provided centralized program oversight to guide system-wide technology insertions and improvements.

Cost (\$ in million)	FY08	FY09	FY10	FY11
Comm Enhancements to Fielded TACTI-NET Systems	.774			
RDT&E Articles Quantity				

FY08 This initiative was a Congressional add. Developed enhancements for Mesh Network to provide a scalable, multi-tiered network architecture that supports tactical peer-to-peer connectivity.

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To <u>Complete</u>	Total <u>Cost</u>
PROC, Comm/Equip and Electronics	173.537	73.004	55.080						Cont.	Cont.

D. Acquisition Strategy:

- SOF Deployable Node is a fielded program being upgraded for next generation antennas for all systems: heavy, medium, and light.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
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- Special Operations Resource Business Information System acquisition strategy seeks to optimize a cost, schedule, and performance mix, by 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.
- 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.

Exhibit R-3 RDT&E Project Cost Analysis						DATE: MAY 2009					
APPROPRIATION / BUDGET ACTIVITY				SOF Communications Equipment and Electronics Systems/PE1160474BB							
RDT&E DEFENSE-WIDE / 7				SOF Communications Advanced Development/S700							
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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Development SOF Deployable Node Antenna	TBD	TBD				0.733	Jan-10			Cont.	Cont.
Subtotal Product Development			0.000	0.000		0.733	0.000			Cont.	Cont.
Remarks:											
Development Support											
Subtotal Development Support			0.000	0.000		0.000					0.000
Remarks:											
Developmental Test & Evaluation											
Subtotal Developmental Test & Evaluation			0.000	0.000		0.000					0.000
Remarks:											
Contractor Engineering Support											
Subtotal Engineering Support											
Remarks:											
Prior Years	Various	Multiple	79.432								
Total Cost			79.432	0.000		0.733				Cont.	Cont.
Remarks:											







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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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
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160476BB			2.368						Cont.	Cont.
S725 SOF Tactical Radio Systems			2.368						Cont.	Cont.

A. Mission Description and Budget Item Justification: The Special Operations Forces (SOF) Tactical Radio Systems program element is for development of all SOF radio programs. 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.

United States Special Operations Command 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 overseas contingency operations (OCO) and training exercises. They also provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, 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.

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

R-1 ITEM NOMENCLATURE / PROJECT NO.  
PE 1160476BB SOF Tactical Radio Systems/S725

B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>
Previous President's Budget				
Current President's Budget			2.368	
Total Adjustments			2.368	
Congressional Program Reductions				
Congressional Increases				
Reprogrammings				
Other Program Adjustments			2.368	

Funding:

FY10: Net increase of \$2.368 million develops and upgrade to tactical radios (\$2.401 million) and a decrease for economic assumptions (-\$0.033 million).

Schedule: None

Technical: None

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF Tactical Radio Systems/Project S725	

Cost (\$ in million)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Tactical Radio Systems			2.368					
RDT&E Articles Quantity								

A. MISSION AND DESCRIPTION: The SOF Tactical Radio Systems project is for development of all SOF radio programs. 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. Sub-project:

- Special Mission Radio System (SMRS). Effort develops Low Probability of Intercept/Low Probability of Detection (LPI/LPD) waveforms for SOCOM tactical radio application.

B. Accomplishments/Planned Program

Cost (\$ in million)	FY08	FY09	FY10	FY11
SMRS			2.368	
RDT&E Articles Quantity				

FY10 Develops LPI/LPD transceiver board upgrades and waveforms for SOCOM tactical radio application.

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To <u>Complete</u>	Total <u>Cost</u>
PROC, Tactical Radios		23.497	53.034						Cont.	Cont.
PROC, Comm/Equip & Electronics	173.537	73.004	55.080							

D. Acquisition Strategy:

- SMRS LPI/LPD transceiver board upgrades and waveform development will continue under Technical Support Group management and oversight.

APPROPRIATION / BUDGET ACTIVITY: RDT&E DEFENSE-WIDE / 7  
 SOF Tactical Radio Systems/PE1160476BB  
 SOF Tactical Radio Systems/S725

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Development Special Mission Radio System	TBD	TBD				2.368	Jan-10				2.368
Subtotal Product Development						2.368					2.368

Remarks:

Developmental Test & Evaluation (T & E)											
Subtotal T&E											

Remarks:

Contractor Engineering Support											
Subtotal Management											

Remarks:

Total Cost						2.368					2.368
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Remarks:







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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160477BB SOF Weapon Systems/S375
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160477B		3.952	1.081						Cont.	Cont.
S375 SOF Weapon Systems		3.952	1.081						Cont.	Cont.

A. Mission Description and Budget Item Justification: This program element provides for development, testing, and integration of specialized weapon systems and weapon accessories 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>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget		2.759	1.290
Current President's Budget		3.952	1.081
Total Adjustments		1.193	-0.209
Congressional Program Reductions		-0.207	
Congressional Increases		1.400	
Reprogrammings			
Other Program Adjustments			-0.209

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160477BB SOF Weapon Systems/S375	
<p>Funding:</p> <p>FY09: Net increase of \$1.193 million is due to a Congressional add for Weapons Shot Counter (\$1.400 million), a Congressional mark for Combat Assault Rifle (-\$0.200 million), and Congressional reduction for Section 8101 (-\$0.007 million).</p> <p>FY10: Net decrease of -\$0.209 million is due to realignment for higher command priorities (-\$0.194 million) and a decrease for economic assumptions (-\$0.015 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

**Exhibit R-2a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity RDT&E. DEFENSE-WIDE / 7	SOF Weapons Systems / Project S375
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Cost (\$ in millions)	FY08*	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Weapons Systems	15.394	3.952	1.081					
RDT&E Articles Quantity								

***\*FY2008 funds are in Program Element 1160404BB.***

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:

- Sniper weapon systems include next generation system development and pre-planned product improvements to current sniper systems. Next-generation systems include two variants: a precision sniper rifle intended to provide SOF with a highly accurate weapon system capable of engaging targets at 1500 meters or more and an anti-materiel rifle that will pursue heavy sniper system technology to provide SOF with precision engagement capabilities on materiel targets.
- The weapons accessories effort enhances all SOF weapons, both individual and crew served, by leveraging 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 improve the combat effectiveness of the weapon systems and the survivability of the SOF operator. This program was increased by FY 2004, FY 2005, FY 2006, and FY 2007 Congressional adds.
- The binocular/monocular program is developing the next generation night vision goggle. This goggle incorporates a fused capability that includes both image intensification and thermal imagery spectrums. This capability allows the SOF operator to conduct missions in the full spectrum of ambient light levels. Funding moved to PE 1160479BB/Project S395 beginning in FY 2009.
- The precision laser targeting device is a hand-held laser range finder and targeting device with an embedded global positioning system 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. Funding moved to PE 1160479BB/Project S395 beginning in FY 2009.
- The combat assault rifle program will provide the SOF operator with a 5.56 mm light and a 7.62mm heavy family of rifles that are

Appropriation/Budget Activity  
RDT&E. DEFENSE-WIDE / 7

SOF Weapons Systems / Project S375

modular in barrel length. Variants will replace a percentage of assault rifles and light sniper weapons currently in the SOF inventory. Developmental efforts include development, test and evaluation of the sniper support rifle, objective “common upper receiver” design of the combat assault rifle, and full ballistic fire control system for the 40mm enhanced grenade launcher module. The sniper support rifle is the next generation sniper support weapon system. The “common upper receiver” will be capable of accepting 5.56mm, 7.62mm, or any additional caliber ammunition developed. The enhanced grenade launcher fire control unit will provide a precision ballistic solution for current inventory and enhanced 40mm ammunition. Enhanced ammunition will be developed. This program funding was increased by an FY 2007 Congressional add.

- The personal equipment advanced requirements program develops and acquires items that provide SOF personnel required protection from natural threats (environmental, terrain, etc.), enemy threats (ballistics, laser, blunt trauma, etc.), and survival items that allow them to perform at the required level to meet SOF missions. Kits includes 1) ballistic armor, ballistic armor carriers, helmets, and eye protection; 2) cold weather, modular glove system, maritime and other protective clothing; 3) communication headsets and equipment; 4) load carriage and backpack systems; 5) visual augmentation system mounts; and 6) other systems that address SOF operator deficiencies with regard to survival and mission execution in all terrains, climates and environments worldwide. Funding moved to PE 1160478BB/Proj S385 beginning in FY 2009.
- The tactical combat casualty care equipment kit 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. Two kits will provide a unit-level combat casualty care capability to users at the operator and medic levels to aid in rapid response. The casualty evacuation kit will provide group-level casualty evacuation capability to enable groups to access, rescue, transport, and sustain injured from point of injury through to a point where definitive care can be provided. Funding moved to PE 1160478BB/Project S385 beginning in FY 2009.
- Weapons Shot Counter. This was an FY 2009 Congressional add to develop a device to track rounds fired to establish reliability and maintainability data on weapons life. This device will provide the unit armorer a means to track the number of rounds fired and anticipate the need for maintenance and repair prior to firearms failure, ultimately minimizing or eliminating parts failures and malfunctions in combat.
- Multi-User Panoramic Synthetic Vision System. This initiative was an FY 2008 Congressional add to integrate and evaluate visual

**Exhibit R-2a, RDT&E Project Justification**

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Appropriation/Budget Activity RDT&E. DEFENSE-WIDE / 7	SOF Weapons Systems / Project S375
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augmentation systems and sensors on ground vehicles. Supports development of enhancements for perimeter protection and situational awareness.

**B. Accomplishments/Planned Program**

	FY08	FY09	FY10	FY11
Sniper Weapon Systems	.487	.496		
RDT&E Articles Quantity				
FY08 Pursued the next generation medium sniper system capability. Conducted market research, industry conferences, and developmental testing. FY09 Conduct both developmental and operational testing on medium and heavy sniper system capabilities.				
	FY08	FY09	FY10	FY11
Weapons Accessories	.499	.261	.250	
RDT&E Articles Quantity				
FY08 Pursued fused image clip-on device through market research, industry conference, and solicitation. FY09 Conduct user assessments, test and evaluation and source selection of clip on night vision device-fused, and begin efforts on muzzle brake suppressors. FY10 Conducts market research and assessments for crew-served weapon capabilities.				
	FY08	FY09	FY10	FY11
Binocular/Modular Systems	1.463			
RDT&E Articles Quantity				
FY08 Developed an advanced night vision goggle system (i.e., sensor fusion), increasing the capabilities of the existing goggles.				
	FY08	FY09	FY10	FY11
Laser Targeting Device	8.682			
RDT&E Articles Quantity				
FY08 Continued weight reduction and miniaturization of the inertial navigation system.				
	FY08	FY09	FY10	FY11
Combat Assault Rifle	.679	1.832	.831	
RDT&E Articles Quantity				
FY08 Supported additional operational testing and field user assessment. FY09 Complete development of the sniper support rifle and commence development of enhanced grenade launcher module fire control unit.				

**Exhibit R-2a, RDT&E Project Justification**

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Appropriation/Budget Activity RDT&E. DEFENSE-WIDE / 7	SOF Weapons Systems / Project S375
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Conduct user assessment, test and evaluation of the sniper support rifle.  
 FY10 Completes development of the combat assault rifle's common upper receiver, and begins development of 40mm programmable ammunition for the fire control unit.

	FY08	FY09	FY10	FY11
Personal Equipment Advanced Requirement	1.146			
RDT&E Articles Quantity				

FY08 Evaluated modular integrated communication helmet headsets and environmental protection for extremities. Conducted validation and verification testing of existing body armor against ballistic threats, both foreign and domestic.

	FY08	FY09	FY10	FY11
Tactical Combat Casualty Care Equipment Kit	.099			
RDT&E Articles Quantity				

FY08 Initiated evaluation and qualification of casualty evacuation kits.

	FY08	FY09	FY10	FY11
Weapons Shot Counter		1.363		
FY09 This is a Congressional add to develop a device to track rounds fired to establish reliability and maintainability data on weapons life.				

	FY08	FY09	FY10	FY11
Multi-User Panoramic Synthetic Vision System	2.339			
RDT&E Articles Quantity				

FY08 This was a Congressional add to develop technology and integrated visual augmentation systems and sensors on ground vehicles.

<b>C. Other Program Funding Summary:</b>										
	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>To Complete</u>	<u>Total Cost</u>
PROC, Small Arms and Weapons	198.581	23.420	38.173						Cont.	Cont.
PROC, SOF Soldier Protection and Survival Systems		29.476	26.812						Cont.	Cont.
PROC, SOF Visual Augmentation Lasers, and Sensor Systems		25.099	32.724						Cont.	Cont.

Appropriation/Budget Activity  
RDT&E. DEFENSE-WIDE / 7

SOF Weapons Systems / Project S375

FY08 PROC funding for SOF Soldier Protection and Survival Systems and SOF Visual Augmentation Lasers and Sensor Systems are included as part of the FY 08 PROC, Small Arms and Weapons.

D. Acquisition Strategy.

- Sniper Weapon Systems. Develops, tests and evaluates highly accurate, long-range weapon systems to enable the SOF operator to engage enemy and materiel targets utilizing pre-planned product improvement, and incremental development based on technology advances.
- Combat Assault Rifle. This program develops, tests and evaluates the next generation assault weapon system(s) and sniper support weapons to meet the requirements specific to SOF missions, utilizing an incremental approach. Pre-planned product improvements and advances in technology are the basis for each increment.
- Weapons Accessories. Develops, tests and evaluates accessories 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 incrementally develops new capabilities as block upgrades, which are first developed and tested, and then fielded to the full spectrum of SOF operators. Developments leverage technology advances that enable increased effectiveness, reduction of size/weight, and the integration of capabilities into singular items to reduce the signature of, and combat load on, the SOF operator.
- Weapon Shot Counter. Develops, tests and evaluates devices that enable the capture of rounds fired through various weapon systems. This data is then used to develop maintenance schedules and activities in order to increase combat readiness.

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Product Development											
Weapons Accessories											
Integration	ALLOT	NSWC-Crane, Crane. IN	0.499	0.204	Jan-09	0.214	Jan-10			Cont.	Cont.
Systems Engineering	ALLOT	NSWC-Crane, Crane. IN		0.057	Jan-09	0.036	Jan-10			Cont.	Cont.
Combat Assault Rifle											
Integration	ALLOT	NSWC-Crane, Crane. IN	0.580	1.832	Jun-09	0.831	Jan-10				3.243
Weapons Shot Counter											
Integration	ALLOT	NSWC-Crane, Crane. IN		1.363	Sep-09						1.363
Subtotal Product Development			1.079	3.456		1.081				Cont.	Cont.

Remarks:

Support Costs											
Subtotal Support Costs											

Remarks:

Test and Evaluation											
Sniper Weapons Systems	ALLOT	NSWC-Crane, Crane. IN	0.487	0.496	Mar-09						0.984
Subtotal Test and Evaluation			0.487	0.496							0.984

Remarks:

Management Services											
Subtotal Management											

Remarks:

Prior Years			14.871								
Total Cost			16.437	3.952		1.081				Cont.	Cont.

Remarks:



Exhibit R-4, RDT&E Program Schedule Profile																	Date: MAY 2009																
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	2008				2009				2010				2011				2012				2013				2014				2015				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Sniper Weapon Systems																																	
Next Generation Rifle-Medium P3I																																	
Next Generation Rifle-Medium Development														△																			
Next Generation Rifle-Heavy Development														△																			
Weapons Accessories																																	
Clip-on Night Vision Device P3I										▲				△				△															
Muzzle Break and Suppressor P3I										▲				△				△															
Visible Bright Light Illuminator P3I										▲				△				△															
Binocular/Monocular Systems (Moved to PE 1160479BB, Project S395)																																	
Prototype Development														▲																			
Laser Targeting Device (Moved to PE 1160479BB, Project S395)																																	
Inertial Navigational System Minaturization, P3I										▲																							
Combat Assault Rifle-Light																																	
Enhanced Grenade Launcher Module Development														△				△															
Sniper Support Rifle System Development														△				△															
Common Upper Receiver Development														△				△															
Personal Equipment Advanced Requirements (Moved to PE 1160479BB, Project S395)																																	
Body Armor																																	
--Foreign Ammo and Armor Exploitation														▲																			
--Shatter Gap Analysis														▲																			

Exhibit R-4, RDT&E Program Schedule Profile																	Date: MAY 2009															
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	2008				2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
--Body Armor Threat Validation				▲																												
--Next Generation Plate Evaluation				▲																												
Helmet Communication																																
--Technical Evaluation				▲																												
Environmental Protection																																
--New Materiel Evaluation				▲																												
Tactical Combat Casualty Care Equipment Kit (Moved to PE 1160479BB, Project S395)																																
Casualty Evacuation Kits																																
--Concept Development				▲	→		△																									
Multi-User Panoramic Synthetic Vision System-Congressional add																																
Engineering Support				▲	→		△																									
Weapons Shot Counter - Congressional add																																
--Hardware Development									△	→		△																				
--Developmental Testing													△	→	△																	

Exhibit R-4a, RDT&E Program Schedule Detail					Date: MAY 2009				
Appropriation/Budget Activity	Program Element Number and Name				Project Number and Name				
RDT&E/7	PE1160404BB/Special Operations Tactical Systems Development (FY06-08)/PE1160477BB/SOF Weapon Systems (FY09-13)				Project 375/Weapons Systems Advanced Development				
Schedule Profile	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	
Sniper Weapon Systems									
Next Generation Rifle-Medium P3I	2Q-4Q								
Next Generation Rifle-Medium Development		3-4Q	1-2Q						
Next Generation Rifle-Heavy		3-4Q	1-2Q						
Weapons Accessories									
Clip-on Night Vision Device P3I	1Q-4Q	2Q-4Q	2Q-4Q						
Muzzle Break and Suppressors P3I	1Q-4Q	2Q-4Q	2Q-4Q						
Visible Bright Light Illuminator Systems Engineering	1Q-4Q	2Q-4Q	2Q-4Q						
Binocular/Monocular Systems									
Prototype Development	4Q								
Laser Target Device									
Inertial Navigation System (INS) Miniaturization, P3I	1Q-4Q								
Combat Assault Rifle - Light									
Enhanced Grenade Launcher Module Development		3Q-4Q	3Q-4Q						
Sniper Support Rifle System Development		3Q-4Q	3Q-4Q						
Common Upper Receiver Development		3Q-4Q	3Q-4Q						
Personal Equipment Advanced Requirements									
Body Armor									
Foreign Ammo and Armor Exploitation	3Q-4Q								
Shatter Gap Analysis	3Q-4Q								
Body Armor Threat Validation	4Q								
Next Generation Plate Evaluation	4Q								
Helmet Communication									
Technical Evaluation	4Q								
Environmental Protection									
New Materiel Evaluation	4Q								
Tactical Combat Casualty Care Equipment Kit									
Casualty Evacuation Kits									
Concept Development	4Q-2Q	1Q-2Q							



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160478BB SOF Soldier Protection and Survival Systems/S385
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160478BB		3.181	.597						Cont.	Cont.
S385 SOF Soldier Protection and Survival Systems		3.181	.597						Cont.	Cont.

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 SOF while conducting varied missions. These missions are generally conducted in harsh environments, for unspecified periods, and in locations requiring small unit autonomy.

B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget		3.190	1.467
Current President's Budget		3.181	0.597
Total Adjustments		-0.009	-0.870
Congressional Program Reductions		-0.009	
Congressional Increases			
Reprogrammings			
Other Program Adjustments			-0.870

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
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>FY09: Decrease of -\$0.009 million is due to Congressional reduction for Section 8101 (-\$0.009 million).</p> <p>FY10: Decrease of -\$0.870 million is due to realignment for higher command priorities (-\$0.862 million) and a decrease for economic assumptions (-\$0.008 million).</p> <p>Schedule: None.</p> <p>Technical: None</p>		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160479BB SOF Visual Augmentation, Lasers and Sensor Systems/S395
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY12	FY12	FY12	Cost to Complete	Total Cost
PE1160479BB		6.967	3.369						Cont.	Cont.
S395, SOF Visual Augmentation, Lasers and Sensor Systems		6.967	3.369						Cont.	Cont.

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.

B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget		3.495	0.496
Current President's Budget		6.967	3.369
Total Adjustments		3.472	2.873
Congressional Program Reductions		-1.509	
Congressional Increases		5.000	
Reprogrammings			
Other Program Adjustments		-0.019	2.873

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
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:</p> <p>FY09: Net increase of \$3.472 million due to Congressional add for laser targeting device (\$5.000 million), Congressional reduction for the laser rangefinder and designator (-\$1.509 million), and a reduction for Section 8101 (-\$0.019 million).</p> <p>FY10: Net increase of \$2.873 million due to laser targeting device increase required to continue the inertial navigation system weight reduction efforts (\$1.968 million), sniper detection system increase for integration efforts on the current systems (\$0.985 million), decrease for higher command priorities (-\$0.074 million) and economic assumptions (-\$0.006 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		



Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF Visual Augmentation, Lasers and Sensor Systems/Project S395	

Cost (\$ in million)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Visual Augmentation, Lasers and Sensor Systems		6.967	3.369					
RDT&E Articles Quantity								

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.

- Family of Sniper Detection Systems - The sniper detection system is a passive acoustic system that detects and locates small arms fire origins and provides SOF units with the relative azimuth, elevation, and range. It has 360-degree coverage and allows users time to respond to hostile fire. This system can integrate with the PILAR Versatile Observation Turret for target identification “prior to fire capability.

- Precision Laser Targeting Device - 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 device 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 Visual Augmentation Systems Binocular/Monocular - This program procures head/helmet mounted night vision goggle systems. These goggles provide the SOF operator the ability to maneuver, conduct fire control operations, and perform surveillance and reconnaissance. Research and development 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.

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF Visual Augmentation, Lasers and Sensor Systems/Project S395	

<b>B. Accomplishments/Planned Program</b>										
Cost (\$ in million)	FY08	FY09	FY10							
Family of Sniper Detection Systems			.985							
RDT&E Articles Quantity										
FY10 Begins integration and testing efforts of Falcon View on the current sniper detection system.										
Cost (\$ in million)	FY08	FY09	FY10							
Precision Laser Targeting Device		5.827	1.968							
RDT&E Articles Quantity										
FY09 Continues the size, weight and power reduction of the overall system and miniaturization of the inertial navigation system. FY10 Continue the size, weight and power reduction of the overall system and miniaturization of the inertial navigation system.										
Cost (\$ in million)	FY08	FY09	FY10							
SOF Visual Augmentation Systems Binocular/Monocular		1.140	.416							
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.										
<b>C. Other Program Funding Summary:</b>										
	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To Complete	Total Cost
PROC SOF Visual Augmentation, Lasers and Sensor Systems		23.420	39.035						Cont.	Cont.
PROC Small Arms and Weapons	198.581									
RDTE S375, Weapons Systems and Advanced Development	15.394	3.853								

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF Visual Augmentation, Lasers and Sensor Systems/Project S395	

D. Acquisition Strategy:

- Family of Sniper Detection Systems. The gunfire detection system uses proven/existing technology validated under a Foreign Comparative Test program. Sole source contract to the vendor, Metravib, was awarded using streamlined procedures. Operational and environmental tests were conducted to support limited Fielding and Deployment Release.
  
- Precision Laser Targeting Device. This 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 GPS- guided munitions. This version is required to improve the accuracy of coordinate geo-location to reduce the possibility of fratricide incidents.
  
- SOF Visual Augmentation Systems Binocular/Monocular. 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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Dev											
Precision Laser Targeting Device	CPFF	PM Sensors & Lasers, Ft. Belvoir, VA		4.965	Jan-09	1.000	Jan-09				5.965
Special Operations Visual Augmentation System Binocular/Monocular	CPFF	GAPO, Ft Belvoir, VA		1.047	Jan-09	0.416	Apr-10				1.463
Subtotal Product Dev			0.000	6.012		1.416					7.428

Remarks:

Developmental Test & Eval											
Precision Laser Targeting Device		PM Sensors & Lasers, Ft. Belvoir, VA		0.862	Jan-09	0.968	Jan-10				1.830
Special Operations Visual Augmentation System Binocular/Monocular		GAPO, Ft Belvoir, VA		0.093	Jan-09						0.093
Family of Sniper Detection System	FFP/TM	PM-CCS, Picatinny, NJ				0.985	Mar-10				0.985
Subtotal T&E			0.000	0.955		1.953				0.000	2.908

Remarks:

Contractor Engineering Spt											
Subtotal Management											

Remarks:

Total Cost			0.000	6.967		3.369					10.336
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Remarks:





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160480BB SOF Tactical Vehicles/S910
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160480BB		1.600	1.973						Cont.	Cont.
S910, SOF Tactical Vehicles		1.600	1.973						Cont.	Cont.

A. Mission Description and Budget Item Justification: This program element provides for the development and testing of a variety of spiral upgrades to Special Operations Vehicles and ancillary equipment. The current family of Special Operations Forces (SOF) tactical vehicles include: individual mobility vehicles (lightweight all terrain vehicles), light mobility vehicles, medium mobility vehicles (ground mobility vehicle), non-standard commercial vehicles and heavy mobility vehicles (Mine Resistant Ambush Protected). 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.

B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget			1.490
Current President's Budget		1.600	1.973
Total Adjustments		1.600	0.483
Congressional Program Reductions			
Congressional Increases		1.600	
Reprogrammings			
Other Program Adjustments			0.483

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160480BB SOF Tactical Vehicles/S910	
<p>Funding:</p> <p>FY09: Increase of \$1.600 million is due to an FY 2009 Congressional add for Internally Transportable Vehicle (\$1.600 million).</p> <p>FY10: Net increase of \$0.483 million is due to increased vehicle modifications requiring additional test and evaluation (\$0.510 million) and a decrease for economic assumptions (-\$0.027 million).</p> <p>Schedule: None.</p> <p>Technical: None</p>		



Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF Tactical Vehicles/Project S910	

Cost (\$ in million)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Tactical Vehicles		1.600	1.973					
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: This project funds the development, testing, and evaluation of Special Operations vehicles. The Special Operations Forces (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. The current family of Special Operations Forces (SOF) tactical Vehicles include: individual mobility vehicle, light mobility vehicle, medium mobility vehicles, non-standard commercial vehicles and heavy mobility vehicles. Sub-project funded in this project include:

- Light mobility vehicle/ internally transportable vehicles. This FY09 Congressional add develops and improves a lightweight, highly mobile, wheeled vehicle platform capable of transport by the family of V-22 aircraft.
- Medium mobility vehicles. This initiative provides for product improvements in the areas of suspension, power management, armor protection, and unique vehicle design for all SOF tactical vehicle configurations. The various modifications make it essential to keep up with the increased weight and the impact that it has on the basic vehicle.

B. Accomplishments/Planned Program

Cost (\$ in million)	FY08	FY09	FY10	FY11
Light Mobility Vehicle Individual Transportable Vehicles		1.600		
RDT&E Articles Quantity				

FY09 Initiates development of a prototype light mobility vehicle and testing for safety and certification for family of V-22 aircraft.

Cost (\$ in million)	FY08	FY09	FY10	FY11
Medium Mobility Vehicles			1.973	
RDT&E Articles Quantity				

FY10 Initiates development of Engineering Change Proposals (ECPs) that implement spiral upgrades and improve the design and manufacturing process for the various tactical vehicles currently in production.

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF Tactical Vehicles/Project S910	

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To <u>Complete</u> Cont.	Total <u>Cost</u> Cont.
Tactical Vehicles Procurement	551,660	3.691	18.821							

D. Acquisition Strategy:

- Vehicle improvements integrate emerging technology or commercial-off-the-shelf/non-developmental item to correct problems with the current suspension, electrical, and armor of the existing vehicles.

Exhibit R-3 RDT&E Project Cost Analysis						DATE: MAY 2009					
APPROPRIATION / BUDGET ACTIVITY				SOF Tactical Vehicles/PE1160480BB				SOF Tactical Vehicles/S910			
RDT&E DEFENSE-WIDE / 7											
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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Dev ITV/LMV Prototyping	Form 9	TBD		0.540	Feb-09						
Subtotal Product Dev			0.000	0.540		0.000	0.000			0.000	0.500
Remarks:											
Engineering Support											
Engineering Change Proposal Development	MIPR	Letterkenny Army Depot, Chambersburg, PA				0.223	Dec-09			Cont.	Cont.
Engineering Change Proposal Development	MIPR	TARDEC, Warren, MI				0.250	Dec-09			Cont.	Cont.
Engineering Change Proposal Development	MIPR	Naval Air Systems Command, Patuxent, MD				0.500	Dec-09			Cont.	Cont.
Engineering Change Proposal Development	Form 9	STS Engineering, Warren MI				1.000	Dec-09			Cont.	Cont.
Subtotal Spt			0.000	0.000		1.973				Cont.	Cont.
Developmental Test & Evaluation											
ITV/LMV Family of V-22 Certification	MIPR	Naval Air System Command, Patuxent, MD		0.260	Mar-09						
ITV/LMV Testing and safety	MIPR	Aberdeen Test Center, MD		0.800	Jun-09						
Subtotal T&E			0.000	1.060		0.000					0.000
Remarks:											
Contractor Engineering Spt											
Subtotal Management											
Remarks:											
Total Cost			0.000	1.600		1.973				Cont.	Cont.





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160482BB SOF Rotary Wing Aviation/D615
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160482BB		3.243	18.863						Cont.	Cont.
D615, SOF Rotary Wing Aviation		3.243	18.863						Cont.	Cont.

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. 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.

B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget		3.822	15.294
Current President's Budget		3.243	18.863
Total Adjustments		-0.579	3.569
Congressional Program Reductions		-2.179	
Congressional Increases		1.600	
Reprogrammings			
Other Program Adjustments			3.569

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
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: Net decrease of -\$0.579 million is due to a Congressional reduction for A/MH-6 Infrared Exhaust Suppressor (-\$2.175 million), Congressional adds for Hostile Fire Indicating System (\$0.800 million) and Cable Warning Obstacle Avoidance (\$0.800 million), and a reduction for Section 8101 (-\$0.004 million).</p> <p>FY10: Net increase of \$3.569 million is due to funding the A/MH-6 Improved Seat System (\$3.579 million) and the Hostile Fire Indicating System (\$2.483 million), realignments for higher command priorities (-\$2.231 million) and a decrease for economic assumptions (-\$0.262 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		



**Exhibit R2-a, RDT&E Project Justification**

Date: MAY 2009

Appropriation/Budget Activity  
RDT&E.A BA # 7

Special Operations Forces (SOF) Rotary Wing Aviation /Project D615

Cost (\$ in millions)	FY08*	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Rotary Wing Aviation	.960	3.243	18.863					
RDT&E Articles Quantity								

**\*FY2008 funds were in Program Element 1160404BB.**

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 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 the Reduced Optical Signature Emission Solution (ROSES), which reduces the optical signature output of the current infrared expendable decoys for purposes of reducing Army Special Operations Aviation aircraft vulnerabilities. This flare solution will have the capability to decoy currently fielded infrared missiles and more sophisticated emerging threats, and is an interim solution pending flare technology advancements. (2) Develops an improved integrated seat system for A/MH-6M aircraft that will provide ballistic protection, crash attenuation, and restraint system upgrades.
- MH-47/MH-60 Survivability Equipment/Sensors. (1) Develops the Aircraft Occupant Ballistic Protection System to reduce weight to permit additional critical payloads on mission aircraft, while maintaining or improving armor effectiveness; (2) Develops and qualifies the Forward Looking Infrared Radar (FLIR) Pre-Planned Product Improvements (P3I), which will provide increased detection ranges, a sensor suite capable of target recognition, short wave infrared marker identification, and illuminator detection regardless of ambient and cultural lighting conditions.
- Congressional Add to develop a Hostile Fire Indicating System that detects, classifies, and alerts the aircrew to the presence of small caliber weapons fire for SOF rotary wing platforms.
- Congressional Add to develop a Cable Warning Obstacle Avoidance system. This system will allow aircraft to perform evasive actions, significantly increasing the aircrew's probability of survival during a hostile fire engagement.

Appropriation/Budget Activity  
RDT&E.A BA # 7

Special Operations Forces (SOF) Rotary Wing Aviation /Project D615

**B. Accomplishments/Planned Program**

	FY08	FY09	FY10	FY11
MH-47/MH-60/A/MH-6M Aircraft	.080		7.367	
RDT&E Articles Quantity				
FY08 Terminated the development effort of the infrared exhaust suppressor for the A/MH-6M. FY10 Begins development of the ROSES and the improved integrated crashworthy seat system for the A/MH-6M.				
	FY08	FY09	FY10	FY11
MH-47/MH-60 – Survivability Equipment /Sensors	0.880	1.685	11.496	
RDT&E Articles Quantity				
FY08 Began development of improved lightweight armor for the Aircraft Occupant Ballistic Protection System. FY09 Continue development of the Aircraft Occupant Ballistic Protection System. FY10 Begins development of the FLIR P3I program and continues development of Hostile Fire Indicating System				
	FY08	FY09	FY10	FY11
MH-47/MH-60 – Survivability Equipment /Sensors-Congressional Adds		1.558		
RDT&E Articles Quantity				
FY09 Congressional adds to begin the development of Hostile Fire Indicating System and a Cable Warning Obstacle Avoidance System.				

**C. Other Program Funding Summary:**

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To Complete	Total Cost
Rotary Wing Upgs & Sust PROC	71.663	89.197	101.936						Cont.	Cont.

**D. Acquisition Strategy:**

- A/MH-6M - This effort develops and qualifies the necessary protection from crash loads and airframe vibrations by upgrading the current A/MH-6M seat and restraint system to meet current MIL-STD 1290 requirements. A competitive source selection process will be conducted for the crashworthy seat 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 flare solution that discharges fewer expendables per dispense and

Appropriation/Budget Activity  
RDT&E.A BA # 7

Special Operations Forces (SOF) Rotary Wing Aviation /Project D615

emits less visible light to improve aircrew's ability to survive in sophisticated threat environments. A competitive source selection process will be conducted for the Reduced Optical Signature Emissions Solution to the extent possible. Proprietary considerations may direct some efforts to the original equipment manufacturer.

- MH-47/MH-60 Survivability Equipment/Sensors - Develops next-generation improvements, enhancements, and upgrades to survivability equipment and sensors. Active and passive survivability acquisition 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: MAY 2009

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Development											
MH-6/47/60 Survivability Equipment Reduced Optical Signature Emissions Solution	Various	PM TAPO/Ft Eustis VA				3.788	Various			Cont.	Cont.
MH-47/60 Survivability Equipment/Sensors											
Aircraft Occupant Ballistic Protection System	Various	PM TAPO/Ft Eustis, VA	61.110	1.685						Cont.	Cont.
Forward Looking Infrared Radar	Various	PM TAPO/Ft Eustis, VA				9.013	Various				9.013
Hostile Fire Indicating System	Various	PM TAPO/Ft Eustis, VA		0.779		2.483	Various				3.262
Cable Warning Obstacle Avoidance System	TBD	TBD		0.779							0.779
A/MH-6M Improved Seat System	Various	PM MELB, Ft. Eustis, VA	15.931			3.579	Various				19.510
Subtotal			77.041	3.243		18.863				Cont.	Cont.

Remarks:

Management											
Subtotal Spt											

Remarks:

Developmental Test & Evaluation											
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Remarks:

Subtotal Management											
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Remarks:

Prior Years			19.877								19.877
Total Cost			96.918	3.243		18.863				Cont.	Cont.

Remarks:





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160483BB SOF Underwater Systems/S0417
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160483BB		8.727	3.452						Cont.	Cont.
S0417, Underwater Systems		8.727	3.452						Cont.	Cont.

**A. Mission Description and Budget Item Justification:** This program element provides for engineering & manufacturing development (formerly system development & demonstration) and operational systems development of small combat underwater submersibles and underwater support systems and equipment. This program element also provides for pre-acquisition activities (material solutions analysis, advanced component development & prototypes) to respond to emergent requirements. These submersibles, systems, and equipment are used by Special Operations Forces (SOF) in the conduct of infiltration/extraction, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems 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>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget		3.142	0.992
Current President's Budget		8.727	3.452
Total Adjustments		5.585	2.460
Congressional Program Reductions		0.015	
Congressional Increases		5.600	
Reprogrammings			
Other Program Adjustments			2.460

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160483BB SOF Underwater Systems/S0417	
<p>Funding:</p> <p>FY09: Net increase of \$5.585 million is due to a Congressional reduction for Section 8101 (-\$0.015 million) and the Congressional adds for Technology for Shallow Water SOF Mobility (\$2.400 million) and SEAL Delivery Vehicle Integrated Combat System (\$3.200 million).</p> <p>FY10: Net increase of \$2.460 million funds the Shallow Water Combat Submersible technology development and system design &amp; development efforts (\$2.490 million) and decrease for economic assumptions (-\$0.048 million).</p> <p>Schedule: None.</p> <p>Technical: None</p>		



Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Underwater Systems Advanced Development/Project S0417	

Cost (\$ in millions)	FY08*	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Underwater Systems	1.742	8.727	3.452					
RDT&E Articles Quantity								

**\*FY2008 funds are in Program Element 1160404BB.**

A. Mission Description and Budget Item Justification: This project provides for product improvements on legacy combat underwater submersible systems and development of new combat submersibles. Also provides for 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 of the submersible systems and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions. Sub-projects include:

- Combat Submersibles. Development of undersea systems that provide SOF combat swimmers with the necessary diving and dive related equipment to fulfill assigned underwater combat missions. Includes the following:
- SEAL Delivery Vehicle. Develop replacements for obsolete and/or unsupportable electronics with current technology to improve safety, reliability and performance.
- Shallow Water Combat Submersible. Conduct concept and technology development for the follow-on platform for the Seal Delivery Vehicle to include additional capability.

B. Accomplishments/Planned Program

	FY08	FY09	FY10	FY11
SEAL Delivery Vehicle	1.742	3.277		
RDT&E Articles Quantity				

FY08 Conducted concept and technology development/demonstration for potential follow-on platform. Continued to develop and upgrade/replace obsolete and/or unsupportable electronic equipment.

FY09 Continue concept and technology development for follow-on platform.

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	Underwater Systems Advanced Development/Project S0417	

	FY08	FY09	FY10	FY11
Technology for Shallow Water Mobility		2.335		
RDT&E Articles Quantity				
FY09 This initiative was a Congressional add. Development of advanced hull technologies for shallow water combat submersible.				
	FY08	FY09	FY10	FY11
Integrated Combat System		3.115		
RDT&E Articles Quantity				
FY09 This was a Congressional add. Integrates electronics suite backbone.				
	FY08	FY09	FY10	FY11
Shallow Water Combat Submersible			3.452	
RDT&E Articles Quantity				
FY10 Continues concept and technology development for a new Shallow Water Combat Submersible.				

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To Complete	Total Cost
PROC, SOF Maritime Equip	1.245	.197	.099						Cont.	Cont.
PROC, MK8 MOD1 SDV	8.692	7.040	1.463						Cont.	Cont.

D. Acquisition Strategy:

- Seal Delivery Vehicle. This effort replaces obsolete and/or unsupportable electronics equipment with current equipment. Identification and development of equipment for installing, upgrading and/or replacing systems 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.
- Shallow Water Combat Submersible. This is the follow on platform to the Seal Delivery Vehicle. The acquisition strategy has not been defined yet.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: MAY 2009

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Systems Engineering											
SDV Mk 8	WX	NSWC, Panama City, FL	0.373	3.277	Dec-08					Cont.	Cont.
Shallow Water Combat Submersible	WX	NSWC, Panama City, FL	1.369			3.452	Dec-09			Cont.	Cont.
Technology for Shallow Water Mobiltiy	WX	NSWC, Panama City, FL		2.335	Dec-08						
Integrated Combat System	WX	NSWC, Panama City, FL		3.115	Dec-08						
Subtotal T&E			1.742	8.727		3.452				Cont.	Cont.
Remarks											
Testing											
Shallow Water Combat Submersible		TBD									
Subtotal Performance Testing											
Primary Hardware											
Shallow Water Combat Submersible		TBD									
Subtotal Performance Testing											
Management Support											
Subtotal Performance Testing											
Total Cost			1.742	8.727		3.452				Cont.	Cont.
Remarks:											





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160484BB SOF Surface Craft/S1684
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160484BB		6.392	12.250						Cont.	Cont.
S1684, SOF Surface Craft Advance Systems		6.392	12.250						Cont.	Cont.

A. Mission Description and Budget Item Justification: This program element provides for engineering & manufacturing development (formerly system development & demonstration) and operational systems development of small to medium surface craft and selected items of specialized equipment to meet the unique requirements of Special Operations Forces (SOF). This program element also provides for pre-acquisition activities (materiel solutions analysis, advanced component development & prototypes) to quickly respond to possible new requirements for surface craft and equipment, such as the notional light and heavy combatant crafts that are currently being studied in the Joint Capabilities Integration and Development System process. The craft capabilities and unique equipment provide 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>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget		5.206	1.984
Current President's Budget		6.392	12.250
Total Adjustments		1.186	10.266
Congressional Program Reductions		-0.014	
Congressional Increases			
Reprogrammings		1.200	
Other Program Adjustments			10.266

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160484BB SOF Surface Craft/S1684	
<p>Funding:</p> <p>FY09: Net increase of \$1.186 million is due to a Congressional reduction for Section 8101 (-\$0.014 million) and a Congressional add for the Integrated Bridge System (\$1.200 million).</p> <p>FY10: Net increase of \$10.266 million provides for engineering and manufacturing development, prototyping and engineering of a medium combatant craft (\$10.416 million), and decrease for economic assumptions (-\$0.150 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		



<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA #7	SOF Surface Craft Advance Systems S1684	

Cost (\$ in million)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Surface Craft Advance Systems	6.406	6.392	12.250					
RDT&E Articles Quantity	1	1						

**A. Mission Description and Budget Item Justification:** This project provides for engineering & manufacturing development (formerly system development & demonstration) and operational systems development of small to medium surface craft and selected items of specialized equipment to meet the unique requirements of Special Operations Forces (SOF). This project element also provides for pre-acquisition activities (materiel solutions analysis, advanced component development & prototypes) to quickly respond to possible new requirements for surface craft and equipment, such as the notional light and heavy combatant crafts that are currently being studied in the Joint Capabilities Integration Development System process. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions.

- The Rigid Inflatable Boat program provides engineering support for design and specification development of 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.
- The Medium Combatant Craft program provides the next generation craft to replace the current rigid inflatable boat. This craft will be a reconfigurable, multi-mission surface tactical mobility craft with a primary mission of insertion and extraction of SOF in a medium threat environment. It will incorporate additional performance capabilities such as shock mitigation, low observability, improved maneuverability and SOF warfighting capabilities required to operate in future threat environments.
- The Forward Looking Infrared program provides for engineering and development of performance improvements to the current system SOF combatant craft.

**B. Accomplishments/Planned Program**

Cost (\$ in million)	FY08	FY09	FY10	FY11
Rigid Inflatable Boat	1.940	4.052		
RDT&E Articles Quantity				

FY08 Continued technology risk reduction activities for a replacement craft.

FY09 Continue risk reduction activities and release Request for Proposal for design and fabrication of prototypes for a replacement craft.

Exhibit R-2a, RDT&E Project Justification		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA #7	SOF Surface Craft Advance Systems S1684	

Cost (\$ in million)	FY08	FY09	FY10	FY11
Integrated Bridge System (IBS)	.993	1.167		
RDT&E Articles Quantity				
FY08 This was a Congressional add. Continue integration and testing of IBS. FY09 This is a Congressional add. Continue integration and testing of IBS.				

Cost (\$ in millions)	FY08	FY09	FY10	FY11
Combatant Craft	.774		12.250	
RDT&E Articles Quantity			3	
FY08 This was a congressional add for technology development. Conducted risk reduction activities for a replacement craft. FY10 Conduct risk reduction activities, develop components and advanced prototypes.				

Cost (\$ in million)	FY08	FY09	FY10	FY11
Forward Looking Infrared Program	1.151	1.173		
RDT&E Articles Quantity	1	1		
FY08 Conducted engineering and development efforts, and integration. Begins developmental testing (DT). FY09 Complete DT and conduct operational testing.				

Cost (\$ in million)	FY08	FY09	FY10	FY11
Integrated Combat System (ICS)	1.548			
RDT&E Articles Quantity				
FY08 This was a Congressional add. Continued development, integration and testing of ICS.				

C. Other Program Funding Summary:										
	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To Complete	Total Cost
PROC, Rigid Inflatable Boat	10.316	12.096							Cont.	Cont.
PROC, Forward Looking Infrared	2.481	2.467	1.865						Cont.	Cont.

- D. Acquisition Strategy:
- Forward Looking Infrared will develop spiral improvements by utilizing existing contract with FLIR Systems, Inc., Boston, MA

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA #7	SOF Surface Craft Advance Systems S1684	

- Medium Combatant Craft acquisition strategy is still under development. Acquisition strategy for includes plans to conduct full and open competition for multiple prototype designs and demonstrations. Acquisition strategy may be based on the rapid acquisition of available non-developmental commercial off-the-shelf/government-off-the-shelf craft.

Exhibit R-3 RDT&E Project Cost Analysis

DATE: MAY 2009

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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Dev Medium Combatant Craft Forward Looking Infrared Integrated Bridge System	CPPF	TBD FSI, Boston, MA Azimuth, Morgantown, WV	0.700	0.496 1.167	Feb-09 Apr-08	10.250	Dec-09			Cont.	Cont. 1.196
Subtotal Product Dev			0.700	1.663		10.250				Cont.	Cont.
Remarks:											
Support and Management Organizations Rigid Inflatable Boat Medium Combatant Craft Forward Looking Infrared	Various CPPF	Various TBD FSI, Boston, MA	1.940	4.052 0.508	Feb-09 Jan-09	1.750	Jan-10			Cont. Cont.	5.992 Cont. Cont.
Subtotal Spt			2.091	4.560		1.750				Cont.	Cont.
Remarks:											
Developmental Test & Eval Medium Combatant Craft		TBD			Jun-09	0.250	Jan-10			Cont.	Cont.
Subtotal T&E			0.000	0.000		0.250				Cont.	Cont.
Remarks:											
Contractor Engineering Spt Forward Looking Infrared	CPPF	FSI, Boston, MA	0.200	0.169	Mar-09						0.369
Subtotal Engineering Spt			0.200	0.169							0.369
Remarks:											
Prior Years			7.764								
Total Cost			10.755	6.392		12.250				Cont.	Cont.
Remarks:											





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)						DATE MAY 2009																																				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160488BB SOF PSYOP/D476																																							
COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost																																
PE1160488BB		15.512	9.887						Cont.	Cont.																																
D476, SOF PSYOPS		15.512	9.887						Cont.	Cont.																																
<p>A. Mission Description and Budget Item Justification: The SOF PSYOP 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 border="0"> <thead> <tr> <th></th> <th><u>FY08</u></th> <th><u>FY09</u></th> <th><u>FY10</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td></td> <td>15.554</td> <td>9.174</td> </tr> <tr> <td>Current President's Budget</td> <td></td> <td>15.512</td> <td>9.887</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td>-0.042</td> <td>0.713</td> </tr> <tr> <td>    Congressional Program Reductions</td> <td></td> <td>-0.042</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>0.713</td> </tr> </tbody> </table>												<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	Previous President's Budget		15.554	9.174	Current President's Budget		15.512	9.887	Total Adjustments		-0.042	0.713	Congressional Program Reductions		-0.042		Congressional Increases				Reprogrammings				Other Program Adjustments			0.713
	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>																																							
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Congressional Increases																																										
Reprogrammings																																										
Other Program Adjustments			0.713																																							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE MAY 2009
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160488BB SOF PSYOP/D476	
<p>Funding:</p> <p>FY09: Decrease of -\$0.042 million is due to Congressional reduction for Section 8101 (-0.042 million).</p> <p>FY10: Net increase of \$0.713 million supports Commando Solo engineering study for digital broadcast technologies (\$0.851 million) and a decrease for economic assumptions (-\$0.137 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		



<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF PSYOP/Project D476	

Cost (\$ in millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
	6.563	15.512	9.887					
RDT&E Articles Quantity								

A. Mission Description and Budget Item Justification: This project provides for the development and acquisition 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 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:

- The PSYOP Broadcast System 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. This program is comprised of several interfacing systems that can stand alone or interoperate with other PSYOP systems as determined by mission requirements. This program includes the fixed site media production center; a deployable theater media production center; a distribution system that provides a product distribution link to systems worldwide; a media system; a transit case fly-away broadcast systems that consists 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. The long range broadcast system will include unmanned aerial vehicle payloads, scatterable media, telephony, and Internet broadcast. PSYOP media displays 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, and will support the PSYOP direct broadcast mission requirements. The Special Operations Media System-B is a tactical deployable radio and television broadcast system. It is designed to act as the forward deployed broadcast platform of products. It has limited production capabilities and is made up of two independent systems: a mobile radio broadcast system (AM, FM, SW) and a mobile television broadcast system (VHF, UHF)) capable of receiving audio and video products for broadcasting.
- The Family of Loudspeakers program 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. Equipment is transported, operated, and mounted in ground vehicles, watercraft, and rotary wing aircraft, and dismounted for ground operations (tripod/manpack). This capability permits loudspeaker missions to be conducted over larger areas than previous equipment and provides a greater standoff distance for U.S.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF PSYOP/Project D476	

Forces/assets. The next generation loudspeaker system will consist of seven variants: manpack; ground vehicle/watercraft; unmanned air vehicle; unmanned ground vehicle; scatterable media long duration; scatterable media short duration; and sonic projection (focused sound). The next generation system will provide 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 provide high quality recorded audio, live dissemination, and acoustic deception capability.

- The Next Generation Leaflet Delivery System will provide forces a family of systems consisting of unmanned air vehicles, drones, missiles, and leaflet boxes that safely and accurately disseminate 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.

Commando Solo: Commando Solo supports combat operations by flying broadcast missions for the purpose of broadcasting radio and/or television signals deep into denied territory. These broadcasts are made from EC-130J aircraft that are equipped with high powered transmitters and large antenna arrays that operate in the 0.45 - 1,000 MHz frequency range. The Commando Solo program acquisition strategy modifies three EC-130J aircraft with a hardwired Commando Solo capability.

**B. Accomplishments/Planned Program**

	FY08	FY09	FY10
PSYOP Broadcast System	5.838	8.485	8.070
RDT&E Articles Quantity			

FY08 Continued primary hardware development, systems engineering, and developmental test and evaluation (DT&E) on the long range broadcast technology, broadcast modernization efforts, and planning and analysis system. Commenced primary hardware and software development, systems engineering and DT&E on media displays.

FY09 Continue primary hardware development, systems engineering, and DT&E on the long range broadcast technology, broadcast modernization efforts and media displays.

FY10 Continues primary hardware development, systems engineering, and DT&E on the long range broadcast technology, broadcast modernization efforts and media displays.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF PSYOP/Project D476	

	FY08	FY09	FY10	FY11
Family of Loudspeakers	0.725	4.829	.831	
RDT&E Articles Quantity				

FY08 Conducted systems engineering and DT&E on the next generation manpack and vehicle watercraft variants.  
 FY09 Conduct primary hardware and software development, systems engineering, and DT&E on the next generation unmanned ground vehicle, unmanned aerial vehicle, scatterable media long duration and scatterable media short duration variants.  
 FY10 Conducts primary hardware and software development, systems engineering and DT&E on sonic projection variant.

	FY08	FY09	FY10	FY11
Next Generation Leaflet Delivery System		2.198		
RDT&E Articles Quantity				

FY09 Continue development of leaflet delivery variants identified by the FY08 Analysis of Alternatives and market analysis.

	FY08	FY09	FY10	FY11
Commando SOLO			.986	
RDT&E Articles Quantity				

FY10 Initiates engineering study of government and commercial digital broadcast technologies applicable to PSYOP.

C: Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To <u>Complete</u> Cont.	Total <u>Cost</u> Cont.
PROC, PSYOP Equipment	46.137	55.614	43.081							

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		Date: MAY 2009
Appropriation/Budget Activity RDT&E BA # 7	SOF PSYOP/Project D476	

C. Acquisition Strategy:

- PSYOP Broadcast System consists of wide-area systems providing radio, television programming and multi-media production, distribution and dissemination support to the theater commander. This system is comprised of several interfacing systems that can stand alone or interoperate with other systems as determined by mission requirements. These various sub-programs are in a post-Milestone C or various stages of milestone decisions. Media displays consists of electronic media displays, modular systems, electronic paper, and electronic games. The program acquires and modifies, as necessary, COTS/GOTS systems and equipment to provide the system capabilities.
- The Next Generation Leaflet Delivery System consists of four variants: unmanned aerial vehicle system, drone, missile, and leaflet box. The program will conduct an Analysis of Alternatives; and acquire and modify, as necessary, COTS/GOTS systems and equipment to replace the legacy leaflet delivery system.
- The Next Generation Loudspeaker System consists of seven variants. The program acquires and modifies, as necessary, COTS/GOTS systems and equipment to replace or enhance current system capabilities.
- Commando Solo funds modifications of the Commando Solo special mission equipment that broadcasts television and radio messages to target audiences in denied areas. Enhancements are periodically required to meet theater commander operational requirements and maintain compatibility with forces equipment upgrades to allow in-flight receipt of products for dissemination. The program acquires and integrates into the EC-130J commercial and GOTS systems to replace or enhance current system capabilities and address equipment shortfalls due to obsolescence.

APPROPRIATION / BUDGET ACTIVITY			SOF PSYOP/PE1160488BB								
RDT&E DEFENSE-WIDE / 7			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 FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
<u>Product Development</u>											
PSYOP Broadcast System	Various	Various	5.838	8.485	Dec-08	8.070	Jan-10			3.350	25.743
Family of Loudspeakers	Various	Various	0.725	4.829	Dec-08	0.831	Jan-10				6.385
Next Generation Leaflet Delivery System	Various	Various		2.198	Dec-08						2.198
Commando SOLO	TBD	TBS				0.986	Jan-10				0.986
Subtotal Product Development			6.563	15.512		9.887				3.350	35.312
<u>Support Cost</u>											
Support Cost											
Subtotal Support Cost											
<u>Test and Evaluation</u>											
Test and Evaluation											
Subtotal Test and Evaluation											
<u>Management Services</u>											
Management Services											
Subtotal Management Services											
Prior years			30.447								30.447
Total Cost			37.010	15.512		9.887				3.350	65.759

Exhibit R-4, RDT&E Program Schedule Profile													Date: MAY 2009																			
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	2008				2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PSYOP Broadcast System-Long Range Broadcast System Unmanned Aerial Vehicle-Payload Hardware Development and Testing			▲	▲	▲	▲	▲	▲	▲	▲	▲	▲																				
Family of Loudspeakers Next Generation Loudspeaker	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲																				
Next Generation Leaflet Delivery System Development					▲	▲	▲	▲																								
Commando Solo											▲	▲																				

