CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	R-1 ITEM NOMENCLATURE **PE 0101221N Strategic Sub & Wpns Sys Spt**

COST ($ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Total PE Cost* (total may or may not add due to rounding)	123.854	67.758	80.120	56.699	56.856	58.663	51.672
J2228 Technology Applications Program	79.253	44.233	45.490	46.298	46.331	48.152	51.200
J3158 Enhanced Special Weapons	41.863	5.816	0.935	0.935	0.000	0.000	0.000
J0951 TRIDENT II	0.000	0.000	0.000	9.072	10.069	10.047	0.000
J3196 Reliable Replacement Warhead	0.000	14.455	23.346	0.000	0.000	0.000	0.000
J3198 Underwater Launch Missile System	0.000	0.000	10.000	0.000	0.000	0.000	0.000
S0004 TRIDENT Submarine System Improvement	0.167	0.273	0.349	0.394	0.456	0.464	0.472
9A66N Advanced Conventional Strike Capability (SLIRBM)	1.261	0.000	0.000	0.000	0.000	0.000	0.000
9A67N /9999 Free Electron Laser Facility	1.310	2.981	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Technology Applications Program supports the TRIDENT II (D5) Submarine Launched Ballistic Missile (SLBM) that provides the U.S. a weapon system with greater accuracy and payload capability as compared to the TRIDENT I (C4) system. TRIDENT II enhances U.S. strategic deterrence providing a survivable sea-based system capable of engaging the full spectrum of potential targets with fewer submarines. This Program Element supports investigations into new technologies which would help mitigate the program impact due to component obsolescence and a rapidly decreasing manufacturing support base. These efforts include Reentry System Applications and Guidance System Applications, Radiation Hardened Electronics Applications, and Strategic Propulsion Applications.

The Enhanced Special Weapons effort supports the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD S5210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FBM), either deployed aboard TRIDENT submarines or located landslide at Naval Submarine Base, Kings Bay, or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The Chief of Naval Operations (CNO) has assigned the Strategic Systems Programs, the FBM program manager, with mission responsibility for the safeguard of FBM nuclear technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies focusing on land and waterside requirements, including both surface and underwater. Collectively, these efforts will improve countermeasure technologies addressing detection, delay and denial.

The TRIDENT II effort supports the SSBN Planning and Operational Flexibility (SPOF) that is the follow-on program to the SLBM Retargeting System (SRS) program. SPOF provides targeting planning tools and added connectivity between United States Strategic Command (STRATCOM), Naval Surface Warfare Center (NSWC) Dahlgren and the Fleet. SPOF will provide the following new capabilities in response to initiatives required by STRATCOM and substantiated by the Nuclear Posture Review (NPR): 1) improved flexibility and responsiveness, 2) enhanced accuracy and effectiveness, and 3) information management and the decision making tools/capabilities.

The Reliable Replacement Warhead Program (RRW) is an effort to provide reliable replacement warheads to the nation's nuclear stockpile. The program will allow the design of replacement warheads that are more efficient to manufacture, are safer and more secure, eliminate environmentally hazardous materials, and increase design performance margins. The design of RRW will enable transformation to a more efficient and responsive nuclear weapons research, development, and production infrastructure in support of the Nuclear Posture Review and the requirements of the new Strategic Triad.

The Underwater Launch Missile System (ULMS) effort develops capabilities definitions and assessments, science & technology development strategies, and conceptual work to prepare for R&D and Prototyping in FY10.

The TRIDENT Submarine System Improvement Program develops and integrates command and control improvements needed to maintain TRIDENT Submarine operational capability through the life cycle of this vital strategic asset. The program conducts efforts needed to maintain strategic connectivity, ensure platform invulnerability, and reduce lifecycle costs through Obsolete Equipment Replacement (OER) and commonality.

The Free Electron Laser Program is for advanced capability Linear Accelerator (LINAC) to include a three stage accelerator section and an electron storage ring that will reduce the main limitations (electrical noise and micro-beam structure) of current LINAC technology. The enhanced LINAC will allow future large chips to be tested while meeting strategic test requirements.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	R-1 ITEM NOMENCLATURE **PE 0101221N Strategic Sub & Wpns Sys Spt**

B. (U) Program Change Summary:

	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 President's Controls)	126.691	81.398	96.776
Current FY 2009 President's Budget	123.854	67.758	80.120
Total Adjustments	2.837	13.640	16.656
Summary of Adjustments			
Small Business Innovative Research (SBIR)	-2.837	-1.177	
NWCF Rate Adjustment			-0.002
Sea Strike - Underwater Launched Missile Study (ULMS)			10.000
Section 8097: Contract Adjustments		-0.113	
Section 8104: Revised Economic Assumptions		-0.328	
Section 8025: FFRDC		-0.022	
RRW Program Adjustment			-26.654
Congressional Reduction RRW		-15.000	
Congressional Add (LINAC)		3.000	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME **Technology Applications J2228**

COST ($ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J2228 Technology Applications	79.253	44.233	45.490	46.298	46.331	48.152	51.200
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project supports implementation of a coordinated Navy/Air Force Reentry System Applications Program (RSAP), a coordinated Navy/Air Force Strategic Guidance Applications Program (GAP), a coordinated Navy/Air Force Strategic Propulsion Applications Program (SPAP), and a coordinated Department of Defense Radiation Hardened Applications Program (RHAP). Reentry vehicle and guidance technology had been rapidly eroding beyond the point of being capable to respond to increasing aging phenomena and future requirements. The SPAP program, which commenced in FY 2004, demonstrates and validates technologies unique to strategic missile applications. The RHAP program, which commenced in FY 2004, addresses production, qualification and manufacturing issues associated with strategic and space radiation hardened electronics. The December 2001 DOD Nuclear Posture Review determined that infrastructure is a critical part of the new triad and these efforts form part of the infrastructure that supports the nuclear force structure.

The RSAP program, through sustainment of the reentry vehicle technology base, will maintain confidence in the dependability and reliability of strategic SLBM and ICBM weapon systems over the long term when no new systems will be in development. Critical and unique attributes necessary for the design, development and in-service support of current and modernized SLBM reentry systems have been defined and will be maintained to insure a functioning readiness application technical capability in reentry is preserved. Working closely with the Air Force, Navy and Air Force requirements have been integrated into a comprehensive program. The program maintains close coordination with the DOD Science and Technology (S&T) community in order to: leverage S&T programs, ensure system driven technology base requirements are considered in contract awards, eliminate duplication of effort and provide an opportunity to demonstrate appropriate emerging technologies through a reentry flight test evaluation process.

The GAP program provides a minimum strategic guidance core technology development capability consistent with the Strategic Advisory Group (SAG) recommendations to COMSTRATCOM. The SAG recommended that SSP establish a program which preserves this critical design and development core. It is a basic bridge program which develops critical guidance technology applicable to any of the existing Air Force/Navy strategic missiles. The objective is to transition from current capability to a long term readiness status required to support deployed systems. Air Force and Navy guidance technology requirements are integrated and needs prioritized. Efforts are focused on alternatives to technologies identified as system "weak links." Currently system accuracy and functionality depends upon key technologies which provide radiation hardened velocity, attitude and stellar sensing capabilities. As the underlying technologies that currently provide these capabilities age and are no longer technically supportable, modern alternatives must be made available in order to allow for orderly replacement. There is no commercial market for these technologies and their viability depends on the strategic community.

The SPAP program is a coordinated Navy/Air Force effort and addresses infrastructure needs by exercising critical development skills to allow for future large-scale rocket motor test firings. A sound base of demonstrated technologies suitable for Strategic Missile applications will be maintained and will provide the nation a talent base and source of technologies suitable for a follow-on development program. Boost propulsion (missile stages), post boost propulsion (missile payload delivery vehicle) and Ordnance (separation events and flight termination events) and are all integral parts of missile propulsion application efforts. As a result of affordability reductions made to the Technical Applications programs during the POM-08 process, the SPAP program was terminated beginning in FY2008.

The RHAP program sustains critical skills in radiation hardened electronics by advancing radiation hardened simulation technologies to reflect the processes in future systems. These efforts become of greater importance because of the shrinking industrial base for radiation hardened electronics, the unavailability of underground testing resources, and the loss of radiation hardened expertise. These efforts are coordinated by the Radiation Hardened Oversight Council (RHOC) chaired by the Director, Defense Research & Engineering (DDR&E). The RHAP program focuses on a coordinated Productization & Qualification Program which provides a transition between Science Technology (S&T) and production by efficient utilization of limited resources, sharing of information to eliminate redundancy, increased use of common part/technologies, coordination into the RHOC technology road map and implementation of the OSD (AT&L) investment strategy. The RHAP complements the GAP electronic parts activities by specifically focusing on those tasks required to ensure producability of radiation hardened parts. As a result of affordability reductions to the Technical Applications programs during the POM-08 process, the RHAP program was terminated beginning in FY2008.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Reentry Systems Application Program (RSAP)	26.238	27.163	28.149
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) ($26.238) Continue Reentry System Applications Program.

FY 2007 efforts include:

(U) Maintain the current capability and support the planned service life extension of Navy reentry systems.

(U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T)

(U) Flight test alternative low-cost heatshield and replacement nosetip material. Next materials FT FY09.

(U) Flight test operationally aged heatshields to support aging trends and replacement materials assessments.

(U) Complete development and flight test advanced reentry instrumentation such as inertial sensors, avionics computers, and power distribution units encapsulated on the updated engineering instrumentation package.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

(U) FY 2008 PLAN

(U) ($27.163) Continue Reentry System Applications Program.

FY 2008 efforts include:

(U) Maintain the current capability and support the planned service life extension of Navy reentry systems.
(U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T)
(U) Flight test alternative low-cost heatshield and replacement nosetip material.
(U) Flight test operationally aged heatshields to support aging trends and replacement materials assessments.
(U) Complete development and flight test advanced reentry instrumentation such as inertial sensors and avionics computer, encapsulated on the updated engineering instrumentation package.
(U) Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities.
(U) Continue Reentry Body material development and advanced flight test instrumentation activities.
(U) Continue development of advanced GPS receiver
(U) Ground test advanced reentry material systems and advanced instrumentation components.
(U) Develop test instrumentation to demonstrate D5LE missile reentry body interface compatibility.
(U) Continue to develop the capability to produce Thermocouple (TC) Plugs at significantly reduced cost to the Government.
(U) Create and execute plan to build Life Extension Test Bed (LETB) #2 Flight Test Body - FT Aug 2009.

(U) FY 2009 PLAN

(U) ($28.149) Continue Reentry System Applications Program.

FY 2009 efforts include:

(U) Maintain the current capability and support the planned service life extension of Navy reentry systems.
(U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T)
(U) Flight test alternative low-cost heatshield and replacement nosetip material.
(U) Flight test operationally aged heatshields to support aging trends and replacement materials assessments.
(U) Complete development and flight test advanced reentry instrumentation such as inertial sensor avionics computer, encapsulated on the updated engineering instrumentation package.
(U) Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities.
(U) Continue Reentry Body material development and advanced flight test instrumentation activities.
(U) Continue development of advanced GPS receiver
(U) Ground test advanced reentry material systems and advanced instrumentation components.
(U) Develop test instrumentation to demonstrate D5LE missile reentry body interface compatibility.

CLASSIFICATION:

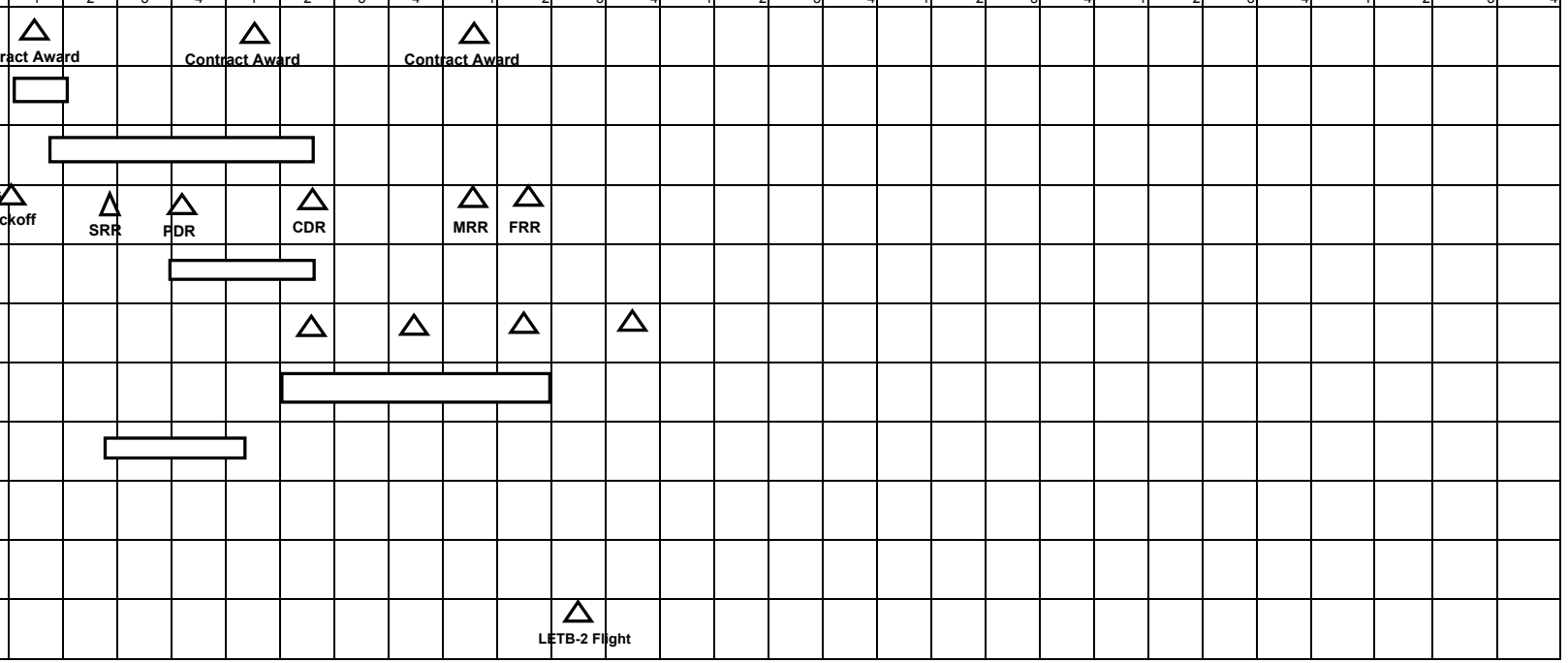
EXHIBIT R-4, Schedule Profile

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**

PROGRAM ELEMENT NUMBER AND NAME: **PE 0101221N Strategic Sub & Wpns Sys Spt**

Project Number and Name: **Technology Applications/RSAP J2228**



CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**			PROGRAM ELEMENT NUMBER AND NAME: **PE 0101221N Strategic Sub & Wpns Sys Spt**		Project Number and Name **Technology Applications/RSAP J2228**		
Fiscal Year	**CY-2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Contract Award -ahead and Milestones	**1Q**	**1Q**	**1Q**				
Common Technology, Component, and Interface studies	**1-2Q**						
System Development & Demonstration	**1-4Q**	**1-2Q**					
Initial Production Baseline							
Production and Deployment							
Systems Engineering Reviews	**1-4Q**	**2Q**	**1-2Q**				
System Integration Test - Mock-up	**3-4Q**	**1-2Q**					
Systems Integration Test - Engineering Development Units		**2-4Q**	**1-2Q**				
Systems Integration Test - Production Proofing Units							
System Flight Test IOC DASO (Not scheduled, platform dependent)			**3Q**				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Guidance Application Program (GAP)	20.742	17.070	17.341
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) ($20.742) Continue Strategic Guidance Applications Programs (GAP).

FY 2007 efforts include:

(U) Support the Inertial Measurement Unit (IMU) system integration effort, model simulation development in support of the enhanced ground testing (EGT) task, support remaining non-real-

(U) Continue to evaluate alternate sensor technologies, (accelerometer, gyro, and stellar) and proximity electronics for application in the D5 Life Extension Guidance system and/or replacement of system weak links. Evaluate prototype radiation-hardened sensor build and test results for appropriate applications.

(U) Continue design, build and evaluate SOA support electronics and improved build processes. Test the all-silicon SOA in a strategic radiation environment.

(U) (AltPIGA) Develop producible long-life, low cost hemispherical gas bearing wheel and commercial processes/vendors for mass produced flexure/pick off assemblies for AltPIGA.

(U) (IFOG) Build and radiation test complete sense head. Perfect technologies and processes for producing low cost Rad-Hard fiber. Conduct investigations to improve circumvention and recovery performance.

(U) (HRG) Improve benign scale factor performance. Examine and demonstrate technologies for reducing long term bias trending. Improve performance during and following shock and vibration events.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

(U) FY 2008 PLAN

(U) ($17.070) Continue Strategic Guidance Applications Programs (GAP).

FY 2008 efforts include:

(U) Production and Qualification (P&Q) of telecom-based components for use in strategic grade gyros (e.g.fiber light source, integrated optics chip, couplers.).

(U) Production and Qualification (P&Q) of reduced cost, long life Pendulous Integrating Gyro Accelerometer (PIGA) sensor

(U) Utilize the capabilities of the Virtual System Simulation (VSSim) to conduct system trade studies that support precision guidance application for boost phase and boost-thru-reentry scenarios.

(U) Complete the development of alternate sources for critical components required to support D5LE emergent sensors.

(U) Conduct investigations to improve circumvention and recovery performance.

(U) (SOA) Continue design, build, evaluate and demonstrate SOA as a potential strategic grade accelerometer.

(U) FY 2009 PLAN

(U) ($17.341) Continue Strategic Guidance Applications Programs (GAP).

FY 2009 efforts include:

(U) Develop new architectures using telecom-based optical components for high-precision strategic gyro.

(U) Continue to evaluate emergent alternate sensor technologies, (accelerometer, gyro, and stellar) with an emphasis on providing existing performance in a significantly reduced form factor.

(U) Assess feasibility of advanced stellar sensor technologies for use a strategic application; specifically, active pixel and camera-on-a-chip architectures will be evaluated.

(U) Utilize the capabilities of the Virtual System Simulation (VSSim) to conduct system trade studies that support precision guidance application for boost phase and boost-thru-reentry scenarios.

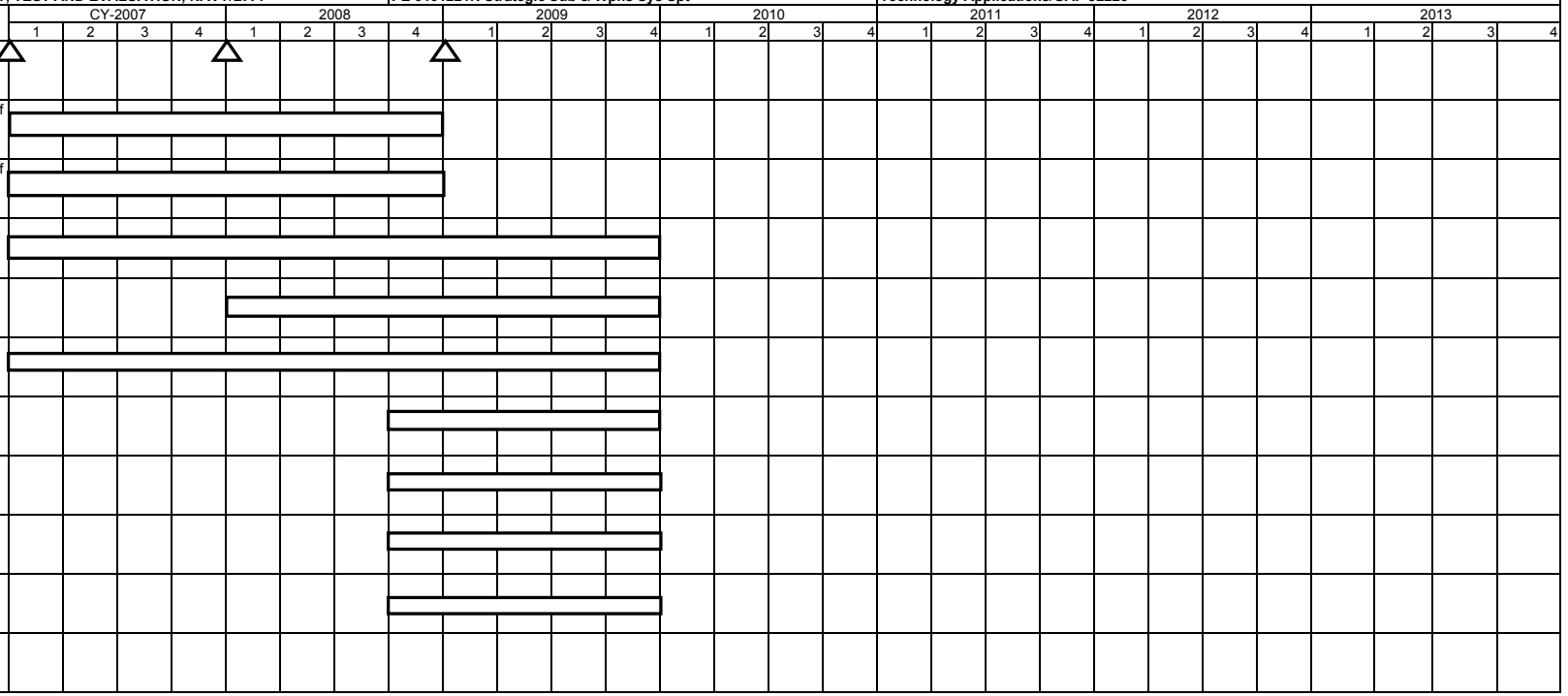
(U) Complete the development of alternate sources for critical components required to support D5LE emergent sensors.

(U) Conduct investigations to improve circumvention and recovery performance.

(U) (SOA) Continue design, build, evaluate and demonstrate SOA as a strategic grade accelerometer.

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY/BA-7**	PROGRAM ELEMENT NUMBER AND NAME: **PE 0101221N Strategic Sub & Wpns Sys Spt**	Project Number and Name **Technology Applications/GAP J2228**	



CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**			PROGRAM ELEMENT NUMBER AND NAME: **PE 0101221N Strategic Sub & Wpns Sys Spt**		Project Number and Name **Technology Applications/GAP J2228**		
Fiscal Year	**CY-2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Contract Award	**1Q**	**1Q**	**1Q**				
Produciton and Qualification of telecom-based strategic gyro components	**1-4Q**	**1-4Q**					
Produciton and Qualification of long-life PIGA sensor	**1-4Q**	**1-4Q**	**1-4Q**				
Virtual Systems Simulation trade studies for advanced system concepts	**1-4Q**	**1-4Q**	**1-4Q**				
Circumvention and Recovery investigations		**1-4Q**	**1-4Q**				
Continue SOA design, build, evaluation and demonstation	**1-4Q**	**1-4Q**	**1-4Q**				
Develop system architectures for high precision strategic gyro			**1-4Q**				
Evaluation of emerging alternate accelerometer technologies			**1-4Q**				
Evaluation of emerging alternate gyro technologies			**1-4Q**				
Assess feasibility of advanced strategic stellar sensor technologies			**1-4Q**				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Strategic Propulsion Applications Program (SPAP)	17.152	0.000	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN
(U) ($17.152) Continue SPAP program.
FY 2007 efforts include:
(U) Continue to evaluate and down-select suitable technologies for boost motor test.
(U) Continue component tests for identified post boost control technologies.
(U) Continue to evaluate and down-select suitable post boost control technologies test.
(U) Contingency planning for post boost and ordnance demonstration test.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Radiation Hardened Applications Program (RHAP)	15.121	0.000	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) ($15.121) Continue RHAP program.

FY 2007 efforts include:

(U) Complete productization and initiate qualification of 0.15/0.35 micron digital CMOS SOI products (RHPPC, ASICs, SRAM, SSI logic).

(U) Complete productization and initiate qualification of 0.35/0.7 micron mixed-signal SOI products (ADC, DAC, Comparator, LV Opamp, Multiplexer).

(U) Continue productization and qualification of primary non-volatile memory technology and product Magnetic (MRAM).

(U) Complete productization and initiate qualification of high-voltage analog SOI products (Vref, HV op-amp, PCIC, clock driver).

(U) Complete physics based modeling for nuclear radiation effects on complex digital circuits with built in testability.

(U) Complete evaluation and validation of post radiation Simulation Program with Integrated Circuit Emphasis (SPICE) models for dose rate, total ionizing dose, neutron and single event effects.

(U) Continue physics based modeling of survivability and rail-span collapse of complex digital circuits in dose-rate (x-ray and gamma) environment.

(U) FY 2008 PLAN

(U) ($0.000) Program Terminated.

(U) FY 2009 PLAN

(U) ($0.000) Program Terminated.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Technology Applications J2228**

C. (U) Other Program Funding Summary: (Dollars in Thousands)

FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Complete	Total Cost
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

D. (U) Acquisition Strategy:

Contracts will continue to be awarded to those sources who were engaged in the TRIDENT II (D5) development program and are currently engaged in the production and/or operational support of the deployed D5 Strategic Weapons Systems on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4

E. (U) Major Performers:

- LMMS/CA - Reentry Body Systems Integration (RSAP)
- NSWC/VA - Heatshield Nosetip materials development (RSAP)
- ITT/CO - Vulnerability and hardness technologies (RSAP)
- CSDL/MA - Reentry Systems flight test instrumentation (RSAP)
- DOE/NM - Advanced fuzing technology (RSAP)
- CSDL/MA - Guidance Application program support (GAP)
- CSDL/MA - Analog, digital, mixed-signal and discreet radiation model development (RHAP)
- HI/FL - RADHARD application specific integrated Circuit library (RHAP)
- NGMS/CA - RADHARD oxi-nitride non-volatile memory productization (RHAP)
- BAE/MD - 4M-bit RADHARD Chalcogenide non-volatile memory product development (RHAP)
- NAWC/CA - Rocket Motor testing and integration (SPAP)
- LMSSC/CA - Missile Systems Integration (SPAP)
- NSWC/VA - Coordinating and executing ordnance tests (SPAP)

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**

PROGRAM ELEMENT: **PE 0101221N Strategic Sub & Wpns Sys Spt**

Project Number and Name: **Technology Applications J2228**

Cost Categories	Contract Method & Type	Performing Activity &	Total PYs Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Support & Management												
Technology Applications	SS-CPFF	LMSS/CA	94.900	14.100	02-07	11.800	12-07	11.800	10-08	Cont.	Cont.	TBD
Technology Applications	WR	NSWC/VA	57.200	5.900	01-07	6.500	10-07	7.000	10-08	Cont.	Cont.	TBD
Technology Applications	MIPR	DOE/NM	23.800	1.400	12-06	1.000	10-07	1.000	10-08	Cont.	Cont.	TBD
Technology Applications	SS-CPFF	CSDL/MA	14.500	3.200	11-06	3.700	10-07	3.700	10-08	Cont.	Cont.	TBD
Technology Applications	SS-CPFF	ITT/CO	5.800	1.900	10-06	1.300	10-07	1.900	10-08	Cont.	Cont.	TBD
Technology Applications	SS-CPFF	CSDL/MA	174.600	19.000	11-06	17.721	02-08	17.390	10-08	Cont.	Cont.	TBD
Technology Applications	SS-CPFF	LMMSC/CA	39.500	16.300	02-07	0.000		0.000		Cont.	Cont.	TBD
Technology Applications	WR	NAWC/CA	3.300	0.100	11-06	0.000		0.000		Cont.	Cont.	TBD
Technology Applications	WR	NSWC/VA	2.000	0.553	11-06	0.000		0.000		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	CSDL/MA	10.900	10.700	11-06	0.000		0.000		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	HI/FL	22.100	0.000		0.000		0.000		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	NGMS/CA	2.500	0.000		0.000		0.000		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	AERO	0.000	3.000	2-06	0.000		0.000		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	BAE/MD	1.800	0.000		0.000		0.000		Cont.	Cont.	TBD
Technology Applications	SS-CPFF	INTERSIL	3.500	0.000		0.000		0.000		Cont.	Cont.	TBD
Technology Applications	VARIOUS	VARIOUS	9.900	3.100	VAR	2.212	VAR	2.700	VAR	Cont.	Cont.	TBD
Subtotal Product Development			466.300	79.253		44.233		45.490				

Remarks:

Total Cost			466.300	79.253		44.233		45.490		Cont.	Cont.	TBD

Remarks:

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME **Enhanced Special Weapons J3158**

COST ($ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J3158 Enhanced Special Wpns	41.863	5.816	0.935	0.935	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Enhanced Special Weapons effort supports the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD S5210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FMB), either deployed aboard TRIDENT submarines or located landside at Naval Submarine Base, Kings Bay or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The Chief of Naval Operations (CNO) has assigned the Strategic Systems Programs, the FBM program manager, with mission responsibility for the safeguard of FBM nuclear assets. More specifically, the mission includes landside and pier operations as well as transits to and from the dive point, each of which present challenges to personnel as well as existing technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies focusing on land and waterside requirements, including both surface and underwater. Collectively, these efforts will improve countermeasure technologies addressing detection, delay and denial.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Enhanced Special Weapons J3158**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J3158 Enhanced Special Weapons	33.940	4.977	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN
(U) ($33.940) Enhanced Special Weapons/SSBN Escort Mission.

FY 2007 efforts include:
(U) Initiate Development and Test of a prototype system consisting of two independent palletized units. Two units are required in order to properly demonstrate "system-level" capabilities and countermeasure effectiveness while operating in an at-sea scenario.

(U) FY 2008 PLAN
(U) ($4.977) Enhanced Special Weapons/SSBN Escort Mission.

FY 2008 efforts include:
(U) Complete prototype development and test program. Once the prototypes are completed, plans are to continue with follow-on tests and proofing as a lead in to production which is now planned for FY 2009. Participants in the program will continue to be TARDAC and MIT as the technical and scientific experts and SPA as management's support in addition to the winner of the prototype competition being run in FY 2007.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Enhanced Special Weapons J3158**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J3158 Enhanced Special Weapons	7.923	0.839	0.935
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) ($7.923) Enhanced Special Weapons/Nuclear Weapons Security program.

FY 2007 efforts include:

(U) Underwater Close-in Defense: This effort is focused on developing an advanced underwater vehicle and diver detection and deterrence system for the protection of high value maritime assets while they are in port. The conceptual system involves a physical net-like barrier that combines use of fiber-optic sensing and alerting technology to provide an extremely high positive detection rate and extremely low false alarm rate. The concept design also includes increased alert time to improve positive identification of intruders and for activation of response systems.

(U) Remotely Operated Weapons Technologies: This task is directed to enhancing the current ROWs technology that uses direct copper connection and modifies it to a network for Navy applications. In addition, new features (i.e. target tracking) for added capabilities will be researched and prototyped.

(U) Land Water Interface Sensors: This effort includes research into existing sensor technologies to improve capabilities in areas where current sonar's and land based sensors capabilities could be improved. Initial findings are expected to be sufficient to warrant development and test of prototype.

(U) Technology Reviews: This task involves reviews and assessments of technologies and advanced concepts for applicability or potential adaptation to protective measures required for safeguard of nuclear assets.

(U) Access Doors: This task explores developing new concepts, technologies and designs for doors and closures protecting nuclear assets.

(U) Final Denial Technologies: This task explores concept weapons, microwaves, acoustic devices, etc. for application to denial requirements related to protection of nuclear assets.

(U) Smart Sensors : This task researches new technologies and concepts for detecting explosives or explosive devices from greater distances than currently available.

(U) Research and study leading to new or improved technologies in both active and passive protection systems to be used in the safeguarding of Navy's nuclear assets.

(U) FY 2008 PLAN

(U) ($0.839) Enhanced Special Weapons/Nuclear Weapons Security program.

FY 2008 efforts include:

(U) Underwater Close-in Defense: This effort is focused on developing an advanced underwater vehicle and diver detection and deterrence system for the protection of high value maritime assets while they are in port. The conceptual system involves a physical net-like barrier that combines use of fiber-optic sensing and alerting technology to provide an extremely high positive detection rate and extremely low false alarm rate. The concept design also includes increased alert time to improve positive identification of intruders and for activation of response systems.

(U) Technology Reviews: This task involves reviews and assessments of technologies and advanced concepts for applicability or potential adaptation to protective measures required for safeguard of nuclear assets.

(U) FY 2009 PLAN

(U) ($0.935) Enhanced Special Weapons/Nuclear Weapons Security program.

FY 2009 efforts include:

(U) Underwater Close-in Defense: This effort is focused on developing an advanced underwater vehicle and diver detection and deterrence system for the protection of high value maritime assets while they are in port. The conceptual system involves a physical net-like barrier that combines use of fiber-optic sensing and alerting technology to provide an extremely high positive detection rate and extremely low false alarm rate. The concept design also includes increased alert time to improve positive identification of intruders and for activation of response systems.

(U) Technology Reviews: This task involves reviews and assessments of technologies and advanced concepts for applicability or potential adaptation to protective measures required for safeguard of nuclear assets.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Enhanced Special Weapons J3158**

C. (U) Other Program Funding Summary: (Dollars in Thousands)

Nuclear Weapons Security	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Complete	Total Cost
MILCON (CNI)	48.000	39.800	50.700	33.600	259.900	18.400	61.700	continuing	continuing
OPN BA7/PE 0305134N/PE 0208147N	20.286	53.111	52.859	31.362	27.290	27.753	28.389	continuing	continuing
O&MN BA1/1D2D/PE Various	84.585	76.208	85.089	80.685	81.704	83.218	84.927	continuing	continuing
Transit/Escort									
MILCON (CNI)	0.000	0.000	0.000	25.200	35.200	0.000	0.000	continuing	continuing
OPN BA1/1210/PE 0101228N	20.084	0.000	0.000	2.547	0.000	68.153	69.453	continuing	continuing
WPN BA4/4217/PE 0101228N	0.000	6.999	45.357	44.349	31.154	0.000	0.000	continuing	continuing
O&MN BA1/1D2D/PE 0101221N	63.700	73.400	96.913	87.200	85.600	87.400	89.200	continuing	continuing

D. (U) Acquisition Strategy:

Procurements are being executed through a combination of private contractors (large and small business), government Centers of Excellence (COEs), other government agencies and the Naval Submarine Bases, Kitsap and Kings Bay. Contract awards are based upon "best value" determinations, and where practical will be performance based or include incentive provisions.

E. (U) Major Performers:

- TBD - Marinization of Integrated Army Active Protection System (IAAPS) and deliver two (2) operational prototype units.
- NFESC/CA - Underwater Close-in defense
- DOE/NM - Technology Reviews
- APL/MD - Remotely Operated Weapons technologies; final denial technologies.

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	Project Number and Name **Enhanced Special Weapons J3158**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Support & Management												
Enhanced Special Weapons	CPFF	TBD	0.000	35.000	04-07	5.000	10-08	0.000	N/A	Cont.	Cont.	TBD
Enhanced Special Weapons	WR	NFESC/CA	0.000	3.000	01-07	0.000	N/A	0.000	N/A	Cont.	Cont.	TBD
Enhanced Special Weapons	MIPR	DOE/NM	0.000	2.000	11-06	0.000	N/A	0.000	N/A	Cont.	Cont.	TBD
Enhanced Special Weapons	CPFF	APL/MD	0.000	1.100	11-06	0.000	N/A	0.000	N/A	Cont.	Cont.	TBD
Enhanced Special Weapons	VARIOUS	VARIOUS	0.000	0.763	02-07	0.816	10-08	0.935	10-09	Cont.	Cont.	TBD
Subtotal Product Development			0.000	41.863		5.816		0.935		Cont.	Cont.	TBD

Remarks:

Total Cost			0.000	41.863		5.816		0.935		Cont.	Cont.	TBD

Remarks:

CLASSIFICATION:

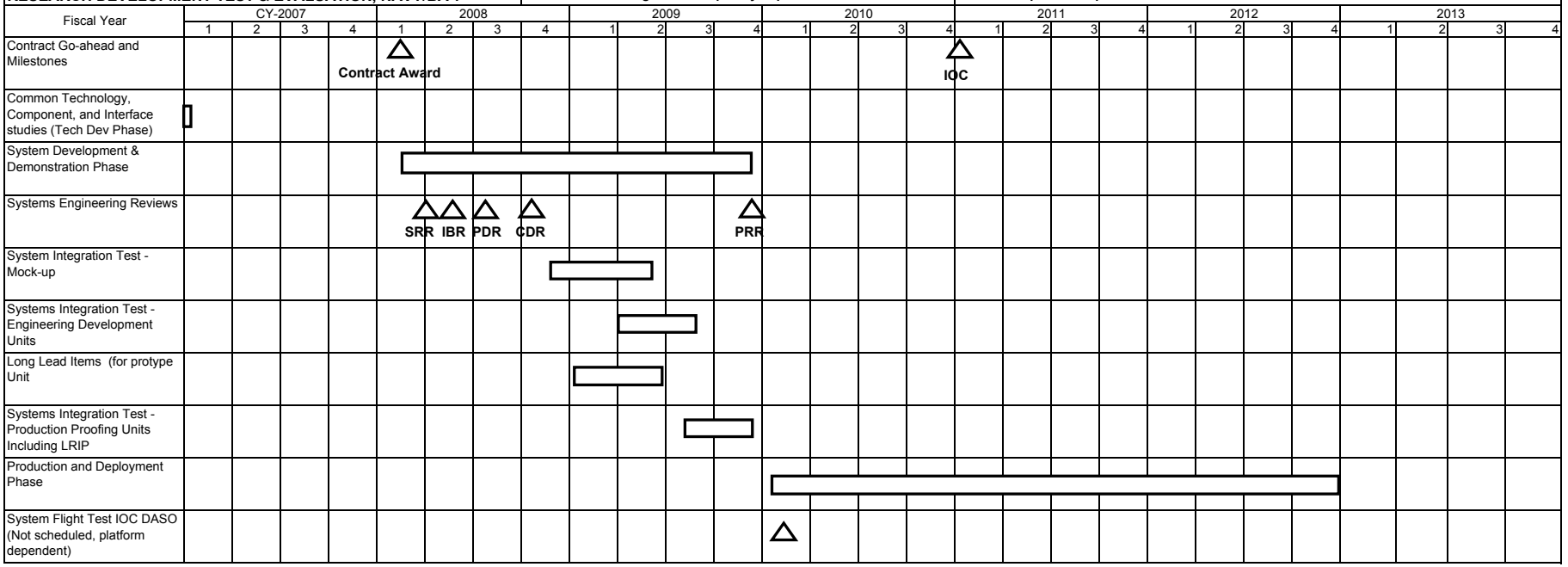
EXHIBIT R-4, Schedule Profile

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**

PROGRAM ELEMENT NUMBER AND NAME: **PE 0101221N Strategic Sub & Wpns Sys Spt**

Project Number and Name: **Enhanced Special Weapons J3158**



CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**		PROGRAM ELEMENT NUMBER AND NAME: **PE 0101221N Strategic Sub & Wpns Sys Spt**		Project Number and Name **Enhanced Special Weapons J3158**			
Fiscal Year	**CY-2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Contract Award -ahead and Milestones		**1Q**			**1Q**		
Common Technology, Component, and Interface studies	**1Q**						
System Development & Demonstration		**1-4Q**	**1-4Q**				
Initial Production Baseline			**4-Q**	**1-4Q**			
Production and Deployment				**1-4Q**	**1-4Q**	**1-4Q**	
Systems Engineering Reviews		**1-4Q**					
System Integration Test - Mock-up		**4Q**	**1-2Q**				
Systems Integration Test - Engineering Development Units			**2-3Q**				
Systems Integration Test - Production Proofing Units			**3-4Q**				
System Flight Test IOC DASO (Not scheduled, platform dependent)				**1Q**			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME **Reliable Replacement Warhead J3196**

COST ($ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J3196 Reliable Replacement Warhead	0.000	14.455	23.346	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Reliable Replacement Warhead Program is a joint DOE and DoD effort to provide reliable replacement warheads to the nations nuclear stockpile. As further reductions continue to be made to the stockpile, the long-term implications of successive refurbishments of the legacy warheads from the Cold War must be considered. Each refurbishment is further from the tested configurations of these highly optimized systems, raising concerns about the ability to ensure stockpile safety and reliability over the very long term without underground nuclear testing. By relaxing Cold War design constraints (e.g. maximum yield in a minimum size/weight package), the RRW program will allow the design of replacement warheads that are more efficient to manufacture, are safer and more secure, eliminate environmentally hazardous materials and increase design performance margins, thus ensuring long-term confidence in reliability and a correspondingly reduced chance of requiring nuclear tests.

Improving safety and security in a post-9/11 threat environment is a primary objective. RRW provides opportunities to incorporate the latest technological advances for precluding unauthorized use and access. RRW will enable transformation to a more efficient and responsive nuclear weapons research, development, and production infrastructure in support of the Nuclear Posture Review and the requirements of the new Strategic Triad. Once it can be demonstrated that replacement warheads can be produced on a timescale in which geopolitical threats could emerge, or respond in a timely way to technical problems in the stock pile, then non-deployed warheads can be further reduced and meet the President's vision of the smallest stockpile consistent with the nation's security requirements. In 2005, an RRW design competition was initiated in which two independent design teams from the nuclear weapons labs explored RRW options. The Nuclear Weapons Council has chosen Lawrence Livermore National Laboratory (LLNL) as the lead laboratory. SSP is working with LLNL to deliver cost and schedule data as part of a Phase 2/2A study, which will conclude in August FY08.

The team selected will lead the development of an RRW design to replace a portion of the deployed warheads for the Navy's TRIDENT SLBM system. In partnership with the selected design team, the DoD and NNSA will conduct a study to further define the design and develop detailed cost estimates for RRW development and production. This estimate will form the basis of the POM-10 input. The numbers shown here are the current estimate of the DoD portion of the effort required for the first two years of the design and development effort.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **Reliable Replacement Warhead J3196**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Reliable Replacement Warhead	0.000	14.455	23.346
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2008 PLAN

(U) ($14.455) Continue the RRW Program into Phase 3 Engineering Development, when approved by Congress and the Nuclear Weapons Council.

FY 2008 efforts include:

(U) Engineering development of AF&F for RRW.

(U) Developmental Test and Evaluation of AF&F components and subsystems.

(U) Systems engineering and integration of RRW with the TRIDENT D5 Weapon System.

(U) Engineering development of ancillary reentry body types for RRW.

(U) FY 2009 PLAN

(U) ($23.346) Continue the RRW Program into Phase 3 Engineering Development, when approved by Congress and the Nuclear Weapons Council.

FY 2009 efforts include:

(U) Continue engineering development of AF&F for RRW.

(U) Continue developmental Test and Evaluation of AF&F components and subsystems.

(U) Continue systems Engineering and integration of RRW with the TRIDENT D5 Weapon System.

(U) Continue engineering development of ancillary reentry body types for RRW.

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	Project Number and Name **Reliable Replacement Warhead J3196**

Cost Categories	Contract Method & Type	Performing Activity & Location		Total PYs Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Support & Management													
Reliable Replacement Warhead	SS - CPFF	LMMS / CA	LMMS / CA	0.000	0.000		1.400	10-07	3.500	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	SS - CPFF	LMSS / FL	LMSS / FL	0.000	0.000		0.000	N/A	0.000	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	MIPR	DOE / NM	DOE / NM	0.000	0.000		9.500	10-07	13.500	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	MIPR	DOE / MO	DOE / MO	0.000	0.000		1.300	10-07	2.200	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	MIPR	DOE / CA	DOE / CA	0.000	0.000		0.000	10-07	0.000	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	SS - CPFF	ITT / CO	ITT / CO	0.000	0.000		1.400	10-07	1.800	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	WR	NSWC / VA	NSWC / VA	0.000	0.000		0.800	10-07	1.300	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	SS - CPFF	NGMS / MA	NGMS / MA	0.000	0.000		0.000	10-07	0.000	10-08	Cont.	Cont.	TBD
Reliable Replacement Warhead	VARIOUS	VARIOUS		0.000	0.000		0.055		1.046		Cont.	Cont.	TBD
Total Cost					0.0		14.455		23.346				

Remarks:

Remarks:

CLASSIFICATION:

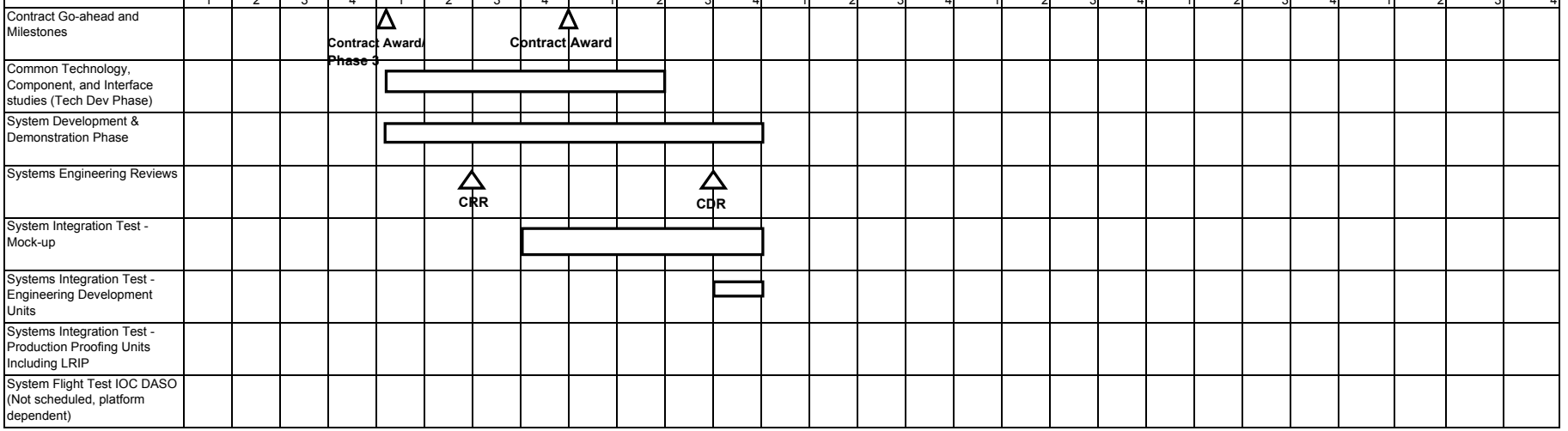
EXHIBIT R-4, Schedule Profile

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7

PROGRAM ELEMENT NUMBER AND NAME:
PE 0101221N Strategic Sub & Wpns Sys Spt

Project Number and Name
Reliable Replacement Warhead J3196



CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**		PROGRAM ELEMENT NUMBER AND NAME: **PE 0101221N Strategic Sub & Wpns Sys Spt**			Project Number and Name **Reliable Replacement Warhead J3196**		
Fiscal Year	**CY-2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Contract Award -ahead and Milestones		**1Q**	**1Q**				
Common Technology, Component, and Interface studies		**1-4Q**	**1-2Q**				
System Development & Demonstration		**1-4Q**	**1-4Q**				
Initial Production Baseline							
Production and Deployment							
Systems Engineering Reviews		**2-3Q**	**3-4Q**				
System Integration Test - Mock-up			**3-4Q**				
Systems Integration Test - Engineering Development Units							
Systems Integration Test - Production Proofing Units							
System Flight Test							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME **J3198 Underwater Launch Missile System**

COST ($ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J3198 Underwater Launch Missile System	0.000	0.000	10.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Underwater Launch Missile System (ULMS) effort develops capabilities definitions and assessments, science & technology development strategies, and conceptual work to prepare for R&D and Prototyping in FY10.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **J3198 Underwater Launch Missile System**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J3198 Underwater Launch Missile System	0.000	0.000	10.000
RDT&E Articles Quantity	0.000	0.000	10.000

(U) FY 2009 PLAN

($10.000) The Underwater Launch Missile System (ULMS) effort develops capabilities definitions and assessments, science & technology development strategies, and conceptual work to prepare for R&D and Prototyping in FY10.

FY 2009 efforts include:

(U) Develop Joint Capabilities Integrated Development System (JCIDS) required Capabilities-based Assessments to achieve an approved Initial Capabilities Document (ICD)
(U) Develop technology assessments and roadmap leading to approved Technology Development Strategy (TDS).
(U) Develop concepts for top-level integration studies, to analyze performance and cost drivers, and to begin alternatives analysis.
(U) Develop, update and exercise design and modeling tools including cost modeling methodology for total-ship integration.

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	Project Number and Name	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA	**PE 0101221N Strategic Sub & Wpns Sys Spt**	**J3198 Underwater Launched Missile Study**	

Cost Categories	Contract Method & Type	Performing Activity &	Total PYs Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Support & Management												
Underwater Launched Missile Study	SS-CPFF	Various/TBD	0.000	0.000	N/A	0.000	N/A	10.000	10-08	Cont.	Cont.	TBD
Subtotal Product Development												

Remarks:

Total Cost								10.000				

Remarks: Contracted effort will be for Program Management Support, JCIDS, Acquisition Decision Documentation Support, studies, and analysis to support early acquisition decisions and milestones. Support v

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7

PROGRAM ELEMENT NUMBER AND NAME:
PE 0101221N Strategic Sub & Wpns Sys Spt

Project Number and Name
J3198 Underwater Launched Missile Study

Fiscal Year	CY-2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Contract Go-ahead and Milestones									△ Contract Go Ahead																			
									△ DAB Concept Decision																			
Analysis of Alternatives Support																												
Capabilities Assessments																												
Technology Development Strategies																												
Design Space Exploration																												
General JCIDS Support																												
General Acquisition Planning Support																												

CLASSIFICATION:

EXHIBIT R-4a, Schedule Detail						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**		PROGRAM ELEMENT NUMBER AND NAME: **PE 0101221N Strategic Sub & Wpns Sys Spt**			Project Number and Name **J3198 Underwater Launched Missile Study**		
Fiscal Year	**CY-2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Contract Go-ahead and Milestones			**1Q**				
Analysis of Alternatives Support			**1-4Q**				
Capabilities Assessments			**1-4Q**				
Technology Development Strategies			**1-4Q**				
Design Space Exploration			**1-4Q**				
General JCIDS Support			**1-4Q**				
General Acquisition Planning Support			**1-4Q**				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME **S0004/TRIDENT Submarine System Improvement**

COST ($ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost S0004 TRIDENT Submarine System Improvement	0.167	0.273	0.349	0.394	0.456	0.464	0.472
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The TRIDENT operational systems development program results in improvements to the baseline TRIDENT Combat System. Current TRIDENT Combat Systems were first developed in the early 1970's and are becoming increasingly difficult to maintain and offer comparitively less performance than more recently designed systems. Previous efforts to upgrade portions of the TRIDENT Combat System include improvements via sonar and combat control hardware and software (e.g., QE2 programs), feasibility of increased countermeasure capability and a concept evaluation of an Submarine Fleet Mission Program Library (SFMPL) interface. Due to the sensitivity of TRIDENT programs it is assessed that international technology will not have a major impact or be a recipient of the benefits derived from this effort. Development strategies will significantly enhance the sustainability and operability of the sonar, communications and Combat Control Systems on TRIDENTs by evaluating both Obsolete Equipment Replacement (OER) possibilities and potential improvements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME **J9A66N Advanced Conventional Strike Capability (SLIRBM)**

COST ($ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J9A66N Advanced Conventional Strike Capability (SLIRBM)	1.261	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

A study will be conducted utilizing the baseline data developed during performance of the Submarine Launched Intermediate Range Ballistic Missile (SLIRBM) Boost Motor Demonstration contracts. This study will focus on providing best value missile system design concepts. Cost considerations will include development, production, operational, and disposal costs over the life of the program.
This Congressional add belongs to SSP.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **J9A66N Advanced Conventional Strike Capability (SLIRBM)**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J9A66N Advanced Conventional Strike Capability (SLIRBM)	1.261	0.000	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) A study will be conducted utilizing the baseline data developed during performance of the Submarine Launched Intermediate Range Ballistic Missile (SLIRBM) Boost Motor Demonstration contracts. This study will focus on providing best value missile system design concepts. Cost considerations will include development, production, operational, and disposal costs over the life of the program. This Congressional add belongs to SSP.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME **J9A67N Free Electron Laser Facility/9999 Advanced Linear A**

COST ($ in Millions)	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Project Cost J9A67N Free Electron Laser Facility	1.310	2.981	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION

The Free Electron Laser Program is for advanced capability Linear Accelerator (LINAC) to include a three stage accelerator section and an electron storage ring that will reduce the main limitations (electrical noise an micro-beam structure) of current LINAC technology. The enhanced LINAC will allow future large chips to be tested while meeting strategic test requirements.
This Congressional add belongs to SSP.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7**	PROJECT NUMBER AND NAME: **J9A67N Free Electron Laser Facility/9999 Advanced Linear Accelerometer**

B. (U) Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Project Cost J9A67N Free Electron Laser Facility	1.310	2.981	0.000
RDT&E Articles Quantity	0.000	0.000	0.000

(U) FY 2007 PLAN

(U) The Free Electron Laser Program is for advanced capability Linear Accelerator (LINAC) to include a three stage accelerator section and an electron storage ring that will reduce the main limitations (electrical noise and micro-beam structure) of current LINAC technology. The enhanced LINAC will allow future large chips to be tested while meeting strategic test requirements. This Congressional add belongs to SSP.

(U) FY 2008 PLAN

(U) Continue work on the Free Electron Laser Program and the advanced capability Linear Accelerator (LINAC) .