CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**		R-1 ITEM NOMENCLATURE **0603925N/DIRECTED ENERGY AND ELECTRIC WEAPONS SYSTEMS**	

COST (In Millions)	FY 2008	FY 2009	FY 2010
Total PE Cost	3.470	4.548	5.003
9823 / Lasers For Navy Applications	0.000	0.000	5.003
9999 / Congressional Add	3.470	4.548	0.000

A. MISSION DESCRIPTION:

In accordance with NAVSEA Notice 5400, Ser 09B/240, Subj: ESTABLISHMENT OF THE NAVY DIRECTED ENERGY WEAPONS PROGRAM OFFICE (PMS 405), dated 4 Jan 02 and NAVSEA Instruction 5400.101, Ser SEA 06/058, Subj: DIRECTED ENERGY AND ELECTRIC WEAPONS PROGRAM OFFICE (PMS 405) CHARTER, dated 21 Jul 04 - COMNAVSEASYSCOM (PMS 405) was assigned as the of Contact for matters related to Directed Energy and Electric Weapon Systems development and acquisition initiation for the Navy and for those matters being coordinated with other Federal agencies and military services. The Naval Directed Energy and Electric Weapon Systems Program Office's (PMS 405) mission is to transition technology from the laboratory to prototype/advanced development/test for operational development and use. This will change the way the Navy fights in the 21st century by providing the war fighter with additional tools to fight today's and tomorrow's wars. This requires the effective management of Technology Development (BA-4) initiatives into System Development and Demonstration. PMS 405 will manage development of Directed Energy and Electric Weapon Systems onboard future naval surface ships that incorporate: Weapons Grade High Energy Lasers, Free Electron Lasers (Megawatt class), Electromagnetic Rail Gun (EMRG) Weapon System, High Power Microwave Weapon/Sensor Systems, and other systems/capabilities.

In FY 09, $1,755K was provided under Project Unit (PU) 9D61A for the Directed Energy Initiative (DEI) to support acceleration of development and testing of the Laser Weapon System (LaWS); $1,596K was provided under PU 9D62A for Guillotine (G) efforts to support the acceleration of development and testing of a non-lethal, non-attributable system designed to offer non-kinetic offensive IO solutions; and $1,197K was provided under PU 9D63A for Multi Function Laser System (MFLS) efforts to support the development of the Visual Interruption System (VIS) capability to be integrated into the Laser Weapon System (LaWS).

In FY10, funding was provided under Project Unit 9823 to support Pacific Sail Proof of Concept prototype system development and demonstration.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	R-1 ITEM NOMENCLATURE **0603925N/DIRECTED ENERGY AND ELECTRIC WEAPONS SYSTEMS**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2008	FY 2009	FY 2010
FY09 President's Budget	1.987	0.000	0.000
FY10 President's Budget	3.470	4.548	5.003
Total Adjustments	1.483	4.548	5.003
(U) Summary of Adjustments			
Congressional Rescissions	0.000	0.000	0.000
Congressional Adjustments	1.593	4.548	0.000
SBIR/STTR/FTT Assessment	-0.107	0.000	0.000
Program Adjustments	-0.003	0.000	5.003
Rate/Misc Adjustments	0.000	0.000	0.000
Total	1.483	4.548	5.003

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603925N/DIRECTED ENERGY AND ELECTRIC WEAPONS SYSTEMS**		PROJECT NUMBER AND NAME **9823/Lasers For Navy Applications**

COST (In Millions)	FY 2008	FY 2009	FY 2010
Project Cost	0.000	0.000	5.003
RDT&E Articles Qty	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Pacific Sail effort utilizes Lasers for Navy Applications to develop a gyro-stabilized, multi-mission, optical system as a "Proof of Concept" capability for evaluation in support of tactical ship defense needs.

Funding was established in FY 2010 under this project unit to support laser prototype system development and system concept demonstration onboard a surface platform. This at-sea test and analysis will demonstrate operational effectiveness in support of Information Operations, short-range ship defense/force protection, long-range tracking and imaging, combat identification, and threat assessment.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603925N/DIRECTED ENERGY AND ELECTRIC WEAPONS SYSTEMS**	PROJECT NUMBER AND NAME **9823/Lasers For Navy Applications**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.003
RDT&E Articles Quantity	0	0	0

The Pacific Sail effort utilizes Lasers for Navy Applications to develop a gyro-stabilized, multi-mission, optical system as a "Proof of Concept" capability for evaluation in support of tactical ship defense needs.

Funding was established in FY 2010 under this project unit to support laser prototype system development and system concept demonstration onboard a surface platform. This at-sea test and analysis will demonstrate operational effectiveness in support of Information Operations, short-range ship defense/force protection, long-range tracking and imaging, combat identification, and threat assessment.

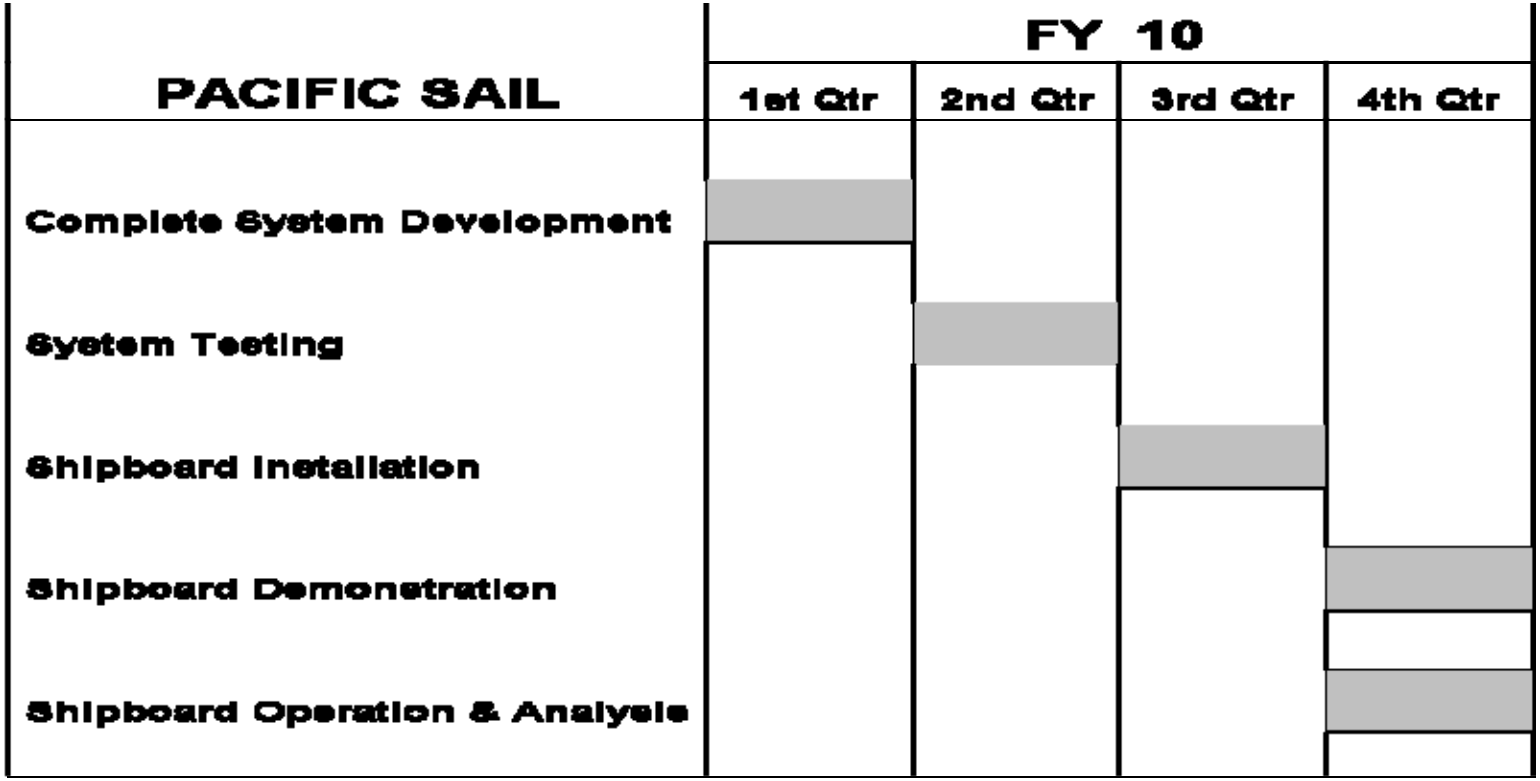
C. OTHER PROGRAM FUNDING SUMMARY:
Not Applicable.

D. ACQUISITION STRATEGY:
Not Applicable.

E. MAJOR PERFORMERS:
Multiple Contractors, Naval Surface Warfare Centers, SPAWAR, AFRL, PMS 405.

CLASSIFICATION:	UNCLASSIFIED								
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS							DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**		PROGRAM ELEMENT NUMBER AND NAME **0603925N/DIRECTED ENERGY AND ELECTRIC WEAPONS SYSTEMS**			PROJECT NUMBER AND NAME **9823/Lasers For Navy Applications**				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2009 Cost ($000)	FY 2009 Award Date	FY 2010 Cost ($000)	FY 2010 Award Date	Total Cost ($000)	Target Value of Contract
Lasers for Navy Applications	Various	Various	3.124	0.000		5.003	TBD	8.127	0.000
Subtotal Product Development			**3.124**	**0.000**		**5.003**		**8.127**	**0.000**
Remarks: Multiple funding documents and contract vehicles were utilized to obtain the services of the government field activities, academia, other commands, AFRL, PMS 405 and contractors listed on the R-2a. Costs shown reflect all expenses for the BA-4 R&D (management, engineering,and travel, etc.) affiliated with this Congressional Add.									
Subtotal Support Costs			**0.000**	**0.000**		**0.000**		**0.000**	**0.000**
Remarks:									
Subtotal Test and Evaluation			**0.000**	**0.000**		**0.000**		**0.000**	**0.000**
Remarks:									
Subtotal Management Services			**0.000**	**0.000**		**0.000**		**0.000**	**0.000**
Remarks:									
Total Cost			**3.124**	**0.000**		**5.003**		**8.127**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603925N/DIRECTED ENERGY AND ELECTRIC WEAPONS SYSTEMS**	PROJECT NUMBER AND NAME **9823/Lasers For Navy Applications**



CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603925N/DIRECTED ENERGY AND ELECTRIC WEAPONS SYSTEMS**			PROJECT NUMBER AND NAME **9823/Lasers For Navy Applications**			
Schedule Profile	FY 2008	FY 2009	FY 2010				
Complete Systems Development			1Qtr				
System Testing			2Qtr				
Shipboard Installation			3Qtr				
Shipboard Demonstration			4Qtr				
Shipboard Operation & Analysis			4Qtr				

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDTEN/BA 4	**0603925N/DIRECTED ENERGY AND ELECTRIC WEAPONS SYSTEMS**	**9999/Congressional Add**	

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2008	FY 2009	FY 2010
9D61A/DIRECTED ENERGY INITIATIVE (DEI)	0.000	1.755	0.000
RDT&E Articles Quantity	0	0	0

Funding was provided to support the acceleration of development and testing of the Laser Weapon System (LaWS).

	FY 2008	FY 2009	FY 2010
9D62A/GUILLOTINE (G)	0.000	1.596	0.000
RDT&E Articles Quantity	0	0	0

Funding was provided to support the acceleration of development and testing of a non-lethal, non-attributable system designed to offer non-kinetic offensive IO solutions.

	FY 2008	FY 2009	FY 2010
9D63A/MULTI-FUNCTION LASER SYSTEM (MFLS)	0.000	1.197	0.000
RDT&E Articles Quantity	0	0	0

Funding was provided for Multi-Function Laser System (MFLS) efforts to support the development of the Visual Interruption System (VIS) capability to be integrated into the Laser Weapon System (LaWS).

	FY 2008	FY 2009	FY 2010
9823A/LASERS FOR NAVY APPLICATION	1.928	0.000	0.000
RDT&E Articles Quantity	0	0	0

Funding provided the system engineering and application of laser beam conversion technology, procured and developed with FY 05/06/07 funding, to accomplish beam combining of the two lasers, procured previously, to provide and demonstrate a 30kW laser weapon capability at significantly longer ranges.

	FY 2008	FY 2009	FY 2010
9B98A/SPHERICAL AIRSHIP RESEARCH & DEVELOPMENTAL	1.542	0.000	0.000
RDT&E Articles Quantity	0	0	0

Funding was utilized for the development, construction, and test of the semi spherical aerodynamic shape, propulsion systems, and flight control systems for a mid-altitude (20,000ft) Unmanned Semi Spherical Airship.