Exhibit R-2, **RDT&E Budget Item Justification:** PB 2011 Navy	**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204574N: *Cryptologic Direct Support*

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	1.437	1.602	1.519	0.000	1.519	1.567	1.897	1.939	1.979	Continuing	Continuing
3091: *Advanced Cryptological Sys Eng (CCOP)*	1.437	1.602	1.519	0.000	1.519	1.567	1.897	1.939	1.979	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Advanced Cryptologic Systems Engineering - Cryptologic Carry On Program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 100 cryptologic capable surface ships in the current Navy inventory. Each of these ships is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the resources to enable rapid transition of available Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting and data analysis. COTS/GOTS system documentation and training materials usually require some level of adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard Local Area Networks, and tested relative to interoperability requirements. Certification testing is conducted to meet Office of Naval Intelligence security requirements and network testing is conducted in accordance with Information Technology (IT)-21 requirements to allow connection to Navy networks. This Research, Development, Test & Evaluation will also provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline of all other carry-on subsystems to meet emergent requirements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy	**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204574N: *Cryptologic Direct Support*

B. Program Change Summary ($ in Millions)

	FY 2009	**FY 2010**	**FY 2011 Base**	**FY 2011 OCO**	**FY 2011 Total**
Previous President's Budget	1.437	1.609	0.000	0.000	0.000
Current President's Budget	1.437	1.602	1.519	0.000	1.519
Total Adjustments	0.000	-0.007	1.519	0.000	1.519
• Congressional General Reductions		-0.007			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Program Adjustments	0.000	0.000	1.519	0.000	1.519

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.

Exhibit R-2A, **RDT&E Project Justification:** PB 2011 Navy									**DATE:** February 2010	

APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*				**R-1 ITEM NOMENCLATURE** PE 0204574N: *Cryptologic Direct Support*				**PROJECT** 3091: *Advanced Cryptological Sys Eng* *(CCOP)*		

COST ($ in Millions)	**FY 2009 Actual**	**FY 2010 Estimate**	**FY 2011 Base Estimate**	**FY 2011 OCO Estimate**	**FY 2011 Total Estimate**	**FY 2012 Estimate**	**FY 2013 Estimate**	**FY 2014 Estimate**	**FY 2015 Estimate**	**Cost To Complete**	**Total Cost**
3091: *Advanced Cryptological Sys Eng (CCOP)*	1.437	1.602	1.519	0.000	1.519	1.567	1.897	1.939	1.979	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Advanced Cryptologic Systems Engineering - Cryptologic Carry On Program program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 100 cryptologic capable surface ships in the current Navy inventory. Each of these ships is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the resources to enable rapid transition of available Commercial Off-The-Shelf (COTS) and Government Off -The-Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting and data analysis. COTS/GOTS system documentation and training materials usually require some level of adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard Local Area Networks, and tested relative to interoperability requirements. Certification testing is conducted to meet Office of Naval Intelligence security requirements and network testing is conducted in accordance with Information Technology (IT)-21 requirements to allow connection to Navy networks. This Research, Development, Test & Evaluation will also provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline of all other carry-on subsystems to meet emergent requirements.

FY11 funds will continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and target threat list. Funds will continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Additional funds will aid in the development of new SOI algorithms in support of cryptologic systems.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	**FY 2010**	**FY 2011 Base**	**FY 2011 OCO**	**FY 2011 Total**
Advanced Cryptological Sys Eng (CCOP)	1.437	1.602	1.519	0.000	1.519

Exhibit R-2A, **RDT&E Project Justification:** PB 2011 Navy		**DATE:** February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204574N: *Cryptologic Direct Support*	**PROJECT** 3091: *Advanced Cryptological Sys Eng (CCOP)*	

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Integrated, tested, and documented identified Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) technologies and subsystems that met emergent and on-going Fleet requirements as specified in the FY09 Signals of Interest (SOI) and target threat list. Developed upgrades to existing systems and subsystems according to Fleet requirements. *FY 2010 Plans:* Continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the FY10 SOI and target threat list. Continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Additional funds will aid in the development of new SOI algorithms in support of cryptologic systems. *FY 2011 Base Plans:* Continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the FY11 SOI and target threat list. Continue to develop upgrades to existing systems and subsystems according to Fleet requirements.					
Accomplishments/Planned Programs Subtotals	1.437	1.602	1.519	0.000	1.519

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204574N: *Cryptologic Direct Support*	**PROJECT** 3091: *Advanced Cryptological Sys Eng (CCOP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN / 3501: *Cryptologic Communications Equipment*	22.167	16.787	18.322	0.000	18.322	18.100	18.615	18.933	19.265	Continuing	Continuing

D. Acquisition Strategy

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Space and Naval Warfare (SPAWAR) Systems Centers Atlantic and Pacific, and miscellaneous contractors, with management oversight by SPAWAR.

E. Performance Metrics

Cryptologic Carry On Program (CCOP) program will deliver state-of-the-art signal acquisition software for CCOP systems in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximatley 250 CCOP systems in inventory.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204574N: *Cryptologic Direct Support*	**PROJECT** 3091: *Advanced Cryptological Sys Eng (CCOP)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	Various/ Various	Various Various	1.719	0.196	Dec 2009	0.197	Dec 2010	0.000		0.197	Continuing	Continuing	Continuing
Subtotal			1.719	0.196		0.197		0.000		0.197			

Remarks
No remarks.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	Various/ Various	Various Various	4.997	1.112	Feb 2010	1.027	Dec 2010	0.000		1.027	Continuing	Continuing	Continuing
Subtotal			4.997	1.112		1.027		0.000		1.027			

Remarks
No remarks.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204574N: *Cryptologic Direct Support*	PROJECT 3091: *Advanced Cryptological Sys Eng (CCOP)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	Various/ Various	Various Various	0.268	0.065	Dec 2009	0.066	Dec 2010	0.000		0.066	Continuing	Continuing	Continuing
Subtotal			0.268	0.065		0.066		0.000		0.066			

Remarks
No remarks.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	Various/ Various	Various Various	0.778	0.180	Dec 2009	0.180	Dec 2010	0.000		0.180	Continuing	Continuing	Continuing
Travel	Various/ Various	DTS Various	0.217	0.049	Nov 2009	0.049		0.000		0.049	Continuing	Continuing	Continuing
Subtotal			0.995	0.229		0.229		0.000		0.229			

Remarks
No remarks.

Navy

Exhibit R-3, **RDT&E Project Cost Analysis:** PB 2011 Navy | **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	PE 0204574N: *Cryptologic Direct Support*	3091: *Advanced Cryptological Sys Eng (CCOP)*

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.979	1.602		1.519		0.000		1.519			

Remarks

Navy

Exhibit R-4, **RDT&E Schedule Profile:** PB 2011 Navy | **DATE:** February 2010
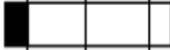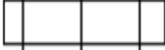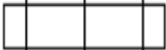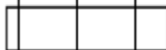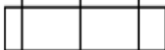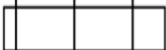
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	PE 0204574N: *Cryptologic Direct Support*	3091: *Advanced Cryptological Sys Eng (CCOP)*

Fiscal Year: 2009, 2010, 2011, 2012, 2013, 2014, 2015 (quarters 1–4)

Rows: Prototype Phase; System Development (SDR); Software Delivery; T&E Milestones / Operational Assessment (OA)

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0204574N: *Cryptologic Direct Support*	**PROJECT** 3091: *Advanced Cryptological Sys Eng (CCOP)*

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Prototype Phase	1	2009	4	2015
System Design Review (SDR) - 2009	2	2009	2	2009
System Design Review (SDR) - 2010	2	2010	2	2010
System Design Review (SDR) - 2011	2	2011	2	2011
System Design Review (SDR) - 2012	2	2012	2	2012
System Design Review (SDR) - 2013	2	2013	2	2013
System Design Review (SDR) - 2014	2	2014	2	2014
System Design Review (SDR) - 2015	2	2015	2	2015
Software Delivery - 2009	3	2009	4	2009
Software Delivery - 2010	3	2010	4	2010
Software Delivery - 2011	3	2011	4	2011
Software Delivery - 2012	3	2012	4	2012
Software Delivery - 2013	3	2013	4	2013
Software Delivery - 2014	3	2014	4	2014
Software Delivery - 2015	3	2015	4	2015
Operational Assessment (OA) - 2009	3	2009	3	2009
Operational Assessment (OA) - 2010	3	2010	3	2010
Operational Assessment (OA) - 2011	3	2011	3	2011

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0204574N: *Cryptologic Direct Support*		PROJECT 3091: *Advanced Cryptological Sys Eng (CCOP)*	

	Start		End	
Event	Quarter	Year	Quarter	Year
Operational Assessment (OA) - 2012	3	2012	3	2012
Operational Assessment (OA) - 2013	3	2013	3	2013
Operational Assessment (OA) - 2014	3	2014	3	2014
Operational Assessment (OA) - 2015	3	2015	3	2015