

EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5		0304785N TACTICAL CRYPTOLOGIC SYSTEMS					
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	32.720	39.819	16.678	15.550	15.389	16.442	16.763
2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT	25.444	21.268	12.642	14.550	14.889	16.442	16.763
3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)	2.993	16.962	4.036	1.000	0.500	0.000	0.000
9999/CONGRESSIONAL ADDS	4.283	1.589	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles							
<p>Shipboard Information Warfare (IW) was realigned from PE 0604721N BA 5 (Battle Group Passive Horizon Extension System) beginning FY 2007.</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Shipboard Information Warfare (IW) line includes the following programs: Ships Signal Exploitation Equipment (SSEE) and the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21). These systems provide the Battle Group with real time Indications and Warnings (I&W) by acquisition and localization of signals of interest (SOI). This program's funding is required to incorporate new commercial off-the-shelf (COTS) based technologies and software into the existing systems. The funding will focus on merging the current IW sensor systems into a scalable sensor package that can be tailored to different ship types and be compliant with the Maritime Cryptologic Architecture.</p> <p>Ships Signal Exploitation Equipment (SSEE) is a classified tactical cryptologic Information Warfare/Command and Control Warfare (IW/C2W) system that provides critical tactical intelligence, Situational Awareness (SA)/Battlespace Awareness (BA), Indications and Warning (I&W), and hostile threat assessment. As a spiral acquisition program, SSEE funding is required to have new technologies and associated new operational capabilities rapidly developed and transitioned as Pre-Planned Product Improvement (P3I) upgrades into the system's hardware configuration.</p> <p>Automatic Identification System (AIS) is an International Maritime Very High Frequency (VHF) Communication system that allows any ship to exchange information (machine to machine) on Navigation (Position, Course, Speed, etc), Ship Info (Ship Name, Call Sign, Length/Beam), Cargo Info (Draft, Type, Destination, Route, Estimated Time of Arrival (ETA)), and Messaging (Safety, Text). This technology will improve capability in three diverse areas: (a) Situational Awareness/Common Operational Picture (COP) (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation. Research, Development, Test & Evaluation (RDT&E) will fund the integration of Commercial off-the-shelf (COTS) AIS equipment into the existing Global Command and Control - Maritime (GCCS-M)/COP, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search / weapons systems and intelligence / cryptologic capabilities.</p> <p>Military Intelligence Program (MIP), formerly Tactical Intelligence and Related Activities (TIARA) (DOD 7000.14) is reported to Congress in the MIP Congressional Justification Book (CJB).</p> <p>Congressional Adds:</p> <p>COOPERATIVE OUTBOARD LOGISTICS UPGRADE (COBLU) - NETWORK CENTRIC WARFARE ENHANCEMENTS - The COBLU system will provide enhanced capabilities which will facilitate the integration of Control and Coordination Software that enables multiple COBLU systems to be operated remotely in compliance within the FORCEnet constructs; coordinate resources and reduce system manning; and enable the distributed operation of COBLU systems allowing operators to be remotely located at an Regional Security Operations Center (RSOC) or a COBLU operator on one platform to task and utilize a second COBLU on another platform. As part of this effort, interface software between COBLU and Distributed Information Operations Service (DIO-S) will be provided and an at-sea technology demonstration will be conducted.</p> <p>TREXIMILDEC TACTICAL TARGET GENERATOR SYSTEM - MILDEC Tactical Target Generator (TTG) will provide both offensive and defensive Information Operations (IO) and Military Deception (MILDEC) capabilities for military aircraft against current and future hostile air defense systems. In the offensive mode, the TTG will provide a tactical IO capability for airborne platforms to electronically stimulate hostile air defense acquisition and tracking radars so they can be detected and located by National and tactical sensors, and then be destroyed by US or coalition forces. In the defensive mode, the TTG will enable tactical airborne platforms (manned, unmanned, fixed wing or rotary) to successfully enter, transit and egress hostile territory by appearing as a non-threatening air contact.</p> <p>FY 2007 funding includes \$5M received for GWOT supplemental. FY2008 funding totals do not include \$13.0M in pending request for current FY2008 GWOT requirements.</p>							

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0304785N TACTICAL CRYPTOLOGIC SYSTEMS
<p>Shipboard Information Warfare (IW) was realigned from PE 0604721N BA 5 (Battle Group Passive Horizon Extension System) beginning FY 2007.</p> <p>Congressional Adds Continued:</p> <p>ANS/SSQ-137 (v) SHIPS SIGNAL EXPLOITATION EQUIPMENT - ANS/SSQ supports effort to develop the latest Pre-Planned Product Improvements (P3I) enhancements upgrades to maintain the systems operational capability against evolving modern and future digital communications signals. P3I technology upgrades include: development of Communications Intelligence (COMINT) mapping and task synchronization; development of Time Differential Multiplexing (TDM) and Networked High Frequency (HF)/ Direction Finding (DF) capability; and Radio Frequency Distribution Unit (RFDU) enhancements. These upgrades will improve SSEE Increment E and F capability to collect, process and analyze hostile threat communications emitters in order to provide tactical intelligence, Situational Awareness (SA), Indications and Warning, and hostile threat assessment to deployed Carrier Strike Group (CSG)/Expeditionary Strike Group (ESG) forces.</p> <p>SCAN EAGLE UNMANNED AERIAL VEHICLE (UAV) ADVANCED DATALINK AND SENSOR DEVELOPMENT- RDT&E funds the development of a ScanEagle high capacity data link compatible with the Common Data Link (CDL) waveform and North Atlantic Treaty Organization (NATO) Standardization Agreement (STANAG) 4586 to enhance interoperability and networked imagery distribution with US Navy Fleet assets. The integration of a Commercial-off-the-Shelf (COTS) Automatic Identification System (AIS) transceiver into ScanEagle and data integration into the Navy's Integrated AIS Rapid Deployment Capability (RDC). This AIS RDC in turn provides AIS sensor data to the Global Command and Control - Maritime (GCCS-M) Common Operational Picture, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search / weapons systems and intelligence / cryptologic capabilities. Integration of this AIS technology will improve capability in three diverse areas: (a) Situational Awareness/Common Operational Picture (COP) (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation.</p> <p>Global War on Terrorism (GWOT) Supplemental: RDT&E Midway funding is provided to initiate development and testing of counter-targeting capabilities in accordance with stated Fleet requirements and prior assessments. As part of Navy counter-targeting efforts, the Chief of Naval Operations (CNO) has directed that the funding support the Long-range Multi-mission Optical System (LMOS) Joint Capability Technology Demonstration (JCTD).</p>	

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RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5		0304785N TACTICAL CRYPTOLOGIC SYSTEMS		
(U) B. PROGRAM CHANGE SUMMARY:				
(U) Funding:		FY 2007	FY 2008	FY 2009
FY08/09 President's Budget		27.720	39.053	16.708
FY09 President's Submit		32.720	39.819	16.678
Total Adjustments		5.000	0.766	-0.030
Summary of Adjustments				
Misc. Congressional Adjustments		5.000	1.342	0.000
Misc. Adjustments		0.000	0.000	-0.030
SBIR		0.000	-0.576	0.000
Subtotal		5.000	0.766	-0.030
 (U) Schedule:				
AIRS schedule updated to include Milestone C, Operational Test and Evaluation, Operational Test Readiness Review (OTTER), Integrated Shipboard Network Systems (SINS) Increment 1 Test and Evaluation and Server refresh. Ships Signal Exploitation Equipment Increment E and F schedules separated. Ships Signal Exploitation Equipment Increment F Milestone C moved from FY08 4QTR to FY10 1QTR.				
 (U) Technical:				
Not Applicable.				

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS			2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT			
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	25.444	21.268	12.642	14.550	14.889	16.442	16.763
RDT&E Articles Qty							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Shipboard Information Warfare (IW) line includes the following programs: Ships Signal Exploitation Equipment (SSEE) and the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21). These systems provide the Battle Group with real time Indications and Warnings (I & W) by acquisition and localization of signals of interest (SOI). This program's funding is required to incorporate new commercial off-the-shelf (COTS) based technologies and software into the existing systems. The funding will focus on merging the current IW sensor systems into a scalable sensor package that can be tailored to different ship types and be compliant with the Maritime Cryptologic Architecture.</p> <p>Military Intelligence Program (MIP), formerly Tactical Intelligence and Related Activities (TIARA) (DOD 7000.14)</p>							

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT

(U) B. Accomplishments/Planned Program

Ship Signal Exploitation Equipment (SSEE) Inc E	FY 07	FY08	FY 09
Accomplishments/Effort/Subtotal Cost	4.270	3.409	1.974
RDT&E Articles Quantity			

FY07 - Continued to expand Signals of Interest (SOI) processing capability to priority signal sets. Fully tested improved software. Modified Cryptologic On-Line Trainer (COLT) server to upgrade current software releases. Continued development and integration of Cryptologic Unified Build (CUB) software. As a spiral acquisition program Ship Signal Exploitation Equipment (SSEE) Inc F began in FY 06 with the development contract award date of April 2006. SSEE Inc F program information will be provided in separate exhibits.

FY 08 - Continue to expand Signals of Interest (SOI) processing capability to allow, collection of the newest high priority modern technology threat signals for processing and analysis for timely and accurate situational awareness for Force protection and for support to time critical strike military operation. Develop and integrate upgrades to Hostile Force Integration Targeting Subsystems (HITS) to integrate both national and tactical Intelligence, Surveillance, and Reconnaissance (ISR) sensor data to provide geolocation of intercepted communication signals. Fully test improved software. Execute Follow-on Test and Evaluation.

FY 09 - Continue to expand Signals of Interest (SOI) processing capability to allow collection of the newest high priority modern technology threat signals for processing and analysis. This will allow the strike group to have timely and accurate situational awareness for force protection, support for Maritime Domain Awareness (MDA), and for support to time critical strike military operation. Development and integration of Cryptologic Unified Build (CUB) software to support battlegroup interoperability. Fully test improved software.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT

(U) B. Accomplishments/Planned Program

Ship Signal Exploitation Equipment (SSEE) Inc F	FY 07	FY08	FY 09
Accomplishments/Effort/Subtotal Cost	12.642	17.859	10.668
RDT&E Articles Quantity		2	

Ship Signal Exploitation Equipment (SSEE) Inc F is a spiral development of the SSEE program. Milestone B occurred Q2FY06 and a combined development and production contract was awarded Q3FY06. Development will include system design, integration and testing of hardware and software for Engineering Development Models (EDMs), and support to integrated developmental and operational testing. Inc F will provide the warfighter with a robust Information Operations (IO) capability across surface Navy platforms. Inc F provides a fully scalable system dependent upon ship platform IO requirements; system will provide remote/autonomous operating capabilities to meet CNO's goals for reduced shipboard manning and maintenance personnel. Inc F will be fully FORCEnet capable, meet all Net-Centric Enterprise Solutions for Interoperability (NESI) requirements, and will meet all joint interoperability requirements for operations in the Global Information Grid (GIG).

FY07 - Continued Ship Signal Exploitation Equipment (SSEE) Inc F system development and demonstration to support the delivery of two Engineering Development Models (EDMs). Continued additional development efforts for remoting of manned and unmanned platforms. The FY07 System Development and Demonstration phase constructed new shipboard antennas, Radio Frequency (RF) distribution, threat detection, geolocation, signal recognition, sensor data management, information operations, suitability, embedded training, communications and interfaces, automation, remoting, manning, information management, sensor tasking, and EDM #1 Integration, Assembly and Test. Operator training plans, processes, and material development occurred. SSEE Inc F FY07 major milestones were System Requirements Review (SRR), Preliminary Design Review (PDR), Critical Design Review (CDR), Design Readiness Review (DRR), and Test Readiness Reviews (TRR).

FY 08 - Complete Ship Signal Exploitation Equipment (SSEE) Inc F development and system design of two Engineering Development Models (EDMs). Integrate, test and deliver EDMs. Continue development efforts for remoting of manned and unmanned platforms. Continue development in the areas of Signal Recognition, Suitability, and Net-Centric Enterprise Solutions for Interoperability (NESI). Conduct EDM #2 interoperability testing, platform integration efforts, and operational assessment. The majority of technical publication development will commence during this period as well. Complete engineering and management data. SSEE Inc F FY08 major milestones will include EDM First Article Testing (FAT), Integrated Testing (IT) Decisional Report, and Milestone C.

FY 09 - Continue development efforts for remoting of manned and unmanned platforms. Expand Signals of Interest (SOI) processing capability to allow collection of the newest high priority modern technology threat signals for processing and analysis for timely and accurate situational awareness for force protection and for support to time critical strike military operation. The two EDMs previously represented are contractor assets for hardware and software upgrade development and testing.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT

(U) B. Accomplishments/Planned Program

Specific Emitter Identification (SEI)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	2.512	0.000	0.000
RDT&E Articles Quantity			

FY07 - Continued development of updated software for existing fielded Specific Emitter Identification (SEI) systems with new algorithms and software. Continued improvements to network based SEI data distribution and utilization. Continued SEI software enhancements to maximize automation of SEI collection & reporting. Ensured SEI software is fully certified and tested. Continued integration of geolocation, SEI, and other data. Continued incorporation of SEI into Electronic Intelligence (ELINT) and the overall Navy Electronic Warfare (EW) and Maritime Cryptologic architecture with the goal of SEI being absorbed into ELINT. Enhanced Tactical Data Processors (TDPs) and other fielded systems to support new SEI capabilities and data types. Continued to pursue enhanced SEI algorithms and techniques, SEI-based de-interleaving, and other SEI applications. Included support for Maritime Domain Awareness.

Antenna & Radio Finder (RF) Distribution	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.020	0.000	0.000
RDT&E Articles Quantity			

FY07 - Completed development of antenna & Radio Frequency (RF) tools to enhance future capabilities via new technologies, Engineering Development Model (EDM) development, testing and certification.

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(U) B. Accomplishments/Planned Program

Global War on Terrorism Midway Supplemental	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	5.000	0.000	0.000
RDT&E Articles Quantity			

FY07 - Global War on Terrorism Supplemental:

RDT&E Midway funding is provided to initiate development and testing of counter-targeting capabilities in accordance with stated Fleet requirements and prior assessments. As part of Navy counter-targeting efforts, Chief of Naval Operations (CNO) has directed that the funding support the Long-range Multi-mission Optical System (LMOS) Joint Capability Technology Demonstration (JCTD).

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT
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(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
OPN Line 2360	116.854	51.028	83.408	103.529	84.732	91.549	93.019

(U) D. ACQUISITION STRATEGY:

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to a Prime Contractor and SPAWAR Systems Center (SSC) - Charleston, SSC - San Diego and miscellaneous contractors, with management oversight by SPAWAR.

(U) E. MAJOR PERFORMERS:

N/A

(U) F. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-5		0304785N TACTICAL CRYPTOLOGIC SYSTEMS				2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT						
Cost Categories	Contract Method & Type	Performing Activity and Location	Total PY 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
Primary Hardware Development	Various	Various	49.299	11.139	11/06	8.494	11/07	4.631	11/08	Continuing	Continuing	Continuing
Ancillary Hardware Development												
Systems Engineering	Various	Various	16.140	2.250		1.231		1.141	11/08	Continuing	Continuing	Continuing
Training Development	WX	SSC SD	0.336	0.100		0.055		0.086	11/08	Continuing	Continuing	Continuing
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			65.775	13.489		9.780		5.858		Continuing	Continuing	Continuing
Remarks: 1. PY funding reflects PE 0604721N. PE 0604721N migrated (Battle Group Passive Horizon Extension System) into PE 0304785N in FY 2007.												
Development Support												
Software Development	Various	Various	18.098	8.643	11/06	8.373	11/07	4.410	11/08	Continuing	Continuing	Continuing
Training Development								0.079	11/08	Continuing	Continuing	Continuing
Integrated Logistics Support	Various	Various	0.751	0.375		0.227		0.339	11/08	Continuing	Continuing	Continuing
Configuration Management	WX	SSC CH	0.436	0.125		0.199		0.251	11/08	Continuing	Continuing	Continuing
Technical Data						0.264					0.264	0.264
GFE												
Subtotal Support			19.285	9.143		9.063		5.079		Continuing	Continuing	Continuing
Remarks: 1. PY funding reflects PE 0604721N. PE 0604721N migrated (Battle Group Passive Horizon Extension System) into PE 0304785N in FY 2007												

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N / BA-5		0304785N TACTICAL CRYPTOLOGIC SYSTEMS				2134/SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT						
Cost Categories	Contract Method & Type	Performing Activity and Location	Total PY s 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
Developmental Test & Evaluation	Various	Various	5.722	0.450		0.372		0.100	11/08	Continuing	Continuing	Continuing
Operational Test & Evaluation	WX	OPTEVFOR	1.532	0.100		0.428		0.331	11/08	Continuing	Continuing	Continuing
Live Fire Test & Evaluation												
Test Assets	WX	SSC SD	1.597	0.150		0.000				Continuing	Continuing	Continuing
Tooling												
GFE												
Subtotal T&E			8.851	0.700		0.800		0.431		Continuing	Continuing	Continuing
Remarks: 1. PY funding reflects PE 0604721N. PE 0604721N migrated (Battle Group Passive Horizon Extension System) into PE 0304785N in FY 2007												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	Various	Various	11.149	1.960		1.487		1.015	11/08	Continuing	Continuing	Continuing
Travel	DTS	SPAWAR	0.551	0.152		0.138		0.259	11/08	Continuing	Continuing	Continuing
Subtotal Management			11.700	2.112		1.625		1.274		Continuing	Continuing	Continuing
Remarks: 1. PY funding reflects PE 0604721N. PE 0604721N migrates (Battle Group Passive Horizon Extension System) into PE 0304785N beginning in FY 07.												
Total Cost			105.611	25.444	0.000	21.268	0.000	12.642		Continuing	Continuing	Continuing
Remarks: 1. PY funding reflects PE 0604721N. PE 0604721N migrated (Battle Group Passive Horizon Extension System) into PE 0304785N in FY 2007												

EXHIBIT R4, Schedule Profile		SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT F (SSEE Incr F)																DATE: February 2008																						
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																									
RDT&E,N / BA-5					0304785N TACTICAL CRYPTOLOGIC SYSTEMS										2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT F (SSEE Incr F)																									
Fiscal Year	2005				2006				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	1	2	3	4	1	2	3	4				
Acquisition Milestones						▲ MS B	▲																																	
System Development																																								
SSEE INC F EDM Deliveries																																								
Software Development SSEE Inc E																																								
FRP Baseline SW Development																																								
SSEE Inc F EDM Baseline SW Development																																								
LRIP Baseline SW Development																																								
FRP Baseline SW Development																																								
Test & Evaluation Milestones																																								
Development Test																																								
Operational Test																																								
Production Milestones																																								
LRIP FY 10 SSEE Inc F																																								
FRP FY 11 SSEE Inc F																																								
FRP FY 12 SSEE Inc F																																								
FRP FY 13 SSEE Inc F																																								
Procurements																																								

Remarks:
 1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
 2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

EXHIBIT R4, Schedule Profile																				DATE: February 2008																
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME																					
RDT&E,N / BA-5					0304785N TACTICAL CRYPTOLOGIC SYSTEMS										2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/ANTENNA RF DISTRIBUTION (ARFD)																					
Fiscal Year	2005				2006				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	1	2	3	4	1	2	3	4
Acquisition Milestones	Award Contract ▲																																			
Prototype Phase	█												□																							
System Development				SDR ▲				SDR ▲								SDR △																				
EDM Delivery Four EDMs				EDM ▲				EDM ▲								EDM △																				
Test & Evaluation Milestones				FAT ▲				FAT ▲								FAT △																				
FAT				▲				▲								△																				
Developmental Test								DT ▲																												
Production Milestones																Design Package △																				
Deliver Design Package to SSEE																△																				
Deliveries																																				

Remarks:
 1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
 2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

EXHIBIT R4, Schedule Profile																	DATE: February 2008																			
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																								
RDT&E, N / BA 5				0304785N TACTICAL CRYPTOLOGIC SYSTEMS								2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)																								
Fiscal Year	2005				2006				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	1	2	3	4	1	2	3	4
Software																																				
Version 1 SW Development																																				
Version 1 SDT&E																																				
Version 1 HW integration																																				
Version 1 Software Delivery																																				
Version 2 SW Development																																				
Version 2 HW Integration																																				
Version 2 Software Delivery																																				
Version 3 SW Development																																				
Version 3 HW Integration																																				
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Version 5 HW Integration																																				
Version 5 Software Delivery																																				
Version 6 SW Development																																				
Version 6 HW Integration																																				
Version 6 Software Delivery																																				
Product Maint. & Sustainment																																				
Maintenance Releases																																				
Test & Evaluation																																				
Milestones																																				
Technical Information Meetings																																				
Developmental Testing																																				
DT-V1																																				
DT-V2																																				
DT-V3																																				
DT-V4																																				
DT-V5																																				
DT-V6																																				
Development																																				
Milestones																																				
Integration at P-3 TSC/MOC (PMA-290 effort)																																				
Integration with PARAGON / SSEE Inc E effort																																				

Remarks:

1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

Exhibit R-4a, Schedule Detail					DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E,N / BA 5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS				2134 SHIPBOARD INFORMATION WARFARE (IW) EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)				
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
SURPAS Development									
Phase 1 - Software Delivery	Q2								
Phase 2 - Software Delivery	Q4								
Phase 3 - Software Delivery		Q2							
Phase 4 - Software Delivery		Q4							
Phase 5- Software Delivery			Q2						
Phase 6 - Software Delivery			Q4						
Software Maintenance Release			Q4						
Technical Information Meeting	Q1 & Q3	Q1 & Q3	Q2 - Q4	Q1					
Developmental Testing (DT-IIA)	Q2 & Q4	Q2 & Q4	Q2 & Q4						
Integration at TSC		Q4	Q1						
IOC at TSC			Q2						
Integration with PARAGON		Q4	Q2						
Interim PARAGON Demo		Q4							
PARAGON Demo			Q2						

Remarks:

1. Shipboard IW migrated from PE 0604721N (Battle Group Passive Horizon Extension System) beginning FY07.
2. Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E,N / BA-5	0304785N TACTICAL CRYPTOLOGIC SYSTEMS			3165 AUTOMATIC IDENTIFICATION SYSTEM (AIS)				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 20010	FY 2011	FY 2012	FY 2013	
Project Cost	2.993	16.962	4.036	1.000	0.500	0.000	0.000	
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: AUTOMATIC IDENTIFICATION SYSTEM (AIS): AIS is an International Maritime Very High Frequency (VHF) Communication system that allows any ship to exchange information (machine to machine) on Navigation (Position, Course, Speed, etc), Ship Info (Ship Name, Call Sign, Length/Beam), Cargo Info (Draft, Type, Destination, Route, Estimated Time of Arrival (ETA)), and Messaging (Safety, Text). This technology will improve capability in three diverse areas: (a) Situational Awareness/Common Operational Picture (COP) (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation. RDT&E will fund the integration of Commercial off-the-shelf (COTS) Automatic Identification System (AIS) equipment into the existing Global Command and Control - Maritime/Common Operational Picture (GCCS-M)/COP, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search / weapons systems and intelligence / Cryptologic capabilities.</p> <p>The warfighting enhancement is to achieve an all-source Maritime Domain Awareness (MDA) capability, the Chief of Naval Operations (CNO) endorsed requirements for an unclassified (a) shipboard track management and (b) operational and tactical aggregation services capability for AIS data, organic shipboard sensors (including radar and EO/IR), and airborne surface search radar. This capability must be exportable to those countries that have the capability to participate in MDA, with minimum additional manning and technical expertise. Finally, cross domain solutions that provide multi-layer security while allowing access to information across classified domains is needed to complete the fusion of AIS data with other data sources. These must be initially deployable in FY08, requiring minimum additional development. This effort will improve current capability in three diverse areas: (a) future integration of AIS receivers on Unmanned Aerial Systems (UASs), to increase the AIS Situational Awareness of deployed United States Navy (USN) ships (b) improve situational awareness, navigation and safety of ship by fusing AIS data with organic ship sensors (and airborne radars), and (c) providing a cross domain solution for integration of AIS data with other forms of unclassified data from a variety of platforms (including classified domains).</p>								

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME 3165 AUTOMATIC IDENTIFICATION SYSTEM (AIS)
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(U) B. Accomplishments/Planned Program

AUTOMATIC IDENTIFICATION SYSTEM (AIS):	FY 07	FY08	FY 09
Accomplishments/Effort/Subtotal Cost	2.993	16.962	4.036
RDT&E Articles Quantity			

FY 07: Efforts included the integration of Commercial off-the-shelf (COTS) Automatic Identification System (AIS) equipment into the existing Global Command and Control - Maritime (GCCS-M)/Common Operating Picture (COP), Navigation Sensor System Interface (NAVSSI), navigation and bridge capabilities, surface search/weapons systems and intelligence/Cryptologic capabilities in support of AIS Phase 2 procurement efforts. Demonstrated additional aspects of the AIS Fleet Concept of Operation (CONOP) that can be included in an AIS Phase 3 configuration via participation in the FORCEnet v2.0, the Maritime Domain Awareness (MDA) Community of Interest (Col) Pilot demonstration, and Trident Warrior (TW) 07. Environmental testing required to install units on ships.

FY 08: Funds will design and develop the Engineering Change Proposal (ECP) to the unclassified MDA Col Data Sharing (DS) Col pilot effort (phase 3) AIS implementation. Further define the global AIS architecture, and its relation to emerging US Navy and National MDA CONOP.

The warfighting enhancement will fund the integration of COTS AIS equipment into unmanned aerial systems (b) implementation of Government off-the-shelf (GOTS software) on US Navy ships (c) for aggregation of fused track management data, and (d) for acceleration and transition of cross-domain solutions.

FY 09: Funds will design and develop a Net-Centric Enterprise Solution (NESI)-compliant AIS, within a service oriented architecture (SOA). Additionally, funds will consolidate and streamline data sharing between the US Navy/Department of Defense (DoD) AIS capability and other agencies, such as the Department of Transportation emerging Maritime Security and Safety Information System (MSSIS). Funds will also continue the refinement of the Global AIS architecture, and its relation to the overall US Navy MDA effort and CONOP as well as the National MDA CONOP. This will provide a secure end-to-end AIS data sharing capability in-line with National MDA CONOPs and current DoD guidance and policies.

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS			PROJECT NUMBER AND NAME 3165 AUTOMATIC IDENTIFICATION SYSTEM (AIS)		
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
OPN Line 2360	116.854	51.028	83.408	103.529	84.732	91.549	93.019
 (U) D. ACQUISITION STRATEGY:							
Acquisition management and contracting strategies are to support the integration of Commercial off-the-shelf (COTS) Automatic Identification System (AIS) data into the existing and emerging US Navy Command and Control and Network infrastructure capabilities, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search/weapons systems and intelligence/cryptologic capabilities. COTS will be procured from a contractor with government oversight from Space and Naval Warfare (SPAWAR) Systems Center (SSC) - Charleston, SSC - San Diego with management oversight by SPAWAR .							
 (U) E. MAJOR PERFORMERS:							
N/A							
 (U) F. METRICS:							
Earned Value Management (EVM) is used for metrics reporting and risk management.							

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME				
RDT&E,N / BA-5			0304785N TACTICAL CRYPTOLOGIC SYSTEMS					3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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
Primary Hardware Development	Various	Various				0.500				Continuing	Continuing	Continuing
Ancillary Hardware Development	CPFF	CSIC		0.130	11/06	0.600	11/06	0.000		Continuing	Continuing	Continuing
Systems Engineering	WX	SSC SD		0.100		0.900				Continuing	Continuing	Continuing
Training Development	WX	SSC SD		0.100		0.100				Continuing	Continuing	Continuing
Subtotal Product Development				0.330		2.100		0.000		Continuing	Continuing	Continuing
Remarks:												
Development Support												
Software Development	Various	Various		1.989		12.661		1.536	11/08	Continuing	Continuing	Continuing
Training Development	WX	SSC SD				0.500		0.300	11/08	Continuing	Continuing	Continuing
Integrated Logistics Support	Various	Various		0.100		0.600		0.300	11/08	Continuing	Continuing	Continuing
Configuration Management	Various	Various		0.100		0.400		0.300	11/08	Continuing	Continuing	Continuing
Technical Data	Various	Various						0.225	11/08	Continuing	Continuing	Continuing
Subtotal Support				2.189		14.161		2.661		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5			PROGRAM ELEMENT 0304785N TACTICAL CRYPTOLOGIC SYSTEMS					PROJECT NUMBER AND NAME 3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY 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
Developmental Test & Evaluation	WX	SSC SD		0.104		0.200				Continuing	Continuing	Continuing
Operational Test & Evaluation	Various	Various		0.130				0.400	11/08	Continuing	Continuing	Continuing
Subtotal T&E				0.234		0.200		0.400		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support	Various	Various		0.100		0.100		0.300	11/08	Continuing	Continuing	Continuing
Government Engineering Support	Various	Various				0.100		0.300	11/08	Continuing	Continuing	Continuing
Program Management Support	Various	Various		0.100		0.201		0.300	11/08	Continuing	Continuing	Continuing
Travel	DTS	SPAWAR		0.040		0.100		0.075	11/08	Continuing	Continuing	Continuing
Subtotal Management				0.240		0.501		0.975		Continuing	Continuing	Continuing
Remarks:												
Total Cost				2.993		16.962		4.036		Continuing	Continuing	Continuing
Remarks:												

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA 5	PROGRAM ELEMENT 0304785N TACTICAL CRYPTOLOGIC SYSTEMS				PROJECT NUMBER AND NAME 3165/AUTOMATIC IDENTIFICATION SYSTEM (AIS)			
Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AIS Integrated Phase 2A	Q2							
ADM Phase 1	Q2							
ADM Phase 2A	Q4							
ADM Phase 2B		Q1						
ADM Phase 1A & 2B		Q3						
Congressional New Start Approval	Q1							
Contract Award	Q2							
Operational Test Readiness Review (OTRR)			Q4					
Milestone C (MS C)				Q1				
Transceiver Contract				Q1				
Rapid Deployment Capability (RDC)	Q2							
T-ISP		Q2						
Information Assurance (IA) Strategy			Q1					
Acquisition Strategy			Q3					
TEMP			Q3					
Quick Reaction Assessment (QRA)	Q3	Q2						
DT&E Phase 2B	Q4							
MASS ST&E		Q4						
JITC Interoperability Assessment		Q4						
Operational Assessment			Q4					
AIS Server CT & E/ST&E (CANES Lite)				Q1				
Ful Operation Test & Evaluation (FOT&E)				Q4				
AIS Stand-alone Deliveries	Q2							
AIS Integrated Phase 1A and 2B Deliveries	Q4							
AIS Integrated Phase 1A and 2B Deliveries subs			Q4					
AIS Transceiver Refresh Deliveries				Q1				
AIS Server (& Laptop) Refresh (CANES)					Q1			

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME Various Congressional Increases

(U) B. Accomplishments/Planned Program

9242 COBLU - NETWORK CENTRIC WARFARE ENHANCEMENTS	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.996		
RDT&E Articles Quantity			

COOPERATIVE OUTBOARD LOGISTICS UPGRADE (COBLU) - NETWORK CENTRIC WARFARE ENHANCEMENTS - Funds were used to build upon the current direction finding (DF) enhancement prototype by reducing the amount of computational hardware required for an enhanced scanning high frequency (HF) DF system. This was a cost effective way to reduce the computational hardware by placing the computer intensive portion of the process into industry standard Field Programmable Gate Arrays (FPGAs). This upgrade increased the US Navy's ability to process threat signals and provide an order of magnitude increase to the number of direction finding results produced per second. This enhancement also allowed for a feed of critical information into the Distributed Information Operations - Services (DIO) architecture employing the currently funded COBLU Net Centric Warfare upgrade.

9901 TREXIMILDEC TACTICAL TARGET GENERATOR SYSTEM	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.996		
RDT&E Articles Quantity			

TREXIMILDEC TACTICAL TARGET GENERATOR SYSTEM - MILDEC Tactical Target Generator (TTG) provided both offensive and defensive Information Operations (IO) and Military Deception (MILDEC) capabilities for military aircraft against current and future hostile air defense systems. In the offensive mode, the TTG will provide a tactical IO capability for airborne platforms to electronically stimulate hostile air defense acquisition and tracking radars so they can be detected and located by national and tactical sensors, and then be destroyed by US or coalition forces. In the defensive mode, the TTG will enable tactical airborne platforms (manned, unmanned, fixed wing or rotary) to successfully enter, transit and egress hostile territory by appearing as a non-threatening air contact.

9A29 ANS/SSQ-137 (v) SHIPS SIGNAL EXPLOITATION EQUIPMENT	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.295	1.589	
RDT&E Articles Quantity			

ANS/SSQ-137 (v) SHIPS SIGNAL EXPLOITATION EQUIPMENT - ANS/SSQ supported efforts to develop the latest Pre-Planned Product Improvements (P3I) enhancements upgrades to maintain the systems operational capability against evolving modern and future digital communications signals. P3I technology upgrades include; development of Communications Intelligence (COMINT) mapping and task synchronization, development Time Differential Multiplexing (TDM) and Networked High Frequency (HF)/ Direction Finding (DF) capability, and Radio Frequency Distribution Unit (RFDU) enhancements. These upgrades will improve SSEE Increment E and F capability to collect, process and analyze hostile threat communications emitters in order to provide tactical intelligence, Situational Awareness (SA), indications and warning, and hostile threat assessment to deployed Carrier Strike Group (CSG)/Expeditionary Strike Group (ESG) forces.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0304785N TACTICAL CRYPTOLOGIC SYSTEMS	PROJECT NUMBER AND NAME Various Congressional Increases

(U) B. Accomplishments/Planned Program

9A30 SCAN EAGLE UAV ADVANCED DATALINK AND SENSOR DEV	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.996		
RDT&E Articles Quantity			

SCAN EAGLE UAV ADVANCED DATALINK AND SENSOR DEVELOPMENT- RDT&E funds the development of a Scan Eagle high capacity data link compatible with the Common Data Link (CDL) waveform and NATO STANAG 4586 to enhance interoperability and networked imagery distribution with US Navy Fleet assets. The integration of a Commercial-off-the-Shelf (COTS) Automatic Identification System (AIS) transceiver into Scan Eagle and data integration into the Navy's Integrated AIS Rapid Deployment Capability (RDC). This AIS RDC in turn provides AIS sensor data to the Global Command and Control - Maritime (GCCS-M) COP, Navigation Sensor System Interface (NAVSSI) navigation and bridge capabilities surface search / weapons systems and intelligence/cryptologic capabilities. Integration of this AIS technology will improve capability in three diverse areas: (a) Situational Awareness/COP(b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation.