

UNCLASSIFIED

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2006		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				BA 5 PE 0604721N Battle Group Passive Horizon Extension System				
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2011
Total PE Cost	29.677	32.779						
2134/SHIPBOARD IW EXPLOIT	17.799	18.179						
9999/Congressional Adds	11.878	14.600						
Quantity of RDT&E Articles								
<p>Shipboard IW migrates to PE 0304785N (Tactical Cryptologic Systems) beginning FY07.</p> <p>U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Shipboard Information Warfare line includes the following programs: Ships Signal Exploitation Equipment (SSEE), the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21) and Communications Data Link System (CDLS) the Program of Record that implements the DoD mandated use of the Common Data Link waveform to downlink un-processed IMINIT (Imagery Intelligence). 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 TIARA (DOD 7000.14) Congressional Adds *: NAVY INTELLIGENT AGENT SECURITY MODULE (IASM): – Offensive Capabilities (program name recently changed to Sensing, Warning, and Response Manager (SWARM)). Funds provided for Small Business Innovation Research (SBIR) II research, development, testing and evaluation of newly designed "Offensive capabilities technology for the IASM . Assures information dominance and superiority against threats with forensics and countermeasure options.</p> <p>AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF): - Funds will support the test and evaluation of communications module; documentation; test and evaluation of additional interface capabilities for different type aircraft. Test and evaluation of antennas for airborne pod operation. The add will also provide engineering support for flight clearances and for test support engineering.</p> <p>ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM (ATTSS): - Funds will support Phase III SBIR to ATTSS for the development of 2 Engineering Development Models to be provided to the Mobile Inshore Undersea Warfare System Upgrade (MIUW-SU).</p> <p>SHIPBOARD INFORMATION WARFARE EXPLOIT: - Funds are to develop organic Electronic Intelligence (ELINT) collection, response, processing and integration, which will provide individual ships with an integrated and consolidated SIGINT picture of the threat battle space. This add will address the ORD requirements to provide SSEE with a tactical organic ELINT capability.</p> <p>SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE): - Funds will provide enhancements to SSEE using commercial off the shelf hardware such as Field Programmable Gate Arrays (FPGAs). SSEE is an adaptable system that can accommodate new threat signals through software updates. Emergent signals place increased demand on system processing requirements. At the same time, opportunities exist to expand system capabilities through the use of new COTS FPGA boards to increase processing capability without increasing system cost.</p> <p>SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE: - Funds are provided to develop and expand the applied Special Signal rule set and to expand the subject signal set to cover the larger number of signal types that are required. Obtain message textual para data for special signal case to create template module to process new bit data; to expand the AIE data mining capability to cover additional signal types and expand actionable intelligence extraction rule set that permit automated actionable intelligence extraction of other key signals of interest in the war on terror.</p>								
R-1 SHOPPING LIST - Item No. 124								

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2)

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-5	PE 0604721N Battle Group Passive Horizon Extension System	
<p>Congressional Adds Continued:</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 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 DIO-S will be provided and an at-sea technology demonstration will be conducted.</p> <p>ADVANCED TACTICAL COMMUNICATIONS INTERCEPT - (ACTIC) is a remote, IP based sensor system developed to provide Carrier Strike Group (CSG)/Expeditionary Strike Group (ESG) personnel access to adversary wireless communication signals and will be used for signal exploitation. Designed for shipboard use and to be carried by unmanned air vehicles and fixed wing aircraft, it will provide deployed Naval and Marine Forces with a persistent over-the horizon SIGINT capability under their direct operational control.</p> <p>REMOTE SENSING AND DATA MANAGEMENT - Remote Sensing and Data Management is a multiple wireless sensors which will be installed in shipping containers including video imagery, and anti-tamper devices. Sensor data will be gathered by either a handheld device or a standalone hub, and will be stored in a sensor monitoring database for analysis and display using web based technology.</p> <p>TAPERED SLOT ANTENNA - A tapered slot antenna has been developed to collect modern hostile threat communications signals. The prototype was initially developed with National Security Agency (NSA) Tactical SIGINT Technology (TST) funding. Additionally needed technology upgrades have been identified to further improve antenna functionality and to enhance its ability for hostile/threat emitter detection, which will be back fitted as future engineering change proposals (ECPs) to the tapered slot antenna system. Accelerated development of these urgently needed tapered slot antenna upgrades will significantly enhance SSEE Increments E's ability to both collect and process signals for Indications and Warning (I&W) more accurate cuing of sensors, improved COMINT and Electronics Intelligence (ELINT) signal exploitation and more timely support for Time Critical Strike operations. Additional development to the Tapered Slot Antenna will incorporate the latest advances in digital technology and provide the Navy with its first truly multi-function antenna suitable for simultaneous direction Finding (DF), signal acquisition and Information Operations (IO).</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>		

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5	PE 0604721N Battle Group Passive Horizon Extension System

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2005	FY 2006	FY 2007
FY2006 President's Budget	29.966	18.456	17.736
FY2007 Budget Estimate	29.677	32.779	0
Total Adjustments	-0.289	14.323	-17.736

Summary of Adjustments

Department of Energy Transfer	-0.023		
Nuclear Physical Security (OSD-09)	0.005		
Trusted Foundry (OSD-09)	0.019		
Small Business Innovation Research (SBIR)	-0.290		
Congressional Adds		14.600	
SEC. 8125 Revised Economic Adjustments		-0.084	
Congressional Action 1% Reduction		-0.193	
FORCenet Shipboard IW Prgram Increase			4.450
Realigns Shipboard IW Exploit R&D Project to correct PE			-22.186
Subtotal	-0.289	14.323	-17.736

(U) Schedule:
Not Applicable.

(U) Technical:
Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2006

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	PE 0604721N Battle Group Passive Horizon Extension System				2134/SHIPBOARD IW EXPLOIT			
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost	17.799	18.179	0.000	0.000	0.000	0.000	0.000	
RDT&E Articles Qty								

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

The Shipboard Information Warfare line includes the following programs: Ships Signal Exploitation Equipment (SSEE), the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21) and Communications Data Link System (CDLS) the Program of Record that implements the DoD mandated use of the Common Data Link waveform to downlink un-processed IMINIT (Imagery Intelligence). 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.

Military Intelligence Program (MIP), formerly TIARA (DOD 7000.14)

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	2134/SHIPBOARD IW EXPLOIT	
(U) B. Accomplishments/Planned Program			
	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.000	0.600	0.000
RDT&E Articles Quantity			
<p>Communications Data Link- System (CDLS)</p> <p>FY05 - Designed and Developed CDLS Interfaces to Phased Array Antenna Systems. Integrated and Tested Cooperative Antenna Program Sub-array Assemblies. Designed and developed CDLS Spiral 1 Advanced Networking Technology Insertion Kit. Continued Vendor Interoperability and Integration Testing with emerging Navy sensor systems such as BAMS, MMA, GHMD, F/A-18 SHARP, P-3C AIP, and EP-3E Multi-int systems. Design and Develop KGV-135A communications security Module. Design and Develop CDLS Interfaces with Automated Data Network System (ADNS). Developed Joint Tactical Radio Systems (JTRS) Software Communications Architecture (SCA) Core Framework for CDLS.</p> <p>FY06 - Continue Integration and Test of Phased Array Antenna Systems sub-array assemblies. Continue Vendor Interoperability and Integration Testing with emerging Navy sensor systems such as BAMS, MMA, GHMD, F/A-18 SHARP, P-3C AIP, and EP-3E Multi-int systems. Continue Design and Develop KGV-135A COMSEC Module.</p> <p>Note: Name change from CDL-N Block 1 to CDLS.</p>			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	2134/SHIPBOARD IW EXPLOIT		

(U) B. Accomplishments/Planned Program

	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	0.800	0.000	0.000	
RDT&E Articles Quantity				

Cryptologic On-Line Trainer (COLT)

FY05 - Completed modifications and improvements to COLT server in support of CUB 5.X integration. Upgraded existing COLT client applications (SSEE Inc E, COBLU Phase 1, and CDF). Completed COLT Battle Force Tactical Trainer (BFTT) integration development.

Note: Current migration plan for COLT to be integrated into the SSEE Program.

	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	1.000	0.000	0.000	
RDT&E Articles Quantity				

Cryptologic Unified Build (CUB)

FY05 - Completed development and integration of CUB software to incorporate DII COE 4.Y baseline. This development effort completed the DII COE 4.Y baseline. Completed development of CUB On-Line Tutorial, CUBOLT software.

*DII COE - Defense Information Infrastructure (DII) Common Operating Environment (COE)

Note: Current migration plan for CUB to be integrated into the SSEE Program.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	2134/SHIPBOARD IW EXPLOIT	

(U) B. Accomplishments/Planned Program

	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	3.763	1.000	0.000	
RDT&E Articles Quantity				

Multi-Mission Payload (MMP)

FY05 - Completed development of the EDMs pod and conduct laboratory acceptance tests. Obtained Flight Certification and completed testing. Performed land-based flight tests and demonstrations.

FY06 - Completed carrier launch qualifications and performed flight demonstrations on carrier launched aircraft.

	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	5.133	14.349	0.000	
RDT&E Articles Quantity				

Ship Signal Exploitation Equipment

FY05 - Continued with effort to improve Command and Control software portion of the HITS in SSEE Inc E. Continued to expand Signals of Interest (SOI) processing capability to priority signal sets. Fully tested improved software. Initiated acquisition development for follow-on increments.

FY06 - Continue with effort to improve Command and Control software portion of the HITS in SSEE Incre E. Continue to expand SOI processing capability to priority signal sets. Fully test improved software. Modify COLT server to upgrade current software releases. Continue development and integration of Cryptologic Unified Build (CUB) software. Begin SSEE Inc F development to support Engineering Development Models (EDMs), system design, integration, testing and remoting of manned and unmanned platforms.

Note: CUB and COLT will be migrated into SSEE Program beginning FY 06.

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	2134/SHIPBOARD IW EXPLOIT	
(U) B. Accomplishments/Planned Program			
	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.603	1.230	0.000
RDT&E Articles Quantity			
<p>Specific Emitter Identification (SEI)</p> <p>FY05 - Continued to improve SEI software Phase III to support additional tactical installations, surface combatants, and airborne platforms. Enhanced the exchange of Navy SEI data. Began incorporation of future SEI algorithms corresponding to the next generation of multi-mission combatants and changing target sets. Continued incorporation of SEI into the overall Navy EW architecture for enhanced correlation and integration into Navy single platform distributed EW systems, which included surface, subsurface, and airborne.</p> <p>FY06 - Continue incorporation of next generation SEI algorithms into existing fielded SEI systems with new algorithms and software. Increase capabilities to distribute and utilize SEI data in network centric architectures. Enhance automation capabilities of SEI collection, processing, and reporting software. Integrate geolocation information with SEI systems. Continue incorporation of SEI into ELINT and the overall Navy EW architecture, and use of COTS hardware for SEI data extraction. Develop software enhancements in GCCS-M, GALE Lite, and other fielded systems to support next generation SEI capabilities and data types. Pursue SEI-based deinterleaving for tactical and high volume collectors. Pursue enhanced SEI algorithms and techniques.</p>			
	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.500	1.000	0.000
RDT&E Articles Quantity			
<p>Antenna & RF Distribution</p> <p>FY05 - Updated requirements analysis to maintain growing Signals of Interest (SOI) threat capability support via system radio frequency distribution (RFD) unit and future antenna upgrades. Continued development of future antenna for low signature direction Finding (DF) and acquisition/enhanced performance.</p> <p>FY06 - Continue development of antenna & radio frequency (RF) tools to enhance future capabilities via new technologies, EDM development, testing and certification.</p>			

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME																			
RDT&E, N / BA-5		PE 0604721N Battle Group Passive Horizon Extension System		2134/SHIPBOARD IW EXPLOIT																			
<p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Line Item No. & Name</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> <th style="text-align: right;"><u>FY 2008</u></th> <th style="text-align: right;"><u>FY 2009</u></th> <th style="text-align: right;"><u>FY 2010</u></th> <th style="text-align: right;"><u>FY 2011</u></th> </tr> </thead> <tbody> <tr> <td>OPN Line 2360</td> <td style="text-align: right;">68.454</td> <td style="text-align: right;">58.991</td> <td style="text-align: right;">70.782</td> <td style="text-align: right;">67.333</td> <td style="text-align: right;">91.484</td> <td style="text-align: right;">104.013</td> <td style="text-align: right;">87.937</td> </tr> </tbody> </table> <p>(U) D. ACQUISITION STRATEGY: *</p> <p>Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to SSC-Charleston, SSC-San Diego and miscellaneous contractors, with management oversight by SPAWAR.</p> <p>(U) E. MAJOR PERFORMERS:</p> <p>N/A</p> <p>(U) F. METRICS:</p> <p>Earned Value Management (EVM) is used for metrics reporting and risk management.</p>								<u>Line Item No. & Name</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	OPN Line 2360	68.454	58.991	70.782	67.333	91.484	104.013	87.937
<u>Line Item No. & Name</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>																
OPN Line 2360	68.454	58.991	70.782	67.333	91.484	104.013	87.937																

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Exhibit R-3 Cost Analysis (page 1)

DATE:

February 2006

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDT&E, N / BA 5

PE 0604721N Battle Group Passive Horizon Extension System

2134/SHIPBOARD IW EXPLOIT

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	39.994	3.955	12/04	5.350	12/05					
Ancillary Hardware Development												
Systems Engineering	Various	Various	6.669	5.074		4.397						
Training Development	Various	Various	0.168	0.075		0.093						
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			46.831	9.104		9.840						

Remarks:

Development Support												
Software Development	Various	Various	10.549	3.738		3.811						
Training Development												
Integrated Logistics Support	Various	Various	0.485	0.136		0.130						
Configuration Management	Various	Various	0.199	0.117		0.120						
Technical Data												
GFE												
Subtotal Support			11.233	3.991		4.061						

Remarks:

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Exhibit R-3 Cost Analysis (page 2)

DATE:

February 2006

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDT&E, N / BA 5

PE 0604721N Battle Group Passive Horizon Extension System

2134/SHIPBOARD IW EXPLOIT

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	3.927	0.927	12/04	0.868	12/05					
Operational Test & Evaluation	Various	Various	0.716	0.421		0.395						
Live Fire Test & Evaluation												
Test Assets	Various	Various	0.746	0.439		0.412						
Tooling												
GFE												
Subtotal T&E			5.389	1.787		1.675						

Remarks:

Contractor Engineering Support												
Government Engineering Support												
Program Management Support	Various	Various	5.923	2.765		2.461						
Travel	Various	Various	0.257	0.152		0.142						
Subtotal Management			6.180	2.917		2.603						

Remarks:

Total Cost			69.633	17.799	0.000	18.179	0.000					
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Remarks:

R-1 SHOPPING LIST - Item No. 124

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2006								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA- 5					PE 0604721N Battle Group Passive Horizon Extension System										2134 SHIPBOARD IW EXPLOIT/COMMUNICATIONS DATA LINK-SYSTEM (CDLS)													
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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					MSD △			FOC △																				
Test & Evaluation Milestones																												
Development Test	DT-C																											
Operational Test		OA-C																										
Interoperability Testing																												
Production Milestones																												
LRIP I																												
LRIP II																												
FRP FY04																												
Deliveries					↓ 7																							
Development Milestones																												
Phased Array Ant Interfaces																												
Spiral 1 Design																												
Spiral 1 ECP Dev																												
JTRS SCA Core Framework																												
JTRS SCA ECP Dev																												
Vendor Interop & Int Testing																												

R-1 SHOPPING LIST - Item No. 124

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Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

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EXHIBIT R4, Schedule Profile																	DATE: February 2006											
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA- 5					PE 0604721N Battle Group Passive Horizon Extension System										2134 SHIPBOARD IW EXPLOIT/MULTI-MISSION PAYLOAD (MMP)													
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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		A/C Integration Planning ■																										
Equipment Delivery EDM Delivery			EDM Deliveries ▲																									
Software																												
Test & Evaluation Milestones																												
Development Test			Lab Tests ▲																									
Operational Test																												
Production Milestones																												
LRIP I																												
LRIP II																												
FRP																												
Deliveries																												

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KISERDUG;: P L J U D M V R 3 (1 7 D F M F D & U S V R O J I F 6 \ V M P V E H J I Q Q I Q J) <

Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

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KLSERDUG,: P L J U D M V W R 3 (1 7 D F M F D & U S W R O J I F 6 \ V M P V E H J L Q Q I Q J) <

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IBR SRR SFR PDR CDR DRR TRR | |

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EXHIBIT R4, Schedule Profile																	DATE: February 2006											
SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT E (SSEE Incr E)																												
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA- 5					PE 0604721N Battle Group Passive Horizon Extension System										2134 SHIPBOARD IW EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT E (SSEE Incr E and F)													
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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	INC E IOC ▲				INC F MS B ▲	SSEE Inc F Contract Award ▲							INC F MSC ▲	LRIP Contract ▲			FRP Decision ▲			IOC ▲	MSD ▲	FRP Option ▲						
System Development					IBR	SRR	SFR	PDR	CDR	DRR	TRR									FRP Contract Option								
SSEE INC F EDM Deliveries													▲	INC F EDMs	▲													
Software Development																												
SSEE Inc E																												
LRIP Baseline SW Development																												
FRP Baseline SW Development																												
SSEE Inc F																												
EDM Baseline SW Development																												
FRP Baseline SW Development																												
Test & Evaluation Milestones																												
Development Test																												
Operational Test																												
Production Milestones																												
FRP FY 04 SSEE Inc E																												
FRP FY 05 SSEE Inc E																												
FRP FY 06 SSEE Inc E																												
FRP FY 07 SSEE Inc E																												
FRP FY 08 SSEE Inc E																												
LRIP FY 09 SSEE Inc F																												
LRIP FY 10 SSEE Inc F																												
Deliveries																												

R-1 SHOPPING LIST - Item No. 124

KISERDUG: P LUDM/IURP 3(1 %DMM* URXS 3DWLYH+RUJ RQ([MQVIRQ6\ VMP EHUQQQJ) <
Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

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R-1 SHOPPING LIST - Item No.

124

SSEE is a spiral development program.

FY09 will introduce a future Increment with new antenna design and P3I.

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

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2)

CLASSIFICATION: UNCLASSIFIED//FOR OFFICIAL USE ONLY

EXHIBIT R4, Schedule Profile

DATE:

February 2006

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CLASSIFICATION: UNCLASSIFIED//FOR OFFICIAL USE ONLY

[illegible]

R-1 SHOPPING LIST - Item No.

124

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE:

February 2006

APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA- 5					PE 0604721N Battle Group Passive Horizon Extension System												2134 SHIPBOARD IW EXPLOIT/CRYPTOLOGIC ON-LINE TRAINER (COLT)											
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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																												
1XXSW Delivery																												
2XXSW Delivery																												
4x SW Development																												
4x SDT&E																												
4x System Documentation																												
4x Software Delivery																												
5.x SW Development																												
5.x SDT&E																												
5.x System Documentation																												
5.x Software Delivery																												
Test & Evaluation Milestones																												
Development Test																												
Operational Test																												
Production Milestones																												
FY04																												
FY05																												
FY06																												
FY07																												
FY08																												
FY09																												
Deliveries																												
Deliveries represents sites																												

R-1 SHOPPING LIST - Item No. 124

UNCLASSIFIED

CLASSIFICATION:

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R-1 SHOPPING LIST - Item No.

124

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																		DATE: February 2006										
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA- 5					PE 0604721N Battle Group Passive Horizon Extension System												2134 SHIPBOARD IW EXPLOIT/ANTENNA RF DISTRIBUTION (ARFD)											
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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																												
Deliver Design Package to SSEE																												
Deliveries																												

R-1 SHOPPING LIST - Item No. 124

KISERDUG, P L J U D M V R 3 (1 7 D F W F D S U S M R J I F 6 \ V M P V E H J L Q Q J) <

Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

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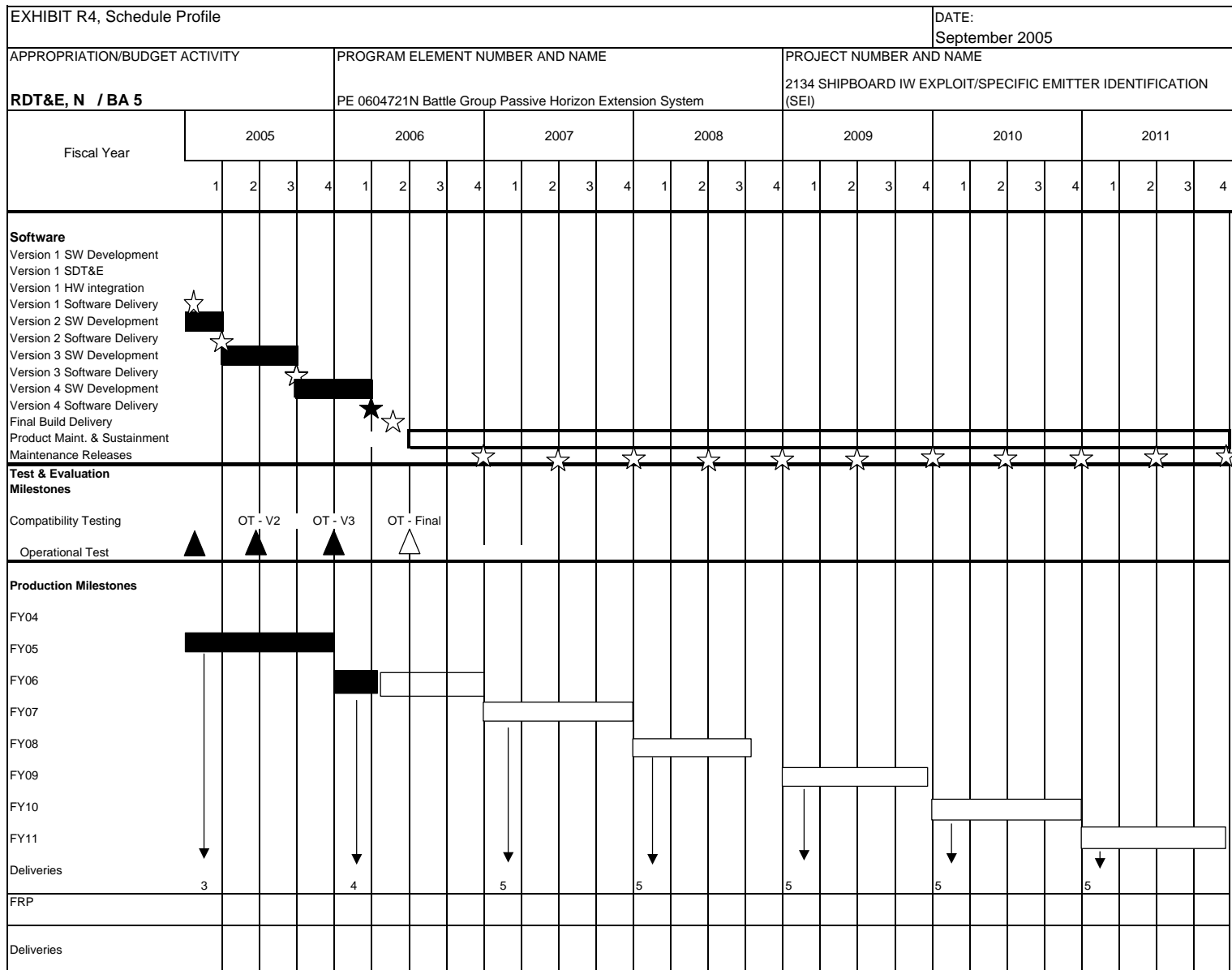
CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 124

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Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

CLASSIFICATION:



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Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

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Exhibit R-4a, Schedule Detail						DATE: September 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT PE 0604721N Battle Group Passive Horizon Extension System				PROJECT NUMBER AND NAME 2134 SHIPBOARD IW EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
SURPAS Development								
Phase 1 - Software Delivery								
Phase 2 - Software Delivery	Q1							
Phase 3 - Software Delivery	Q2-3							
Phase 4 - Software Delivery	Q4	Q1						
Technical Information Meeting	Q1-Q4	Q1-Q4						
Software Delivery	Q2 & Q4	Q2						
Software Maintenance Release			Q1 & Q3	Q1 & Q3	Q1 & Q3	Q1 & Q3	Q1 & Q3	
Hardware/software compatibility testing	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	
Test Readiness Review (TRR)	Q2 & Q4	Q2						
Developmental Testing (DT-IIA)	Q1-Q4	Q1-Q2						
Logistics								
Operational Testing (OT-IIA)	Q2 & Q4	Q2						
Start Low-Rate Initial Production I (LRIP I)		Q3						
IOC		Q3						

R-1 SHOPPING LIST - Item No. 124

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Schedule data for PE 0304785N included in this exhibit for presentation purposes only.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	Various Congressional Increases

(U) B. Accomplishments/Planned Program

9281 NAVY INTELLIGENT AGENT SECURITY MODULE	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.955	1.500	0.000
RDT&E Articles Quantity			

NAVY INTELLIGENT AGENT SECURITY MODULE: – Offensive Capabilities (program name recently changed to Sensing, Warning, and Response Manager (SWARM)).
FY 05 - Funds provided for SBIR II research, development, testing and evaluation of newly designed "Offensive capabilities technology for the IASM . Assures information dominance and superiority against threats with forensics and countermeasure options.
FY 06 - Funds support extending wireless support to spec 802.16 and 802.20

9581 AIRBORNE COMMUNICATIONS INTERCEPT POD	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.641	0.000	0.000
RDT&E Articles Quantity			

AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF): - Funds support the test and evaluation of communications module; documentation; test and evaluation of additional interface capabilities for different type aircraft. Test and evaluation of antennas for airborne pod operation. The add will also provide engineering support for flight clearances and for test support engineering.

9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.064	0.000	0.000
RDT&E Articles Quantity	0	0	0

ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM: - Provides Force Protection and Indications and Warning data.

9584 SHIPBOARD INFORMATION WARFARE EXPLOIT	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.151	0.000	0.000
RDT&E Articles Quantity			

SHIPBOARD INFORMATION WARFARE EXPLOIT: - Funds are to develop organic ELINT collection, response, processing and integration, which will provide individual ships with an integrated and consolidated SIGINT picture of the threat battle space. This add will address the ORD requirements to provide SSEE with a tactical organic ELINT capability.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension	PROJECT NUMBER AND NAME Various Congressional Increases
RDT&E, N / BA 5	System	

(U) B. Accomplishments/Planned Program

9585 SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE)	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.962	0.000	0.000
RDT&E Articles Quantity			

SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE): - Funds will provide enhancements to SSEE using commercial off the shelf hardware such as Field Programmable Gate Arrays (FPGAs). SSEE is an adaptable system that can accommodate new threat signals through software updates. Emergent signals place increased demand on system processing requirements. At the same time, opportunities exist to expand system capabilities through the use of new COTS FPGA boards to increase processing capability without increasing system cost.

9586 SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.105	1.400	0.000
RDT&E Articles Quantity			

/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE: - Congressional Add funds are provided to develop and expand the applied Special Signal rule set and to expand the subject signal set to cover the larger number of signal types that are required. Obtain message textual para data for special signal case to create template module to process new bit data; to expand the AIE data mining capability to cover additional signal types and expand actionable intelligence extraction rule set that permit automated actionable intelligence extraction of other key signals of interest in the war on terror.

FY 05 - Funds are provided to develop and expand the applied Special Signal rule set and to expand the subject signal set to cover the larger number of signal types that are required. Obtain message textual para data for special signal case to create template module to process new bit data; to expand the AIE data mining capability to cover additional signal types and expand actionable intelligence extraction rule set that permit automated actionable intelligence extraction of other key signals of interest in the war on terror.

FY 06 - Funding provided to expand parametric generation to include platform identification, additional source data, complete the knowledgebase development and continue knowledgebase tool development.

9242 COBLU - NETWORK CENTRIC WARFARE ENHANCEMENTS	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	2.800	0.000
RDT&E Articles Quantity			

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 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 DIO-S will be provided and an at-sea technology demonstration will be conducted. Funding will be used to provide interface software between DIO-S and COBLU; and will be used to conduct an at-sea technology demonstration.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	Various Congressional Increases

(U) B. Accomplishments/Planned Program

9897ADVANCED TACTICAL COMMUNICATIONS INTERCEPT	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	3.400	0.000
RDT&E Articles Quantity			

ADVANCED TACTICAL COMMUNICATIONS INTERCEPT - (ACTIC) is a remote, IP based sensor system developed to provide Carrier Strike Group (CSG)/Expeditionary Strike Group (ESG) personnel access to adversary wireless communication signals and will be used for signal exploitation. Designed for shipboard use and to be carried by unmanned air vehicles and fixed wing aircraft, it will provide deployed Naval and Marine Forces with a persistent over-the horizon SIGINT capability under their direct operational control. Funding will accelerate development of new SIGINT capabilities for ATCIC.

9898N/REMOTE SENSING AND DATA MANAGEMENT	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	2.100	0.000
RDT&E Articles Quantity			

REMOTE SENSING AND DATA MANAGEMENT - Remote Sensing and Data Management is a multiple wireless sensors which will be installed in shipping containers including video imagery, and anti-tamper devices. Sensor data will be gathered by either a handheld device or a standalone hub, and will be stored in a sensor monitoring database for analysis and display using web based technology. Funding provided to develop the hub for the on-board sensor management, and the first prototype of the web-based data-centric sensor management system.

9899N/TAPERED SLOT ANTENNA	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.700	0.000
RDT&E Articles Quantity	0	0	0

TAPERED SLOT ANTENNA - A tapered slot antenna has been developed to collect modern hostile threat communications signals. The prototype was initially developed with National Security Agency (NSA) Tactical SIGINT Technology (TST) funding. Additionally needed technology upgrades have been identified to further improve antenna functionality and to enhance its ability for hostile/threat emitter detection, which will be back fitted as future engineering change proposals (ECPs) to the tapered slot antenna system. Accelerated development of these urgently needed tapered slot antenna upgrades will significantly enhance SSEE Increments E's ability to both collect and process signals for Indications and Warning (I&W) more accurate cuing of sensors, improved COMINT and Electronics Intelligence (ELINT) signal exploitation and more timely support for Time Critical Strike operations. Additional development to the Tapered Slot Antenna will incorporate the latest advances in digital technology and provide the Navy with its first truly multi-function antenna suitable for simultaneous direction Finding (DF), signal acquisition and Information Operations (IO). Funding will provide for design and develop 20-element antenna array