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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	55.082	-	-	-	-	-	-	-	-	0.000	55.082
2694: <i>Advanced Signal Recognition</i>	45.771	-	-	-	-	-	-	-	-	0.000	45.771
9999: <i>Congressional Adds</i>	9.311	-	-	-	-	-	-	-	-	0.000	9.311

A. Mission Description and Budget Item Justification

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities. These developments are driven by evolving collection requirements and technology advances. The developments allow for the necessary changes required to meet an integrated, objective airborne reconnaissance architecture as defined in the Integrated Airborne Reconnaissance Strategy (IARS) and amplified in the Airborne Reconnaissance Information Technical Architecture. The Advanced Sensors Development Program implements successful proof-of-concept efforts accomplished in the Advanced Technology Program, other Service/ Agency developments, and Congressionally-funded initiatives leading to producible sensor systems for airborne platforms. Upon successful sensor prototype demonstration, technology sensor developments are turned over to the Services for procurement and platform integration. This effort focuses on developments, which support sensor system interoperability and standardization of multi-Service and multi-platform applications. In addition, funds provide for the development/integration and operational assessment of components for the EP-3E and P-3 Special Projects Aircraft and follow-on candidate aircraft.

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations, by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the IARS. These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan, published in November 1994.

Exhibits reflect Congressional Adds currently being executed as follows:

FY10 Congressional Add of \$4.332M is for Fusion Exploitation Algorithm Targeting High-Altitude Reconnaissance.
 FY10 Congressional Add of \$4.979M is for EP-3E Requirements Capability Migration Technology Integration Lab.

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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	55.327	-	-	-	-
Current President's Budget	55.082	-	-	-	-
Total Adjustments	-0.245	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Section 219 Reprogramming	-0.244	-	-	-	-
• Congressional General Reductions Adjustments	-0.001	-	-	-	-

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

Congressional Add: *Fusion, Exploitation, Algorithm, Targeting, High-*

Congressional Add: *EP-3E requirements capability migration technology*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2010	FY 2011
	4.332	-
	4.979	-
Congressional Add Subtotals for Project: 9999	9.311	-
Congressional Add Totals for all Projects	9.311	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not Applicable.

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>	PROJECT 2694: <i>Advanced Signal Recognition</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2694: <i>Advanced Signal Recognition</i>	45.771	-	-	-	-	-	-	-	-	0.000	45.771
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities fielded in both the EP-3E and P-3 Special Projects Aircraft (SPA) platforms. The developments are driven by evolving collection requirements and modern technology advances. The developments allow for the necessary changes required to meet an integrated, objective airborne reconnaissance architecture as defined in the Integrated Airborne Reconnaissance Strategy and amplified in the Airborne Reconnaissance Information Technical Architecture. The advanced sensor program includes technical analysis, systems engineering assessments, planning, and development for advanced airborne sensor systems. This effort focuses on developments which support sensor system interoperability and standardization of multi-Service and multi-platform applications. The EP-3E and Special Projects will undergo a series of incremental modifications via an evolutionary acquisition process which began in FY 2001. The advanced sensor developments described herein will provide the technology transition modules necessary for the overall migration of the airborne fleet to Joint Airborne SIGINT Architecture, (i.e., sensors, ground systems, data links, and platforms), and provide the mechanism required for timely dissemination of intelligence information to operational forces.

FY05 began the integration of Joint Common Configuration (JCC) into all EP-3 aircraft. These efforts carry forward the developments from prior years and continue the development efforts to ensure that EP-3 aircraft maintain their interoperability and relevance to emerging threats and changing technology. This funding provides for the development of the JCC capabilities and Spirals.

In FY06 the JCC program was further restructured due to delays in the Aerial Common Sensor recapitalization program. The restructure added an obsolescence evolution and a JCC Spiral 3 upgrade to maintain EP-3E mission system viability until recapitalization platform can be fielded. This funding supported the required development of the restructured JCC program. The program procured an Environmental Development Model (EDM) in FY06 for Developmental Testing (DT) of the Spiral 2 system in FY07. Spiral 3 includes signal exploitation, low-band direction finding, Remote Tuning Receivers, Integrated Information Operations and Environment Control System upgrades. The program will procure two (2) Spiral 3 EDM's. The first EDM was procured in FY08 for DT of the system in FY09.

The Special Projects Modernization and Common Configuration Baseline (MCCB) program provides rapid insertion of new capabilities including improved communications, collection and analysis capabilities and weight reduction. Additionally, MCCB addresses technology refresh and obsolescence engineering. Most of the MCCB upgrades are based on stand-alone Government-Off-The-Shelf and Commercial-Off-The-Shelf systems.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Spiral 3 development RFD, DF, I/O, ECS	36.064	-	-	-	-
Articles:	0				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2010 Accomplishments:</i> Spiral 3 development and test included low-band Radio Frequency Distribution and Direction Finding subsystem replacement, Remote Tuning Receivers, Intergrated Information Operations and Environmental Control System upgrades.					
<i>Title:</i> Develop Spiral upgrades to collection subsystems	9.707	-	-	-	-
<i>Articles:</i>	0				
<i>FY 2010 Accomplishments:</i> Imagery engineering investigations completed. Developed and demonstrated SPA Direction Finding upgrades for Special Project Systems Requirements Review. SPA Communications/Infrastructure updated. SPA Modernization and Common Configuration Baseline program. Develop Spiral upgrades to the special collections subsystem, data communications and infrastructure. Address technology refresh and obsolescence issues. Mission system weight reduction development.					
Accomplishments/Planned Programs Subtotals	45.771	-	-	-	-

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	<u>Cost To Complete</u>	<u>Total Cost</u>
• APN/0537: <i>EP-3E Series</i>	92.245	90.323	83.181	20.800	103.981	66.764	56.707	30.576	10.054	34.400	1,264.794
• APN/0567: <i>Special Projects Aircraft</i>	12.331	20.779	12.248	11.184	23.432	15.070	15.279	15.553	15.787	82.970	566.976

D. Acquisition Strategy
Leverages/complements Air Force, Naval Research Laboratory, Office of Naval Research RDTE efforts for technology insertions into EP-3E/SPA production programs.

E. Performance Metrics
Not Applicable.

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9999: <i>Congressional Adds</i>	9.311	-	-	-	-	-	-	-	-	0.000	9.311
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Exhibits reflect Congressional Adds currently being executed as follows:

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011
Congressional Add: Fusion, Exploitation, Algorithm, Targeting, High-	4.332	-
FY 2010 Accomplishments: This effort developed algorithmic, cueing and software focused efforts in support of the Deployable Unmanned Systems for Targeting, Exploitation, and Reconnaissance (DUSTER) system. This system could simultaneously extend the area of intelligence gathering, keep the operators out of harms way, and provide an airborne real-time exploitation and dissemination node to identify, geo-locate, and track enemy targets.		
Congressional Add: EP-3E requirements capability migration technology	4.979	-
FY 2010 Accomplishments: This effort funded operational systems development in support of the EP-3E Requirements Capability Migration Technology Integration Lab.		
Congressional Adds Subtotals	9.311	-

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Leverages/complements Air Force, Naval Research Laboratory, Office of Naval Research RDTE efforts for technology insertions into EP-3E/SPA production programs.

E. Performance Metrics

Not required for Congressional Adds.