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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603755N: Ship Self Defense - DEM/VAL							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	9.784	6.931	4.385	0.000	4.385	3.476	3.528	3.607	3.679	Continuing	Continuing
2133: QRCC	4.639	3.548	3.439	0.000	3.439	3.476	3.528	3.607	3.679	Continuing	Continuing
2184: Force Advanced Warfare Concept Technology	5.145	3.383	0.946	0.000	0.946	0.000	0.000	0.000	0.000	0.000	84.041
A. Mission Description and Budget Item Justification											
<p>This program incorporates efforts dedicated to the enhancement of ship defense against Anti-Air Warfare (AAW) and other evolving threats. Its primary focus is on the development of technologies, systems, and procedures necessary to defeat the evolving Anti-Ship Cruise Missile (ASCM) threat and then it expands to allow for application of these technologies in other warfighting areas. These projects focus on ship defense improvements through the development of advanced concepts and capabilities that will enhance both defense in depth of ships in a force and self defense of individual ships in a littoral war-fighting environment.</p> <p>Quick Reaction Combat Capability (QRCC) Requirements Analysis Working Group (RAWG), Project 2133, provides independent analysis for a variety of combat system AAW self-defense cost-benefits trade, ship class performance studies, and force protection strategic plan development.</p> <p>Force Advanced Warfare Concept Technology (FACT), Project 2184, demonstrates concepts and capabilities that will enhance the warfighting ability of ships and aircraft and enable the coupling of the Force into a single, distributed weapon system through more effective use of tactical data, and force sensors and weapons.</p> <p>During FY09, FACT's Ocean Surveillance Initiative (OSI) continued prototyping of technologies to provide a complete, accurate, wide area, persistent surface track picture in a tactical theater of interest. The emphasis of these technologies was on the planning and detection capabilities required to simultaneously track all surface targets within view of the radar. During FY10 and FY11, the Innovation Team will begin development and prototyping of technologies to provide a Strike Group with a Geo-Referenced Common Tactical Maritime Picture (CTMP), incorporating several hundred thousand square miles of accurate, real time surface track data from aircraft such as Broad Area Maritime Surveillance (BAMS) P-3, P-8, and MH-60R. FACT will begin to develop technologies for integration of the tactical surface picture into surface combat systems such as Aegis and Ship Self Defense System (SSDS) and technologies to disseminate the Common Tactical Maritime Picture amongst the Expeditionary Strike Group (CSG/ESG). The Innovation Team will also analyze and assess the feasibility of wide area Anti-Submarine Warfare (ASW) sensor netting.</p>											

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy				DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
1319: Research, Development, Test & Evaluation, Navy		PE 0603755N: Ship Self Defense - DEM/VAL			
BA 4: Advanced Component Development & Prototypes (ACD&P)					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	10.966	6.960	0.000	0.000	0.000
Current President's Budget	9.784	6.931	4.385	0.000	4.385
Total Adjustments	-1.182	-0.029	4.385	0.000	4.385
• Congressional General Reductions		-0.029			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.883	0.000			
• SBIR/STTR Transfer	-0.299	0.000			
• Program Adjustments	0.000	0.000	4.385	0.000	4.385
Change Summary Explanation					
Technical: Not applicable.					
Schedule: Not applicable.					
FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603755N: <i>Ship Self Defense - DEM/VAL</i>				PROJECT 2133: <i>QRCC</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2133: <i>QRCC</i>	4.639	3.548	3.439	0.000	3.439	3.476	3.528	3.607	3.679	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification The Requirements and Analysis Working Group (RAWG) provides independent analysis for a variety of combat system trade-offs, ship class performance studies, and force protection strategic plan development.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
QRCC <i>FY 2009 Accomplishments:</i> Provided independent analysis for a variety of combat system AAW self-defense cost-benefits trade, ship class performance studies, and force protection strategic plan development. <i>FY 2010 Plans:</i> The QRCC RAWG will continue to analyze Ship Self Defense as well as force level performance impacts on self-defense capabilities. QRCC will provide leadership and management of the Common ASCM Anti Ship Cruise Missile (ACSM) Threat Characterization process for PEO IWS. The RAWG will continue to analyze Ship Self Defense Probability of Raid Annihilation (PRA) capabilities and respond to the PEO and OPNAV sponsors emergent tasking and participate and attend PRA working group meetings. <i>FY 2011 Base Plans:</i> Continue to analyze Ship Self Defense as well as force level performance impacts on self-defense capabilities. QRCC will provide leadership and management of the Common ASCM Anti Ship Cruise						4.639	3.548	3.439	0.000	3.439	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603755N: <i>Ship Self Defense - DEM/VAL</i>		PROJECT 2133: <i>QRCC</i>	
B. Accomplishments/Planned Program (\$ in Millions)					
				FY 2009	FY 2010
				FY 2011 Base	FY 2011 OCO
				FY 2011 Total	
Missile (ACSM) Threat Characterization process for PEO IWS. The RAWG will continue to analyze Ship Self Defense PRA capabilities and respond to the PEO and OPNAV sponsors emergent tasking and participate and attend PRA working group meetings.					
Accomplishments/Planned Programs Subtotals				4.639	3.548
				3.439	0.000
				3.439	
C. Other Program Funding Summary (\$ in Millions) N/A					
D. Acquisition Strategy N/A					
E. Performance Metrics 1) Successfully complete 90% of assigned self-defense analysis tasks in support of OPNAV N86 POM/PR budget decisions and PEO IWS program reviews. 2) Successfully respond to 90% of all emergent tasks in support of OPNAV N86 / PEO IWS self-defense analysis questions.					

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603755N: Ship Self Defense - DEM/VAL				PROJECT 2133: QRCC					
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
System Engineering	WR	Dahlgren, NSWC DD WR	4.622	3.548	Feb 2010	3.439	Nov 2010	0.000		3.439	Continuing	Continuing	Continuing	
Subtotal			4.622	3.548		3.439		0.000		3.439				
Remarks														
Management Services (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Defense Acquisition Workforce Development Fund	C/TBD	Various Various	0.017	0.000		0.000		0.000		0.000	0.000	0.017	Continuing	
Subtotal			0.017	0.000		0.000		0.000		0.000	0.000	0.017		
Remarks														
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			4.639	3.548		3.439		0.000		3.439				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy							DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603755N: <i>Ship Self Defense - DEM/VAL</i>			PROJECT 2133: <i>QRCC</i>			
	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603755N: <i>Ship Self Defense - DEM/VAL</i>				PROJECT 2184: <i>Force Advanced Warfare Concept Technology</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2184: <i>Force Advanced Warfare Concept Technology</i>	5.145	3.383	0.946	0.000	0.946	0.000	0.000	0.000	0.000	0.000	84.041
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Force Advanced Warfare Concept Technology (FACT) Program is an advanced development effort designed to demonstrate Advanced Force concepts and capabilities that will significantly improve our Force defense in depth, including both local area and self defense capabilities against current and future threats. FACT improvements are designed to enhance the warfighting ability of ships and aircraft and to enable coupling of the Force into a single, distributed weapon system and towards more effective use of tactical data and the cooperative use of all the force sensors and weapons. These capabilities will provide the ship offensive flexibility needed to meet the threat brought about by increasing numbers of highly sophisticated weapons held by potentially hostile third world countries. FACT defines requirements and develops prototype systems or modifications to existing systems to test new concepts for the coordination of Force operations. FACT is a model innovation cell which consistently delivers advanced war-fighting capability that addresses current Fleet shortfalls and needs quickly and cost effectively. Some examples of prototype systems now in production are AN/SPS-48C Detection Data Converter, AN/SPS-48E Environmental Control Feature, Shipboard Gridlock System/Automatic Correlation (SGS/AC) and Dial-a-Track Quality (Link-11 Quality Selection). Other FACT developments include the Automatic Identification System and the Multi-Frequency Link-11 capability; Dual Net Multi-Frequency Link-11 Force Threat Evaluation Weapons Assignment; the prototype Area Air Defense Commander and the Joint Targeting Attack and Assessment Capability (JTAAC).

During FY09, FACT's OSI continued prototyping of technologies to provide a complete, accurate, wide area, persistent surface track picture in a tactical theater of interest. The emphasis of these technologies was on the planning and detection capabilities required to simultaneously track all surface targets within view of the radar. During FY10 and FY11, the Innovation Team will begin development and prototyping of technologies to provide a Strike Group with a Geo-Referenced CTMP, incorporating several hundred thousand square miles of accurate, real time surface track data from aircraft such as BAMS, P-3, P-8, and MH-60R. FACT will begin to develop technologies for integration of the tactical surface picture in to surface combat systems such as Aegis and SSDS and technologies to disseminate the CTMP amongst the Expeditionary Strike Group (CSG/ESG). The Innovation Team will also analyze and assess the feasibility of wide area Anti-Submarine Warfare (ASW) sensor netting.

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

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603755N: Ship Self Defense - DEM/VAL		PROJECT 2184: Force Advanced Warfare Concept Technology		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Force Advanced Warfare Concept Technology		5.109	3.383	0.946	0.000	0.946
<p>Conduct critical FACT initiative proof of concept experiments. Provide top level programmatic support, technical analysis and assist in the development processes, procedures and documentation that impact the execution of the FACT program requirements. On-going development of an OSI prototype which will leverage the end to end capability realized by JTAAC and have the objective goal of attaining a tactically significant probability of detection, continuous track, and correct classification of small and medium sized vessels at sea state 5. Conduct critical experiments in support of the OSI.</p> <p><i>FY 2009 Accomplishments:</i></p> <p>The OSI development will continue with emphasis on advanced prototyping and transition of technologies for planning and detection capabilities required to detect and track surface targets to generate a Common Tactical Surface Picture in support of Over the Horizon Targeting mission; including documenting mission requirements as well as generate associated technical specifications and standards. Provide top level support, technical analysis and assist in the development processes, procedures and documentation that impact the execution of the Ocean Surveillance.</p> <p><i>FY 2010 Plans:</i></p> <p>The Innovation Team will develop technologies for a proof of concept demonstration of multi-platform, multi-sensor data fusion algorithms. The Innovation Team will analyze and begin development of the concepts and technologies necessary to merge the CTMP data to create and disseminate the CTMP among the USN battlegroup in a particular theater of interest. The Innovation Team will also analyze and provide options for wide area ASW sensor netting.</p> <p><i>FY 2011 Base Plans:</i></p> <p>The Innovation Team will continue to develop technologies for a proof of concept demonstration of multi-platform, multi-sensor data fusion algorithms. The Innovation Team will continue to analyze and development of the concepts and technologies necessary to merge the CTMP data to create and</p>						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
disseminate the CTMP among the USN battlegroup in a particular theater of interest. The Innovation Team will continue to analyze and provide options for wide area ASW sensor netting.								
Defense Acquisition Workforce Fund (DAWF) <i>FY 2009 Accomplishments:</i> Funded DAWF				0.036	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				5.145	3.383	0.946	0.000	0.946
C. Other Program Funding Summary (\$ in Millions) N/A								
D. Acquisition Strategy Not Applicable								
E. Performance Metrics Quarterly program reviews								

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603755N: Ship Self Defense - DEM/VAL				PROJECT 2184: Force Advanced Warfare Concept Technology					
Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/TBD	APL/Laurel, MD SS/CPFF	13.628	2.962	Nov 2009	0.696	Nov 2010	0.000		0.696	0.000	17.286	Continuing
Subtotal			13.628	2.962		0.696		0.000		0.696	0.000	17.286	
Remarks													
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Costs	C/TBD	DELTA/Arlington, VA C/CPAF	5.873	0.421	Nov 2009	0.250	Nov 2010	0.000		0.250	0.000	6.544	Continuing
Subtotal			5.873	0.421		0.250		0.000		0.250	0.000	6.544	
Remarks													

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Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Acquisition Workforce Development Fund	C/TBD	Various Various	0.036	0.000		0.000		0.000		0.000	0.000	0.036	Continuing
Subtotal			0.036	0.000		0.000		0.000		0.000	0.000	0.036	
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			19.537	3.383		0.946		0.000		0.946	0.000	23.866	
Remarks													

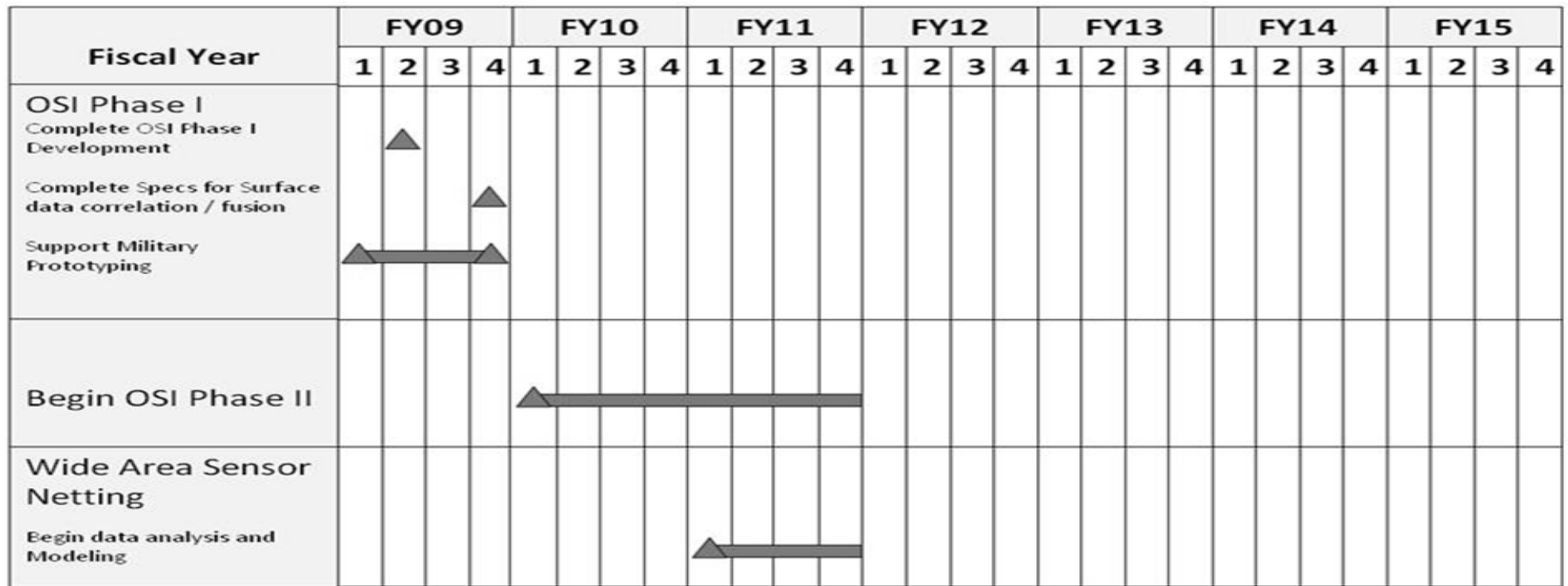
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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy			DATE: February 2010		
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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Complete OSI Phase I Development	2	2009	2	2009
Complete specs for surface data correlation / fusion	4	2009	4	2009
Support Military Prototypes	1	2009	4	2009
Begin OSI Phase II	1	2010	4	2011
Wide Area ASW Sensor Netting - Begin analysis and modeling	1	2011	4	2011

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