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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604221N: <i>P-3 Modernization Program</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	3.508	3.574	3.417	-	3.417	3.496	3.575	3.650	3.717	Continuing	Continuing
1152: <i>P-3 Sensor Integration</i>	1.422	1.469	1.356	-	1.356	1.388	1.421	1.450	1.476	Continuing	Continuing
3016: <i>Fatigue Life Mgmt Program</i>	2.086	2.105	2.061	-	2.061	2.108	2.154	2.200	2.241	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program provides for P-3C aircraft systems development and test in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21. The P-3C Sensor Integration project integrates advanced and future Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASuW) sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. The program also advances Air Acoustic Rapid Cots Insertion (ARCI) efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, Commercial Off The Shelf-based architecture. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Improved Extended Echo Ranging and Multistatic Acoustic Coherent family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. The Over the Horizon (OTH) Wideband system will provide the P-3C ASuW Improvement Program aircraft the capability to conduct OTH Satellite communications which will allow the on-station aircraft to transmit real-time sensitive acoustic intelligence data which will maximize enemy detections, tracking and engagement opportunities.

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection techniques.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	3.644	3.574	3.618	-	3.618
Current President's Budget	3.508	3.574	3.417	-	3.417
Total Adjustments	-0.136	-	-0.201	-	-0.201
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.004	-			
• SBIR/STTR Transfer	-0.085	-			
• Program Adjustments	-	-	-0.122	-	-0.122
• Section 219 Reprogramming	-0.047	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.079	-	-0.079

**Change Summary Explanation**

Technical: Not applicable.

Schedule: Not applicable.

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604221N: <i>P-3 Modernization Program</i>	<b>PROJECT</b> 1152: <i>P-3 Sensor Integration</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
1152: <i>P-3 Sensor Integration</i>	1.422	1.469	1.356	-	1.356	1.388	1.421	1.450	1.476	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

**A. Mission Description and Budget Item Justification**

This program provides for P-3C aircraft systems development and test in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21.

The P-3C Sensor Integration project integrates advanced and future Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASuW) sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. The program also advances Air Acoustic Rapid Cots Insertion (ARCI) efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, Commercial Off The Shelf-based architecture. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness.

Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Improved Extended Echo Ranging (IEER) and Multistatic Acoustic Coherent (MAC) family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. The Over the Horizon (OTH) Wideband system will provide the P-3C AIP aircraft the capability to conduct OTH Satellite communications which will allow the on-station aircraft to transmit real time sensitive acoustic intelligence data which will maximize enemy detections, tracking and engagement opportunities.

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

	FY 2010	FY 2011	FY 2012
<b>Title:</b> P-3 integration of ASW and ASuW sensors / weapon systems	1.422	1.469	1.356
<b>Articles:</b>	0	0	0
<b>FY 2010 Accomplishments:</b> Continued Sensor Integration effort to integrate and test newly evolving ASW and ASuW technologies such as IEER and MAC family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements.			
<b>FY 2011 Plans:</b> Continue Sensor Integration effort to integrate and test newly evolving ASW and ASuW technologies such as IEER and MAC family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements.			
<b>FY 2012 Plans:</b>			

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604221N: <i>P-3 Modernization Program</i>	<b>PROJECT</b> 1152: <i>P-3 Sensor Integration</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
Continue Sensor Integration effort to integrate and test newly evolving ASW and ASuW technologies such as IEER and MAC family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements.			
<b>Accomplishments/Planned Programs Subtotals</b>	1.422	1.469	1.356

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

Line Item	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
• APN/0538: <i>P-3 Series</i>	455.003	227.982	171.466	0.000	171.466	82.917	38.230	7.439	7.958	0.000	4,601.495

**D. Acquisition Strategy**

The Air Deployable Active Receiver/IEER Operational Requirements Document (ORD) (Ser# 297(1)-05-97) for 1152 was approved on 29 December 1997. The P-3 ASuW Improvement Program ORD (Ser#355-88-94) for 2417 was approved on 30 March 1994. The Acquisition Plan (AIR-93-08A Rev 2) was approved on 30 March 1998. The Acquisition Strategy Review (AIR-ASR-26A Rev 3) was approved 29 Nov 1999 which includes OTH Wideband system.

**E. Performance Metrics**

Successfully complete Developmental Test.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604221N: <i>P-3 Modernization Program</i>	<b>PROJECT</b> 1152: <i>P-3 Sensor Integration</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	C/FFP	LM:St. Paul, MN	8.626	-		-		-		-	0.000	8.626	8.626
Systems Engineering	SS/CPFF	LM:Manassas, VA	11.590	-		-		-		-	0.000	11.590	11.590
<b>Subtotal</b>			20.216	-		-		-		-	0.000	20.216	20.216

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	WR	VARIOUS:Various	4.340	-		-		-		-	0.000	4.340	
<b>Subtotal</b>			4.340	-		-		-		-	0.000	4.340	

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	NAWCAD:Pax River, MD	2.438	-		-		-		-	0.000	2.438	
<b>Subtotal</b>			2.438	-		-		-		-	0.000	2.438	

<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	WR	SPAWARSYSC:Charleston, SC	0.263	-		-		-		-	0.000	0.263	
Government Engineering Support	WR	NAWCAD:Pax River, MD	3.092	1.369	Nov 2010	1.256	Nov 2011	-		1.256	5.828	11.545	
Travel	WR	NAWCAD:Pax River, MD	0.931	0.100	Oct 2010	0.100	Oct 2011	-		0.100	0.400	1.531	

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Navy		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604221N: <i>P-3 Modernization Program</i>	<b>PROJECT</b> 1152: <i>P-3 Sensor Integration</i>

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Navy		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604221N: <i>P-3 Modernization Program</i>	<b>PROJECT</b> 1152: <i>P-3 Sensor Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>P-3 Sensor Integration</i></b>				
Test & Evaluation: Technical Evaluation: EER Multi-Static Active Sensor System Support	1	2010	4	2016
Test & Evaluation: Technical Evaluation: EER Multi-Static Fleet Technology Insertion	1	2010	4	2016
Test & Evaluation: Technical Evaluation: P-3 ARCI and Future Fleet Technology Insertion	1	2010	4	2016

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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
3016: <i>Fatigue Life Mgmt Program</i>	2.086	2.105	2.061	-	2.061	2.108	2.154	2.200	2.241	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

**A. Mission Description and Budget Item Justification**

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection techniques.

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

	FY 2010	FY 2011	FY 2012
<b>Title:</b> P-3/EP-3 Fatigue Life Management	2.086	2.105	2.061
<b>Articles:</b>	0	0	0
<b>FY 2010 Accomplishments:</b> Fatigue Life Management Program: Managed P-3/EP-3 inventory fatigue life including conducted structural analysis, analyzed structural issues, conducted engineering studies, assessed Fleet impact. Researched, tested and applied new Fatigue Inspection techniques to the P-3/EP-3 Fleet.			
<b>FY 2011 Plans:</b> Fatigue Life Management Program: Manage P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet.			
<b>FY 2012 Plans:</b> Fatigue Life Management Program: Manage P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet.			
<b>Accomplishments/Planned Programs Subtotals</b>	2.086	2.105	2.061

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>			<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• APN/0538: <i>P-3 Series</i>	455.003	227.982	171.466	0.000	171.466	82.917	38.230	7.439	7.958	0.000	4,601.495

**D. Acquisition Strategy**

The Fatigue Life Management Program leverages off of prior work done under P-3 Service Life Extension Program (2451). The Anti-Surface Warfare Improvement Program Operational Requirements Documents 355-88-94 was approved 30 March 94. Work will be performed by Lockheed Martin Aeronautical Systems (LMAS) and other industry participants along with the NAVAIR Structural Engineering Dept, AIR-4.3. This program supports the 7 June 2003 CNO approved P-3/EP-3 Sustainment Bridge to Multi-Mission Maritime Aircraft.

**E. Performance Metrics**

Successful application of system engineering processes.



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Navy		<b>DATE:</b> February 2011
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Fatigue Life Mgmt Program</i></b>				
Test & Evaluation: Technical Evaluation: Inventory Fatigue Life Management/ Sustainment	1	2010	4	2016