

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: <b>June 2001</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY / BA-5</b>						R-1 ITEM NOMENCLATURE 0604221N P-3 Modernization Program					
COST (\$ in Millions)	Prior Year Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost	50.151	10.531*	7.333**	3.220							
H1152 P-3 Sensor Integration	50.151	10.531*	7.333**	3.220							
Quantity of RDT&E Articles	Not Applicable										
<p>* The FY 2000 budget reflects an \$8.000 million Congressional add for APS-137 radar upgrades executed under H2777, which has been revised by \$.194 million for Congressional undistributed reductions.                      ** The FY 2001 budget reflects an \$4.500 million Congressional add for APS-137 radar upgrades executed under H2876, which has been revised by \$.052 million for Congressional reductions.</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides upgrades to P-3C aircraft systems to enhance surface and subsurface tracking and classification; attack capabilities including Specific Emitter Identification (SEI); and improved APS-137 radar tracking and upgrades. The P-3C Sensor Integration project develops software necessary to integrate advanced sensors into embedded P-3C Update III computer systems. Also, P-3 Sensor Integration will expand software development of P-3 systems to integrate additional sensors, tactical decision aids, and color capabilities to improve aircrew tactical proficiency and awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW technologies such as the Advanced Explosive Echo Ranging (AEER) system and Shallow Water ASW Localization and Attack System (SWALAS).</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under Engineering and Manufacturing Development because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>											

R-1 SHOPPING LIST - Item No. 101

# UNCLASSIFIED

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>June 2001</b>				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
<b>RDT&amp;E, N / BA-5</b>	0604221N P-3 Modernization Program					H1152 P-3 Sensor Integration					
COST (\$ in Millions)	Prior Year Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost	50.151	10.531*	7.333**	3.220						Continuing	Continuing
RDT&E Articles Qty											

\* The FY 2000 budget reflects an \$8.000 million Congressional add for APS-137 radar upgrades executed under H2777, which has been revised by \$.194 million for Congressional undistributed reductions.

\*\* The FY 2001 budget reflects an \$4.500 million Congressional add for APS-137 radar upgrades executed under H2876, which has been revised by \$.052 million for Congressional reduction.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides upgrades to P-3C aircraft systems to enhance surface and subsurface tracking and classification; attack capabilities including Specific Emitter Identification (SEI); and improved APS-137 radar tracking and upgrades. The P-3C Sensor Integration project develops software necessary to integrate advanced sensors into embedded P-3C Update III computer systems. Also, P-3 Sensor Integration will expand software development of P-3 systems to integrate additional sensors, tactical decision aids, and color capabilities to improve aircrew tactical proficiency and awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW technologies such as the Advanced Explosive Echo Ranging (AEER) system and Shallow Water ASW Localization and Attack System (SWALAS).

(U) PROGRAM ACCOMPLISHMENTS AND PLANS

1. FY 2000 ACCOMPLISHMENTS:

- (U) (\$ .451) Continued system engineering support for integration of Improved Extended Echo Ranging (IEER) system.
- (U) (\$1.396) Continued IEER software development, Critical Design Review (CDR), integration and testing.
- (U) (\$7.747) Upgraded the APS-137 radar.
- (U) (\$ .937) Provided Aviation Depot Level Repairable (AVDLR) for P-3 test aircraft.

2. FY 2001 PLANS:

- (U) (\$ .447) Continue system engineering support for integration of Improved Extended Echo Ranging (IEER) system.
- (U) (\$1.704) Continue IEER integration and flight testing.
- (U) (\$ .750) Provide Aviation Depot Level Repairable (AVDLR) for P-3 test aircraft.
- (U) (\$4.356) Upgrade the APS-137 radar.
- (U) (\$ .076) Portion of extramural program reserved for Small business Innovation Research assessment in accordance with 15 USC 68.

3. FY 2002 PLANS:

- (U) (\$ .410) Continue system engineering support for integration of Improved Extended Echo Ranging (IEER) system and initiate engineering support of Advance Extended Echo Ranging (AEER).
- (U) (\$1.812) Complete IEER integration, fleet delivery and continue flight testing and initiate AEER software development.
- (U) (\$ .998) Provide Aviation Depot Level Repairable (AVDLR) for P-3 test aircraft.

R-1 SHOPPING LIST - Item No. 101

**Exhibit R-2a, RDTEN Project Justification**  
(Exhibit R-2a, page 2 of 6)

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>June 2001</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME H1152 P-3 Sensor Integration																
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="margin-left: 40px; border: none;"> <thead> <tr> <th></th> <th style="text-align: right;">FY2000</th> <th style="text-align: right;">FY2001</th> <th style="text-align: right;">FY2002</th> </tr> </thead> <tbody> <tr> <td>(U) FY 2001 President's Budget:</td> <td style="text-align: right;">10.950</td> <td style="text-align: right;">2.906</td> <td style="text-align: right;">3.228</td> </tr> <tr> <td>(U) Adjustments from the President's Budget:</td> <td style="text-align: right;">-0.419</td> <td style="text-align: right;">4.427</td> <td style="text-align: right;">-0.008</td> </tr> <tr> <td>(U) FY 2002 President's Budget Submit:</td> <td style="text-align: right;">10.531</td> <td style="text-align: right;">7.333</td> <td style="text-align: right;">3.220</td> </tr> </tbody> </table> <p>CHANGE SUMMARY EXPLANATION:</p> <p>(U) Funding: The FY 2000 net decrease of \$.419 million consist of a decrease for a Small Business Innovative Research Assessment (\$.366 million), a decrease for a Congressional Recission (\$.043 million), and a decrease for reprioritization of requirements with the Navy (\$.010 million). FY 2001 net increase of \$4.427 million consist of a Congressional add for APS-137B Radar (\$4.500 million), a decrease for a Congressional Reduction (\$.052 million), a decrease for a Congressional Recission (\$.016 million), and a decrease for reprioritization of requirements within the Navy (\$.005 million). The FY 2002 net decrease of \$.008 million consist of a decrease for reprioritization of requirements within the Navy (\$.013 million), and an increase for economic assumptions (\$.005 million).</p> <p>(U) Schedule: Radar upgrade I&amp;T was inadvertently listed under FY 2001. Contract award was delayed until 4Q/00 because of administrative delays after congressional add funding was released.</p> <p>(U) Technical: Not Applicable.</p> <p>(U) C. OTHER PROGRAM FUNDING SUMMARY: Not Applicable.</p>				FY2000	FY2001	FY2002	(U) FY 2001 President's Budget:	10.950	2.906	3.228	(U) Adjustments from the President's Budget:	-0.419	4.427	-0.008	(U) FY 2002 President's Budget Submit:	10.531	7.333	3.220
	FY2000	FY2001	FY2002															
(U) FY 2001 President's Budget:	10.950	2.906	3.228															
(U) Adjustments from the President's Budget:	-0.419	4.427	-0.008															
(U) FY 2002 President's Budget Submit:	10.531	7.333	3.220															

R-1 SHOPPING LIST - Item No. 101

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification			DATE:																				
			<b>June 2001</b>																				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME																					
<b>RDT&amp;E, N / BA-5</b>	0604221N P-3 Modernization Program	H1152 P-3 Sensor Integration																					
<p>(U) D. ACQUISITION STRATEGY: The Air Deployable Active Receiver/Improved Extended Echo Ranging (IEER) Operational Requirements Document (Ser# 297(1)-05-97)) for H1152 was approved on 29 December 1997. The P-3 ASUW Improvement Program (AIP) ORD (Ser# 355-88-94) for H2417 was approved on 30 March 1994. The Acquisition Plan (AIR-93-08A Rev 2) was approved on 30 March 1998.</p> <p>(U) E. SCHEDULE PROFILE:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;"></th> <th style="width: 25%; text-align: center;"><u>FY 2000</u></th> <th style="width: 25%; text-align: center;"><u>FY 2001</u></th> <th style="width: 25%; text-align: center;"><u>FY 2002</u></th> </tr> </thead> <tbody> <tr> <td>(U) Program Milestones</td> <td>1Q/00 Radar IOC 3Q/00 SEI IOC</td> <td>1Q/01 Radar Upgrade IOC</td> <td>2Q/02 IEER Fleet Delivery</td> </tr> <tr> <td>(U) Engineering Milestones</td> <td>2Q/00 IEER CDR 3Q/00 IEER I&amp;T 4Q/00 Radar Upgrade I&amp;T</td> <td></td> <td>1Q-4Q/02 AEER P-3C Software Development</td> </tr> <tr> <td>(U) T&amp;E Milestones</td> <td>1Q/00 Radar DT 2Q/00 SEI DT</td> <td>1Q/01-2Q/01 IEER DTIII 3Q/01-4Q/01 IEER OTIII</td> <td></td> </tr> <tr> <td>(U) Contract Milestones</td> <td>Radar Upgrade Contract Award 4Q/00</td> <td></td> <td></td> </tr> </tbody> </table>					<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	(U) Program Milestones	1Q/00 Radar IOC 3Q/00 SEI IOC	1Q/01 Radar Upgrade IOC	2Q/02 IEER Fleet Delivery	(U) Engineering Milestones	2Q/00 IEER CDR 3Q/00 IEER I&T 4Q/00 Radar Upgrade I&T		1Q-4Q/02 AEER P-3C Software Development	(U) T&E Milestones	1Q/00 Radar DT 2Q/00 SEI DT	1Q/01-2Q/01 IEER DTIII 3Q/01-4Q/01 IEER OTIII		(U) Contract Milestones	Radar Upgrade Contract Award 4Q/00		
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>																				
(U) Program Milestones	1Q/00 Radar IOC 3Q/00 SEI IOC	1Q/01 Radar Upgrade IOC	2Q/02 IEER Fleet Delivery																				
(U) Engineering Milestones	2Q/00 IEER CDR 3Q/00 IEER I&T 4Q/00 Radar Upgrade I&T		1Q-4Q/02 AEER P-3C Software Development																				
(U) T&E Milestones	1Q/00 Radar DT 2Q/00 SEI DT	1Q/01-2Q/01 IEER DTIII 3Q/01-4Q/01 IEER OTIII																					
(U) Contract Milestones	Radar Upgrade Contract Award 4Q/00																						

R-1 SHOPPING LIST - Item No. 101

# UNCLASSIFIED

**UNCLASSIFIED**

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>June 2001</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604221N P-3 Modernization Program			H1152 P-3 Sensor Integration						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date			Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	C/FP	Raytheon, McKinney, Tx	2.217	4.356	01/01							Continuing
SBIR Assessment				0.076								
Subtotal Product Development			2.217	4.432		0.000						
Remarks:												
Software Development	C/FP	Raytheon, McKinney, Tx	5.781									Continuing
Software Development	C/FP	Raytheon, McKinney, Tx	1.998									Continuing
Software Development	SS/FP	LMNESS, Egan, MN	14.561									Continuing
Systems Engineering	Various	Various	25.877	1.101	12/00	1.209	12/01					
Subtotal Support			48.217	1.101		1.209						
Remarks:												

R-1 SHOPPING LIST - Item No. 101

**UNCLASSIFIED**

**UNCLASSIFIED**

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 2)								DATE: <b>June 2001</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			0604221N P-3 Modernization Program			H1152 P-3 Sensor Integration						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total P Y s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date			Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, Pax River, MD	5.572	0.750	12/00	0.998	12/01					
Subtotal T&E			5.572	0.750		0.998						
Remarks:												
Contractor Engineering Support	C/FP	RBC, Arlington, VA	3.616	0.447	12/00	0.410	12/01					Continuing
Government Engineering Support	WX	NAWCAD, Pax River, MD	1.060	0.603	12/00	0.603	12/01					
Subtotal Management			4.676	1.050		1.013						
Remarks:												
Total Cost			60.682	7.333		3.220						
Remarks:												

R-1 SHOPPING LIST - Item No. 101