

# 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 0604270N Electronic Warfare Development					
COST (\$ in Millions)	Prior Years 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		208.163	133.399	112.473							
E0556 EW Counter Response		130.982	89.081	84.820							
E2175 Tactical Air Electronic Warfare	318.491	74.575	38.897	25.635							
E2635 Integrated Defensive Electronic C			2.972								
R2260 Specific Emitter Identification		1.740	1.513	1.012							
Z1742 EW Technical Development and Testing		0.866	0.936	1.006							
Quantity of RDT&E Articles	458	2	10	2							
<p>*FY2001 budget reflects a \$23,000K Congressional add for Link-16 executed under E2781, a \$8,500K Congressional add for Spraycool technology executed under E2782, and \$3,000K for Loco GPSI executed under E2422.</p> <p>**FY2001 budget reflects a \$3,000k Congressional add for Integrated Defense Electronic Counter Measures executed under project E2635; which has been revised by \$28k for Congressional undistributed adjustments.</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This element includes development of electronic warfare systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army (USA) tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USMC communications and non-communications jammers, and development and testing of electronic warfare devices for emergency contingencies.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING &amp; MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to full rate production approval decision.</p>											

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Exhibit R-2, RDTEN Budget Item Justification  
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**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 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME E0556 EW Counter Response					
COST (\$ in Millions)	Prior Years Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost		130.982	89.081	84.820							
RDT&E Articles Qty			8	2							
<p>*FY2001 budget reflects a \$23,000K Congressional add for Link-16 executed under E2781, a \$8,500K Congressional add for Spraycool technology executed under E2782, and \$3,000K for Loco GPSI which will be executed under E2422.</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The EA-6B weapon system is designed for jamming and destruction of enemy landbased, shipborne and airborne command, control and communications (C3) and radars associated with early warning, target acquisition surveillance, anti-aircraft artillery, air-to-surface, surface-to-surface, and surface-to-air missiles. In this capacity, it will support carrier based tactical aircraft, battle group operations, and joint forces, in dense radar controlled environments. The efforts under this program element (PE) provide for the electronic countermeasures response to these advanced threat weapon systems and C3 networks which are expanding in density and technical complexity. This PE funds the continuing development and integration of all EW systems for the EA-6B electronic support aircraft. The test articles being funded are; two EA-6B aircraft modified to support the Improved Capability (ICAP) III program and eight Low Band Transmitter (LBT) Engineering Development Models (EDMs). The two EA-6B aircraft modified to the ICAP III configuration are for the Engineering and Manufacturing Development (E&amp;MD) phase of the program, (one validation and one verification aircraft will deliver in FY 2001). These aircraft will be used as test articles during government test and evaluation (TECHEVAL/OPEVAL). The LBT EDMs are broken out as three LBT Antenna Set EDMs and five Amplifier Set EDMs. Three LBT Antenna Set EDMs and three Amplifier Set EDMs will be delivered in FY 2001. Two Amplifier Set EDMs will be delivered in FY 2002. The ALQ-99 LBT Antenna Group will provide an expanded war fighting capability against the early warning/acquisition radars and communication links of modern integrated air defense systems. The LBT entered E&amp;MD in September 1996, followed by Full Rate Production (FRP) approval (Milestone III) anticipated in 1st quarter FY 2004. This effort includes the conversion of the Tactical EA-6B Mission System (TEAMS) software to the Joint Mission Planning System (JMPS), including development of the EA-6B Unique Planning Module.</p> <p>A requirement exists to conduct an Analysis of Alternatives (AoA) for the Airborne Electronic Attack (AEA) aircraft, the replacement to the EA-6B. This weapon system, known as the AEA follow-on, will be required after the year 2015. In light of this OSD directed the Navy, with Army and Air Force participation and coordination, to prepare an AoA for airborne electronic warfare platforms and methods for use over the next two decades.</p> <p>A requirement exists to allow the EA-6B to participate in Network Centric Warfare. A method of implementing this requirement is to include the EA-6B on the Link-16 Network. Link-16 will allow the EA-6B to receive and send critical situational awareness and tactical data with other aircraft and the battle group. Funding provided via FY 2000 and FY 2001 Congressional additions, and via the PBD 113 in FY 2002.</p> <p>A requirement exists to demonstrate and develop Spray Cool Technology in the EA-6B aircraft. FY00 and FY01 Congressional Adds were provided for this purpose.</p>											

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**Exhibit R-2a, RDTE Budget Item Justification**  
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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 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME E0556 EW Counter Response
( U ) PROGRAM ACCOMPLISHMENTS AND PLANS:		
1. FY 2000 ACCOMPLISHMENTS:		
<ul style="list-style-type: none"><li>- (U) (7.854) Continued software/techniques and test support for ongoing new threat development and testing in ICAP II via the Jammer and Techniques Optimization (JATO) program.</li><li>- (U) (71.386) Continued development of the Improved Capabilities III (ICAP III) system. Specifically, performed laboratory testing, systems design, development and fabrication.</li><li>- (U) (4.000) Continued Engineering and Manufacturing Development (E&amp;MD) of the Low Band Transmitter (LBT), three Antenna Set EDMs and five Amplifier Set EDM units. Conducted chamber demonstration of integrated amplifier/antenna performance.</li><li>- (U) (29.230) Established basic EA-6B Link-16 capability to provide/receive situational awareness data as related to aircraft/strikegroup routing.</li><li>- (U) (4.872) Demonstrated improved reliability and maintainability, and lower weight technology migration via the use of Spraycool vapor cooling technology on the EA-6B.</li><li>- (U) (9.743) Initiated an Analysis of Alternatives for the follow-on airborne electronic attack system (AEA/AoA).</li><li>- (U) (3.897) Continued development of a prototype for the GPS anti-jamming system (LOCO GPSI). Systems developed by SPAWAR.</li></ul>		
2. FY 2001 PLANS:		
<ul style="list-style-type: none"><li>- (U) (8.264) Continue software/techniques and test support for ongoing new threat development and testing in ICAP II via the Jammer and Techniques Optimization (JATO) program.</li><li>- (U) (38.722) Continue development of ICAP III system. Specifically, complete development of EDM units, performed laboratory and flight testing, continued systems design, development and fabrication, and modified two development aircraft with new tactical jamming and display equipment.</li><li>- (U) (3.962) Continue engineering, manufacturing development, and testing of LBT. Complete three Antenna Set EDMs and five Amplifier Set EDMs.</li><li>- (U) (2.977) Continue Analysis of Alternatives (AoA) for the Airborne Electronic Attack (AEA) aircraft replacement for the EA-6B.</li><li>- (U) (8.183) Continue demonstration and development of Spray Cool Technology in the EA-6B aircraft.</li><li>- (U) (2.970) Continue development of a prototype for the GPS Antijamming System (LOCO GPS) Anti-Jamming. Systems developed by SPAWAR.</li><li>- (U) (22.119) Complete full requirements definition. Continue to develop EA-6B Link-16 capability.</li><li>- (U) (1.884) Portion of extramural program reserved for Small business Innovation Research assessment in accordance with 15 USC 68.</li></ul>		

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Exhibit R-2, RDTEEN Budget Item Justification  
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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 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME E0556 EW Counter Response
<p>( U ) PROGRAM ACCOMPLISHMENTS AND PLANS: Continued</p> <p>3. FY 2002 PLAN:</p> <ul style="list-style-type: none"><li>- (U) (9.000) Continue software/techniques and test support for ongoing new threat development and testing in ICAP II via the Jammer and Techniques Optimization (JATO) program.</li><li>- (U) (56.304) Continue development of ICAP III system. Specifically, FY02 efforts will concentrate on completion of software development, Developmental and Operational Testing, and final integration of the hardware and software into the aircraft.</li><li>- (U) (5.500) Continue engineering and manufacturing development, and testing of LBT.</li><li>- (U) (3.000) Complete the Analysis of Alternatives (AoA) for the Airborne Electronic Attack (AEA) aircraft replacement for the EA-6B.</li><li>- (U) (3.000) Update the baseline ICAP III system to include integration of many required avionics items such as the second Embedded GPS/INS (EGI), HARM VI, Precision Time Difference of Arrival, Low Band Transmitter, Band 7/8, Night Vision Devices (NVDs) and data fusion with national assets. Incorporation of these items will commence in FY-02.</li><li>- (U) (8.000) Continue to develop Link-16 capability. Commence systems integration on Link-16.</li></ul>		

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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 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME E0556 EW Counter Response	
(U) B. PROGRAM CHANGE SUMMARY:			
	FY2000	FY2001	FY2002
(U) FY 2001 President's Budget:	135.061	55.492	33.365
(U) Adjustments from the President's Budget:	-4.079	33.589	51.455
(U) FY 2002 President's Budget Submit:	130.982	89.081	84.82
CHANGE SUMMARY EXPLANATION:			
(U) Funding:			
<p>The FY 2000 net decrease of \$4.079 million reflects a decrease of \$2.086 million for a Small Business Innovative Research (SBIR) assessment, a decrease of \$1.741 million for a reprioritization of requirements within the Navy, an increase of \$.278 million for Across-the-Board Reduction (net increase from PB01 submission), and a decrease of \$.530 million for a Congressional Reduction.</p>			
<p>The FY 2001 net increase of \$33.589 million reflects a decrease of \$.085 million for a reprioritization of requirements within the Navy, a decrease of \$.630 million for a Congressional Reduction, an increase of \$8.500 million for Spray Cooling Tech for EA-6B , an increase of \$3.0 million for location of GPS System Jammers, an increase of \$23.0 million for EA-6B Link-16 Connectivity and a decrease of \$.196 million for economic assumptions.</p>			
<p>The FY 2002 net increase of \$51.455 million reflects an increase of a \$38 million for ICAP III , an increase of \$5.5 million for Low Band Transmitter, a decrease of \$.322 million for a reprioritization of requirements within the Navy, an increase of \$8 million for EA-6B Link-16 integration into ICAP III, an increase of \$.103 million for economic assumptions, an increase of \$.158 million for a Federal Technology Transfer.</p>			
(U) Schedule: ICAP III - Schedule changes due to program restructure agreed to 18 May 00 by ASN(RD&A).			
LBT - Schedule changes due to a program restructure approved via PEO(T) Acquisition Decision Memorandum of 11 September 00.			

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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>			0604270N Electronic Warfare Development				E0556 EW Counter Response																									
<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. &amp; Name</u></th> <th style="text-align: right;">FY 2000</th> <th style="text-align: right;">FY 2001</th> <th style="text-align: right;">FY 2002</th> <th style="text-align: right;">FY 2003</th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> <th style="text-align: right;">To Complete</th> <th style="text-align: right;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>P-1 #19 EA-6 Series Modifications</td> <td style="text-align: right;">255.88</td> <td style="text-align: right;">187.565</td> <td style="text-align: right;">137.645</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>											<u>Line Item No. &amp; Name</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total Cost	P-1 #19 EA-6 Series Modifications	255.88	187.565	137.645							
<u>Line Item No. &amp; Name</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total Cost																						
P-1 #19 EA-6 Series Modifications	255.88	187.565	137.645																													
<p>(U) D. ACQUISITION STRATEGY:</p> <ul style="list-style-type: none"> <li>- The LBT development contract occurred following a full and open competition and was awarded to BAE Systems (formerly MARCONI). Following development and successful DT/OA, sole source LRIP contracts will be awarded in FY 2003. Following successful OT, a sole source production contract will be awarded in FY 2004.</li> <li>- The ICAP III contract, an E&amp;MD CPIF/AF basic contract with two Fixed Price Incentive (FPI) production options, was awarded to a Northrop Grumman team in March 1998 following Milestone II and a full and open competition. The contract was changed to a CPAF contract in FY 1999. Milestone III and Full Rate Production are scheduled for FY 2003 with Initial Operating Capability to follow in FY 2005.</li> </ul>																																

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME E0556 EW Counter Response
(U) E. SCHEDULE PROFILE:		
	<u>FY 2000</u>	<u>FY 2001</u>
(U) Program Milestones		
(U) Engineering Milestones		
(U) T&E Milestones		2Q to 4Q ICAP III DT/OT
		1Q to 4Q Low Band TX DT/OT
(U) Contract Milestones		

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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>			0604270N Electronic Warfare Development			E0556 EW Counter Response					
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
Primary Hardware Development	C/CPFF	BAE Systems Lansdale, PA	24.210	3.962	10/00	3.500	10/01		0.737	32.409	32.409
	C/CPAF	Northrop Grumman, Bethpage, NY	131.352	33.394	11/00	33.607	11/01		24.725	223.078	223.078
Systems Engineering	WX	NRL, Wash. DC	6.856	0.991	10/00	1.437	10/01		Continuing	Continuing	
Systems Engineering	WX	NADEP, JAX	3.919	0.868	10/00	1.023	10/01		Continuing	Continuing	
Systems Engineering	WX	NSWC, CRANE	6.810	0.680	10/00	1.039	10/01		Continuing	Continuing	
Systems Engineering	WX	NAWCAD, PAX	10.419	2.912	10/00	4.025	10/01		Continuing	Continuing	
Systems Engineering	WX	NAWCAD, LKE	2.048	0.406	10/00	0.379	10/01		Continuing	Continuing	
Systems Engineering	WX	NAWCWD, PT MUGU	15.059	5.262	10/00	7.368	10/01		Continuing	Continuing	
Systems Engineering	Various	VARIOUS	43.063	1.252	11/00	1.431	11/01		Continuing	Continuing	
Award Fees	C/CPAF	Northrop Grumman, Bethpage, NY	2.474	1.250	05/01	8.000	05/02		4.500	16.224	16.224
Miniaturization of ICAPIII Components	TBD	Various							28.341	28.341	28.341
Primary Hardware Development	TBD	Various				3.000	02/02		21.840	24.840	24.840
H/W Dev Enabling Tech	Various	Various							33.458	33.458	33.458
Mission Planning System Development	CPFF	Northrop Grumman							6.000	6.000	6.000
LOCO GPSI (E2422)	PD	SPAWAR	5.897	2.970	11/00				0.000	8.867	
EA-6B Connectivity/Link 16	Various	Various	29.230	19.084	05/01	8.000	01/02		0.000	56.314	
ICAP III Spray Cool Technology	CPFF	Isothermal Systems Research	4.872	8.189	06/01				0.000	13.061	
AEA Studies and AoA	Various	Various	9.743	2.977	11/00	2.995	11/00		0.000		
SBIR Assessment				1.884					0.000	1.884	
Subtotal Product Development			295.952	86.081		75.804			Continuing	Continuing	

Remarks: 1. The total cost figure for the BAES and the Northrop Grumman contracts are the Independent Government Estimate figures for total contract efforts less award fees, which are listed separately. The target value of contract figures are the total estimated cost of the awarded contracts less the award fees.

2. The Northrop Grumman ICAP III contract is a CPAF type. The Award Fee Period runs from March of one year until March of the following year; thus 6 months of the period is in one fiscal year (FY) and 6 months in the following FY. Legal and Comptroller rulings require that the Award Fee amount for any FY be prorated across the period. This requires setting aside/committing funding until midyear of the following FY. At that time, the award fee will be determined and the funding obligated and awarded. Year 1 award fee was 76% of the pool.

3. AEA Studies and AoA will be conducted based on guidance from USD (A&T) in coordination with the Army and Air Force.

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**Exhibit R-3, Project Cost Analysis**  
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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>			0604270N Electronic Warfare Development			E0556 EW Counter Response						
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
Development Support	SS/FP	JHU/APL, Colombia, MD	3.353	2.000	01/01	2.000	01/02					
Development Support	Various	MISC	12.009									
Subtotal Support			15.362	2.000		2.000						
Remarks:												
Developmental Testing	WX	NAWCAD, Pax		0.500	11/00	4.500	12/01					
Operational Test & Evaluation	WX	OPTEVFOR, Norfolk, VA	2.146	0.500	11/00	2.500	12/01					
Subtotal T&E			2.146	1.000		7.000						
Remarks: Funding is required to conduct ICAP III and LBT developmental/operational assessment planning, execution, and reporting. JHU/APL effort is expected to continue for the service life of the aircraft in support of the Jammer and Techniques Optimization (JATO) program.												
Total Cost			313.460	89.081		84.804						
Remarks: No Management Costs												

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**Exhibit R-3, Project Cost Analysis**  
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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 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME E2175 TACAIR EW					
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	318.491	74.575	41.869	25.635							
RDT&E Articles Qty	458	2	2								

\*The FY 2001 budget reflects a \$3,000K Congressional add for Integrated Defensive Electronic Countermeasures (IDECM) executed under project E2635; which has been revised by \$28K for congressional undistributed adjustments.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: INTEGRATED DEFENSIVE ELECTRONIC COUNTERMEASURES (IDECM): This joint service subproject develops the new techniques generator and fiber optic towed decoy of the Radio Frequency Countermeasures (RFCM) Subsystem as well as the Navy-unique portions of the Common Missile Warning System (CMWS) and Advanced Strategic and Tactical Expendables (ASTE). It also integrates RFCM, CMWS and ASTE with Radar Warning Receiver (RWR), Countermeasures Dispensing Set (CMDS) and associated cockpit controls and displays to provide the lead aircraft (F/A-18E/F) with increased survivability against Infrared/Radio Frequency (IR/RF) threats.

(U) AN/ALR-67(V)3&4 RADAR WARNING RECEIVER: This subproject developed the system which provides enhanced situational awareness by providing accurate azimuth display of all programmed threats, independent of aircraft attitude. This also acted as Electronic Warfare (EW) Bus Controller.

(U) AN/ALE-50 ADVANCED AIRBORNE EXPENDABLE DECOY (AAED): This Joint Service (with Air Force) subproject is developing the system which will decoy enemy radio frequency homing missiles away from friendly aircraft.

(U) FLEET ELECTRONIC WARFARE SUPPORT GROUP (FEWSG): This subproject developed new EW equipment and technology which is used to provide realistic hostile EW threat environment, and support the evaluation and development of tactics and training.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2000 ACCOMPLISHMENTS:

- (U) ((\$32.232) IDECM: Continued funding Engineering and Manufacturing Development (E&MD) contract for IDECM RFCM subsystem.
- (U) (\$ 5.478) IDECM: Continued A-Kit design contract efforts for integration of the RFCM subsystem onto the F/A-18E/F and integration of CMWS/ASTE subsystems onto the AV-8B and F/A-18E/F.
- (U) (\$36.865) IDECM: Continued engineering, technical and logistic support.

2. FY 2001 PLANS:

- (U) (\*\$19.733) IDECM: Continue funding Engineering and Manufacturing (E&MD) contract for IDECM RFCM subsystem . Includes the \$3.0M (Project E2635) Congressional add.
- (U) (\$ 2.318) IDECM: Continue A-Kit design efforts for integration of the RFCM subsystem into the F/A-18E/F.
- (U) (\$18.683) IDECM: Continue engineering, technical and logistic support.
- (U) (\$1.135) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 68.

3. FY 2002 PLANS:

- (U) (\$10.266) IDECM: Complete funding of engineering and manufacturing (E&MD) contract for IDECM RFCM subsystem.
- (U) (\$ .500) IDECM: Complete A-Kit design efforts for integration of the RFCM subsystem into the F/A-18 E/F.
- (U) (\$14.864) IDECM: Continue engineering, technical and logistic support.

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604270N ELECTRONIC WARFARE DEVELOPMENT	PROJECT NUMBER AND NAME E2175 TACAIR EW																																												
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%;">FY2000</th> <th style="width: 10%;">FY2001</th> <th style="width: 10%;">FY2002</th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>(U) FY 2001 President's Budget:</td> <td style="text-align: right;">79.609</td> <td style="text-align: right;">39.317</td> <td style="text-align: right;">25.914</td> <td></td> </tr> <tr> <td>(U) Adjustments from the President's Budget:</td> <td style="text-align: right;">-5.034</td> <td style="text-align: right;">2.552</td> <td style="text-align: right;">-0.279</td> <td></td> </tr> <tr> <td>(U) *FY 2002 President's Budget Submit:</td> <td style="text-align: right;">74.575</td> <td style="text-align: right;">41.869</td> <td style="text-align: right;">25.635</td> <td></td> </tr> </tbody> </table> <p>*FY 2001 budget reflects a \$3,000K Congressional add for Integrated Defensive Electronic Countermeasures executed under E2635; which has been revised by \$28K for Congressional undistributed adjustments.</p> <p>CHANGE SUMMARY EXPLANATION:</p> <p>(U) Funding: The FY 2000 net decrease of \$5.034 million reflects a decrease of \$.059 million for a reprioritization of requirements within the Navy; a decrease of \$4.663 million for a Small Business Innovative Research (SBIR) assessment and a decrease of \$.312 million for a Congressional reduction. The FY 2001 net increase of \$2.552 million reflects a decrease of \$.145 million for reprioritization of requirements within the Navy; a decrease of \$.275 million for a Congressional reduction; a \$3.000 million Congressional add for IDECM, project E2635 which has been revised by a decrease of \$.021 million for a Congressional reduction and a decrease of \$.007 million for a reprioritization of requirements within the navy. The FY 2002 net decrease of \$.279 million reflects a reprioritization of requirements within the Navy.</p> <p>(U) Schedule: RFCM OT-11A(OA) moved from 1Q/00 to 2Q/00. IDECM DT-IIA moved from 1Q/99-3Q/00 to 1Q/99-2Q/00 and was redesignated as IDECM DT-IIB. RFCM DT IIC/ DT Assist 3Q/00-4Q/00 has been added. IDECM DT-IIC has been redesignated to IDECM DT-IID. IDECM DT-IID has been redesignated as IDECM DT-IIE. The above testing dates were rescheduled as a result of the Acquisition Program Baseline dated 31 MAY00. RFCM LRIP changed from 1Q/01 to LRIP I RFCM 2Q/01. Contract was delayed due to prolonged contract negotiations. RFCM LRIP II 1Q/02 and FRP 1Q/03 has been added. These changes were due to program production funding reductions. Change approved by ASN(RDA) NOV00. RFCM MS III moved from 2Q/02 to 3Q/02. IDECM DT IIE moved from 4Q/02-2Q/03 to 4Q/04-1Q/05. IDECM Opeval RFCM FOT&amp;E moved from 2Q/03-3Q/03 to 1Q/05-2Q/05. IDECM MS III moved from 4Q/03 to 2Q/05. These schedule changes are due to delays in the CMWS program and the recommended termination of NAVY TACAIR participation in the CMWS program. The dates indicated are the program office estimates based on the current status of the CMWS program. due to delays in the CMWS program and the recommended termination of Navy TACAIR participation in the CMWS program. The dates indicated are estimates of the program office based upon the current status of the CMWS program.</p> <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. &amp; Name</u></th> <th style="text-align: right;">FY 2000</th> <th style="text-align: right;">FY 2001</th> <th style="text-align: right;">FY 2002</th> <th style="text-align: right;">FY 2003</th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> <th style="text-align: right;">To Complete</th> <th style="text-align: right;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>APN Line 46-IDECM</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Related RDT&amp;E: (U) P.E. 0604270N (ELECTRONIC WARFARE DEVELOPMENT)</p>						FY2000	FY2001	FY2002		(U) FY 2001 President's Budget:	79.609	39.317	25.914		(U) Adjustments from the President's Budget:	-5.034	2.552	-0.279		(U) *FY 2002 President's Budget Submit:	74.575	41.869	25.635		<u>Line Item No. &amp; Name</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total Cost	APN Line 46-IDECM	0	0	0							
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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 0604270N ELECTRONIC WARFARE DEVELOPMENT	PROJECT NUMBER AND NAME E2175 TACAIR EW																				
<p>(U) D. ACQUISITION STRATEGY: IDECM- Sole source LRIP I contract (FY01), LRIP II contract (FY02), sole source FRP (FY03) contract with one option (FY04); full and open competition FRP contract with options (FY05 and beyond)</p> <p>(U) E. SCHEDULE PROFILE:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 30%; text-align: center;"><u>FY 2000</u></th> <th style="width: 30%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> </tr> </thead> <tbody> <tr> <td>(U) Program Milestones</td> <td></td> <td style="text-align: center;">2Q/01 RFCM LRIP I</td> <td style="text-align: center;">1Q/02 RFCM LRIP II</td> </tr> <tr> <td>(U) Engineering Milestones</td> <td></td> <td></td> <td style="text-align: center;">3Q/02 RFCM MS III</td> </tr> <tr> <td>(U) T&amp;E Milestones</td> <td style="vertical-align: top;">                     2Q/00 RFCM OT-IIA(OA)                       1Q/99-2Q/00 IDECM DT IIB                       3Q/00-4Q/00 RFCM DT IIC/ DT Assist                 </td> <td style="vertical-align: top;">                     1Q/01-4Q/01 IDECM DT-IID                       4Q/01-2Q/02 RFCM OT-IIA OPEVAL                 </td> <td></td> </tr> <tr> <td>(U) Contract Milestones</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	(U) Program Milestones		2Q/01 RFCM LRIP I	1Q/02 RFCM LRIP II	(U) Engineering Milestones			3Q/02 RFCM MS III	(U) T&E Milestones	2Q/00 RFCM OT-IIA(OA)  1Q/99-2Q/00 IDECM DT IIB  3Q/00-4Q/00 RFCM DT IIC/ DT Assist	1Q/01-4Q/01 IDECM DT-IID  4Q/01-2Q/02 RFCM OT-IIA OPEVAL		(U) Contract Milestones			
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>																			
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>June 2001</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME E2175 TACAIR EW						
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
ENGINEERING/LOGISTIC/SPT	WX/RX	NAWC-AD/PAX	22.001	0.768	11/00	0.865	11/01				23.634	
ENGINEERINGTECH DATA	WX/RX	NAWC-WD, CA	21.334	5.895	11/00	4.000	11/01				31.229	
Miscellaneous (efforts < \$m each)	WX/RX	Various	0.860	1.027	11/00	0.867	11/01				2.754	
Subtotal T&E			44.195	7.690		5.732				0.000	57.617	
Remarks:												
Program Management Support	WX/RX	NAWC-AD/PAX/Various	19.684	1.070	11/00	0.925	11/01				21.679	
Miscellaneous (efforts < \$m each)	WX/RX	Various	7.252	0.104	11/00	0.968	11/01				8.324	
SBIR Assessment				1.135								
Subtotal Management			26.936	2.309		1.893				0.000	31.138	
Remarks:												
Total Cost			393.066	41.869		25.630				0.000	460.565	
Remarks:												

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**Exhibit R-3, Project Cost Analysis**  
(Exhibit R-3, page 14 of 23)

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**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 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME R2260 Specific Emitter ID					
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		1.740	1.513	1.012	1.020	1.022	1.023	1.024	1.025	Continuing	Continuing
RDT&E Articles Qty	<b>Not Applicable</b>										
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports systems development and collection of Specific Emitter Identification (SEI) information from National Technical Means (NTM) to track commercial ships over 200 gross registered tons world-wide. Research and development will cover improvements and enhancements to Electronic Intelligence technology. This will include improved/next generation SEI technology for miniaturization and automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Propagation in a multi-path signal environment will also be assessed. All work on this project will be undertaken in pursuit of goals stated by the Office of Naval Intelligence and the National Security Agency in support of the Worldwide Ship Tracking Program.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2000 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> <li>- (U) (\$.570) Developed more noise-robust algorithms, increasing SEI resolution and precision. Demonstrated remote sensor operation for placement at inhospitable/inaccessible sites.</li> <li>- (U) (\$.540) Developed a miniaturized and cost-reduced SEI processor was completed with the acceptance of the item from the contractor.</li> <li>- (U) (\$.630) Developed and installed new software in response to Y2K issues for operational systems, while improving capabilities to detect and identify LPI radars.</li> </ul> <p>2. FY 2001 PLANS:</p> <ul style="list-style-type: none"> <li>- (U) (\$.400) SEI technology will be extended to address intentionally modulated and other complex waveform threats.</li> <li>- (U) (\$.600) Miniaturized SEI technology will be finalized for transition in tactical platforms and national-technical-means.</li> <li>- (U) (\$.512) The development and demonstration of an integrated and remotely operated surveillance system will be accelerated.</li> <li>- (U) (\$.001) Portion of extramural program reserved for Small business Innovation Research assessment in accordance with 15 USC 638.</li> </ul> <p>3. FY 2002 PLANS:</p> <ul style="list-style-type: none"> <li>- (U) (\$1.012) Work will focus on increased sensor fusion and automation to reduce staffing and support remote access and control capability.</li> </ul>											

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	FY2000	FY2001	FY2002															
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(U) Adjustments from the President's Budget:	-0.061	-0.014	-0.565															
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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>			0604270N Electronic Warfare Development			R2260 Specific Emitter ID						
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
Primary Hardware Development	C/FFP	ITT, Virginia		0.400	02/01	0.200	02/01			0.350	0.950	0.950
Software Development	WR	NRL, Washington, DC		0.300		0.200				Continuing	Continuing	
Government Engineering Support	WR	NRL, Washington, DC		0.150		0.100				Continuing	Continuing	
Contractor Engineering Support	C/FFP	AIMS, Maryland		0.150	03/01	0.150	03/01			0.300	0.600	0.600
Subtotal Product Development			0.000	1.000		0.650				Continuing	Continuing	
Remarks:												
Subtotal Support			0.000	0.000		0.000				0.000	0.000	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>June 2001</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME R2260 Specific Emitter ID					
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	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NRL, Washington, DC		0.289		0.164						
Developmental Test & Evaluation	C/FFP	CACI, Virginia		0.150	03/01	0.150	03/01					
Subtotal T&E			0.000	0.439		0.314						
Remarks:												
Program Management	WR	NRL, Washington, DC		0.074		0.048						
Subtotal Management			0.000	0.074		0.048						
Remarks:												
Total Cost			0.000	1.513		1.012						
Remarks:												

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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 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME Z1742 EW TECHNICAL DEVELOPMENT AND TEST					
COST (\$ in Millions)	Prior Years Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost		<b>0.866</b>	<b>0.936</b>	<b>1.006</b>							
RDT&E Articles Qty	<b>Not Applicable</b>										

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

Skunkworks is a CNO N64 funded effort that focuses on the quick reaction prototyping of tactical information warfare systems. This program directly addresses various fleet requirements, airborne and surface cryptologic operational requirements documents and the joint requirements oversight council mission needs statement for information warfare (IW) systems and capabilities across the spectrum of conflict. The projects developed under this program are designed to deny, degrade, disrupt or destroy enemy command and control communications. These systems provide information dominance to friendly forces during conflict which is necessary for success.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2000 ACCOMPLISHMENTS:

- (U) (\$.250) Began development and installation of FURY command and control emulation network at NSA/CSSA Fallon.
- (U) (\$.400) Developed and tested heliborne IW system on an MIT-60 helicopter in response to JSOC requirements.
- (U) (\$.119) Began development of airborne IW pod for patrol aircraft.
- (U) (\$.097) Began engineering and development of unmanned aerial vehicle IW payload.

2. FY 2001 PLANS:

- (U) (\$.275) Final integration of airborne IW pod.
- (U) (\$.300) Continue heliborne IW jammer test support and follow-on development.
- (U) (\$.100) Continue FURY development and support.
- (U) (\$.200) Continue unmanned aerial vehicle IW payload development.
- (U) (\$.061) Begin concept exploration of high performance aircraft pod.

3. FY 2002 PLANS:

- (U) (\$.300) Airborne IW pod test and certification.
- (U) (\$.400) Continue heliborne jammer development.
- (U) (\$.200) Continue unmanned aerial vehicle IW payload development.
- (U) (\$.106) Continue high performance aircraft (HPA) IW pod design.

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	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>															
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(U) D. ACQUISITION STRATEGY: N/A				
(U) E. SCHEDULE PROFILE:				
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>TO COMPLETE</u>
(U) Engineering Milestones	FURY	FURY Upgrade HELIBORNE Jammer HPA IW POD Airborne Antennas	UAV Payload HPA IW POD Portable Jammer	Mult-Functional Jammer
(U) T&E Milestones	HELIBORNE RUBICON FURY Test	UAV IW Payload Test	Airborne Antenna FURY Upgrade	HPA IW POD Portable Airborne Jammer UAV Payload Test
(U) Contract Milestones				

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**Exhibit R-2a, RDT&E Project Justification**  
(Exhibit R-2a, page 21 of 23)

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**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>June 2001</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA 5</b>			PROGRAM ELEMENT 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME Z1742 EW TECHNICAL DEVELOPMENT AND TEST						
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
Primary Hardware Development			0.266	0.286		0.400						
Subtotal Product Development			0.266	0.286		0.400						
Remarks:												
Software Development			0.100	0.150		0.156						
Subtotal Support			0.100	0.150		0.156						
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>JUNE 2001</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME Z1742 EW TECHNICAL DEVELOPMENT AND TEST						
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
Developmental Test & Evaluation			0.250	0.250		0.200						
Subtotal T&E			0.250	0.250		0.200						
Remarks:												
Contractor Engineering Support			0.100	0.100		0.100						
Government Engineering Support			0.100	0.100		0.100						
Travel			0.050	0.050		0.050						
Subtotal Management			0.250	0.250		0.250						
Remarks:												
Total Cost			0.866	0.936		1.006			0.000			
Remarks:												

R-1 SHOPPING LIST - Item No. 109

**UNCLASSIFIED**

**Exhibit R-3, Project Cost Analysis**  
(Exhibit R-3, page 23 of 23)