

EXHIBIT R-2, RDT&E Budget Item Justification

DATE:

February 2002

APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						0204136N F/A-18 SQUADRONS					
COST (\$ in Millions)	Prior Years Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost	8,814.228	*	221.267	251.772	204.466	148.180	113.300	52.430	11.421	0.000	9,817.064
E1662 F/A-18 Improvements	2,968.764		110.253	140.401	97.416	73.626	45.771	15.126	11.002	0.000	3,462.359
E2065 F/A-18 RADAR Upgrade	302.768	**	97.122	110.235	107.050	74.554	67.529	37.304	0.419	0.000	796.981
E2130 F/A-18 Follow-On Variant	5,542.696		13.892	1.136						0.000	5,557.724
Quantity of RDT&E Articles	10										10

\*FY92 & Prior: \$2511.304; FY93-FY95: \$55.765; FY96-FY99: \$232.556; FY00 reflects a \$5.000M Congressional add for Radar ECCM Improvements, executed under E2803, which has been decreased by \$.028M for a Congressional Rescission and \$.061M for a SBIR Assessment.

\*\*FY 1991 through FY 1999 = \$272.228. Adding RUG Phase I and RUG Phase II

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The F/A-18 is capable of using external equipment to perform either fighter or attack missions. The capabilities of the F/A-18 weapon system can be upgraded to accommodate and incorporate new or enhanced weapons as well as advances in technology to respond effectively to emerging future threats. Continued development capability is required to successfully optimize new F/A-18 weapon system capabilities in the Fleet. Additionally, continued improvements in reliability and maintainability are necessary to ensure maximum benefit is achieved through reduced cost of ownership and to provide enhanced availability.

**F/A-18 Improvements:** The F/A-18 Naval Strike Fighter program transitioned from full-scale engineering development to operational systems development during FY 1983. As F/A-18 squadrons report discrepancies and new requirements, a continuing capability is needed to perform technical evaluations, investigative flight testing, software support, and incorporate Pre-Planned Product Improvements (P3I) (i.e., capability enhancements).

**F/A-18 Radar Upgrade:** The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program, beginning in FY 1999, is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series radar. The AESA corrects operational test deficiencies noted in the AN/APG-73. It provides for multi-target tracking, Synthetic Aperture Radar (SAR) imagery, SAR Target Location Error (TLE), and improved spotlight map resolution. In addition, it provides for greater lethality than previous F/A-18 radars by allowing for full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons significantly increases A/A and A/G detection and tracking ranges. The AESA provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy radar. The AESA is also more affordable than previous radars. Significant savings in operating and support costs can be realized through a five fold increase in reliability over the AN/APG-73 as well as incorporating open architecture and Higher Order Language software. Additionally, savings can be realized by avoiding parts obsolescence redesign costs that will be experienced on the AN/APG-65 and AN/APG-73.

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	<b>February 2002</b>
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY / BA-7</b>		R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS	
<p><b>F/A-18 Follow-On Variant:</b> The follow-on F/A-18 (E/F version) is an airframe upgrade incorporating increased capabilities, performance, and survivability necessary to satisfy the 41% percent increase in range over the C/D in the high-low-low-high attack/interdiction mission carrying three 480 gallon drop tanks, four 1,000 pound bombs, and two AIM-9 air-to-air missiles. The E/F version has increased internal fuel capacity, increased weapons carriage capability, increased carrier recovery payload, enhanced survivability/vulnerability, increased growth capacity, and increased engine thrust. It retains all of the P3I enhancements developed for the earlier night attack C/D version of the aircraft.</p> <p>(U) <b>JUSTIFICATION FOR BUDGET ACTIVITY:</b> This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing operational systems.</p>			

R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2002</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>		PROGRAM ELEMENT NUMBER AND NAME 0204136N/F/A-18 SQUADRONS				PROJECT NUMBER AND NAME E1662 F/A-18 IMPROVEMENTS					
COST (\$ in Millions)	Prior Years Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost	<b>2,968.764</b>		<b>110.253</b>	<b>140.401</b>	<b>97.416</b>	<b>73.626</b>	<b>45.771</b>	<b>15.126</b>	<b>11.002</b>	<b>0.000</b>	<b>3,462.359</b>
Quantity of RDT&E Articles	<b>Not Applicable</b>										
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The F/A-18 is a multi-mission strike fighter aircraft that is used in both fighter and attack roles through selected use of external equipment (fuel tanks, targeting/navigation, Forward Looking Infrared (FLIR) pods, and various bomb/missile launching racks). In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics including the Positive Identification System (PIDS) (incorporates Congressionally mandated Combined Interrogator Transponder (CIT) Identification Friend or Foe (IFF) System, Digital Communications System (DCS), Joint Helmet Mounted Cueing System (JHMCS), Advanced Targeting Forward Looking Infrared (ATFLIR), development and integration of the Multifunctional Information Distributions System (MIDS), conversion of the System Configuration Set (SCS) to a Higher Order Language (HOL), development of the F/A-18 E/F Advanced Crew Station (ACS), and upgrade of the existing Global Positioning System/Inertial Navigation System in order to meet precision strike/precision approach requirements. Continued hardware/software development is required to successfully optimize fleet F/A-18 weapons systems. As F/A-18 Squadrons report system problems/requirements, a continuing capability is needed to perform technical evaluations/investigative flight testing, provide software support and integrate selected improvements</p>											

R-1 SHOPPING LIST - Item No. 178

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2002</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>	PROGRAM ELEMENT NUMBER AND NAME 0204136N/ F/A-18 SQUADRONS	PROJECT NUMBER AND NAME E1662 F/A-18 IMPROVEMENTS
<p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> <li>* (U) (\$1.766) Continued to conduct engineering analysis and develop improvements to existing systems and subsystems for deficiencies identified during development of the aircraft. Provided technical support for the integration of new weapons and systems.</li> <li>* (U) (\$7.453) Continued to develop and integrate enhancements to the effectiveness, operability, and safety of the F/A-18 Weapon System (airframe, avionics, and weapons) and subsystems to include MIDS, AIM-9X, and TAMMAC. Continued to investigate deficiencies and develop corrective action.</li> <li>* (U) (\$9.315) Completed development of DCS and PIDS. Continued development of JHMCS.</li> <li>* (U) (\$27.663) Continued ATFLIR development, DT-IIA and DT-IIB. Commenced DT-IIC testing.</li> <li>* (U) (\$64.056) Continued software conversion from assembly language SCS to a Higher Order Language for load H1E. Continued development of Advanced Crew Station (ACS). Operational Assessment (OA) testing is planned to commence upon completion of DT testing.</li> </ul> <p>2. FY 2002 PLANS:</p> <ul style="list-style-type: none"> <li>* (U) (\$1.487) Continue to conduct engineering analysis and develop improvements to existing systems and subsystems for deficiencies identified during development of the aircraft. Provide technical support for the integration of new weapons and systems.</li> <li>* (U) (\$11.059) Continue to develop and integrate enhancements to the effectiveness, operability, and safety of the F/A-18 Weapon System (airframe, avionics, and weapons) and subsystems to include MIDS, and completion of AIM-9X and TAMMAC development. Continue to investigate deficiencies and develop corrective action.</li> <li>* (U) (\$.398) Continue development of JHMCS.</li> <li>* (U) (\$42.262) Continue ATFLIR development, DT-IIE testing and commence TECHEVAL and Operational Test Readiness Review (OTRR) testing.</li> <li>* (U) (\$81.098) Continue software conversion from assembly language SCS to a Higher Order Language for load H1E. Commence HOL software development load H2E. Continue ACS development.</li> <li>* (U)(\$4.097) Portion of extramural program reserved for Small Business Innovative Research assessment in accordance with 15 USC 638.</li> </ul>		

R-1 SHOPPING LIST - Item No. 178

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
<b>RDT&amp;E, N / BA-7</b>	0204136N F/A-18 SQUADRONS	E1662 F/A-18 IMPROVEMENTS
<p>3. FY 2003 PLANS:</p> <p>* (U) (\$1.185) Continue to conduct engineering analysis and develop improvements to existing systems and subsystems for deficiencies identified during development of the aircraft. Provide technical support for the integration of new weapons and systems.</p> <p>* (U) (\$21.216) Continue to develop and integrate enhancements to the effectiveness, operability, and safety of the F/A-18 Weapon System (airframe, avionics, and weapons) and subsystem to include MIDS and Accurate Navigation (ANAV).</p> <p>* (U) (\$13.677) Complete ATFLIR development, DT-IIE testing and commence OPEVAL.</p> <p>* (U) (\$37.108) Continue software conversion from assembly language SCS to a Higher Order Language for load H1E. Commence HOL software development load H2E. Continue ACS development.</p> <p>* (U) (\$24.230) Continue development of JHMCS.</p>		

R-1 SHOPPING LIST - Item no. 178

**UNCLASSIFIED**

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2002</b>																																						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME																																						
<b>RDT&amp;E, N / BA-7</b>			0204136N F/A-18 SQUADRONS			E1662 F/A-18 IMPROVEMENTS																																						
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center; width: 10%;"><u>FY2001</u></th> <th style="text-align: center; width: 10%;"><u>FY2002</u></th> <th style="text-align: center; width: 10%;"><u>FY2003</u></th> <th colspan="5"></th> </tr> </thead> <tbody> <tr> <td>(U) FY 2002 President's Budget:</td> <td style="text-align: right;">114.155</td> <td style="text-align: right;">136.556</td> <td></td> <td colspan="5"></td> </tr> <tr> <td>(U) Adjustments from the FY2002 President's Budget:</td> <td style="text-align: right;">-3.902</td> <td style="text-align: right;">3.845</td> <td></td> <td colspan="5"></td> </tr> <tr> <td>(U) FY 2003 President's Budget:</td> <td style="text-align: right;">110.253</td> <td style="text-align: right;">140.401</td> <td style="text-align: right;">97.416</td> <td colspan="5"></td> </tr> </tbody> </table> <p>CHANGE SUMMARY EXPLANATION:</p> <p>(U) Funding: The FY 2001 net decrease of \$3.902 million is due to decrease of \$2.580 million for a Small Business Innovative Research Assessment, a decrease of \$.018 million for Federal Technology Transfer, and a decrease \$5.723 million for reprioritization of requirements with in the Navy offset by an increase of \$4.419 million for SLAP. The FY 2002 net increase of \$3.845 million is due to an increase of \$5.097 million for AMC&amp;D offset by a decrease of \$1.252 million for an undistributed congressional reduction.</p> <p>(U) Schedule: Not applicable.</p> <p>(U) Technical: Not applicable</p>										<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>						(U) FY 2002 President's Budget:	114.155	136.556							(U) Adjustments from the FY2002 President's Budget:	-3.902	3.845							(U) FY 2003 President's Budget:	110.253	140.401	97.416					
	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>																																									
(U) FY 2002 President's Budget:	114.155	136.556																																										
(U) Adjustments from the FY2002 President's Budget:	-3.902	3.845																																										
(U) FY 2003 President's Budget:	110.253	140.401	97.416																																									
<p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 30%;"><u>Line Item No. &amp; Name</u></th> <th style="text-align: center; width: 7.5%;"><u>FY 2001</u></th> <th style="text-align: center; width: 7.5%;"><u>FY 2002</u></th> <th style="text-align: center; width: 7.5%;"><u>FY 2003</u></th> <th style="text-align: center; width: 7.5%;"><u>FY 2004</u></th> <th style="text-align: center; width: 7.5%;"><u>FY 2005</u></th> <th style="text-align: center; width: 7.5%;"><u>FY 2006</u></th> <th style="text-align: center; width: 7.5%;"><u>FY 2007</u></th> <th style="text-align: center; width: 7.5%;"><u>To Complete</u></th> </tr> </thead> <tbody> <tr> <td>APN-1 (E/F)</td> <td style="text-align: right;">2837.83</td> <td style="text-align: right;">3118.268</td> <td style="text-align: right;">3159.492</td> <td style="text-align: right;">2997.234</td> <td style="text-align: right;">2954.345</td> <td style="text-align: right;">3519.538</td> <td style="text-align: right;">3935.753</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>APN-5</td> <td style="text-align: right;">271.051</td> <td style="text-align: right;">223.724</td> <td style="text-align: right;">421.704</td> <td style="text-align: right;">426.281</td> <td style="text-align: right;">500.276</td> <td style="text-align: right;">461.816</td> <td style="text-align: right;">500.941</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p>Related RDT&amp;E</p> <table style="width: 100%;"> <tr> <td style="width: 50%;">(U) P.E. 0207163N Advanced Medium Range Air-to-Air Missile (AMRAAM)</td> <td>(U) P.E. 0604777N Navigation ID System, project X0921, NAVSTAR GPS equipment</td> </tr> <tr> <td>(U) P.E. 0604727N Joint Stand-off Weapon (JSOW) System</td> <td>(U) P.E. 0404215N Standards Development</td> </tr> <tr> <td>(U) P.E. 0604270N EW Development</td> <td>(U) P.E. 0204136N Radar Upgrade (AESA)</td> </tr> </table>									<u>Line Item No. &amp; Name</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Complete</u>	APN-1 (E/F)	2837.83	3118.268	3159.492	2997.234	2954.345	3519.538	3935.753	TBD	APN-5	271.051	223.724	421.704	426.281	500.276	461.816	500.941	TBD	(U) P.E. 0207163N Advanced Medium Range Air-to-Air Missile (AMRAAM)	(U) P.E. 0604777N Navigation ID System, project X0921, NAVSTAR GPS equipment	(U) P.E. 0604727N Joint Stand-off Weapon (JSOW) System	(U) P.E. 0404215N Standards Development	(U) P.E. 0604270N EW Development	(U) P.E. 0204136N Radar Upgrade (AESA)			
<u>Line Item No. &amp; Name</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Complete</u>																																				
APN-1 (E/F)	2837.83	3118.268	3159.492	2997.234	2954.345	3519.538	3935.753	TBD																																				
APN-5	271.051	223.724	421.704	426.281	500.276	461.816	500.941	TBD																																				
(U) P.E. 0207163N Advanced Medium Range Air-to-Air Missile (AMRAAM)	(U) P.E. 0604777N Navigation ID System, project X0921, NAVSTAR GPS equipment																																											
(U) P.E. 0604727N Joint Stand-off Weapon (JSOW) System	(U) P.E. 0404215N Standards Development																																											
(U) P.E. 0604270N EW Development	(U) P.E. 0204136N Radar Upgrade (AESA)																																											

R-1 SHOPPING LIST - Item no. 178

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
<b>RDT&amp;E, N / BA-7</b>	0204136N/ F/A-18 SQUADRONS	E1662 F/A-18 IMPROVEMENTS
<p>(U) D. ACQUISITION STRATEGY: The F/A-18 Improvements program consists of extensive development projects and integration of avionics systems onto the F/A-18E/F that were initially developed for incorporation onto the F/A-18C/D as the lead platform.</p> <p>The major programs within the F/A-18 Improvements Line are as follows:</p> <ul style="list-style-type: none"><li>*PIDS. PIDS is a sole source cost plus fixed fee contract on an R&amp;D Basic Ordering Agreement. Will be bought as CFE through the prime contractor.</li><li>*ANAV. ANAV is a sole source cost plus fixed fee contract on an R&amp;D Basic Ordering Agreement. Will be bought as CFE through the prime contractor</li><li>*ATFLIR. The ATFLIR development was a sole source incentive fee contract to Boeing. Boeing competed the development contract. The procurement supplier is sole source to Boeing.</li><li>* Higher Order Language (HOL). The conversion of the System Configuration Set software to HOL will be accomplished by the F/A-18 Advanced Weapons Laboratory at China Lake as the designated Software Support Activity for the F/A-18. The design of the software will be accomplished by Boeing under sole source contracts. The contract vehicle is a Technical Direction Letter contract at China Lake. As the Prime contractor for the aircraft, Boeing is the design agent for software of aircraft in production.</li><li>* Advanced Crew Station. The design and development of the Advanced Crew Station modification is sole source to Boeing as the Prime aircraft contractor.</li><li>* DCS. DCS is a sole source cost plus fixed fee contract on an R&amp;D Basic Ordering Agreement. Equipment is GFE.</li><li>* MIDS. An acquisition developmental effort supported by SPAWAR (PMW-159), MIDS is being developed by a consortium of international companies.</li><li>* JHMCS. JHMCS is a sole source award fee Joint Air Force contract to Boeing.</li></ul> <p>(U) E. SCHEDULE PROFILE: See following pages.</p>		

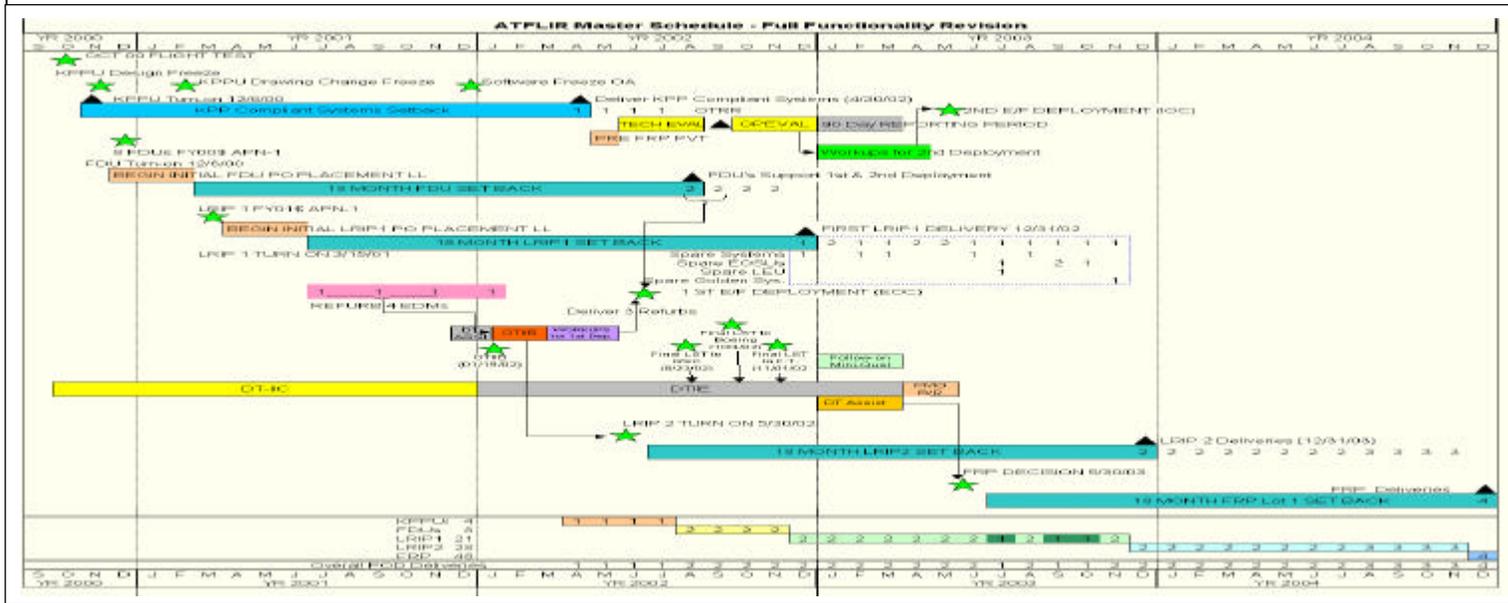
R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements



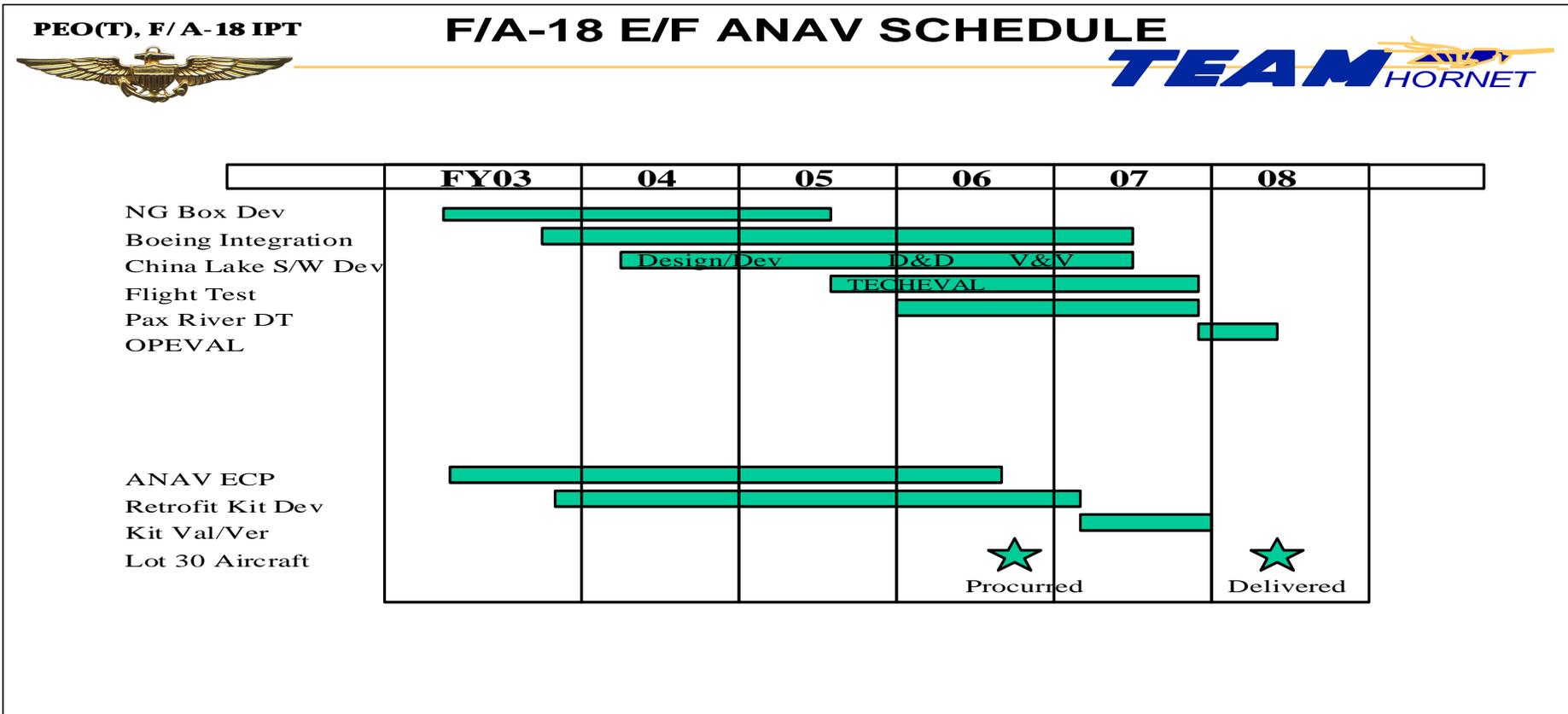
R-1 SHOPPING LIST - Item No. 178

UNCLASSIFIED

**UNCLASSIFIED**

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements



R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

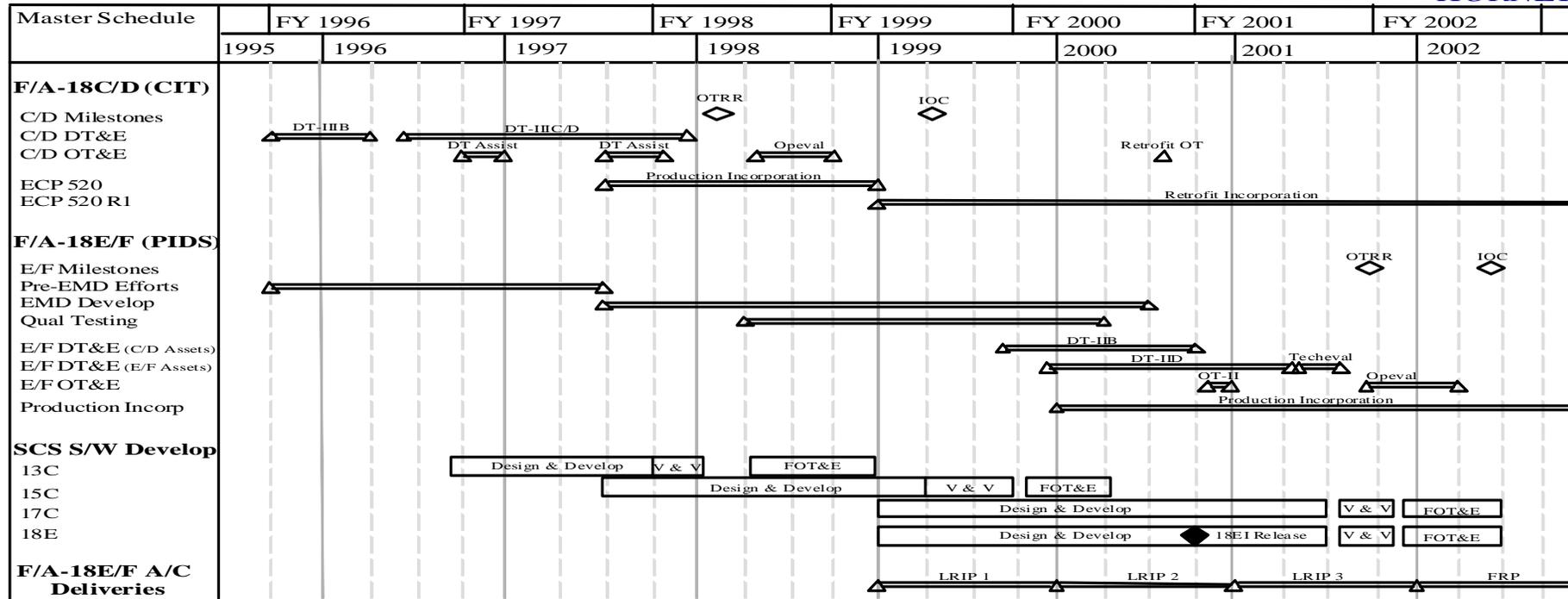
**UNCLASSIFIED**

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2002</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements

**PEO(T), F/A-18 IPT**

# PIDS MASTER SCHEDULE



Oct 00

3

R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

Exhibit R-2, RDTE Budget Item Justification  
(Exhibit R-2, page 10 of 30)



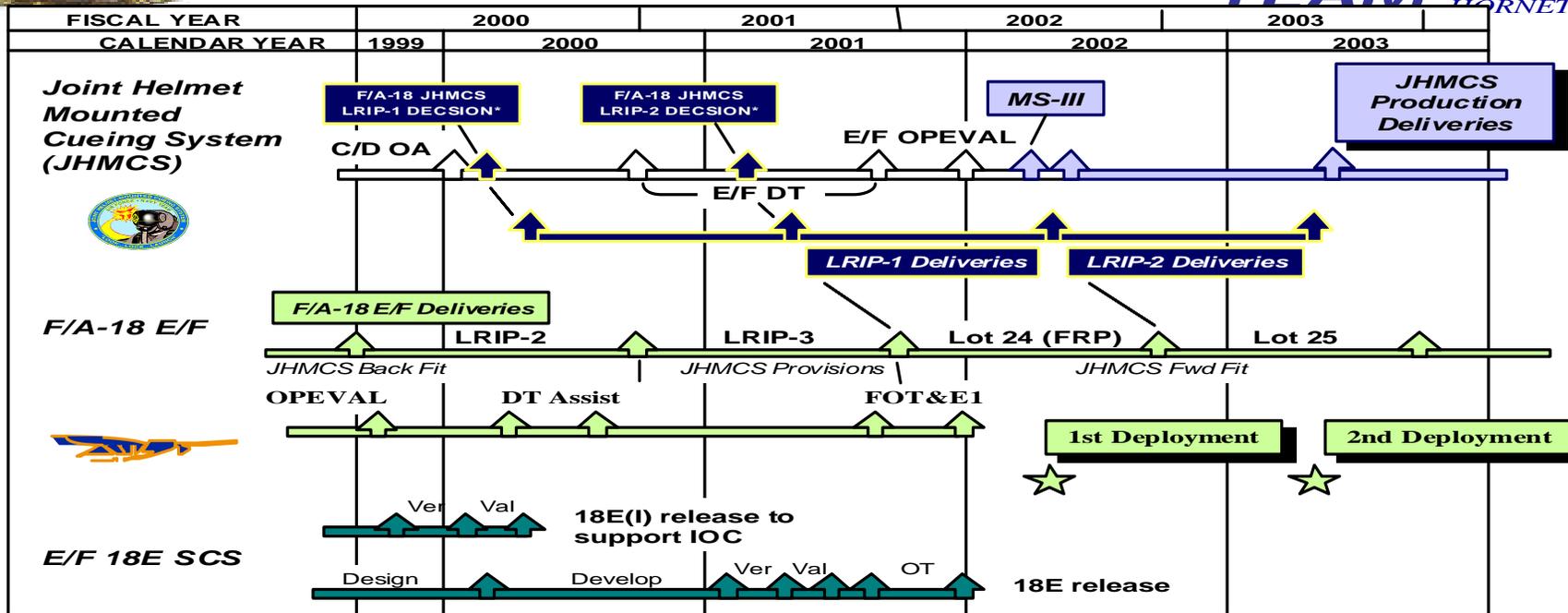
UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements

CURRENT NAVY JHMCS SCHEDULE

PEO(T), F/A-18 IPT



\* Milestone Decision Authority: AFPEO/FB / PEO(T)

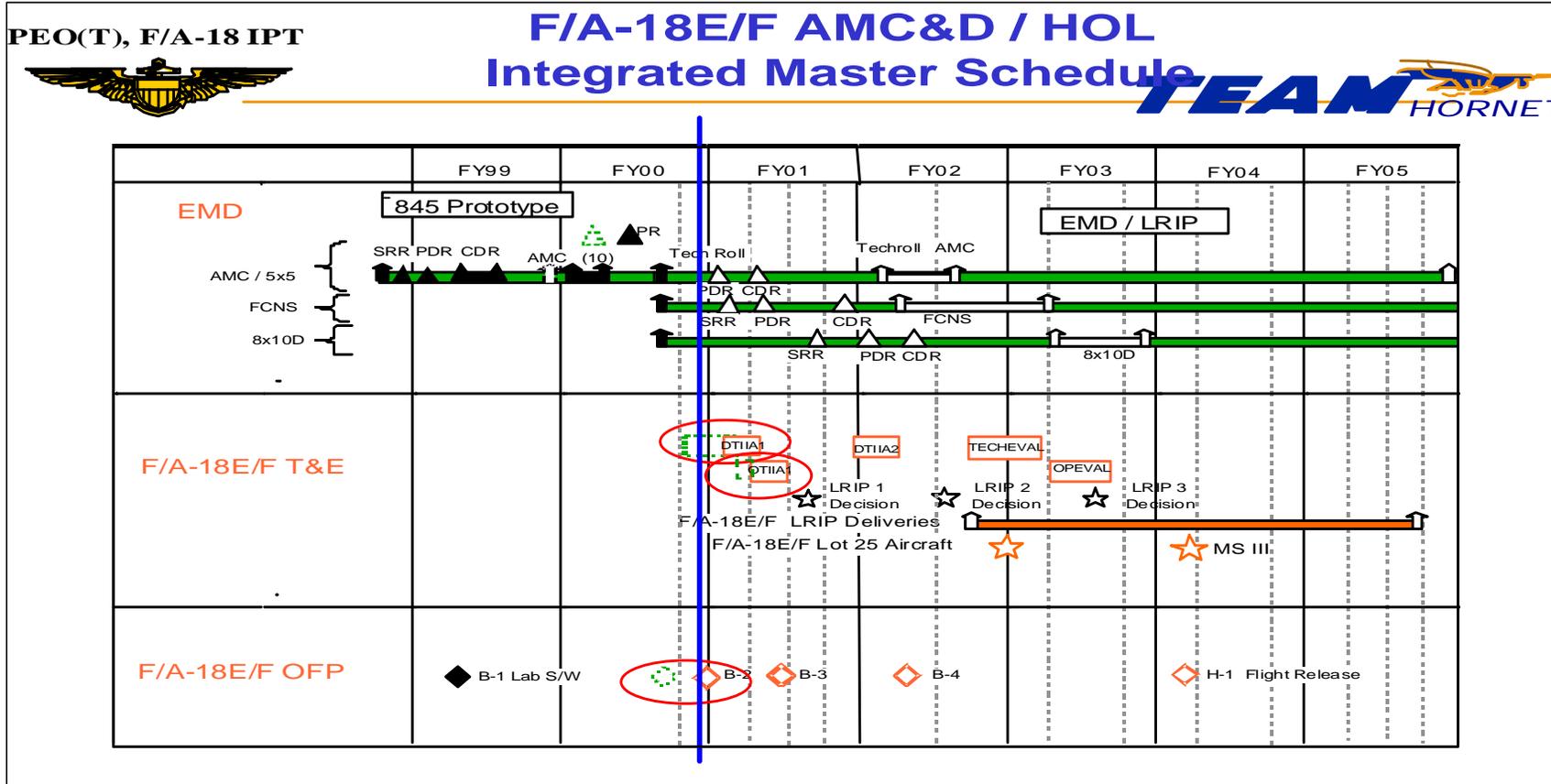
R-1 SHOPPING LIST - Item No. 178

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements



R-1 SHOPPING LIST - Item No. 178

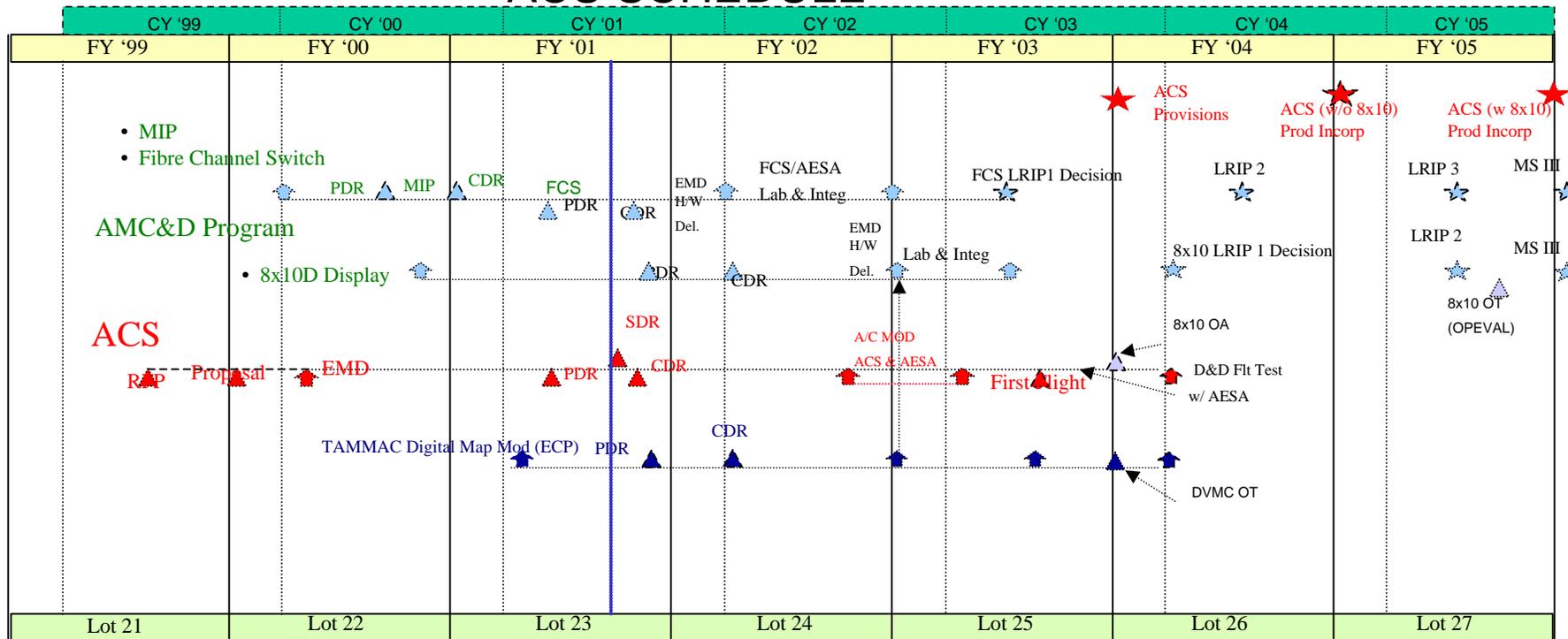
UNCLASSIFIED

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2002</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements

## ACS SCHEDULE



R-1 SHOPPING LIST - Item No. 178

UNCLASSIFIED

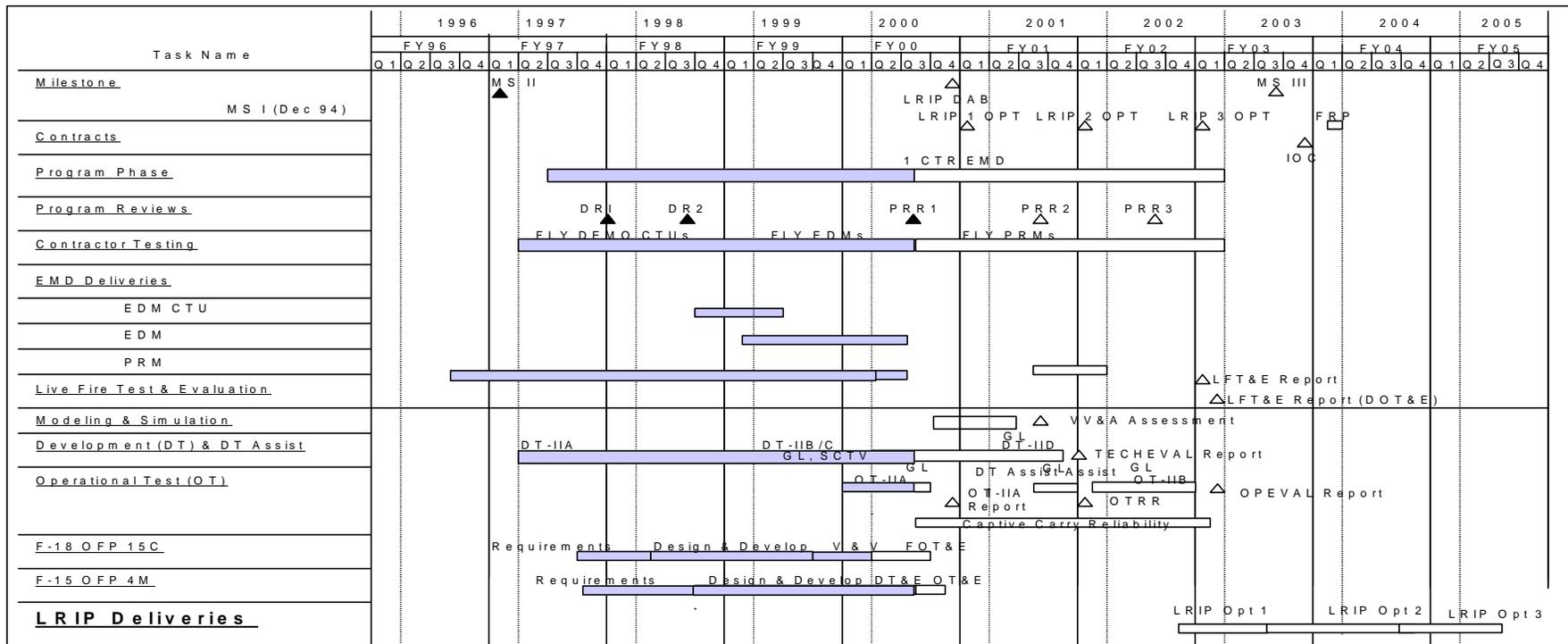


# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2002</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements	

## A IM -9 X Integrated Program Schedule



R-1 SHOPPING LIST - Item No. 178

UNCLASSIFIED

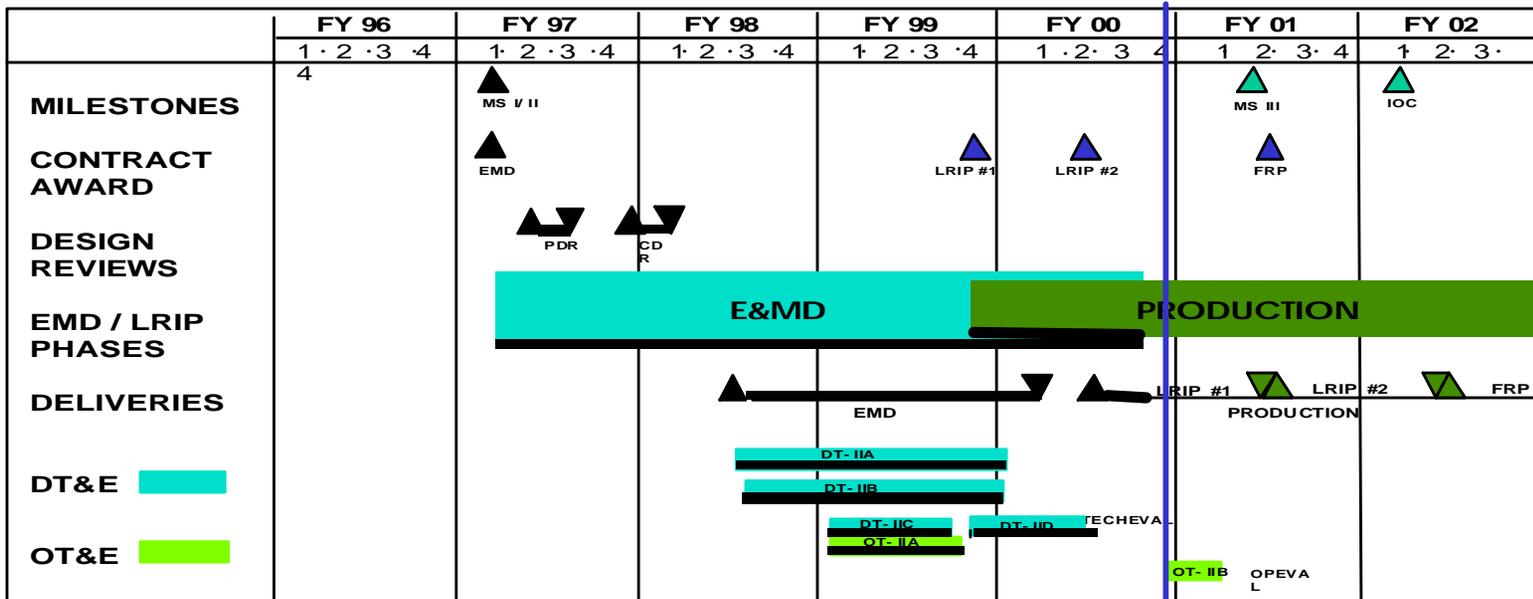
# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2002</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements

PEO(T), F/A-18 IPT

## TAMMAC Schedule



R-1 SHOPPING LIST - Item No. 178

UNCLASSIFIED

**UNCLASSIFIED**

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE: <b>February 2002</b>					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDTE&amp;E, N / BA-7</b>			0204136N F/A-18 SQUADRONS			E1662 F/A-18 IMPROVEMENTS						
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
PIDS/DCS Development/integration	SS/CPFF/FFP	MDA-ST LOUIS,MO	70.245	3.589	01/01						73.834	73.834
DCS E&MD	SS/FFP	Rockwell-Collins C.Rapids, IA	16.196								16.196	16.196
ATFLIR E&MD (Basic Contract) note 1	SS/CPIF/AF	MDA-ST LOUIS,MO	39.949								39.949	39.949
ATFLIR AWARD FEE (note 1)			0.803								0.803	0.803
ATFLIR EMD (OPTION CONTRACT)	SS/CPIF/AF	MDA-ST LOUIS, MO	62.703	19.000	10/00	33.348	11/01	8.585	11/02		123.636	123.636
ATFLIR AWARD FEE (note 1)			0.773								0.773	0.773
ATFLIR SUPPORT EQUIPMENT	WX	NAWCAD-LAKEHURST NJ	9.003	0.200	11/00						9.203	
ADVANCED CREW STATION	SS/CPIF	MDA-ST LOUIS, MO	4.081	15.946	11/00	16.976	11/01	10.088	11/02	10.204	57.295	57.295
HOL CONVERSION	TDL	NAWCWD-CHINA LAKE	38.085	30.127	11/00	31.395	11/01	5.660	11/02	2.270	107.537	107.537
HOL CONVERSION	SS/CPIF	NAWCWD-CHINA LAKE	13.802	2.229	11/00	2.200	11/01	0.366	11/02	1.340	19.937	19.937
ANAV	SS/CPFF	Northrop-Grumman-LA CA						5.770	11/02	1.120	6.890	6.890
JHMCS E&MD	MIPR	WPAFB DAYTON, OHIO	13.876	2.706	11/00			19.940	11/02	34.034	70.556	70.556
MISCELLANEOUS DEVELOPMENT	VARIOUS	VARIOUS	20.929	0.240	10/00	10.610	11/01	10.391	11/02	13.877	56.047	
SOFTWARE DEVELOPMENT	WX	NAWCWD-CHINA LAKE	63.241	21.676	10/00	21.737	11/01	13.350	11/02	37.749	157.753	
MISC. PRODUCT DEVELOPMENT	WX	OTHER FIELD ACTIVITIES	2.219	2.989	10/00	10.183	11/01	5.900	11/02	15.924	37.215	
Prior Year Costs (Note 2)	Various	Various	2,567.069								2,567.069	
Subtotal Product Development			2,922.974	98.702		126.449		80.050		116.518	3,344.693	
Remarks: Note 1: FY99 and prior year award fee earned is 74.7% (ATFLIR) Note 2: Prior year costs (FY95 & prior) not broken out into separate categories.												

R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

**Exhibit R-2, RDTE Budget Item Justification**  
(Exhibit R-2, page 18 of 30)

**UNCLASSIFIED**

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2002</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA- 7</b>			PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME E1662 F/A-18 IMPROVEMENTS						
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	WX	NAWCAD, PAX RIVER, MD	35.499	7.426	11/00	5.105	11/01	9.593	11/02	20.845	78.468	
Operational Test & Evaluation	WX	OPTEVFOR, NORFOLK, VA	1.713	2.062	11/00	2.946	11/01	6.449	11/02	4.500	17.670	
Subtotal T&E			37.212	9.488		8.051		16.042		25.345	96.138	
Remarks:												
CONTRACT SUPP/TRL/MISC	VARIOUS	NAVAIR, PAX RIVER, MD	8.578	2.063	11/00	1.804	11/01	1.324	11/02	3.662	17.431	
SBIR Assessment						4.097					4.097	
Subtotal Management			8.578	2.063		5.901		1.324		3.662	21.528	
Remarks:												
Total Cost			2,968.764	110.253		140.401		97.416		145.525	3,462.359	

R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

**Exhibit R-2, RDTEEN Budget Item Justification**  
(Exhibit R-2, page 19 of 30)

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2002</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>		PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME E2065 RADAR UPGRADE					
COST (\$ in Millions)	Prior Years Cost	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program	
Project Cost	<b>302.768</b>	<b>97.122</b>	<b>110.235</b>	<b>107.050</b>	<b>74.554</b>	<b>67.529</b>	<b>37.304</b>	<b>0.419</b>	<b>0.000</b>	<b>796.981</b>	
RDT&E Articles Qty										<b>0</b>	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program began in FY 1999. It is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series radar. The AESA corrects operational test deficiencies noted in the AN/APG-73. It provides for multi-target tracking, SAR imagery, SAR TLE, and improved spotlight map resolution. In addition, it provides for greater lethality than previous F/A-18 radars by allowing for full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons, significantly increasing A/A and A/G detection and tracking ranges. The AESA provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy radar. The AESA is also more affordable than previous radars. Significant savings in operation and support costs can be realized through a five fold increase in reliability over the AN/APG-73 as well as incorporating open architecture and Higher Order Language software. Additionally, savings can be realized by avoiding parts obsolescence redesign costs that will be experienced on the AN/APG-65 and AN/APG-73.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS:

- (U) (\$81.150) Commenced System Demonstration. Conducted Critical Design Reviews(CDR's), Integrated Forebody testing, and radar cross-section assessments. Conducted Preliminary Design Review (PDR) and Quarterly Program Review.
- (U) (\$4.511) Pre-System Demonstration component procurement.
- (U) (\$.140) Commenced Applied Physics Laboratory workload.
- (U) (\$3.000) Continued software development and systems integration efforts.
- (U) (\$7.904) Continued radar development/planning and prepared Milestone II decision documentation.
- (U) (\$.417) Continued Integrated Logistics Support efforts.

R-1 SHOPPING LIST - Item No. 178

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	<b>February 2002</b>
<p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>2. FY 2002 PLANS:</p> <ul style="list-style-type: none"><li>- (U) (\$88.737) Continue EMD efforts and radar cross-section assessments. Conduct Quarterly Program Review.</li><li>- (U) (\$5.400) Continue software development and systems integration efforts.</li><li>- (U) (\$12.995) Continue radar development/planning.</li><li>- (U) (\$.572) Continue Integrated Logistics Support Efforts.</li><li>- (U)(\$2.531) Portion of extramural program reserved for Small Business Innovative Research assessment in accordance with 15 USC 638.</li></ul> <p>3. FY 2003 PLANS:</p> <ul style="list-style-type: none"><li>- (U) (\$67.677) Continue EMD efforts and radar cross-section assessments. Conduct Quarterly Program Review.</li><li>- (U) (\$25.489) Continue software development and systems integration efforts.</li><li>- (U) (\$13.520) Continue radar development/planning.</li><li>- (U) (\$.364) Continue Integrated Logistics Support Efforts.</li></ul>		

R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2002</b>																																																																	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>		PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME E2065 RADAR Upgrade																																																																		
<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%;">FY2001</th> <th style="width: 10%;">FY2002</th> <th style="width: 10%;">FY2003</th> <th colspan="5"></th> </tr> </thead> <tbody> <tr> <td>(U) FY 2002 President's Budget:</td> <td style="text-align: right;">102.987</td> <td style="text-align: right;">115.455</td> <td></td> <td colspan="5"></td> </tr> <tr> <td>(U) Adjustments from the FY 2002 President's Budget:</td> <td style="text-align: right;">-5.865</td> <td style="text-align: right;">-5.22</td> <td></td> <td colspan="5"></td> </tr> <tr> <td>(U) FY 2003 President's Budget:</td> <td style="text-align: right;">97.122</td> <td style="text-align: right;">110.235</td> <td style="text-align: right;">107.050</td> <td colspan="5"></td> </tr> </tbody> </table> <p>CHANGE SUMMARY EXPLANATION:</p> <p>(U) Funding: The FY 2001 net decrease of \$5.865 million consists of a decrease of \$3.147 million for reprioritization of requirements with in the Navy and a decrease of \$2.718 million for Small Business Innovative research Assessment. The FY 2002 decrease of \$5.22 consists of a decrease of \$4.237 million for reprioritization of requirements with in the Navy and a decrease of \$.983 million for an undistributed congressional reduction.</p> <p>(U) Schedule: Not applicable.</p> <p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;"><u>Line Item No. &amp; Name</u></th> <th style="width: 7.5%;">FY 2001</th> <th style="width: 7.5%;">FY 2002</th> <th style="width: 7.5%;">FY 2003</th> <th style="width: 7.5%;">FY 2004</th> <th style="width: 7.5%;">FY 2005</th> <th style="width: 7.5%;">FY 2006</th> <th style="width: 7.5%;">FY 2007</th> <th style="width: 7.5%;">To Complete</th> </tr> </thead> <tbody> <tr> <td>(2) Line Item 2 E/A APN-1</td> <td style="text-align: right;">0</td> <td style="text-align: right;">37.3</td> <td style="text-align: right;">95.7</td> <td style="text-align: right;">106.7</td> <td style="text-align: right;">137.2</td> <td style="text-align: right;">243.7</td> <td style="text-align: right;">291.9</td> <td style="text-align: right;">776.34</td> </tr> <tr> <td>(1) Line Item 25 APN-5 F-18 (OSIP 38-94)</td> <td style="text-align: right;">0</td> <td style="text-align: right;">30.908</td> <td style="text-align: right;">280.528</td> </tr> </tbody> </table> <p>(U) D. ACQUISITION STRATEGY: The AESA program employs a two-phase approach with sole source contracts to Boeing, the airframe prime manufacturer. Phase I is a moderate risk reduction phase conducted in FY 1999 and FY 2000. During this phase, Boeing conducted competitive source selection at the radar system subcontract level. A BOA order for RFP development and subcontractor selection was made to conduct this effort. It includes an "845" agreement for prototype development, which includes commercial development/amortization provisions. Conducting the competition early in the program allowed for focused risk reduction and contractor investment. Phase II will consist of a typical System Demonstration program and development contract. The program transitions to Phase II with a successful Milestone II Decision in FY 2001. Once the program enters production, the "845" agreement allows the contractor to amortize unreimbursed development costs into the production unit cost. This strategy fully utilizes acquisition reform initiatives such as: early partnering with industry; alpha contracting; leveraging industry investment; optimizing use of Commercial Off-the Shelf software and Non-Developmental Item; Cost as an Independent Variable; and Electronic Data Deliverables.</p>										FY2001	FY2002	FY2003						(U) FY 2002 President's Budget:	102.987	115.455							(U) Adjustments from the FY 2002 President's Budget:	-5.865	-5.22							(U) FY 2003 President's Budget:	97.122	110.235	107.050						<u>Line Item No. &amp; Name</u>	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	(2) Line Item 2 E/A APN-1	0	37.3	95.7	106.7	137.2	243.7	291.9	776.34	(1) Line Item 25 APN-5 F-18 (OSIP 38-94)	0	0	0	0	0	0	30.908	280.528
	FY2001	FY2002	FY2003																																																																				
(U) FY 2002 President's Budget:	102.987	115.455																																																																					
(U) Adjustments from the FY 2002 President's Budget:	-5.865	-5.22																																																																					
(U) FY 2003 President's Budget:	97.122	110.235	107.050																																																																				
<u>Line Item No. &amp; Name</u>	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete																																																															
(2) Line Item 2 E/A APN-1	0	37.3	95.7	106.7	137.2	243.7	291.9	776.34																																																															
(1) Line Item 25 APN-5 F-18 (OSIP 38-94)	0	0	0	0	0	0	30.908	280.528																																																															

R-1 SHOPPING LIST - Item No. 178

# UNCLASSIFIED

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification

DATE:

**February 2002**

APPROPRIATION/BUDGET ACTIVITY

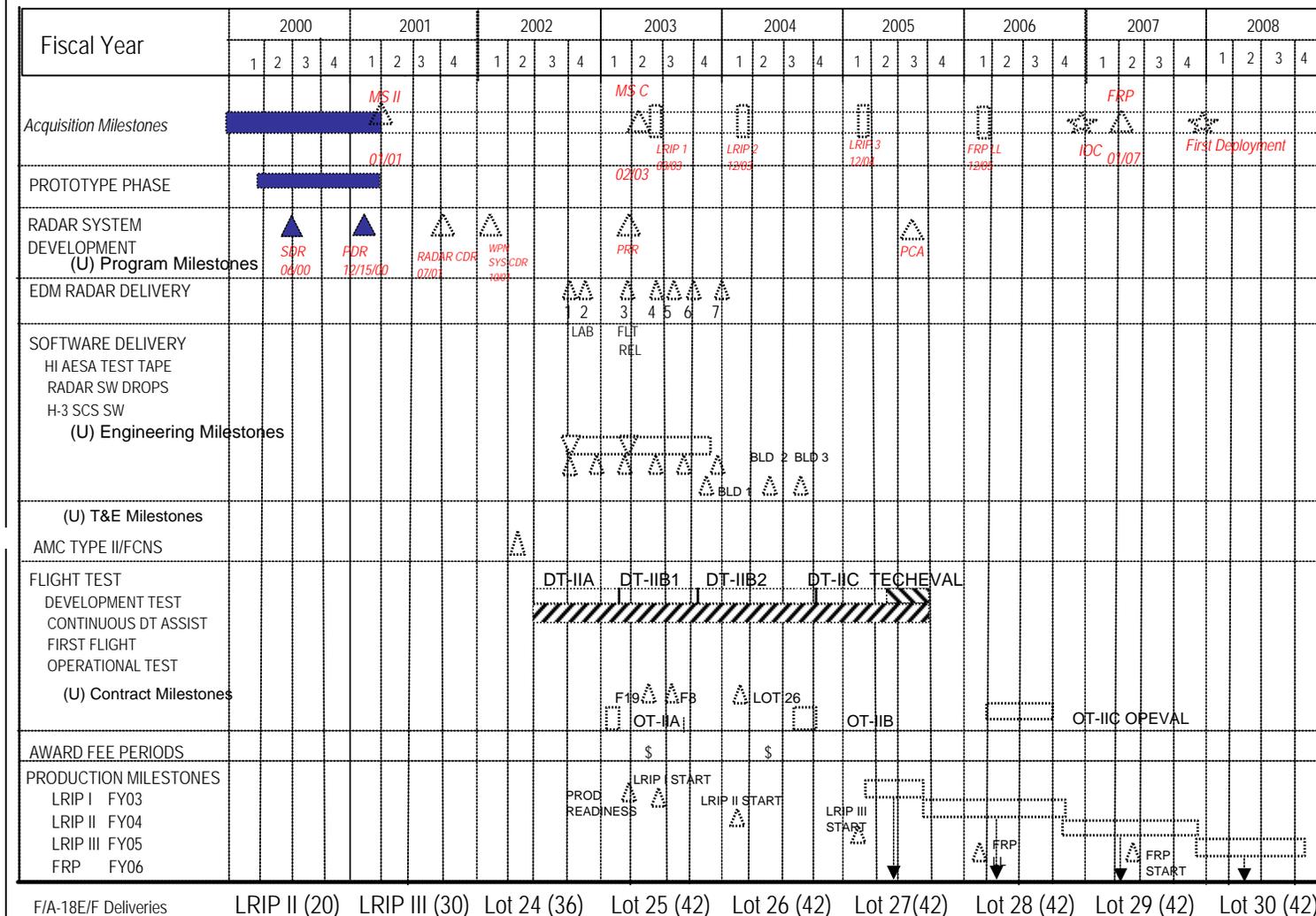
**RDT&E, N / BA-7**

PROGRAM ELEMENT NUMBER AND NAME

0204136N F/A-18 SQUADRONS

PROJECT NUMBER AND NAME

E2065 RADAR Upgrade



R-1 SHOPPING LIST - Item No.178

# UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification

(Exhibit R-2, page 23 of 30)

**UNCLASSIFIED**

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2002</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
<b>RDT&amp;E, N / BA-7</b>			0204136N F/A-18 SQUADRONS				E2065 RADAR Upgrade					
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
AESA Radar Contract	SS/CPFF	BOEING. St Louis	4.300	81.150	02/01	88.737	11/01	67.677	11/02	82.627	324.491	324.491
AESA Radar Software Dev/Integratio	WX	NAWCWD, China Lake, CA	0.822	4.500	11/00	5.400	11/01	2.600	11/02		13.322	
AESA Radar Development	WX	NAWCAD, Pax River, MD	0.904	10.291	11/00	9.409	11/01	21.152	11/02	0.200	41.956	
RUG Phase I	SS/LTR(F	BOEING. St Louis	171.000								171.000	171.000
RUG Phase II	CPIF	BOEING. St Louis	51.729								51.729	51.729
RUG Phase II Integration	CPFF	BOEING. St Louis	11.000								11.000	11.000
Subtotal Product Development			239.755	95.941		103.546		91.429		82.827	613.498	
<p>Program execution is based on a pre-coordinated replan effort engineered at Milestone C, which is currently in process.</p>												
AESA Integrated Support	WX	NADEP North Island, CA	0.065	0.108	11/00	0.146	11/01	0.168	11/01	0.346	0.833	
AESA Integrated Support	WX	NAWCAD, Lakehurst, NJ		0.309	11/00	0.425	11/01	0.981	11/01	1.154	2.869	
Subtotal Support			0.065	0.417		0.571		1.149		1.500	3.702	
<p>Remarks:</p>												

R-1 SHOPPING LIST - Item No.178

**UNCLASSIFIED**

**UNCLASSIFIED**

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2002</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>			PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME E2065 RADAR Upgrade					
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
AESA Test & Evaluation	WX	NAWCAD, Pax River, MD				2.800	11/01	3.300	11/02	50.614	56.714	
AESA Test & Evaluation	WX	NAWCWD, China Lake, CA						10.220	11/02	41.996	52.216	
RUG Upgrade Test & Evaluation	WX	NAWCWD, China Lake, CA	52.956								52.956	
RUG Lab Asset	WX	NAWCWD China Lake, CA	7.964								7.964	
Subtotal T&E			60.920			2.800		13.520		92.610	169.850	
Remarks:												
RUG Contractor Sprt/Travel/Misc	Various	NAVAIR Pax River, MD	2.028	0.764	12/00	0.787	12/01	0.952	12/02	2.869	7.400	
SBIR Assessment						2.531					2.531	
Subtotal Management			2.028	0.764		3.318		0.952		2.869	9.931	
Remarks:												
Total Cost			302.768	97.122		110.235		107.050		179.806	796.981	
Remarks:												

R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

Exhibit R-2, RDTEB Budget Item Justification  
(Exhibit R-2, page 25 of 30)

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2002</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>		PROGRAM ELEMENT NUMBER AND NAME 0204136N/ F/A-18 Squadrons				PROJECT NUMBER AND NAME E2130/ Follow -On Variant					
COST (\$ in Millions)	Prior Years Cost	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program	
Project Cost	<b>5,542.696</b>	<b>13.892</b>	<b>1.136</b>							<b>5,557.724</b>	
RDT&E Articles Qty	<b>10</b>									<b>10</b>	
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:                      The F/A-18 is a twin-engine, mid-wing multi-mission, tactical aircraft employed Navy and Marine Corps strike fighter squadrons. The F/A-18 through selected use of external equipment is designed for flexibility in fighter, attack, fleet air defense, and close air support roles. The F/A-18E/F variant is an upgrade to the night attack "C" and "D" models. The F/A-18E/F will be the second major upgrade since the program's inception. The F/A-18 continues to adapt its strike fighter role to evolving threats into the next century. The F/A-18E/F E&amp;MD program is under a Congressional mandated cost cap of \$4.883B FY90 dollars. Pre-development efforts of \$36.6M (in FY90 base year dollars), previously funded under the F/A-18C/D program, is reflected in the RDT&amp;E total, but is not included in the approved \$4,883B development cap.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> <li>- (U) (\$3.228) Continued to develop and integrate mission software.</li> <li>- (U) (\$4.585) Completed integration and testing of avionics subsystems.</li> <li>- (U) (\$4.400) Continued Test Program Set (TPS) development.</li> <li>- (U) (\$1.679) Weapon System Integration Wind Tunnel Testing.</li> </ul> <p>2. FY 2002 PLANS:</p> <ul style="list-style-type: none"> <li>- (U) (\$.195) Complete integration and testing of avionics subsystems.</li> <li>- (U) (\$.904) Continue Test Program Set (TPS) development.</li> <li>- (U) (\$.037) Portion of extramural program reserved for Small Business Innovative Research assessment in accordance with 15 USC 638.</li> </ul> <p>3. FY 2003 PLANS: Not applicable.</p>											

R-1 SHOPPING LIST - Item No. 198

# UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification						DATE:		<b>February 2002</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-7</b>			PROGRAM ELEMENT NUMBER AND NAME 0204136N/ F/A-18 Squadrons			PROJECT NUMBER AND NAME E2130/ Follow -On Variant			
(U) B. PROGRAM CHANGE SUMMARY:									
		<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>					
(U) FY 2002 President's Budget:		17.348	1.246						
(U) Adjustments from the FY 2002 President's Budget:		-3.456	-0.11						
(U) FY 2003 President's Budget:		13.892	1.136						
CHANGE SUMMARY EXPLANATION:									
<p>(U) Funding: The FY2001 net decrease of \$3.456 million consists of a decrease of \$3.279 million for reprioritization of requirements within the Navy and a decrease of \$.177 million for Small Business Innovative Research Assessment. The FY2002 net decrease of \$.11 million consists of a decrease of \$.046 million for reprioritization of requirements within the Navy and a decrease of \$.064 million for an undistributed congressional reduction .</p> <p>(U) Schedule: Not applicable.</p> <p>(U) Technical: Not applicable.</p>									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. &amp; Name</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Complete</u>	
APN-1	2837.83	3118.268	3159.492	2997.234	2954.345	3519.538	3935.753	TBD	
APN-6	111.147	148.231	14.039	115.215	38.644	55.686	41.962	TBD	
APN-5	10.648	11.548	48.716	48.442	49.645	19.549	21.363	TBD	
<u>Related RDT&amp;E</u>									
(U) PE 0207163N (AMRAAM)									
(U) PE 0604727N (Joint Standoff Weapon System) (JSOW)									
(U) PE 0604270N (EW Development)									
(U) PE 0604777N (Navigation/ID System)									
(U) PE 0305141D (Joint UAV)									
(U) PE 0603261N (Tactical Airborne Reconnaissance)									
(U) PE 0204163N (Fleet Communications)									
(U) PE 0604215N (Standards Development)									

R-1 SHOPPING LIST - Item No. 178

# UNCLASSIFIED

**Exhibit R-2, RDTE Budget Item Justification**  
(Exhibit R-2, page 27 of 30)

# UNCLASSIFIED

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
<b>RDT&amp;E, N / BA-7</b>	0204136N/ F/A-18 Squadrons	E2130/ Follow -On Variant
<p>(U) D. ACQUISITION STRATEGY: The July 1992 award of the two RDT&amp;E,N contracts to MDA (airframe) and General Electric (engine), both sole source cost plus incentive fee/award fee, effectively initiated the F/A-18E/F E&amp;MD program. The airframe and engine contracts are incrementally funded through FY00 and FY99, respectively. In March 1997, the F/A-18E/F program received approval to enter the Low Rate Initial Production (LRIP) phase. The airframe and engine contracts for this phase are Cost Plus Incentive Fee (CPIF) for LRIP I and Fixed Price Incentive Fee (FPIF) for LRIP II and LRIP III. LRIP III is a priced option to the LRIP II contract. The LRIP II/III contract possesses a common incentive profit structure which affords contractors maximum opportunity to implement quality, reliability, and producibility improvements. Benefits of the F/A-18E/F LRIP contracts include: 1) a measurable profit incentive across the LRIP period of performance; 2) commercial-like long time relationship with contractors which tie customer (fleet) satisfaction to long term profitability; 3) progressive assumption of risk by the contractors; 4) a single negotiation for LRIP II and III.</p> <p>(U) C. Schedule Profile: Not applicable.</p>		

R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**



**UNCLASSIFIED**

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)							DATE: <b>February 2002</b>					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-7</b>			0204136N/ F/A-18 Squadrons			E2130/ Follow -On Variant						
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
Flying Qualities and Performance	MIPR	NASA Langley, AFB	7.306								7.306	
Operational Test & Evaluation	WX	COMOPTEVFOR Norfolk, V	11.008	0.178	10/00						11.186	
Integrated Test Team	WX	NAWCAD, Pax River MD	253.228								253.228	
Wind Tunnel Testing	MIPR	AEDC, TN	44.410	1.501	10/00						45.911	
Misc Test & Evaluation	Various		7.108								7.108	
<b>Subtotal T&amp;E</b>			<b>323.060</b>	<b>1.679</b>							<b>324.739</b>	
Remarks:												
Contractor Support/Misc.	RX	Various	58.908	0.921	11/00						59.829	
Travel	WX	NAVAIR, Maryland	2.972	0.653	10/00	0.145	10/01				3.770	
Transportation	WX	NAVAIR, Maryland	0.349	0.130	10/00	0.037					0.516	
SBIR Assessment												
<b>Subtotal Management</b>			<b>62.229</b>	<b>1.704</b>		<b>0.182</b>					<b>64.115</b>	
Remarks:												
<b>Total Cost</b>			<b>5,542.696</b>	<b>13.892</b>		<b>1.136</b>					<b>5,557.724</b>	
Remarks: There are no Support Costs.												

R-1 SHOPPING LIST - Item No. 178

**UNCLASSIFIED**

**Exhibit R-2, RDTEEN Budget Item Justification**  
(Exhibit R-2, page 30 of 30)