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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: <div>June 2001</div>				
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS					
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	8,509.247	307.589	234.490	253.257							
	*	***									
E1662 F/A-18 Improvements	2,799.625	172.039	114.155	136.556							
	**										
E2065 F/A-18 RADAR Upgrade	299.116	3.652	102.987	115.455							
E2130 F/A-18 Follow-On Variant	5,410.506	131.898	17.348	1.246							
Quantity of RDT&E Articles	10										
<div>*FY92 & Prior: \$2511.304; FY93-FY95: \$55.765; FY96-FY99: \$232.556</div> <div>**FY 1991 through FY 1999 = \$272.228. Adding RUG Phase I and RUG Phase II</div> <div>***The FY 2000 budget 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. The FY 2000 budget also includes a \$2.000M Congressional add for Bol Chaff which is requested for reprogramming to the F-14 RDT&E,N program.</div> <div>(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.</div> <div>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).</div> <div>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.</div>											

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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS	
<p>F/A-18 Follow-On Variant: 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) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing operational systems.</p>		

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EXHIBIT R-2a, RDT&E Project Justification								DATE: JUNE 2001			
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					
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	2,799.625	172.039	114.155	136.556							
Quantity of RDT&E Articles	Not Applicable										
<p>***The FY 2000 budget 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. The FY 2000 budget also includes a \$2.000M Congressional add for Bol Chaff which is requested for reprogramming to the F-14 RDT&E,N program.</p> <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>											

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Exhibit R-2a, RDTEN Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
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
<p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2000 ACCOMPLISHMENTS :</p> <p>* (U) (\$2.756) Conducted engineering analysis and developed 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.</p> <p>* (U) (\$3.117) Developed and integrated 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 Tactical Aircraft Moving Map Capability (TAMMAC). Continued to investigate deficiencies and develop corrective action. Successfully completed LRIP II decision in support of Lot 24 Airborne Launch Control System (ALCs). Continued DT evaluation and OPEVAL for subsystems.</p> <p>*(U) (\$18.328) Continued development of DCS, PIDS, and JHMCS.</p> <p>*(U) (\$1.989) Congressional add for BOL CHAFF development (Funds being reprogrammed).</p> <p>*(U) (\$86.140) Continued ATFLIR development, DT-IIA testing and start DT-IIB testing.</p> <p>*(U) (\$54.798) Continued conversion of the System Configuration Set (SCS) to a High Order Language (HOL). Commenced development of ACS to enable Independent Weapon System Operator functionalities.</p> <p>* (U) (\$4.911) Initiated development studies and software improvements for Radar Electronic Counter- Counter Measures (ECCM) and ID techniques.</p>		

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<p>2. FY 2001 PLANS:</p> <p>* (U) (\$.786) 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) (\$7.080) 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, AIM-9X, and TAMMAC. Continue to investigate deficiencies and develop corrective action.</p> <p>* (U) (\$9.178) Complete development of DCS and PIDS. Continue development of JHMCS.</p> <p>* (U) (\$29.553) Continue ATFLIR development, DT-IIA and DT-IIB. Commence DT-IIC testing.</p> <p>* (U) (\$64.978) Continue software conversion from assembly language SCS to a Higher Order Language for load H1E. Continue development of Advanced Crew Station (ACS). Operational Assessment (OA) testing is planned to commence upon completion of DT testing.</p> <p>* (U) (\$2.580) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 68.</p> <p>3. FY 2002 PLANS:</p> <p>* (U) (\$1.455) 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) (\$11.739) 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.</p> <p>* (U) (\$.398) Complete development of JHMCS.</p> <p>* (U) (\$43.651) Continue ATFLIR development, DT-IIC testing and commence TECHEVAL and OTRR testing.</p> <p>* (U) (\$79.281) Continue software conversion from assembly language SCS to a Higher Order Language for load H1E. Commence HOL software development load H2E. Continue Advanced Crew Station (ACS).</p>		

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Exhibit R-2a, RD TEN Project Justification
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 02014136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME E1662 F/A-18 IMPROVEMENTS		

(U) B. PROGRAM CHANGE SUMMARY:

	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>
(U) FY 2001 President's Budget:	175.130	124.842	89.444
(U) Adjustments from the President's Budget:	-3.091	-10.687	47.112
(U) FY 2002 President's Budget Submit:	172.039	114.155	136.556

CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY 2000 net decrease of \$3.091 million consists of a decrease of \$.686 million for a Congressional Rescission, a decrease of \$3.066 million for a Small Business Innovation Research assessment, an increase of \$4.0 million for Higher Order Language (HOL) development efforts, a decrease of \$.012 million for a Federal Technology Transfer, and a decrease of \$3.327 million for reprioritization of requirements within the Navy. *(Note 1) The FY 2001 net decrease of \$ 10.687 million is due to a decrease of \$.839 million for a Congressional Reduction, a \$4.0 million Congressional reduction against ATFLIR, a \$1.0 million Congressional reduction against Joint Helmet Mounted Cueing System (JHMCS), a decrease of \$.261 million for a Congressional Rescission, and a decrease of \$4.587 million for reprioritization of requirements within the Navy. The FY 2002 net increase of \$47.080 million consists of an increase of \$39.400 million for ATFLIR restructure (from APN-1), a decrease of \$.147 million for economic assumptions, an increase of \$18.150 million for Higher Order Language (HOL) development, and a decrease of \$10.323 million for reprioritization of requirements within the Navy.

*Note 1: BOL CHAFF Funding reported under E1662, however the funds remain on OSD deferral pending Congressional approval of a reprogramming action.

(U) Schedule: Not applicable.

(U) Technical: Not applicable

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2000</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)	2832.64	2850.619	3156.398						
APN-5	317.666	261.789	193.206						

Related RDT&E

(U) P.E. 0207163N Advanced Medium Range Air-to-Air Mis (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)

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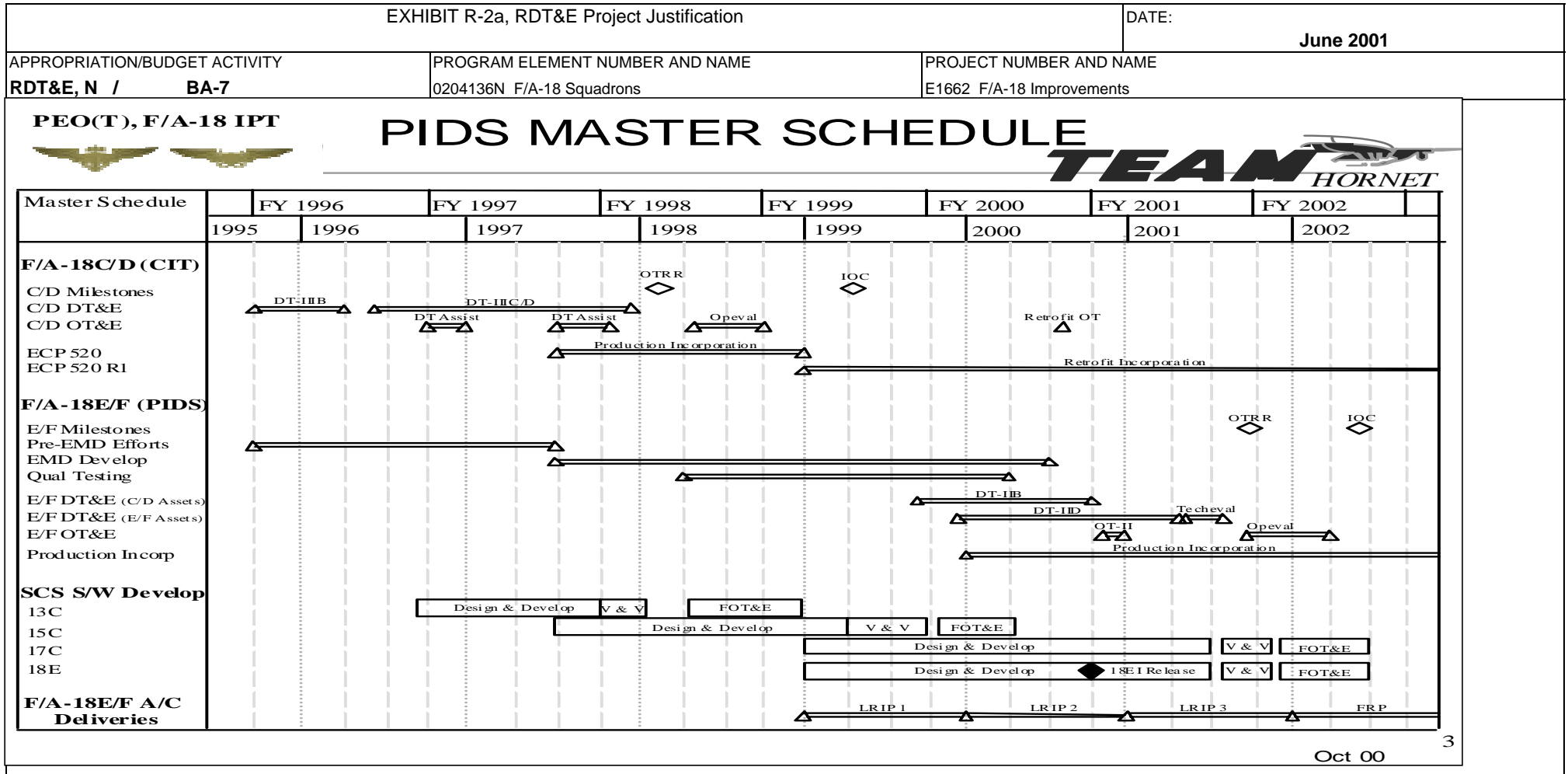
EXHIBIT R-2a, RDT&E Project Justification		DATE: JUNE 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N/ F/A-18 SQUADRONS	PROJECT NUMBER AND NAME E1662 F/A-18 IMPROVEMENTS
<p>(U) D. ACQUISITION STRATEGY: The F/A-18 Improvements program consists of extensive development 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">*PIDS. PIDS is a sole source cost plus fixed fee contract on an R&D Basic Ordering Agreement. Will be bought as CFE through the prime contractor.*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.* 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. CY2000, 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.* Advanced Crew Station. The design and development of the Advanced Crew Station modification is sole source to Boeing as the Prime aircraft contractor.* DCS. DCS is a sole source cost plus fixed fee contract on an R&D Basic Ordering Agreement. Equipment is GFE.* MIDS. An acquisition developmental effort supported by SPAWAR (PMW-159), MIDS is being developed by a consortium of international companies.* JHMCS. JHMCS is a sole source award fee Joint Air Force contract to Boeing. <p>(U) E. SCHEDULE PROFILE: See following pages.</p>		

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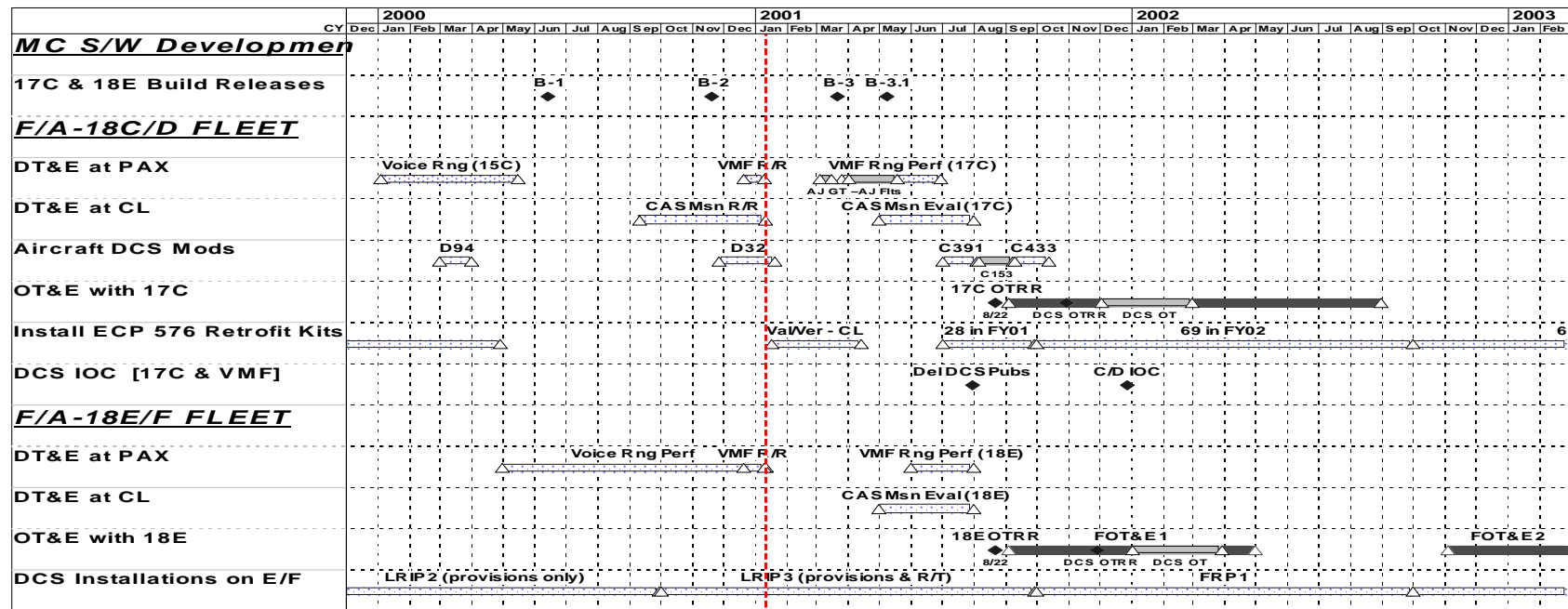
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PEO(T), F/A-18 IPT



DCS MASTER SCHEDULE



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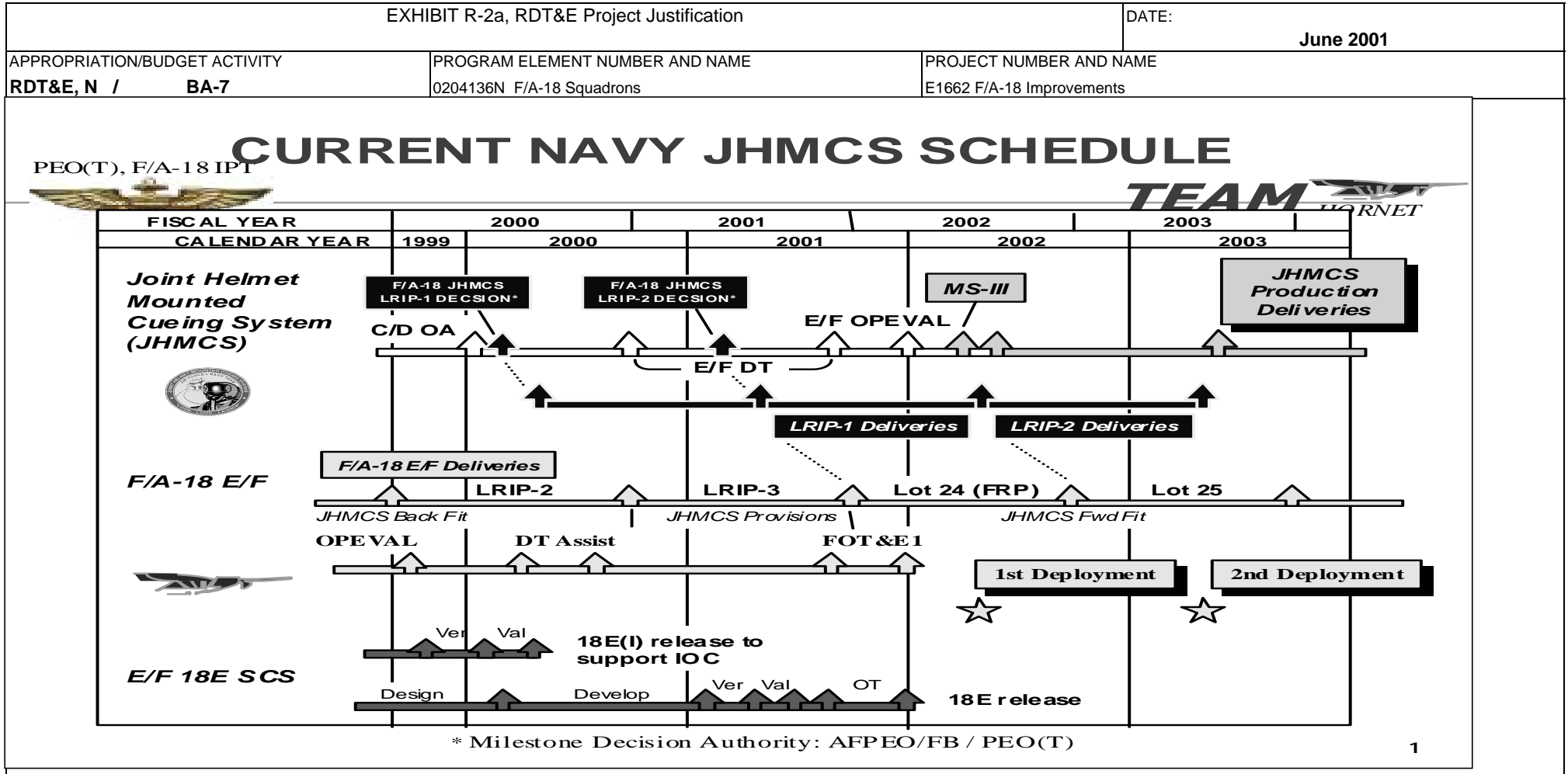
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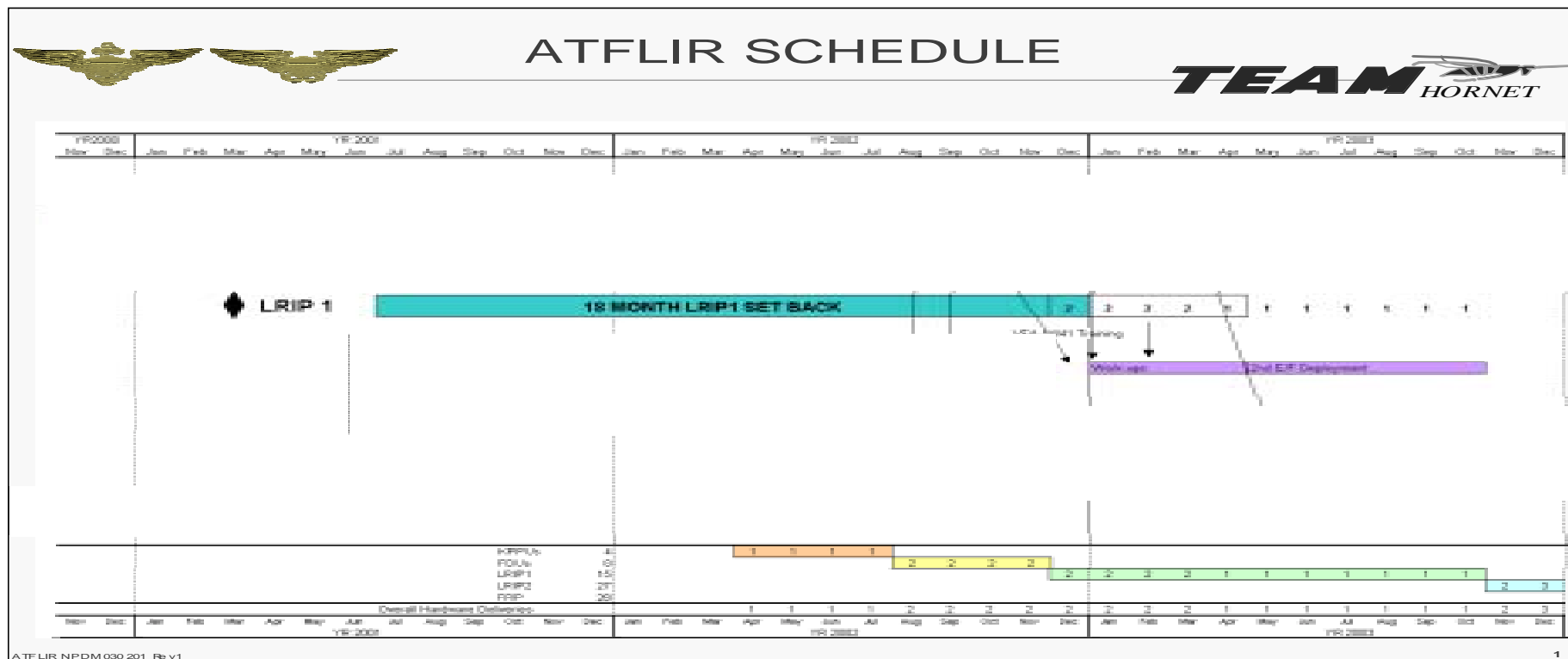
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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7		0204136N F/A-18 Squadrons	E1662 F/A-18 Improvements	



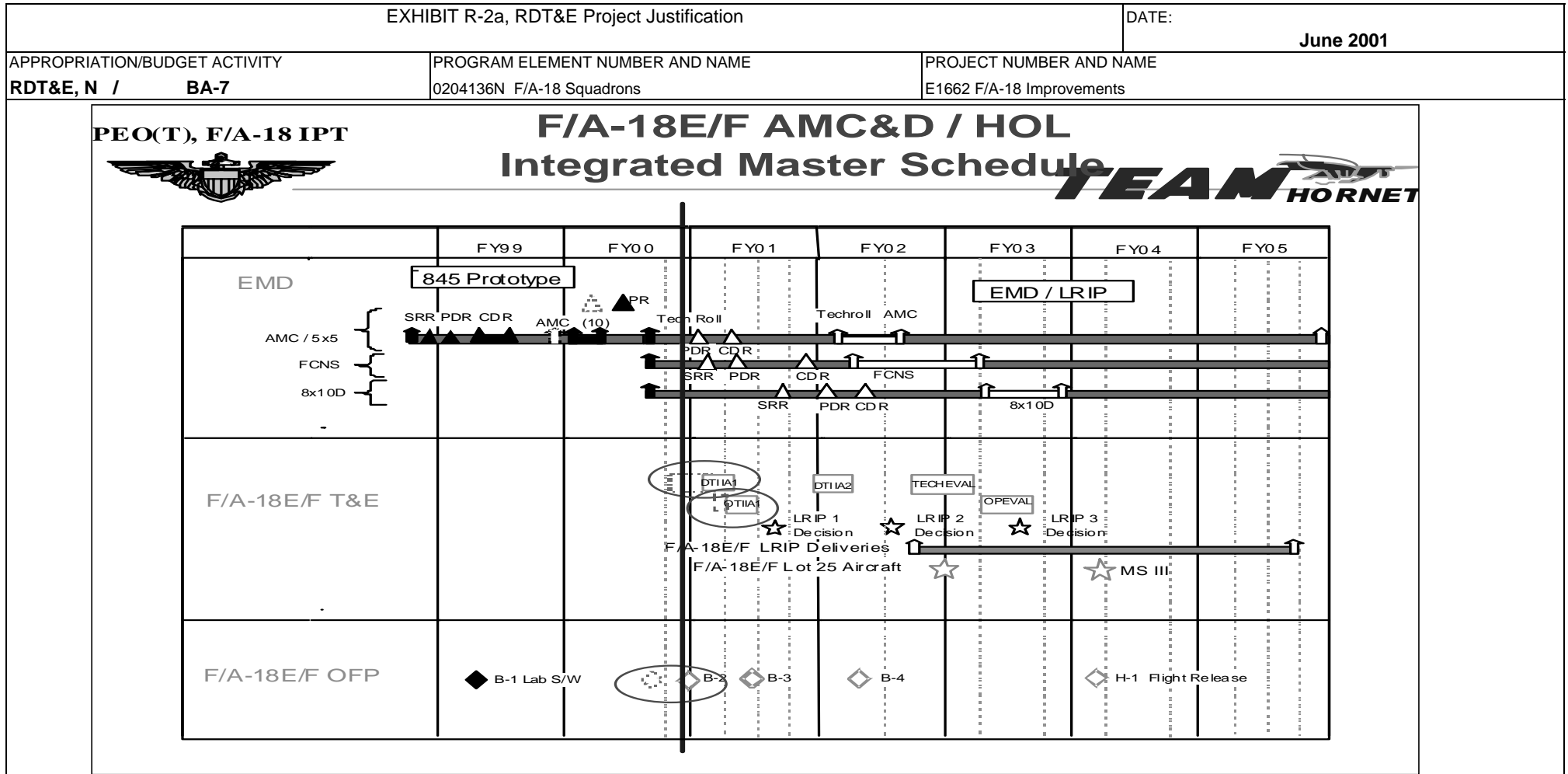
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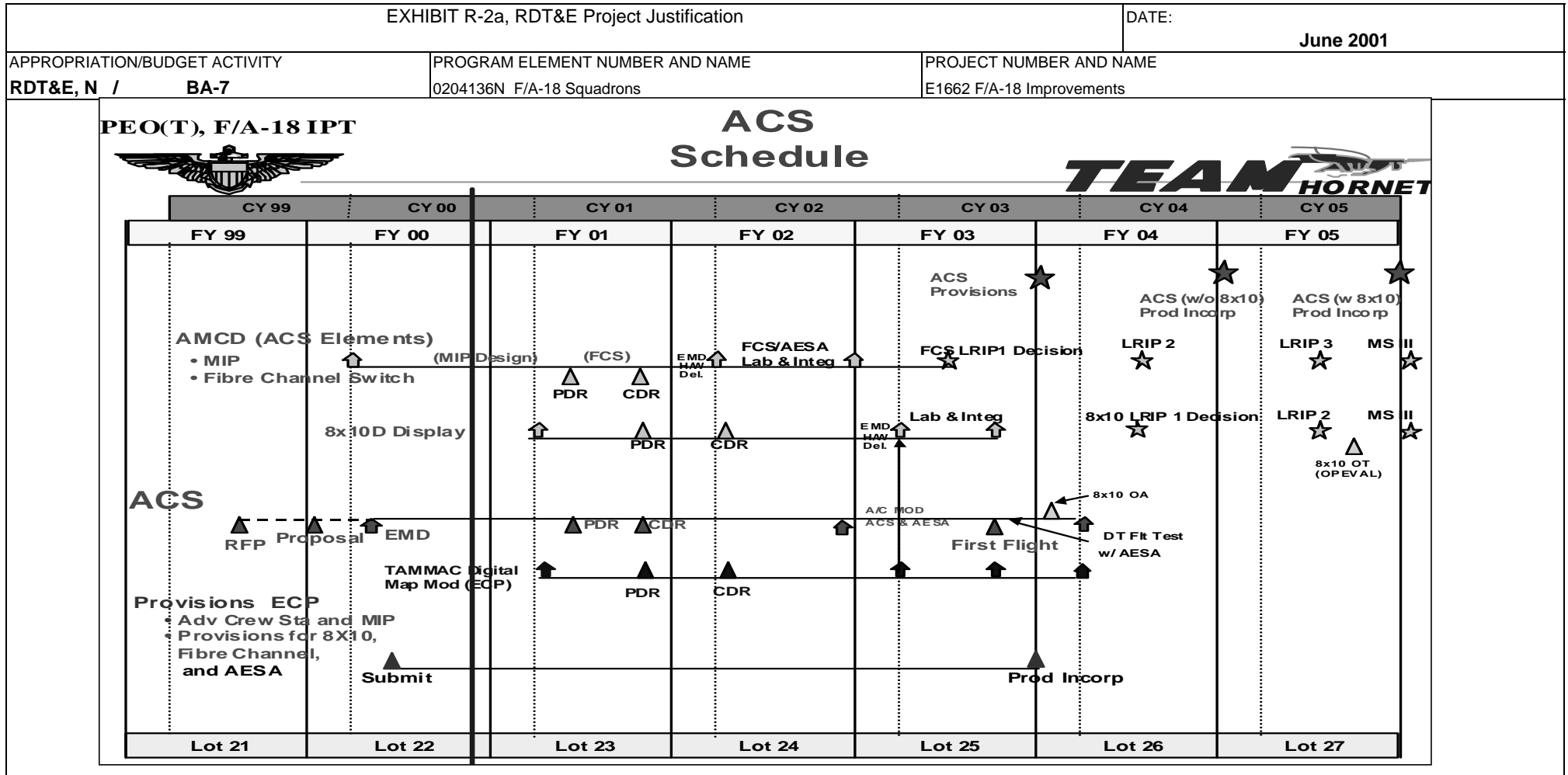


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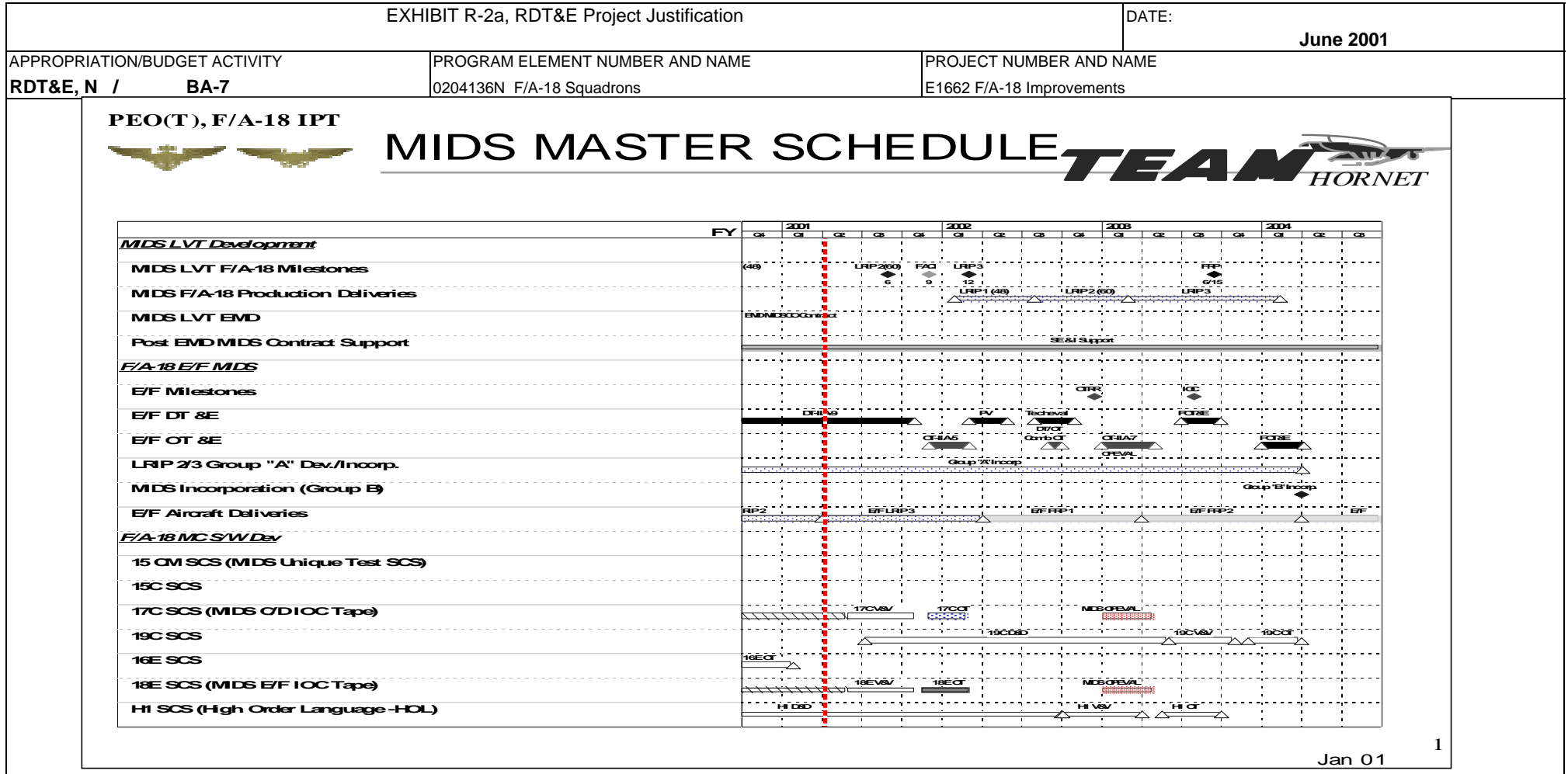
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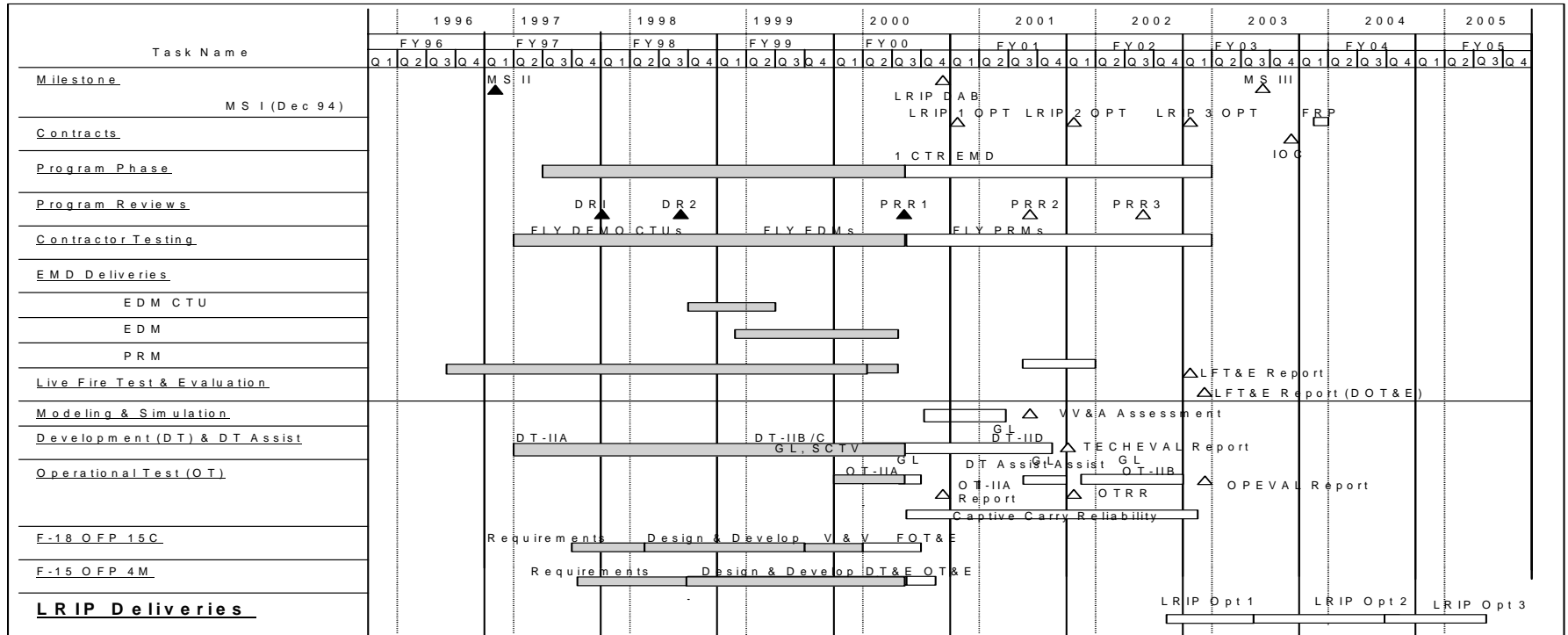
Exhibit R-2a, RDTEN Project Justification
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EXHIBIT R-2a, RDT&E Project Justification			DATE: June 2001		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N / BA-7		0204136N F/A-18 Squadrons		E1662 F/A-18 Improvements	

A IM -9 X Integrated Program Schedule



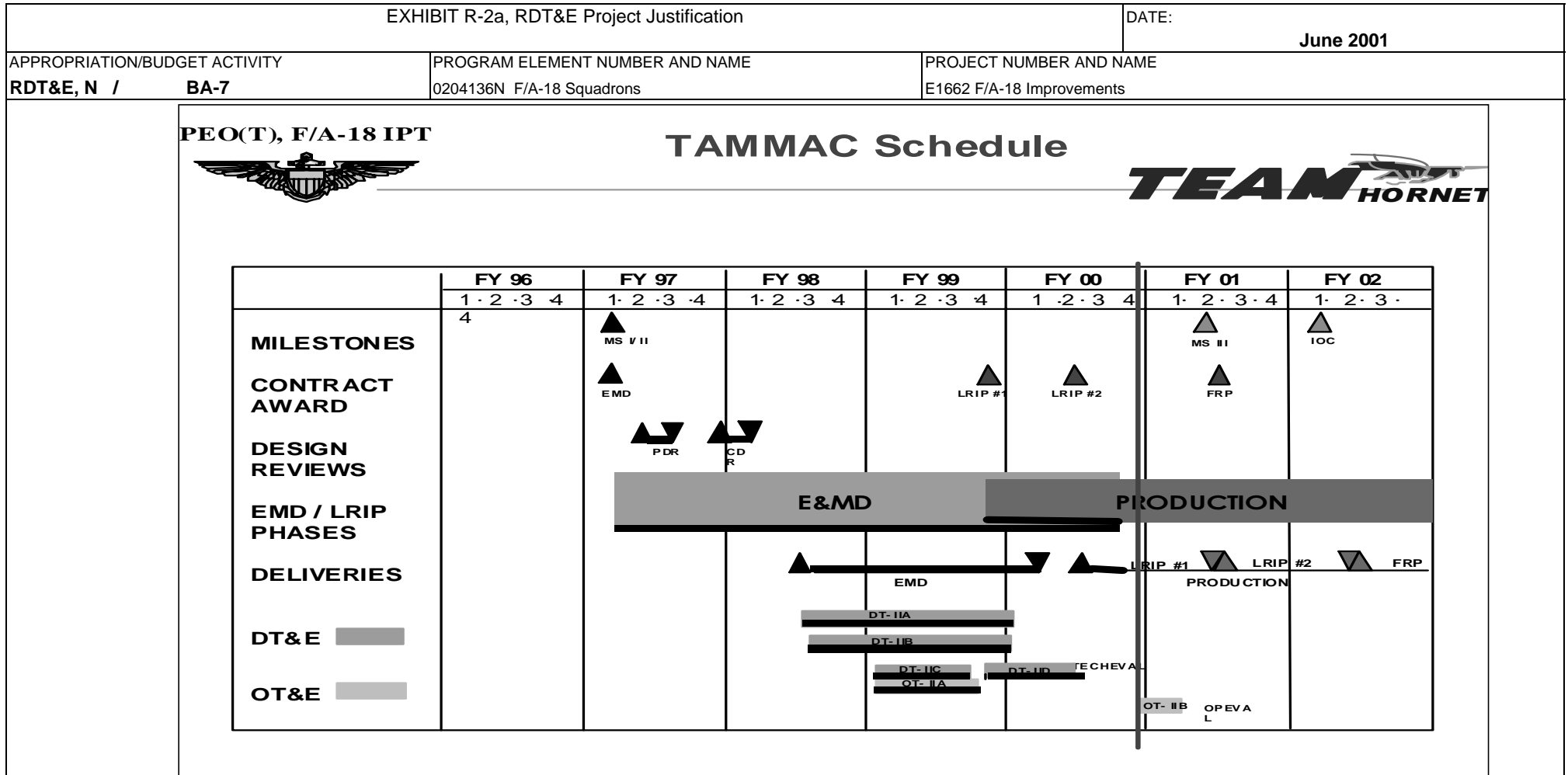
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Exhibit R-3 Cost Analysis (page 1)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204136N F/A-18 SQUADRONS			E1662 F/A-18 IMPROVEMENTS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date			Cost to Complete	Total Cost	Target Value of Contract
PIDS/DCS Development/integration	SS/CPFF/FFP	MDA-ST LOUIS,MO	70.245	3.190	01/01							
DCS E&MD	SS/FFP	Rockwell-Collins C.Rapids, IA	16.196									
ATFLIR E&MD (Basic Contract) note 1	SS/CPIF/AF	MDA-ST LOUIS,MO	39.949									
ATFLIR AWARD FEE (note 1)			0.803									
ATFLIR EMD (OPTION CONTRACT)	SS/CPIF/AF	MDA-ST LOUIS, MO	62.703	20.000	10/00	39.555	06/02					
ATFLIR AWARD FEE (note 1)			0.773									
ATFLIR SUPPORT EQUIPMENT	WX	NAWCAD-LAKEHURST NJ	9.003	2.500	11/00							
ADVANCED CREW STATION	SS/CPIF	MDA-ST LOUIS, MO	4.081	16.946	11/00	18.739	11/01					
HOL CONVERSION	TDL	NAWCWD-CHINA LAKE	38.085	32.629	11/00	25.122	11/01					
HOL CONVERSION	SS/CPIF	NAWCWD-CHINA LAKE	13.802	2.229	11/00	4.545	11/01					
JHMCS E&MD	MIPR	WPAFB DAYTON, OHIO	13.876	2.968	11/00							
MISCELLANEOUS DEVELOPMENT	VARIOUS	VARIOUS	22.315	0.240	10/00	0.253	11/01					
SOFTWARE DEVELOPMENT	WX	NAWCWD-CHINA LAKE	63.241	19.633	10/00	30.111	11/01					
MISC. PRODUCT DEVELOPMENT	WX	OTHER FIELD ACTIVITIES	2.219	2.978	10/00	8.993	11/01					
Prior Year Costs (Note 2)	Various	Various	2,567.069									
Subtotal Product Development			2,924.360	103.313		127.318						
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.												

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Exhibit R-3, Project Cost Analysis
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Exhibit R-3 Cost Analysis (page 2)										DATE: June 2001			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA- 7			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			Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	37.488	5.823	11/00	5.195	11/01						
Operational Test & Evaluation	WX	OPTEVFOR, NORFOLK, VA	1.713	1.234	11/00	2.436	11/01						
Subtotal T&E			39.201	7.057		7.631							
Remarks:													
CONTRACT SUPP/TRL/MISC	VARIOUS	NAVAIR, PAX RIVER, MD	8.103	1.205	11/00	1.575	11/01						
SBIR Assessment				2.580									
Subtotal Management			8.103	3.785		1.575							
Remarks:													
Total Cost			2,971.664	114.155		136.524		0.000		0.000	3,222.343		

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Exhibit R-3, Project Cost Analysis
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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					
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	299.116	3.652	102.987	115.455							
RDT&E Articles Qty	Not applicable										
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The 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.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2000 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> - (U) (\$2.300) Continued Pre-EMD AESA radar development activities. - (U) (\$.422) Commenced software development and systems integration efforts. - (U) (\$.865) Commenced radar development/planning and prepared Milestone II documentation. - (U) (\$.065) Started Integrated Logistics Support Efforts. <p>2. FY 2001 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$79.600) Commence EMD. Conduct Critical Design Reviews (CDR's), Integrated Forebody testing, and radar cross-section assessments. Conduct Preliminary Design Review (PDR). Conduct Integrated Baseline Review and Quarterly Program Review. - (U) (\$3.408) Pre-EMD component procurement. - (U) (\$.140) Commence Applied Physics Laboratory workload. 											

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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001
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
<p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS: (Con't)</p> <p>2. FY 2001 PLANS (Con't):</p> <ul style="list-style-type: none"> - (U) (\$4.500) Continue software development and systems integration efforts. - (U) (\$12.204) Continue radar development/planning and prepare Milestone II decision documentation. - (U) (\$417) Continue Integrated Logistics Support Efforts. - (U) (\$2.718) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 68. <p>3. FY 2002 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$87.987) Continue EMD efforts and radar cross-section assessments. Conduct Quarterly Program Review. - (U) (\$7.000) Continue software development and systems integration efforts. - (U) (\$19.875) Continue radar development/planning . - (U) (\$.572) Continue Integrated Logistics Support Efforts. 		

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EXHIBIT R-2a, RDT&E Project Justification		DATE: June 2001																
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																
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<u>Line Item No. & Name</u>	<u>FY 2000</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>	<u>Total Cost</u>																																	
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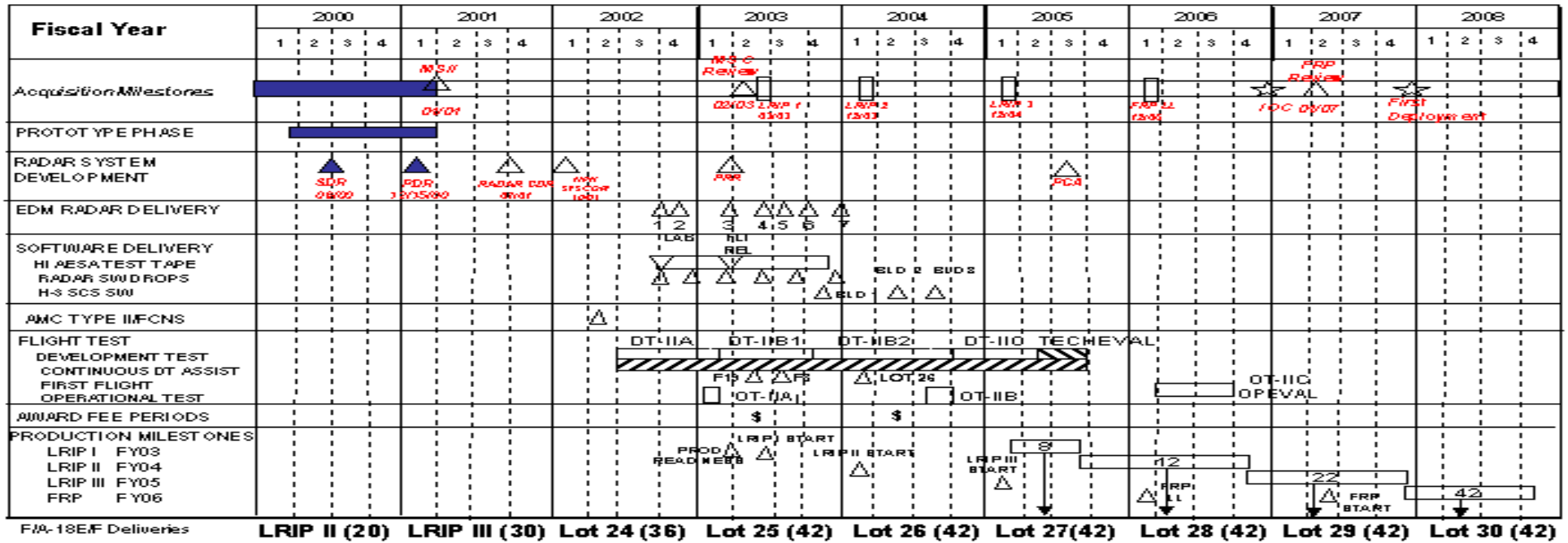
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EXHIBIT R-2a, RDT&E Project Justification			DATE:	June 2001
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	E2065 RADAR UPGRADE		

(U) E. SCHEDULE PROFILE:

AESA PROGRAM MILESTONE CHART



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Exhibit R-3 Cost Analysis (page 1)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME E2065 RADAR UPGRADE						
Cost Categories (Tailor to WBS, or System/Item Requirements)	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
AESA Radar Contract	SS/CPFF	BOEING, St Louis	4.300	79.600	02/01	87.987	11/01					
AESA Radar Software Dev/Integration	WX	NAWCWD, China Lake, CA	0.822	4.780	11/00	7.000	11/01					
AESA Radar Development	WX	NAWCAD, Pax River, MD	0.904	14.588	11/00	16.173	11/01					
RUG Phase I	SS/LTR(FPIF)	BOEING, St Louis	171.000									
RUG Phase II	CPIF	BOEING, St Louis	51.729									
RUG Phase II Integration	CPFF	BOEING, St Louis	11.000									
SBIR Assessment				2.718								
Subtotal Product Development			239.755	101.686		111.160						
Remarks:												
AESA Integrated Support	WX	NADEP, North Island, Ca	0.065	0.108	11/00	0.146	11/01					
AESA Integrated Support	WX	NAWCAD, Lakehurst, NJ	0.000	0.309	11/00	0.425	11/01					
Subtotal Support			0.065	0.417		0.571						
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 24 of 31)

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Exhibit R-3 Cost Analysis (page 2)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			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			Cost to Complete	Total Cost	Target Value of Contract
AESA Test & Evaluation	WX	NAWCAD, Pax River, MD		2.273	11/00	2.800	11/01					
AESA Test & Evaluation	WX	NAWCWD, China Lake, CA										
RUG Upgrade Test & Evaluation	WX	NAWCWD, China Lake, CA	52.956									
RUG Lab Asset	WX	NAWCWD, China Lake, CA	1.370									
RUG OPEVAL	WX	OPTEVFOR, Norfolk, VA	1.799									
RUG Upgrade Test & Evaluation	Various	Other Field Activities	4.795									
Subtotal T&E			60.920			2.800						
Remarks:												
RUG Contractor Sprt/Travel/Misc	Various	NAVAIR Pax River, MD	2.028	0.884	12/00	0.903	12/01					
Subtotal Management			2.028	0.884		0.903						
Remarks:												
Total Cost			302.768	102.987		115.434		0.000		155.914	677.103	
Remarks:												

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7		0204136N/ F/A-18 Squadrons				E2130/ Follow -On Variant					
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	5,410.506	131.898	17.348	1.246							5,560.998
RDT&E Articles Qty	10										10
(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&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&E total, but is not included in the approved \$4,883B development cap.											
(U) PROGRAM ACCOMPLISHMENTS AND PLANS:											
1. FY 2000 ACCOMPLISHMENTS:											
- (U) (\$86.920) Completed engineering and manufacturing design activity in support of developmental flight test and successfully completed Milestone-III (MS-III) Defense Acquisition Board (DAB) approval for Full Rate Production.											
- (U) (\$ 4.160) Continued to develop and integrate mission software.											
- (U) (\$36.818) Completed DT-IIE and OT-IIC (OPEVAL) and continued integration and testing of avionics subsystems.											
- (U) (\$ 4.000) Continued Test Program Set (TPS) development.											
2. FY 2001 PLANS:											
- (U) (\$3.228) Continue to develop and integrate mission software.											
- (U) (\$7.964) Complete integration and testing of avionics subsystems.											
- (U) (\$4.250) Continue Test Program Set (TPS) development.											
- (U) (\$1.729) Weapon System Integration Wind Tunnel Testing .											
- (U) (\$0.177) Portion of extramural program reserved for Small Business Inovation Research Assessment in accordance with 15 USC 68.											

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APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204136N/ F/A-18 Squadrons	PROJECT NUMBER AND NAME E2130/ Follow -On Variant
<p>3. FY 2002 PLANS:</p> <ul style="list-style-type: none">- (U) (\$.287) Complete integration and testing of avionics subsystems.- (U) (\$.959) Continue Test Program Set (TPS) development.		

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0204136N/ F/A-18 Squadrons	E2130/ Follow -On Variant		
<p>(U) D. ACQUISITION STRATEGY: The July 1992 award of the two RDT&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&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>				
(U) C. Schedule Profile:				
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
	<u>TO COMPLETE</u>			
(U) Program Milestones	MS-III 2Q/00 IOC 4Q/00			
(U) Engineering Milestones				
(U) T&E Milestones				
(U) Contract Milestones				

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Exhibit R-3 Cost Analysis (page 1)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-7			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			Cost to Complete	Total Cost	Target Value of Contract
Pre-E&MD Activity	SS/CPFF	MDA, St Louis, MO	81.785									
Airframe E&MD	SS/CPFF/AF	MDA, St Louis, MO	3,579.420									
Airframe E&MD Award Fee (Note 1)			292.943									
Contrat OPEVAL Support	SS/CPFF/BOA	MDA , St Louis, MO	12.084									
Pre-E&MD Activity	SS/CPFF	GE Lynn, MA	51.500									
Engine E&MD	SS/CPFF/AF	GE Lynn, MA	767.655									
Engine E&MD Award Fee (Note 1)			48.378									
Radar Integration	SS/CPFF	Hughes California, LA, CA	9.887									
Miscellaneous Development Efforts	Various	Other	22.144									
Materials Development	WX	NAWCAD, Warminster, PA	20.302									
Software Development	WX	NAWCWD, China Lake, CA	59.523	3.228	10/00							
Support Equipment Development	WX	NAWCAD, Lakehurst, NJ	39.101	3.250	10/00	0.959	10/01					
Maintenance Support Planning	WX	NADEP, North Island, CA	10.930	1.000	10/00							
Avionics Support	WX	NAWCAD, Indianapolis, IN	9.502									
Misc Product Development/GFE	WX	Other Field Activities	151.961	6.297	10/00	0.087	10/01					
SBIR Assessment				0.177								
Subtotal Product Development			5,157.115	13.952		1.046						

Remarks:
Note 1: Award Fees included in the total contract value. FY00 and prior year award fee earned is 96.4%

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Exhibit R-3 Cost Analysis (page 2)										DATE: June 2001		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7				PROGRAM ELEMENT NUMBER AND NAME 0204136N/ F/A-18 Squadrons				PROJECT NUMBER AND NAME 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			Cost to Complete	Total Cost	Target Value of Contract
Flying Qualities and Performance	MIPR	NASA Langley, AFB	7.306									
Operational Test & Evaluation	WX	COMOPTEVFOR Norfolk, Va	11.008	0.198	10/00							
Integrated Test Team	WX	NAWCAD, Pax River MD	253.228									
Wind Tunnel Testing	MIPR	AEDC, TN	44.410	1.531	10/00							
Misc Test & Evaluation	Various		7.108									
Subtotal T&E			323.060	1.729								
Remarks:												
Contractor Support/Misc.	RX	Various	58.908	0.927	10/00							
Travel	WX	NAVAIR, Maryland	2.972	0.610	10/00	0.200	10/01					
Transportation	WX	NAVAIR, Maryland	0.349	0.130	10/00							
Subtotal Management			62.229	1.667		0.200						
Remarks:												
Total Cost			5,542.404	17.348		1.246		0.000		0.000		
Remarks: There are no Support Costs.												

R-1 SHOPPING LIST - Item No. 176

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