EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**					R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		**38.944**	**49.580**	**71.232**	**93.109**	**90.251**	**60.034**	**32.044**
1662 F/A-18 Improvements		**24.481**	**38.755**	**63.972**	**93.109**	**90.251**	**60.034**	**32.044**
2065 F/A18 RADAR Upgrade		**12.512**	**2.876**	**7.260**				
9999 Congressional Adds		**1.951**	**7.949**					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 is capable of performing either fighter or attack missions. The capabilities of the F/A-18 weapon system and external equipment to 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 and to ensure interoperability in a network centric environment. 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 (1662): 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, Advance Targeting Forward Looking Infrared (ATFLIR) pods, and various bomb/missile launching racks). Additional capabilities are required for interoperability in a network-centric operational environment. 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 Joint Helmet Mounted Cueing System (JHMCS), development of the F/A-18 E/F Advanced Crew Station (ACS), replacement of Automatic Carrier Landing System (ACLS) in the F/A-18, 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 weapon systems for interoperability in a network centric operational environment, to include: increased software capabilities, potential new hardware capabilities, upgrading existing hardware, and network centric warfare upgrades. Additionally, a continuing capability is needed to perform technical evaluations/investigative flight testing and improve software based on reported fleet problems. This funding line also includes F/A-18E/F weapons integration requirements where a new capability is added to the aircraft, to include Dual Mode Weapons, an Infrared Search and Track (IRST), and Integrated Defensive Electronic Counter Measures (IDECM) integrated with the Active Electronically Scanned Array (AESA) to provide Narrow Band High Gain Electronic Attack. This budget also contains funding for F/A-18A-F Test Wing Maintenance support and F/A-18 E/F Sensor Integration and Distributed Targeting.

F/A-18 Radio Detection and Ranging (RADAR) Upgrade (2065): The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program, which began in FY 1999, is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series RADAR. The AESA system 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 and it significantly increases A/A and A/G detection and tracking ranges. The AESA system 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.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7**	R-1 ITEM NOMENCLATURE 0204136N F/A-18 SQUADRONS

Congressional Adds:

Military Rapid Response Command Information System (9999): The Military Rapid Response-Command and Information System (MRRCIS) is a command, control, and communications mobile ground node that will provide enhanced connectivity between Naval Tactical Air (TACAIR) (F/A-18) weapon platforms and USMC's Expeditionary Warfare ground Command and Control (C2) nodes such as the On-the-Move Network Digital Over Horizon Radio System (CONDOR) and Joint Forces Command's Rapid Attack Information Dissemination Execution Relay (RAIDER). This funding will be used to perform an initial proof-of-concept demonstration, system engineering and analysis on new technologies with the long range goal of establishing test and evaluation facilities in Hawaii. This work will leverage off of joint service facilities to test the Sea Power 21/ForceNet concepts above.

Congressional Adds TBD:

Airborne Tactical Server; F/A-18 Roadmap Procurement Plan Fidelity; F/A-18 Tactical Operational Flight Trainer Fidelity; NAVAIR CPI Tech Man Conversion & Support

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 07	FY 08	FY 09
FY2008 President's Budget:	39.279	44.891	66.289
FY2009 President's Budget:	38.944	49.580	71.232
Total Adjustments	-0.335	4.689	4.943
Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-0.492		
Congressional Increases	1.100	8.000	
Economic Assumptions	0.019	-0.338	-0.208
Miscellaneous Adjustments	-0.962	-2.973	5.151
Subtotal	-0.335	4.689	4.943

1. FY2008 funding totals do not include $1.500 previously requested for current FY2008 GWOT requirements.

Schedule:

The schedule changes beginning in FY09 are due to additional funding for F/A-18 Distributed Targeting, Sensor Integration and the Active Electronically Scanned Array (AESA) Multi-Jammer Electronic Protection (EP) program. Also, as noted in the AESA Initial Operational Test and Evaluation (IOT&E) report, deficiencies in AESA software capabilities contributed to the schedule delay of the Fleet Release of the H4E and H5 System Configuration Sets (SCS) as well as the delay in the operational deployment of the first AESA radar. The delay in starting Network Centric Operations algorithm development is due to a delay in contracting actions. Schedules have been added for Distributed Targeting and Sensor Integration.

Technical:

The technical changes beginning in FY09 are due to additional funding for F/A-18 Distributed Targeting, Sensor Integration and the Active Electronically Scanned Array (AESA) Multi-Jammer Electronic Protection (EP) program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**24.481**	**38.755**	**63.972**	**93.109**	**90.251**	**60.034**	**32.044**
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

F/A-18 Improvements (1662): 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, Advance Targeting Forward Looking Infrared (ATFLIR) pods, and various bomb/missile launching racks). Additional capabilities are required for interoperability in a network-centric operational environment. 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 Joint Helmet Mounted Cueing System (JHMCS), development of the F/A-18 E/F Advanced Crew Station (ACS), replacement of Automatic Carrier Landing System (ACLS) in the F/A-18, 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 for interoperability in a network centric operational environment, to include: increased software capabilities, potential new hardware capabilities, upgrading existing hardware, and network centric warfare upgrades. Additionally, a continuing capability is needed to perform technical evaluations/investigative flight testing and improve software based on reported fleet problems. This funding line also includes F/A-18E/F weapons integration requirements where a new capability is added to the aircraft, to include Dual Mode Weapons, an Infrared Search and Track (IRST), and Integrated Defensive Electronic Counter Measures (IDECM) integrated with the AESA to provide Narrow Band High Gain Electronic Attack. This budget also contains funding for F/A-18A-F Test Wing Maintenance support and F/A-18 E/F Sensor Integration and Distributed Targeting.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	1662 F/A-18 Improvements

B. Accomplishments/Planned Program

New Weapons System, Network Centric Ops		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.062	10.647	9.158
RDT&E Articles Quantity				

Continue to conduct engineering analysis and develop improvements to existing systems and subsystems for deficiencies identified during development and fleet use of the aircraft. Provide technical support for the integration of new weapons and systems. Begin Network Centric Warfare capability development.

Weapons Systems/MIDS/ANAV/SIAP		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		18.819	5.600	
RDT&E Articles Quantity				

Continue to develop and integrate enhancements to the effectiveness, interoperability, and safety of the F/A-18 Weapon System (airframe, avionics, and weapons) and subsystems to include Multi-Functional Information Distribution System (MIDS) and Accurate Navigation (ANAV). Continue to develop and integrate enhancements in support of Single Integrated Air Picture (SIAP) block 0 ICP TJ00-004 change 2 to incorporate track identification Taxonomy improvements.

IDECM with AESA/Weapons Testing and Maintenance		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.500	16.741	19.018
RDT&E Articles Quantity				

Begin validation and verification of various Weapon Configurations on F/A-18E/F aircraft, to include Dual Mode Weapons and fleet-identified high priority weapons loads. Perform aircraft maintenance on Test Wing aircraft. Begin Hardware and software development for Integrated Defensive Electronic Counter Measures (IDECM) integration with Active Electronically Scanned Array (AESA) to provide Narrow Band High Gain Electronic Attack capability.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements

B. Accomplishments/Planned Program (Cont.)

IRST		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			5.767	16.396
RDT&E Articles Quantity				

Systems design and development of an Infrared Search & Track sensor for the F/A-18 E/F.

Distributed Targeting		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				10.800
RDT&E Articles Quantity				

Begin integration of the Distributed Targeting Processor, Mass Storage Unit and Mission Planning Interface to provide a baseline capability that can generate precision targeting coordinates for the F/A-18 E/F.

Sensor Integration		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost				8.600
RDT&E Articles Quantity				

Begin integration of high gain electronic attack capability to the F/A-18 E/F. Develop software algorithm to correlate multiple ground and surface tracks from on-ship to off-ship sensor sources to enhance target identification and location, and to begin integration with the Common Tactical Picture and Blue Force Track information.

EW Sensor - Increased Combat Effectiveness		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.100		
RDT&E Articles Quantity				

Congressional add to support development of Electronic Warfare (EW) technology for increased combat effectiveness.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	1662 F/A-18 Improvements

C. OTHER PROGRAM FUNDING SUMMARY:

Related Procurement

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
F/A-18E/F APN-1 (P-1 Line Item #4)	2,684.497	2,028.446	1,868.688	1,567.660	1,533.637	1,735.028	200.125		38.118.022
F/A-18E/F Adv Procurement (P-1 Line Item #5)	52.582	46.501	42.616	41.508	40.538				1,576.962
EA-18G APN-1 (P-1 Line Item #2)	696.108	1,257.453	1,604.800	1,593.936	886.157	20.494	14.999		6,399.378
EA-18G Adv Procurement (P-1 Line Item #3)	39.593	50.771	46.831	20.986					192.517
APN-5									
F-18 Series Modification (P-1 Line Item #28)	514.381	429.858	450.909	471.857	499.657	514.266	523.277	338.706	6,235.238

Related RDT&E

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Complete	Cost
(U) P.E. 0604269N EA-18G (R-1 Line Item #93)	361.037	278.469	128.906	48.394	27.452	21.922	22.230		888.410

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. The major programs within the F/A-18 Improvements project are:
- Accurate Navigation (ANAV). ANAV development is provided on a sole source cost plus fixed fee contract on an Research & Development (R&D) Basic Ordering Agreement to Boeing. Procurement of production hardware will be made as Contractor Furnished Equipment (CFE) through the prime contractor.
- Multi-Functional Information Distribution System (MIDS). An acquisition developmental effort supported by SPAWAR (PMW-780).
- Joint Helmet Mounting Cueing System (JHMCS). JHMCS development is via a sole source cost plus award fee Joint Air Force contract to Boeing.
- Automated Carrier Landing System (ACLS). ACLS development is provided on a sole source cost plus fixed fee contract on an R&D Basic Ordering Agreement to Boeing. Procurement of redesigned/replacement components will be made as Government Furnished Equipment (GFE) through Naval Undersea Warfare Center.
- Infrared Search & Track (IRST). The IRST Phase 1 program is a Navy program* entering the Systems Design and Development phase at Milestone B in FY08. A Phase 1 system will be developed by the Navy that will meet requirements for a counter electronic attack capability. This capability will reach Initial Operational Capability (IOC) in FY13.
- Distributed Targeting. Distributed Targeting development is provided on a sole source cost plus fixed fee contract on an Research & Development (R&D) Basic Ordering Agreement to Boeing.
- Sensor Integration - Sensor Integration development is provided on a sole source cost plus fixed fee contract on an Research & Development (R&D) Basic Ordering Agreement to Raytheon.

Note: There exists potential US Air Force interest in a Phase II capability to be funded in future Program Objective Memorandum (POM) submits.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**			PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 1662 F/A-18 Improvements							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development PID	SS/CPFF/	MDA-ST LOUIS,MO	90.000								90.000	90.000	
Primary Hardware Development ATF	SS/CPIF/	MDA-ST LOUIS,MO	166.147								166.147	166.147	
AWARD FEE ATFLIR			1.576								1.576	1.576	
Primary Hardware Developr DTP Integra	SS/CPFF	MDA-ST LOUIS,MO	25.486	3.198	03/07	0.175	02/08				28.859	28.859	
Primary Hardware Development ACS	SS/CPIF	MDA-ST LOUIS,MO	50.493								50.493	50.493	
Primary Hardware Development JHM	MIPR	WPAFB DAYTON, OHIO	49.409								49.409		
Primary Hardware Development MIS	WX	VARIOUS	50.791								50.791		
Primary Hardware Development ACS	SS/CPFF	Triton, MD	2.500								2.500	2.500	
Ancillary Hdw Develop ATFLIR	WX	NAWCAD-LAKEHURST NJ	9.201								9.201		
System Engineering	WX	NAWCAD, PAX RIVER, MD	4.884								4.884		
Primary Hardware Development IRST	TBD	TBD				0.700	01/08	5.500	01/09	46.240	52.440	52.440	
Aircraft Integration IRST	TBD	MDA-ST LOUIS,MO				1.000	01/08	2.000	01/09	3.000	6.000	6.000	
Weapons Integration	TBD	TBD				3.160	01/08	0.460	01/09	1.300	4.920	4.920	
Aircraft Integration IDECM	WX	NAWCWD, China Lake				1.365	01/08	3.552	01/09	6.205	11.122		
Primary Hdw Development NCO	TBD	MDA-ST LOUIS,MO				3.594	01/08	3.295	01/09	8.150	15.039	15.039	
Primary Hdw Development Distributed Ta	TBD	MDA-ST LOUIS,MO						10.800	01/09	58.100	68.900	68.900	
Primary Hdw Development EW Sensor	TBD	SBIR, PAX RIVER, MD		1.100	09/07						1.100	1.100	
Subtotal Product Development			450.487	4.298		9.994		25.607		122.995	613.381		

Remarks:

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Exhibit R-3 Cost Analysis (page 1)												DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 1662 F/A-18 Improvements							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Support MISC	VARIOUS	VARIOUS	39.306	0.958	12/06	1.000	01/08	0.225	01/09		41.489	
Software Development	WX	NAWCWD-CHINA LAKE	149.029	7.117	11/06	0.765	01/08	0.805	01/09	1.850	159.566	
Software Development (TDL)	SS/CPIF/	MDA-ST LOUIS,MO	135.237	2.777	11/06	5.016	01/08	2.885	01/09	6.540	152.455	152.455
Prior Year Costs	Various	Various	2,567.069								2,567.069	
Development Support IRST	WX	NAWCWD-CHINA LAKE				0.500	01/08	1.000	01/09	2.000	3.500	
Software Development IRST	WX	NAWCWD-CHINA LAKE				1.000	01/08	4.000	01/09	7.500	12.500	
Software Development IDECM	WX	NAWCWD-CHINA LAKE				0.870	01/08	2.265	01/09	3.956	7.091	
Development Support (Sensor Integr	VARIOUS	VARIOUS						7.400	01/09	25.500	32.900	
Subtotal Support			2,890.641	10.852		9.151		18.580		47.346	2,976.570	

Remarks:

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Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**			PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 1662 F/A-18 Improvements						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	55.688	2.628	11/06	1.800	11/07	0.800	11/08	2.000	62.916	
Operational Test & Evaluation	WX	OPTEVFOR, NORFOLK, VA	14.111	2.198	11/06	0.200	11/07			2.450	18.959	
Developmental Test & Evaluation	WX	NAWCWD, CHINA LAKE, CA		3.460	11/06	1.557	11/07	0.468	11/08	9.127	14.612	
Developmental Test & Evaluation IRS	WX	NAWC-WD / NAWC-AD						0.500	11/08	3.200	3.700	
Operational Test & Evaluation IRST	WX	OPTEVFOR / VX-9								5.500	5.500	
Developmental Test & Evaluation Se	WX	NAWC-WD / NAWC-AD						1.000	12/08	9.400	10.400	
Operational Test & Evaluation Senso	WX	OPTEVFOR, NORFOLK, VA								2.100	2.100	
Subtotal T&E			69.799	8.286		3.557		2.768		33.777	118.187	
Remarks:												
Program Management Support	VARIOUS	NAVAIR, PAX RIVER, MD	15.915	0.547	12/06	0.805	01/08	0.700	01/09	7.248	25.215	
Travel	WX	NAVAIR, PAX RIVER, MD	6.196	0.498	VAR	0.990	01/08	1.000	01/09	0.606	9.290	
Contractor Engineering Support IRST	TBD	TBD				1.200	01/08	2.065	01/09	7.100	10.365	
Government Engineering Support IRST	WX	TBD				1.350	01/08	1.350	01/09	7.226	9.926	
Contractor Engineering Support TWCM	TBD	NAVAIR, PAX RIVER, MD				11.469	01/08	11.226	01/09	47.208	69.903	
Government Engineering Support	WX	NAWCWD/NAWCAD				0.239	01/08	0.676	01/09	1.932	2.847	
Subtotal Management			22.111	1.045		16.053		17.017		71.320	127.546	
Remarks:												
Total Cost			3,433.038	24.481		38.755		63.972		275.438	3,835.684	

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EXHIBIT R4, Schedule Profile | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT NUMBER AND NAME: 0204136N F/A-18 Squadrons

PROJECT NUMBER AND NAME: 1662 F/A-18 Improvements

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ANAV **Acquisition Milestones**							IOC △																					
Box Development Development	PCA ★																											
Aircraft Integration Design Reviews Integration Test Tape	Flight Test ▬																											
H-4E	Integrated T&E ▬																											
Test & Evaluation Milestones																												
Aircraft Modifications																												
Lab/King Air Box Test																												
Non-AESA Aircraft	DT-IIB ■																											
AESA Aircraft	DT-IIC /Techeval ▬																											
Aircraft Production Milestones																												
FY06 Procurements (Lot 30)																												
FY07 Procurements (Lot31)	▲ Award																											
Aircraft Deliveries					▬ Lot 30 (42)				Lot 31 (42)																			

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for ANAV	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Flight Test	1Q-3Q						
DT-IIB	1Q						
DT-IIC TECHEVAL	1Q-3Q						
Physical Configuration Audit (PCA)	1Q						
IOC		4Q					
Lot 30 Deliveries		1Q-4Q					
Lot 31 Deliveries			1Q-4Q				

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EXHIBIT R-4a, Schedule Profile

DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E/BA-7	0204136N F/A-18 Squadrons	1662 F/A-18 Improvements

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MIDS LVT F/A-18 Milestones					★ H4E Fleet Release Date			☆ 21X Fleet Release Date																				
F/A-18C/D MIDS Integration																												
C/D DT&E																												
C/D OT&E																												
F/A-18 E/F MIDS Integration																												
E/F DT&E																												
E/F OT&E																												
F/A-18 MC SW Development																												
19C Software Configuration Set																												
21X SCS (SIAP Block 0) [C/D]	DEVELOPMENT				IT&E																							
H4E SCS (SIAP Block 0) [E/F]	IT&E																											
SIAP SOW Tasks	SIAP SOW Tasks																											
Production Deliveries					H4E Lot 30																							
Software Load								21X																				

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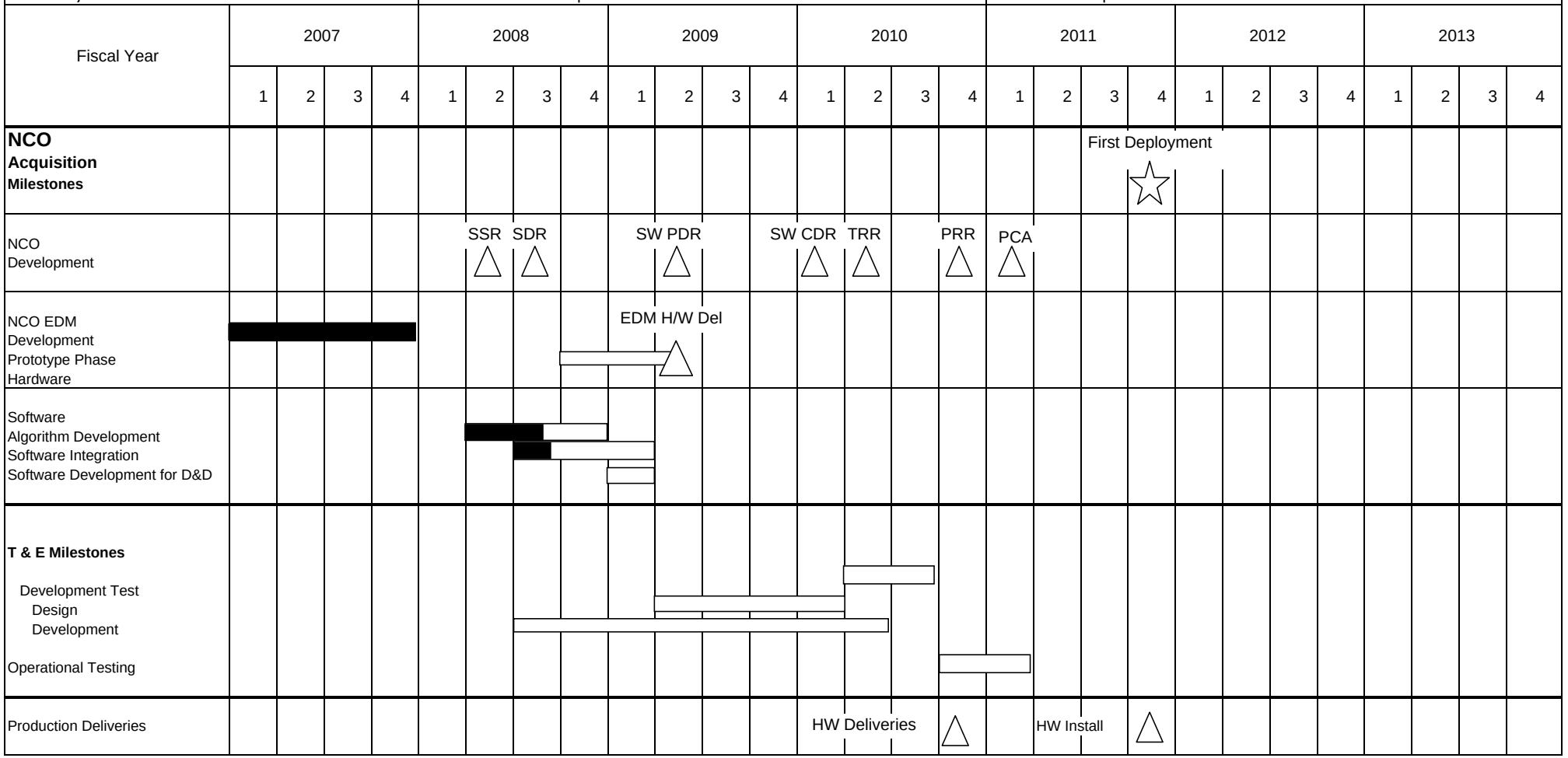
Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for MIDS	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MIDS F/A-18 Production Deliveries							
F/A-18C/D MIDS Integration							
C/D DT&E							
C/D OT&E							
F/A-18E/F MIDS Integration							
E/F DT&E							
E/F OT&E							
F/A-18 MC SW Development							
19C SCS							
21X SCS (SIAP Block 0) [C/D]							
Requirements							
Design							
Development	1Q						
IT&E	1Q-4Q	1Q-2Q					
H4E SCS (SIAP Block 0) [E/F]							
Requirements							
Design							
Development							
IT&E	1Q-4Q						
SIAP SOW Tasks	1Q-4Q						
Fleet Release Date H4E							
Fleet Release Date 21X							
H4E Production Deliveries		1Q-4Q					
21X Software Load		4Q	1Q				

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 Squadrons	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements	



Note: This schedule includes efforts funded with the FY06 Congressional Add in this PE 0204136N, Project # 9839.

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for NCO	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
IA/AT Assessment							
Critical Design Review (CDR) Hardware							
Engineering Development Model Development	1Q-4Q						
NCO Algorithm development		2Q-4Q					
System Design Review (SDR)		3Q					
Software Integration (DTP & NCO Algorithms)		3Q-4Q	1Q				
Software Specification Review (SSR)		2Q					
Prototype Phase		4Q	1Q-2Q				
Engineering Development Model Hardware			2Q				
Preliminary Design Review (PDR) (S/W)			2Q				
System Development		3Q-4Q	1Q-4Q	1Q-2Q			
Critical Design Review (CDR)				1Q			
Test Readiness Review (TRR)				2Q			
Software Development for D&D			1Q				
Design Testing			2Q-4Q	1Q			
Development Testing				2Q-3Q			
Preproduction Readiness Review (PRR)				4Q			
Operational Testing				4Q	1Q		
Hardware Deliveries				4Q			
Physical Configuration Audit (PCA)					1Q		
Hardware Installs					4Q		
First Deployment					4Q		

Note: This schedule includes efforts funded with the FY06 Congressional Add in this PE 0204136N, Project # 9839.

R-1 SHOPPING LIST - Item No. 164

EXHIBIT R4, Schedule Profile | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA-7**

PROGRAM ELEMENT NUMBER AND NAME: 0204136N F/A-18 SQUADRONS

PROJECT NUMBER AND NAME: 1662 F/A-18 Improvements

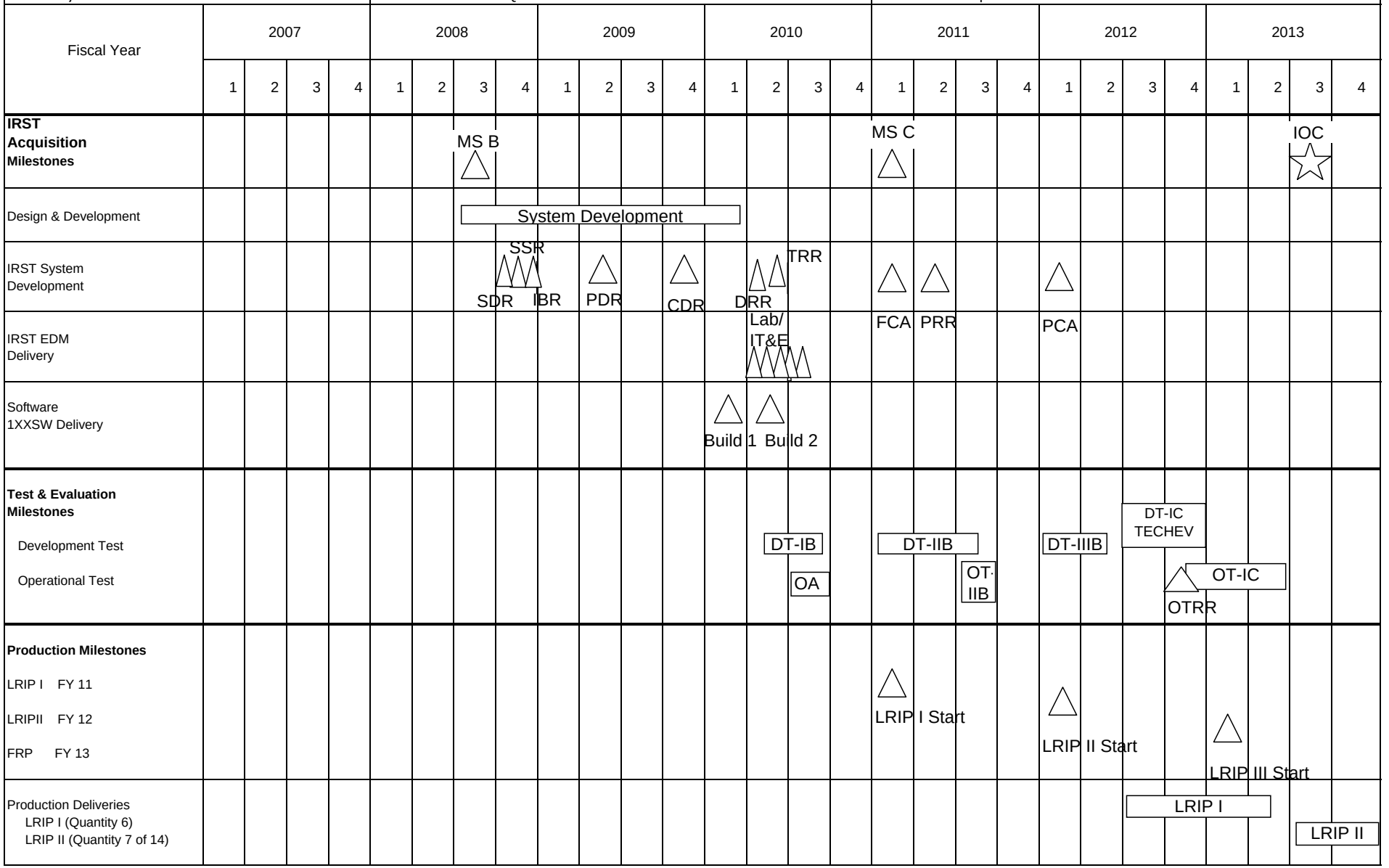


Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for IRST	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Milestone B (MS B)		3Q					
System Development		3Q-4Q	1Q-4Q	1Q			
System Design Review (SDR)		4Q					
Software Specification Review (SSR)		4Q					
Integrated Baseline Review (IBR)		4Q					
Preliminary Design Review (PDR)			2Q				
Critical Design Review (CDR)			4Q				
Software Delivery 1XXSW (Build 1)				1Q			
Software Delivery 1XXSW (Build 2)				2Q			
Design Readiness Review (DRR)				2Q			
Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Units 1-2)				2Q			
Eng Dev Model (EDM) IRST Delivery - (Units 3-10)				2Q-3Q			
Developmental Testing (DT-IB)				2Q-3Q			
Test Readiness Review (TRR)				2Q			
Operational Assessment (OA)				3Q			
Milestone C (MS C)					1Q		
Functional Configuration Audit (FCA)					1Q		
Start Low-Rate Initial Production I (LRIP I)					1Q		
Developmental Testing (DT-IIB)					1Q-3Q		
Preproduction Readiness Review (PRR)					2Q		
Operational Testing (OT-IIB)					3Q		
Physical Configuration Audit (PCA)						1Q	
Start Low-Rate Initial Production II						1Q	
Developmental Testing (DT-IIIB)						1Q-2Q	
Developmental Testing/Technical Evaluation (DT-IC/TECHEVAL)						3Q-4Q	
Low-Rate Initial Production I Delivery						3Q-4Q	1Q-2Q
Operational Test Readiness Review (OTRR)						4Q	
Operational Evaluation (OT-IC) (OPEVAL)						4Q	1Q-2Q
Start Low-Rate Initial Production III							1Q
Low-Rate Initial Production II Delivery							3Q-4Q
IOC							3Q

R-1 SHOPPING LIST - Item No. 164

EXHIBIT R4, Schedule Profile | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	1662 F/A-18 Improvements

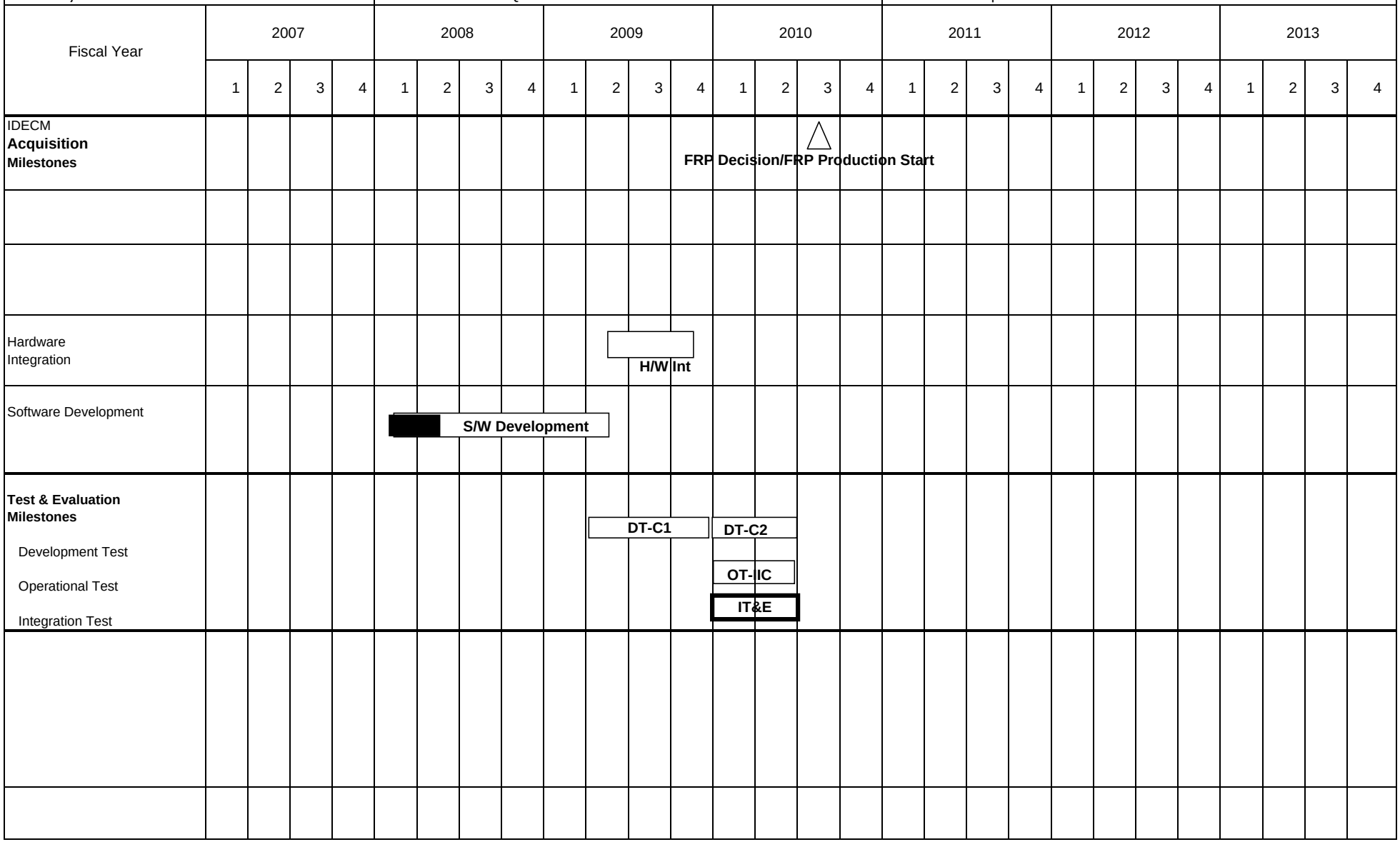
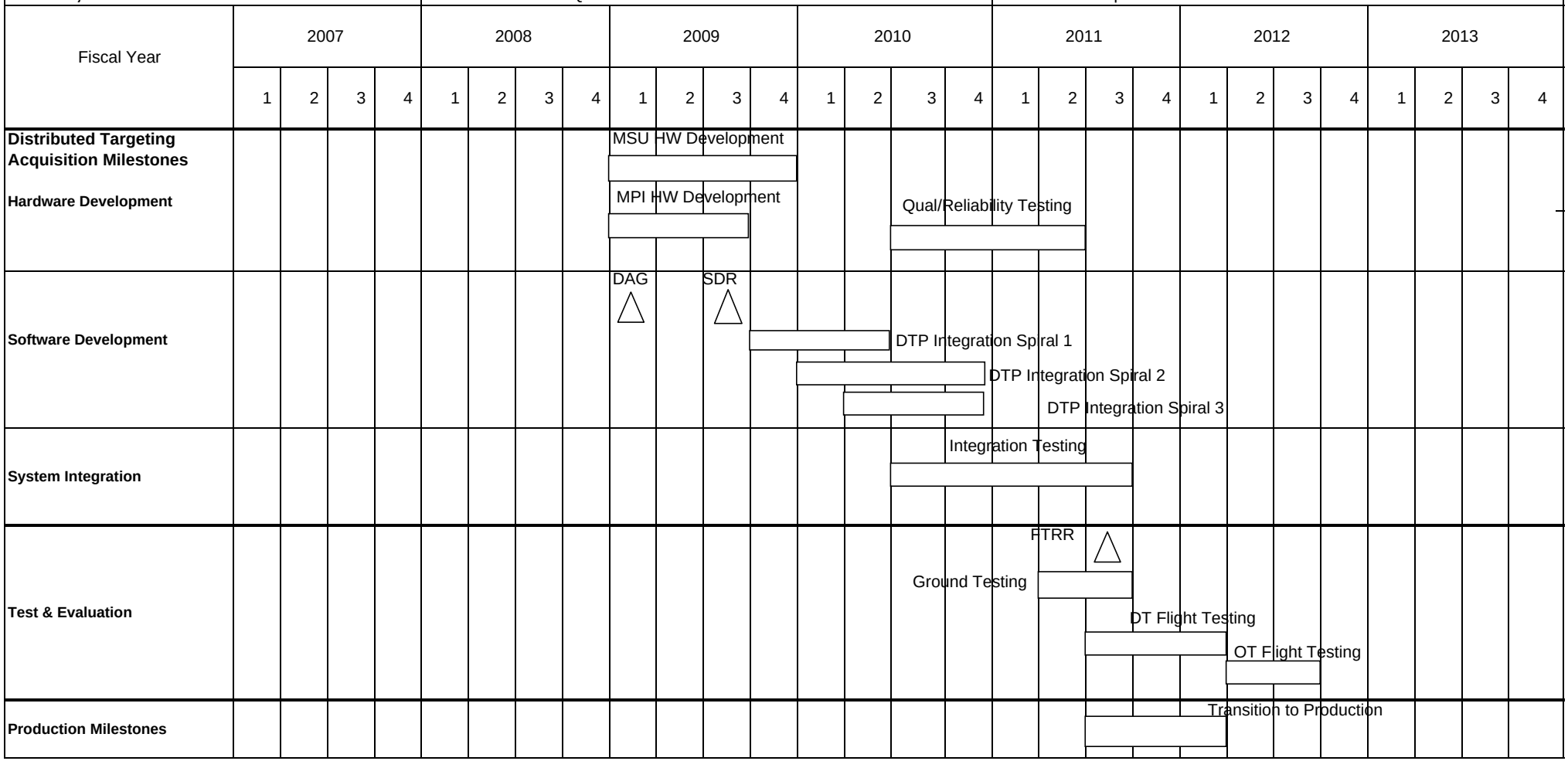


Exhibit R-4a, Schedule Detail				DATE: **February 2008**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for IDECM	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Software Development		1Q-4Q	1Q-2Q				
Hardware Integration			2Q-4Q				
Developmental Testing (DT-C1)			2Q-4Q				
Developmental Testing (DT-C2)				1Q-2Q			
Milestone C (MS C)							
Start Low-Rate Initial Production II (LRIP II)							
Low-Rate Initial Production I Delivery							
Integrated Test Evaluation (IT&E old TECHEVAL)				1Q-2Q			
Operational Evaluation (OT-IIC) (OPEVAL)				1Q-2Q			
Low-Rate Initial Production II Delivery							
Low Rate Initial Production IV							
IOC							
Full Rate Production (FRP) Decision				3Q			
Full Rate Production Start				3Q			

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS	PROJECT NUMBER AND NAME 1662 F/A-18 Improvements	



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for Distributed Targeting	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
MSU HW Development			1Q-4Q				
MPI HW Development			1Q-3Q				
Qual/Reliability Testing				3Q-4Q	1Q-2Q		
Design Assessment Group			1Q				
System Design Review			3Q				
DTP Integration Spiral 1			4Q	1Q-2Q			
DTP Integration Spiral 2				1Q-4Q			
DTP Integration Spiral 3				2Q-4Q			
Integration Testing				3Q-4Q	1Q-3Q		
Ground Test					2Q-3Q		
FTRR					3Q		
DT Flight Test					3Q-4Q	1Q	
OT Flight Test						2Q-3Q	
Transition to Production					3Q-4Q	1Q	

EXHIBIT R4, Schedule Profile | DATE: **February 2008**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	1662 F/A-18 Improvements

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Sensor Integration **Acquisition Milestones**																												
Requirements Definition																												
Software Design Interfaces																												
(V)3 Op Flt Program (OFP) Mod Mission Computer (MC) OFP Mod																												
H8 Software Release																					△							
Test & Evaluation Milestones													TRR △					OTRR △										
Development Test																												
Operational Test																												
(V)3 ECP																												
MC ECP																												

Exhibit R-4a, Schedule Detail					DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**				PROJECT NUMBER AND NAME 1662 F/A-18 Improvements			
Schedule Profile for Sensor Integration	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Requirements Definition			1Q				
Software Design Interfaces			2Q-3Q				
(V)3 OFP Mod			4Q	1Q-2Q			
MC OFP Mod			4Q	1Q-2Q			
H8 Software Release						1Q	
TRR				2Q			
OTRR					3Q		
Development Test				2Q-4Q	1Q-3Q		
Operational Test					3Q-4Q	1Q	
(V)3 ECP					3Q-4Q		
MC ECP					3Q-4Q		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**12.512**	**2.876**	**7.260**				
RDT&E Articles Qty								

DTP Integration Spiral 1

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

F/A-18 Radio Detection and Ranging (RADAR) Upgrade: The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program, which began in FY 1999, is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series RADAR. The AESA system 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 and it significantly increases A/A and A/G detection and tracking ranges. The AESA system 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	2065 F/A-18 RADAR Upgrade

B. Accomplishments/Planned Program

AESA Engineering & Mfg Development		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		9.251	2.816	7.260
RDT&E Articles Quantity				

Continue Engineering Manufacturing Development effort and radar cross-section assessments. Osprey Holstein was reduced in FY06. Osprey Holstein began in FY05 and will complete in FY08. FY09 funding includes Multi-Jammer Electronic Protection (EP) efforts that will increase the number of channels within the Receiver to enable multi-channel EP.

AESA Software Dev., Dev. Test, and Integration		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.100	0.060	
RDT&E Articles Quantity				

Continue software development, Development Testing, and systems integration efforts.

IDECM with AESA/Weapons Testing and Maintenance		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		3.161		
RDT&E Articles Quantity				

Complete AESA Operational Test and Evaluation.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	2065 F/A-18 RADAR Upgrade

C. OTHER PROGRAM FUNDING SUMMARY:

Related Procurement

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
F/A-18E/F APN-1 (P-1 Line Item #4)	2,684.497	2,028.446	1,868.688	1,567.660	1,533.637	1,735.028	200.125		38,118.022
EA-18G APN-1 (P-1 Line Item #2)	696.108	1,257.453	1,604.800	1,593.936	886.157	20.494	14.999		6,399.378
APN-5									
F-18 Series Modification (P-1 Line Item #28) (OSIP 002-07)	12.860	83.361	88.395	116.364	122.160	49.963	49.444	2.500	525.047

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 Basic Ordering Agreement (BOA) order for Request for Proposal (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 consisted of a typical system demonstration program and development contract. The program transitioned to Phase II with a successful Milestone II Decision in FY 2001. When the program entered production in FY03, the "845" agreement allowed 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 (COTS) software and Non-Developmental Item; Cost as an Independent Variable; and Electronic Data Deliverables.

R-1 SHOPPING LIST - Item No. 164

CLASSIFICATION:

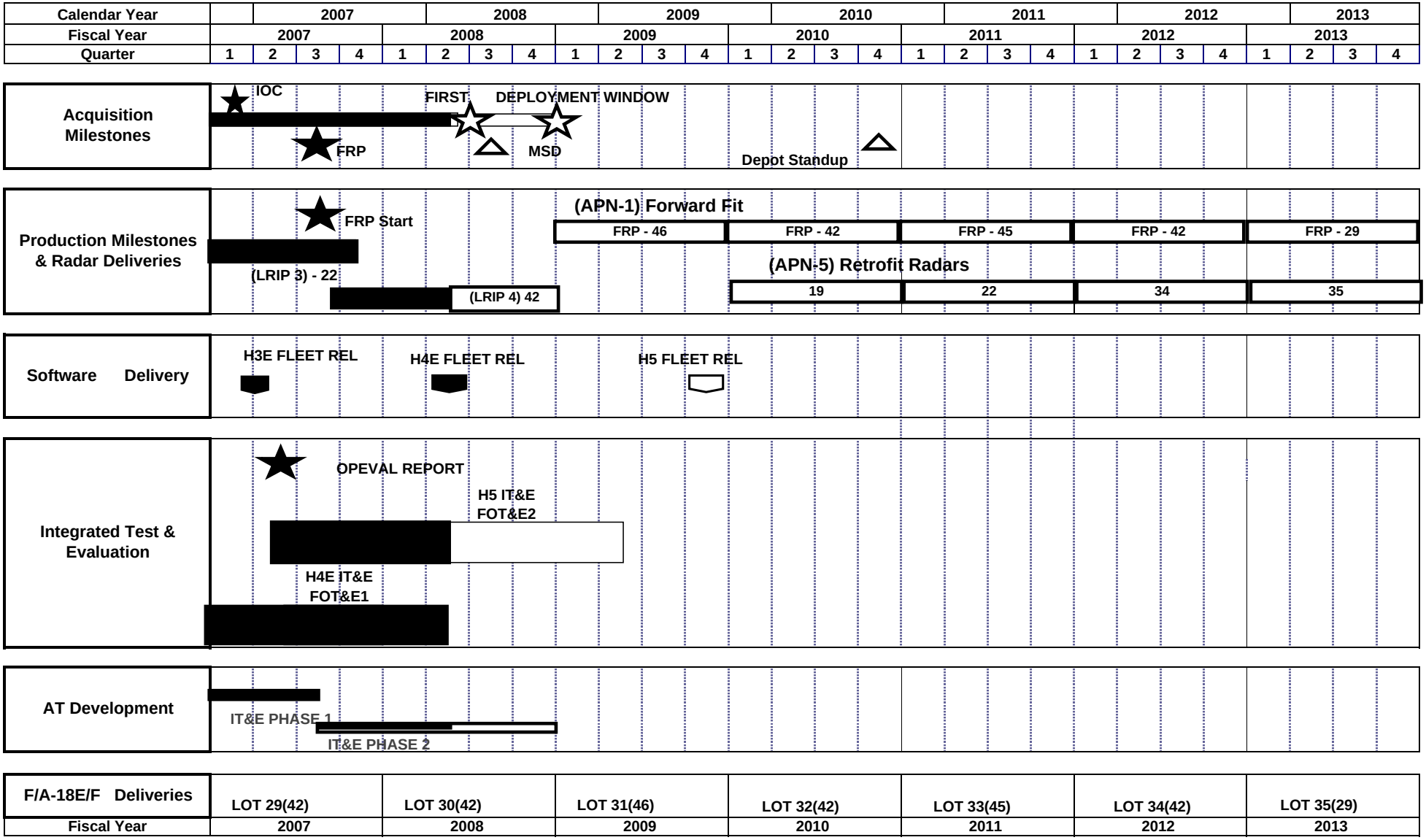
Exhibit R-3 Cost Analysis (page 1)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**		PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	MDA - Boeing, St. Louis, MO	446.498	9.251	01/07	2.816	01/08	7.260	11/08		465.825	465.825
GFE	SS/CPFF	MDA - Boeing, St. Louis, MO	3.517								3.517	3.517
Subtotal Product Development			450.015	9.251		2.816		7.260		0.000	469.342	
Remarks:												
Software Development	WX	NAWCWD, China Lake, CA	22.515								22.515	
Integrated Logistics Support	WX	Various	1.511								1.511	
Subtotal Support			24.026	0.000		0.000		0.000		0.000	24.026	
Remarks:												

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: **February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**			PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS			PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	Various	75.847	3.111	12/06						78.958	
Operational Test & Evaluation	WX	OPTEVFOR, Norfolk, VA	13.334	0.050							13.384	
Subtotal T&E			89.181	3.161		0.000		0.000		0.000	92.342	
Remarks:												
Program Management Support	Various	NAVAIR Pax River, MD	2.269								2.269	
Travel	TO	NAVAIR Pax River, MD	0.544	0.100	10/06	0.060	10/07				0.704	
Subtotal Management			2.813	0.100		0.060		0.000		0.000	2.973	
Remarks:												
Total Cost			566.035	12.512		2.876		7.260		0.000	588.683	
Remarks:												

R-1 SHOPPING LIST - Item No. 164

EXHIBIT R4, Schedule Profile	UNCLASSIFIED	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	2065 F/A-18 RADAR Upgrade



R-1 SHOPPING LIST - Item No. 164

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2008**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 2065 F/A-18 RADAR Upgrade			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
H4E IT&E FOT&E1		1Q-4Q	1Q-2Q					
AT IT&E Phase I		1Q-3Q						
LRIP III Deliveries		1Q-4Q						
H3E Fleet Release		1Q-2Q						
IOC		1Q						
OPEVAL Report		2Q						
Full Rate Production (FRP) Decision		3Q						
Full Rate Production Start		3Q						
LRIP IV Deliveries		3Q-4Q	1Q-4Q					
AT IT&E Phase II		3Q-4Q	1Q-4Q					
H5 IT&E FOT&E2		2Q-4Q	1Q-4Q	1Q-2Q				
H4E Fleet Release			2Q					
First Deployment			3Q-4Q					
H5 Fleet Release				4Q				
Material Support Date (MSD)			3Q					
FRP Deliveries (Lot 31)				1Q-4Q				
FRP Deliveries (Lot 32)					1Q-4Q			
Depot Standup					4Q			
Retrofit Radar Delivers					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
FRP Deliveries (Lot 33)						1Q-4Q		
FRP Deliveries (Lot 34)							1Q-4Q	
FRP Deliveries (Lot 35)								1Q-4Q

R-1 SHOPPING LIST - Item No. 164

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2008**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-7**	PROGRAM ELEMENT NUMBER AND NAME 0204136N F/A-18 SQUADRONS				PROJECT NUMBER AND NAME 9999 Congressional Adds			
COST ($ in Millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost		**1.951**	**7.949**					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds

R-1 SHOPPING LIST - Item No. 164

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2008**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	9999 Congressional Adds

B. Accomplishments/Planned Program

9614C: Mil Rapid Response Combat Info Sys		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		1.951		
RDT&E Articles Quantity				

The Military Rapid Response-Command and Information System (MRRCIS) is a command, control, and communications mobile ground node that will provide enhanced connectivity between Naval Tactical Air (TACAIR) (F/A-18) weapon platforms and USMC's Expeditionary Warfare ground Command and Control (C2) nodes such as the On-the-Move Network Digital Over Horizon Radio System (CONDOR) and JFCOM's Rapid Attack Information Dissemination Execution Relay (RAIDER). This funding will be used to perform an initial proof-of-concept demonstration , system engineering and analysis on new technologies with the long range goal of establishing test and evaluation facilities in Hawaii. This work will leverage off of joint service facilities to test the Sea Power 21/ForceNet concepts above.

9999 Airborne Tactical Server		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			2.384	
RDT&E Articles Quantity				

9999 F/A-18 Roadmap Procurement Plan		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			2.385	
RDT&E Articles Quantity				

9999 F/A-18 Tactical Operational Flight		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			1.590	
RDT&E Articles Quantity				

9999 NAVAIR CPI Tech Manual Conversion		FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost			1.590	
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No.164