

CLASSIFICATION:

UNCLASSIFIED

[illegible]

Quantity of (5) RDT&E Engineering and Manufacturing Development (EMD) test articles were placed on contract prior to FY98 and remanufacture commenced in FY99. One aircraft will be used for live fire test and evaluation.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the AH-1W attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1N utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft that remanufacture AH-1W/UH-1N's into AH-1Z/UH-1Y's include: a new 4-bladed, composite rotor system with semi-automatic blade fold, new performance matched transmissions, T700 Engine Digital Electronic Control Units (DECUs), new 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, and common, fully integrated cockpits and avionics systems. This remanufacture will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits will reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of on-board mission planning, communications, digital fire control, self-navigation, night targeting, and weapon systems management in nearly identical crew stations reducing training requirements. This remanufacture maximizes commonality between the two aircraft and provides needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades				PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	167.706	236.039	90.589	61.174	11.168	8.035	3.831	3.836
RDT&E Articles Qty								
<p>Quantity of (5) RDT&E Engineering and Manufacturing Development (EMD) test articles were placed on contract prior to FY98 and remanufacture commenced in FY99. One aircraft will be used for live fire test and evaluation.</p> <p>A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the AH-1W attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1N utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft that remanufacture AH-1W/UH-1N's into AH-1Z/UH-1Y's include: a new 4-bladed, composite rotor system with semi-automatic blade fold, new performance matched transmissions, T700 Engine Digital Electronic Control Units (DECUs), new 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, and common, fully integrated cockpits and avionics systems. This remanufacture will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits will reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of on-board mission planning, communications, digital fire control, self-navigation, night targeting, and weapon systems management in nearly identical crew stations reducing training requirements. This remanufacture maximizes commonality between the two aircraft and provides needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.</p>								

R-1 SHOPPING LIST - Item No.

98

Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 2 of 10)

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades	PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Technical design, and development</td><td style="text-align: center;">153.348</td><td style="text-align: center;">215.504</td><td style="text-align: center;">62.597</td><td style="text-align: center;">38.308</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	Technical design, and development	153.348	215.504	62.597	38.308					
	FY 02	FY 03	FY 04	FY 05															
Technical design, and development	153.348	215.504	62.597	38.308															
<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Program developmental testing</td><td style="text-align: center;">7.555</td><td style="text-align: center;">13.025</td><td style="text-align: center;">12.672</td><td style="text-align: center;">11.826</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	Program developmental testing	7.555	13.025	12.672	11.826					
	FY 02	FY 03	FY 04	FY 05															
Program developmental testing	7.555	13.025	12.672	11.826															
<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Training and Logistics Support</td><td style="text-align: center;">6.803</td><td style="text-align: center;">7.510</td><td style="text-align: center;">3.320</td><td style="text-align: center;">2.540</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	Training and Logistics Support	6.803	7.510	3.320	2.540					
	FY 02	FY 03	FY 04	FY 05															
Training and Logistics Support	6.803	7.510	3.320	2.540															
<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"></div>																			

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades	PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Software Support</td><td></td><td></td><td style="text-align: center;">3.800</td><td style="text-align: center;">4.000</td></tr><tr><td> </td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 5px;"></div>						FY 02	FY 03	FY 04	FY 05	Software Support			3.800	4.000					
	FY 02	FY 03	FY 04	FY 05															
Software Support			3.800	4.000															
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Component Fatigue Testing</td><td></td><td></td><td style="text-align: center;">8.200</td><td style="text-align: center;">4.500</td></tr><tr><td> </td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 5px;"></div>						FY 02	FY 03	FY 04	FY 05	Component Fatigue Testing			8.200	4.500					
	FY 02	FY 03	FY 04	FY 05															
Component Fatigue Testing			8.200	4.500															

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades	PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget:	170.448	241.384	80.547	54.506
Current BES/President's Budget	167.706	236.039	90.589	61.174
Total Adjustments	-2.742	-5.345	10.042	6.668
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-1.475		
Congressional rescissions	-0.001			
SBIR/STTR Transfer	-3.794			
Economic Assumptions	-0.467	-3.870	-2.339	-1.412
Reprogrammings	1.520			
Other Navy/OSD Adjustments			12.381	8.080
Congressional increases				
Subtotal	-2.742	-5.345	10.042	6.668

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 98

UNCLASSIFIED

Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 5 of 10)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification										DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades				PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>Prior</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>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
P-1 LI #8, UH-1Y/AH-1Z (4BN/4BW)	5.987			310.799	200.42	338.645	453.639	466.531	473.842	3097.808	5347.671
Quantity				9	7	14	23	23	24	180	

E. ACQUISITION STRATEGY:

The USMC H-1 Upgrades is an ACAT 1D program which encompasses Engineering and Manufacturing Development of new end-items prior to a production approval decision. The prime contract is a sole source to Bell Helicopter Textron, Inc.

R-1 SHOPPING LIST - Item No. 98

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604245N USMC H-1 Upgrades			H2279 USMC H-1 Upgrades						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS CPFF	Bell Helicopter, Ft. Worth, TX	637.008	198.858	10/02	54.580	10/03	34.758	10/04	0.000	925.204	925.204
Anciliary Hdw Development											0.000	
Training Development	WR	Various	5.132	0.610	11/02	0.470	11/03	0.000		0.000	6.212	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR	Various	48.305	13.036	Various	4.562	Various	2.470	Various	0.000	68.373	
Licenses											0.000	
Tooling											0.000	
GFE	Various	Various	15.597	3.000	10/02	2.985	10/03	1.080	10/04	0.000	22.662	
Award Fees*	WR	Bell Helicopter, Ft. Worth, TX	12.668							0.000	12.668	
Subtotal Product Development			718.710	215.504		62.597		38.308		0.000	1,035.119	
*Remarks: Effective 1 May 00, cost plus incentive fee (CPIF) applies. Original contract was was a SS CPAF contract. Total award fee pool \$47,496,152, and to date \$12,668,250 has been awarded. Period #1 was 90%, period #2 87%, period #3 90%, period #4 77%, period #5 76%, and period #6 was 0%. Award fee activity was terminated on 30 April 2000.												
Development Support	Various	Various				8.200	11/03	4.500	11/04	11.591	24.291	
Software Dev. Electronics											0.000	
Software Dev. Weapons Integration	Various	Various				3.800	11/03	4.000	11/04	15.279	23.079	
Integrated Logistics Support	Various	Various	16.198	5.760	11/02	1.660	11/03	0.980	11/04	0.000	24.598	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analysis											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			16.198	5.760		13.660		9.480		26.870	71.968	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604245N USMC H-1 Upgrades			PROJECT NUMBER AND NAME H2279 USMC H-1 Upgrades						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	NAWC Patuxent River	12.495	12.025	11/02	10.872	11/03	7.026	11/04	0.000	42.418	
Operational Test & Evaluation	Various	NAWC Patuxent River		1.000	11/02	1.800	11/03	4.800	11/04	0.000	7.600	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			12.495	13.025		12.672		11.826		0.000	50.018	
Remarks:												
Contractor Engineering Support	C FFP	CCI, Inc.	3.224	0.795	11/02	0.745	11/03	0.745	11/04	0.000	5.509	5.509
Government Engineering Support											0.000	
Program Management Support	C FFP	CCI, Inc.	4.427	0.695	11/02	0.645	11/03	0.545	11/04	0.000	6.312	6.312
Travel	WR	Various	1.587	0.260	11/02	0.270	11/03	0.270	11/04	0.000	2.387	
Transportation											0.000	
										0.000		
Subtotal Management			9.238	1.750		1.660		1.560		0.000	14.208	
Remarks:												
Total Cost			756.641	236.039		90.589		61.174		26.870	1,171.313	
Remarks:												

R-1 SHOPPING LIST - Item No. 98

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 10)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604245N USMC H-1 Upgrades												H2279 USMC H-1 Upgrades											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	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							
Acquisition Milestones																																			
Test & Evaluation Milestones																																			
Development Test	<div></div>												CT/DT																						
Operational Test																																			
Production Milestones																																			
LRIP I FY 04																																			
LRIP II FY 05																																			
FRP FY 06																																			
Deliveries																																			

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	0604245N USMC H-1 Upgrades				H2279 USMC H-1 Upgrades			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Developmental Testing (DT-II)	1Q-4Q	1Q-4Q	1Q-3Q					
Operational Testing (OT-IIA)		2Q						
Start Low-Rate Initial Production I (LRIP I)			2Q					
Low-Rate Initial Production I Delivery					2Q-4Q			
Operational Testing (OT-IIB)			2Q					
Start Low-Rate Initial Production II				1Q				
Low-Rate Initial Production II Delivery						1Q-4Q		
Operational Evaluation (OT-IIC) (OPEVAL)				1Q				
Full Rate Production (FRP) Decision				4Q				
Full Rate Production Start					1Q			
Full Rate Production (FRP) Delivery							1Q-4Q	
IOC							2Q	