

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY <b>7 - Operational system development</b>		PE NUMBER AND TITLE <b>0203744A - Aircraft Modifications/Product Improvement Program</b>								
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	304408	303491	325643	417911	431223	517668	419214	420239	Continuing	Continuing
028 Aerial Common Sensor (ACS) (JMIP)	42432	21418	26391	176136	249465	354557	291379	321704		1483482
430 IMPR CARGO HELICOPTER	41571	28929	11173	9971	11053	11253				113950
504 BLACK HAWK RECAPITALIZATION/MODERNIZATION	116292	125589	87864	34129	35497	40924	44745	44745	Continuing	Continuing
D17 APACHE BLOCK III	104113	122043	193680	194639	135208	110934	83090	53790	Continuing	Continuing
D18 UTILITY FW CARGO AIRCRAFT		5512	6535	3036						15083

**A. Mission Description and Budget Item Justification:** This PE provides for development of modifications and improvements for the Guardrail Common Sensor/Aerial Common Sensor, the Improved Cargo Helicopter (ICH), the UH-60A/L Black Hawk Recapitalization/Modernization.

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February 2007

BUDGET ACTIVITY

**7 - Operational system development**

PE NUMBER AND TITLE

**0203744A - Aircraft Modifications/Product Improvement Program**

<u><b>B. Program Change Summary</b></u>	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	336884	301739	256998	408701
Current BES/President's Budget (FY 2008/2009)	304408	303491	325643	417911
Total Adjustments	-32476	1752	68645	9210
Congressional Program Reductions	-1214	-11646		
Congressional Rescissions	-97650			
Congressional Increases		16200		
Reprogrammings	-1938	-1858		
SBIR/STTR Transfer	-6319	-7939		
Adjustments to Budget Years	74645	6995	68645	9210

Change Summary Explanation: FY08 increase is due primarily to support changes in requirements for software and testing which consist of the Critical Design Review (Limited User Test) which is scheduled for the 2nd quarter in FY08, others will include award of incremental funding for Boeing NRE contract and continued work; award of incremental funding for Joint Venture contract and to continue work and planning activities.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2007**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>		<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>							<b>PROJECT</b> <b>028</b>	
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
028      Aerial Common Sensor (ACS) (JMIP)	42432	21418	26391	176136	249465	354557	291379	321704		1483482

**A. Mission Description and Budget Item Justification:** The Aerial Common Sensor (ACS) is the airborne intelligence collection system required to provide critical support to early entry, forward deployed forces, and to support the future force's seamless intelligence architecture. ACS is the future force system that will satisfy the Army critical need for a responsive worldwide, self-deployable, airborne reconnaissance, intelligence, surveillance and target acquisition (RISTA) capability that can immediately begin operations upon arriving in theatre. Specifically, ACS will replace the Army's GRCS and ARL systems. The ACS will merge Signals Intelligence (SIGINT), Imagery Intelligence (IMINT), and Measurement and Signature Intelligence (MASINT) into a single airborne system capable of providing a rapid response information dominance capability dedicated to the Joint Force Commander's need for precision real-time geolocation of the enemy on the future force battlefield. ACS will be capable of operating independently or remotely via SATCOM or line-of-sight datalinks to a ground station. ACS will be Joint Airborne SIGINT Architecture (JASA) and Unified Cryptologic Architecture (UCA) compliant and be interoperable within the open Network centric C4ISR architecture in order to support all combat and combat support functions through the emerging DOD Global Information Grid. The primary mission will be standoff Muli-INT (SIGINT, SAR, MTI) collection, with a secondary mission of overflight Imagery (EO/IR) Intelligence. ACS ground functionality will be provided by the Distributed Common Ground Station-ARMY (DCGS-A). ACS is primarily targeted against threat maneuver forces, logistic areas, rocket and artillery forces, air defense artillery, and command control communications and intelligence nodes (C3I). ACS will satisfy unique Tactical Maneuver Commander Indications and Warning, Situation Development, Targeting, and Battle Damage Assessment Intelligence, Surveillance and Reconnaissance (ISR) requirements. ACS simultaneously supports FCS information dominance requirement and is a key airborne ISR enabler for the Joint Future Force.

The National Security Agency's Military Intelligence Program (MIP) provides funding to support enhanced SIGINT capabilities.

FY 08 funds support continuation of ISR studies, continued sensor maturation and future ACS risk reduction efforts in the form of current system capability enhancements (Modern Signals and Enhanced Situational Development (ESA)).

<b><u>Accomplishments/Planned Program:</u></b>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Modeling, Program Office, Matrix Engineering and Test support for the AC Sensors	16129			
Support Joint ISR, Aircraft, Integration & CONOPS Studies, Technical Maturation efforts - augment GRCS/ARL relevancy modernization	26303			
Program Office, Matrix Engineering and Test support for the AC Sensors, Payload RFI/SDD RFP/Source Selection activities/MS B Documentation/ASARC/DAB		6833	11051	12486
AoA Study, Payload & Platform Integration Studies, CONOPS studies and Analysis		3800	7840	7650
Modern Signal, Sensor prototype, COMINT Subsystem Development, Datalink Risk Reduction, CHALS-C		10785		
Modern Signal, Sensor prototype, COMINT Subsystem Development,			7500	20000

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2007**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>	<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>				<b>PROJECT</b> <b>028</b>	
SDD Contract						136000
Total		42432	21418	26391		176136

<b><u>B. Other Program Funding Summary</u></b>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
ACS NSA MIP		3674	4310	4309	4309	7345	7345	7345	Continuing	Continuing
CHALS NSA MIP	1930	1460	4312	4313	4269	4269	4269	4269	Continuing	Continuing
GRCS NSA MIP	3643	3645	6825	6825	6806	3841	3841	3841	Continuing	Continuing
ARL NSA MIP			3817	3817	3817	3743	3743	3743	Continuing	Continuing
TSP NSA MIP		4119	7140	7141	7067	7036	7036	7036	Continuing	Continuing
0305206/DK98 Tactical Reconnaissance	5321								Continuing	Continuing

Comment: FY08 Military Intelligence Program (MIP) funding provides for the development of ACS SIGINT technologies and needed to ensure applicability of ACS in the evolving future force architecture.

**C. Acquisition Strategy** MS B ADM was approved 4QFY04 for entry into the ACS SDD phase. The SDD contract was awarded on a competitive basis on 2 August 2004. The SDD contract was terminated for the convenience of the government on 12 January 2006. The funds remaining in the line will support CONOPS development, Payload, Aircraft and Integration studies, and sensor maturation efforts, which will reduce ACS risk through these current system capabilities enhancements. OSD directed Joint ISR study supports the need for a manned aerial ISR capability. Following Navy decision to go forward with larger aircraft than Army requirements, an analysis of Army alternatives will result in a decision regarding a path-forward for future ACS development. A milestone decision is currently planned for in FY 2009.

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
7 - Operational system development			0203744A - Aircraft Modifications/Product Improvement Program									028		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
ACS SDD Contract/Termination Liability	C-CPAF	Lockheed Martin, Littleton, CO	175807		1-2Q								175807	879000
Multi-Role-Tactical Command Data Link Development	SS-CPAF	L-3 Communications, Salt Lake City, UT	4591	2200	1-2Q	1455							8246	4590
CHALS Enhancement Development	SS-CPFF	Lockheed Martin, Owego, NY		6176	1-2Q	2500	1Q						8676	
Modern Signals Sensor Prototype	SS-CPFF	Radix, Mountain View, CA		3691	1-2Q	4530	1Q						8221	
Development/Enhanced Situational Awareness	C-CPFF	Northrop Grumman, Sunnyvale, CA		8000	1-3Q	2300	1Q						10300	
Special Signals Processing		Zeta, VA		582	2Q								582	
Sensor Development		TBD						7500	1Q	20000	1Q		27500	
SDD contract	TBD	TBD								136000	3-4Q		136000	
Subtotal:			180398	20649		10785		7500		156000			375332	883590
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
ACS Operational Performance Model	SS-CPFF	TBD	11005	906	1-2Q			1490	2Q	1500	2Q	Cont.	Cont.	Cont.
Model Evaluation Support	Gov't /Kr	Multiple	8201	590	1-3Q		1-3Q					Cont.	Cont.	Cont.
Aircraft, ISR and Integration Validation Studies	Gov/KR; TBD	TBD		1709	3Q	1800	2Q	1600	2Q	2900	2-3Q		8009	
Supplemental AoA	TBD	Various				500	1-3Q	3000	1-2Q	2500	1-3Q		6000	
Thread Analysis for ACS design CONOPS	IDA/TBD					1500	1-3Q	1000	1-2Q				2500	
CONOPS Studies, Analysis Support	IDA/TBD	Kr, Various					2-3Q	750	2-3Q	750			1500	

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE										PROJECT				
<b>7 - Operational system development</b>			<b>0203744A - Aircraft Modifications/Product Improvement Program</b>										<b>028</b>				
and CDD Development																	
Infrastructure Studies: Software, Security, Meta Data/Single Signal Archetitecture (SSA)	Kr/Variou s	Gov't, Various		1300	1-2Q											1300	
Studies and Analysis Support	C-T&M	Kr; Various		350	1-2Q											350	
Studies and Analysis Support	MIPR	Gov't		799	1-2Q											799	
Subtotal:			19206	5654		3800		7840		7650		Cont.	Cont.	Cont.			

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
AMRDEC	MIPR	Redstone Aresenal, AL	6150	190	1Q							Cont.	Cont.	Cont.
Test Support	MIPR/ CPFF	Gov't/Kr Various	2607	525	1-2Q	163	2-3Q	1000	2-3Q	1030	2-3Q	Cont.	Cont.	Cont.
Subtotal:			8757	715		163		1000		1030		Cont.	Cont.	Cont.

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
ACS Core Staff	In-House	PM, AC Sensors	16785	4726		1030	1-4Q	711		923		Cont.	Cont.	Cont.
Program Seta Support	C-T&M	CACI (ETOSS/S3), NJ/DC	6504	2130	1-3Q	1006	1-2Q	2160	1-2Q	2548	1-2Q		14348	7004
Engineering Seta Support	C-T&M	ILEX, Tinton Falls, NJ	400	1475	1-2Q	1000	1-2Q	1130	1-2Q	1209	1-2Q	Cont.	Cont.	Cont.
Seta Mgmt Support	Kr; Various	Multiple	6028	1470	1-3Q	949	1-3Q	1350	1-3Q	1447	1-3Q	Cont.	Cont.	Cont.
Matrix Support	CPFF	BAH, Eatonwotn, NJ	9559	1343	1-2Q	872	1-2Q	1515	1-2Q	1709	1-2Q	Cont.	Cont.	Cont.
Matrix Support	MIPR	CRDEC/I2WD, Ft Monmouth, NJ	2130	1922	1-2Q	1239	1-3Q	1650	1-2Q	1885	1-2Q	Cont.	Cont.	Cont.
Matrix Support	MIPR/CPFF	Gov't; Various		2348	1-2Q	574	1-2Q	1535	1-2Q	1735	1-2Q		6192	
Subtotal:			41406	15414		6670		10051		11456		Cont.	Cont.	Cont.

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY <b>7 - Operational system development</b>	PE NUMBER AND TITLE <b>0203744A - Aircraft Modifications/Product Improvement Program</b>						PROJECT <b>028</b>					
<b>Project Total Cost:</b>	249767	42432		21418		26391		176136		Cont.	Cont.	Cont.



# Schedule Detail (R4a Exhibit)

February 2007

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>	<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>	<b>PROJECT</b> <b>028</b>
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<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
Concept Exploration								
Tech Dev (TD) Decision Review								
Technology Development								
TD Contractor Demonstrations								
MS B								
CDD Development and Approval	2Q - 4Q	1Q - 4Q	1Q - 3Q					
System Dev & Demo (SD&D)	1Q - 2Q							
Contract Termination	2Q							
Joint ISR Study/Aircraft, Integration, CONOPS Studies	2Q - 4Q							
Path Forward Analysis/Dev Acq Strategy	4Q	1Q - 4Q	1Q - 3Q					
Path Forward Decision		3Q						
Milestone Preparation Activities		2Q - 4Q	1Q - 4Q	1Q - 2Q				
RFP Process and Source Selection			1Q - 4Q	1Q - 2Q				
ACS Milestone Decision				2Q				
ACS Development Contract				3Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
ACS Contract Termination and Closeout	1Q - 4Q	1Q - 4Q						

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**February 2007**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>	<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>							<b>PROJECT</b> <b>430</b>		
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
430      IMPR CARGO HELICOPTER	41571	28929	11173	9971	11053	11253				113950

**A. Mission Description and Budget Item Justification:** The CH-47 Chinook is a twin-turbine, tandem-rotor, heavy-lift transport helicopter with a useful load of up to 25,000 pounds. As the Army's only heavy lift helicopter, the CH-47F Improved Cargo Helicopter is an essential component of the Army Future Force. The CH-47F program fills the Army's Aviation Transformation Chinook requirement. Key product improvements integrate the CH-47F Common Avionics Architecture System (CAAS) digital cockpit which will provide future growth potential to meet the Net-Ready Key Performance Parameters (KPPs) and also includes a digital data bus that permits installation of enhanced communication and navigation equipment for improved situational awareness, mission performance, and survivability. The CH-47F program funds completion of the Independent Operational Test and Evaluation program, developmental improvements to the T55-GA-714A engines which include a redesigned N1 drive train and Compressor Erosion Coating, and the Airframe Component Improvement Program consisting of Swashplate Redesign. The Health and Usage Monitoring System (HUMS) will develop, test and integrate advancements and extensions of the onboard HUMS system and ground station software.

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Provide product technical support	1750			
Operational Test & Evaluation	2500	1536		
Continue Contract Live Fire Test & Evaluation	500			
Continue in-house and program management administration.	827	515	396	390
Continue Government Test & Evaluation.	2250			
Test Analysis	1000			
Low Maintenance Rotor Hub	5844			
714 Engine	3500	6041	4864	5000
Airframe Component Improvement Program		3823	5913	4581
Health and Usage Monitoring (HUMS)	23400	16200		
Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)		814		
<b>Total</b>	<b>41571</b>	<b>28929</b>	<b>11173</b>	<b>9971</b>

<u>B. Other Program Funding Summary</u>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
APA, SSN AA0252, CH-47 CARGO HELICOPTER MODS (MYP) (Including Adv Proc and Initial Spares)	671203	1132072	581868	739518	704781	919358	1279039	767514	6381767	13177120

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2007**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>			<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>					<b>PROJECT</b> <b>430</b>		
APA, SSN A05008, CH-47 CARGO HELICOPTER NEW BUILD (Including Adv Proc)			190890	446980	217680	213360	139800	154870	Continuing	Continuing

Comment:

**C. Acquisition Strategy** The CH-47F rebuild program extends the service life by twenty years, incorporates a new machined airframe, and includes a new Common Avionics Architecture System (CAAS) cockpit with digital communication/navigation capability allowing improved interoperability on the digital battlefield. The CH-47F rebuild program includes recapitalization of key dynamic components, bringing them to a near zero time.

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
<b>7 - Operational system development</b>			<b>0203744A - Aircraft Modifications/Product Improvement Program</b>									<b>430</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
EMD	CPIF	Various	117221										117221	117098
TOCR	CPIF	Various	1600										1600	1600
SBIR/STTR						814	1-2Q						814	
Technical Support	CPFF	Various	6658	1750	1-2Q								8408	
Blade Coating	CPIF	Honeywell		1000	1-2Q								1000	
714 Engine	CPIF	Various	7634	2500	1-2Q	6041	1-2Q	4864	1-2Q	5000	1-2Q		26039	
Low Maintenance Rotor Hub	CPIF	Boeing	7685	5844	2-3Q								13529	
Airframe Component Improvement Program						3823	2Q	5913	2Q	4581	2Q		14317	
Health and Usage Monitoring (HUMS)				23400	2-3Q	16200	2Q						39600	
Subtotal:			140798	34494		26878		10777		9581			222528	118698
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
PMO/OGA	Reimbursable	Various government	12680	827	2-3Q	515	2-3Q	396	2-3Q	390	2-3Q		14808	
Subtotal:			12680	827		515		396		390			14808	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
DT/OT	Reimbursable	Various government	14221	4750	1-2Q	1536	1-2Q						20507	
Live Fire Test & Eval	Reimbursable	Contract/Govt	6365	500	1-2Q								6865	

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY <b>7 - Operational system development</b>			PE NUMBER AND TITLE <b>0203744A - Aircraft Modifications/Product Improvement Program</b>										PROJECT <b>430</b>	
Live Fire Test & Eval	Contract		50											50
Test Analysis	Reimbursable	Various Government	1500	1000	1-2Q									2500
Subtotal:			22136	6250		1536								29922

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
CAMBER/Westar	SS/FP	Huntsville, AL	3901										3901	3901
Subtotal:			3901										3901	3901

<b>Project Total Cost:</b>	<b>179515</b>	<b>41571</b>		<b>28929</b>		<b>11173</b>		<b>9971</b>		<b>271159</b>	<b>122599</b>
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# Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY  
**7 - Operational system development**

PE NUMBER AND TITLE  
**0203744A - Aircraft Modifications/Product Improvement Program** PROJECT  
**430**

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	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	1	2	3	4
Low Rate Initial Production																																
Full Rate Production																																
IOT&E Phase II																																
(1) FUE																																

**Schedule Detail (R4a Exhibit)**

**February 2007**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>	<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>	<b>PROJECT</b> <b>430</b>
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<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
Long Lead (Lot 1)								
LRIP Decision								
LRIP Lot 1 Contract Award								
Low Rate Initial Production	1Q							
LRIP Lot 2 RFP								
LRIP Lot #2 Contract Award								
Full Rate Production RFP								
IOT&E Phase I								
MS III/FRP								
Full Rate Production	1Q - 4Q							
IOT&E Phase II	1Q - 4Q	1Q - 2Q						
FUE		4Q						
Milestone III								
Full Rate Pdn								
Initial Oper Test & Eval (IOT&E) Phase II	1Q - 2Q							

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February 2007

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>		<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>							<b>PROJECT</b> <b>504</b>	
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
504 BLACK HAWK RECAPITALIZATION/MODERNIZATION	116292	125589	87864	34129	35497	40924	44745	44745	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** The UH-60 BLACK HAWK will serve as the Army's utility helicopter in the Future Force. It is used for air assault, general support, aeromedical evacuation (MEDEVAC), and command and control in active and reserve component theater, corps, division, and Table of Distribution and Allowances (TDA) units. The UH-60A entered service in fiscal year 1978 (FY78), and the newer model UH-60L in FY89. The Army's last procurement of UH-60L helicopters was FY06. The Army has established a recapitalization goal for its systems of maintaining the fleet's average age at the design half-life or less. The UH-60 was designed for a 20 year service life. The oldest UH-60As are now over 25 years old, and the average age of the UH-60A fleet is 21 years old. The increased operational tempo, coupled with the technological age of the basic airframe, components, and systems, is having an adverse impact on the operational readiness (OR) and operating and support (O&S) costs of the over 1500 aircraft UH-60 fleet. In addition, the UH-60A/L helicopters lack the necessary digital avionics architecture to meet current and future Army and Joint Service interoperability communication requirements. The Army has determined that an upgrade program is required to address these issues. An Operational Requirements Document (ORD) for recapitalization of the BLACK HAWK fleet was approved by the Joint Requirements Oversight Council (JROC) in March, 2001. The ORD describes an evolutionary, block approach to transform the utility helicopter force to one that is more deployable, responsive, and less expensive to operate. A revised ORD was signed by the JROC on July 24, 2006 updating key performance parameters for survivability and force protection. The UH-60M provides a common platform for the modernized air ambulance MEDEVAC mission equipment package (MEP). RDTE funds are required to develop, integrate, test and qualify the UH-60M configuration. FY05 funded the initial efforts to move the UH-60M program to an Upgrade configuration which includes the Fly By Wire (FBW), Composite Tailcone, Full Authority Digital Engine Control (FADEC) and the Common Avionics Architecture System (CAAS), which is the common cockpit to be used by UH-60M, CH-47 and Special Operations. Incorporation of CAAS will minimize the future sustainment costs for these aircraft platforms. A successful UH-60M Upgrade IPR decision was obtained in January 2006. Also in FY05, funds are included for incorporation of Integrated Vehicle Health Management System (IVHMS) on the UH-60M. FY05 funds continued UH-60M integration and testing. FY05 also funded the Integrated Mechanical Diagnostic - Health Monitoring System (IMD-HUMS) and Maintenance Analysis Safety and Training (MAST) demonstration programs and initiation of the Helicopter Autonomous Landing Systems (HALS).

FY06 Funds the continuation of the UH-60M Upgrade program, continuation of the Helicopter Autonomous Landing Systems (HALS) and continued the UH-60M testing and integration efforts of the Baseline contract.

FY07 Funds the continuation of the Upgrade program. FY07 includes funds for the Full Authority Digital Engine Control (FADEC) Development.

FY08 and out include the on-going FADEC Development program and continues efforts for the development and test of the UH-60M Upgrade aircraft.

FY11 and out funds the Improved Turbine Engine Program (ITEP) development and qualification.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2007**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>	<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>	<b>PROJECT</b> <b>504</b>
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<b><u>Accomplishments/Planned Program:</u></b>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Continue airframe, avionics and powerplant development based on finalized configuration as a result of airframe CDR. Conduct System Preliminary Design Review and Critical Design Review.	34219	39450	22620	2655
Software Development - includes failure modes and effects criticality analysis; software design descriptions; qualification testing of mission critical computer resources; update software requirements specifications and multiplex interface control documents; and prepare software design descriptions.	20599	31287	17080	3312
Continue Producibility Engineering and Planning (PEP) as well as manufacturing planning and control.	4698	7840	4752	1554
Prototype build and delivery to support Development Testing (DT).	25515	4364	3454	3390
Testing (Conduct flight testing, EME testing and ground testing).	16644	28071	23252	7267
Preparation of training documentation for Logistics Demonstration Familiarization Course, Government Test Pilot Familiarization Course and Test Data Collection Training Course.	1193	943	3169	841
Conduct training course to support test.	2841	934		1029
Maintain Continuous Acquisition and Life Cycle Support (CALS)/Contractor Integrated Technical Information Service (CITIS) and deliver Interface Control Documents (ICD's).	665	712	807	330
Support Equipment	223	333	144	141
Full Authority Digital Engine Control (FADEC)		8120	12586	13610
Helicopter Autonomous Landing System (HALS) - Development and delivery of a complete unit; technical support; and integration of the unit.	6695			
Transfer to Apache	3000			
Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)		3535		
<b>Total</b>	<b>116292</b>	<b>125589</b>	<b>87864</b>	<b>34129</b>

<b><u>B. Other Program Funding Summary</u></b>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>To Compl</u>	<u>Total Cost</u>
A05002 BLACK HAWK (MYP)	672216	1080728	705446	1031725	1058590	919986	1133844	1228322	Continuing	Continuing

Comment:

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY

**7 - Operational system development**

PE NUMBER AND TITLE

**0203744A - Aircraft Modifications/Product Improvement Program**

PROJECT

**504**

**C. Acquisition Strategy** The UH-60 BLACK HAWK will serve as the Army's utility helicopter in the Future Force. The Army revised the acquisition strategy for the UH-60M to procure new UH-60M helicopters in lieu of Recap/Upgrade. This program addresses current UH-60 fleet aging problems such as decreasing operational readiness (OR) and increasing O&S costs, including all top-ten cost drivers, and provides a common, modernized platform for the UH-60 utility and MEDEVAC fleet of the future. The program will be executed over four phases: pre-System Development/Demonstration Phase (FY00-01), System Development/Demonstration Phase (Baseline FY01-07) (Upgrade FY05-10), Production/Readiness Phase (FY05-26), and Operations and Sustainment Phase (FY06-FY45).

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
7 - Operational system development			0203744A - Aircraft Modifications/Product Improvement Program									504		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Design, Integration & Qualification Contract	SS/CPAF	Sikorsky Aircraft Co 6900 Main Street Stratford, CT 06601	338098	24654	1-2Q	1463	1-2Q						364215	
UH-60M Upgrade Pre-Planned Product Improvement Contract	SS/CPAF	Sikorsky Aircraft Co 6900 Main Street Stratford, CT 06601	21695	64261	1-2Q	91190	1-2Q	68459	1-2Q	12377	1-2Q	12394	270376	
Development Support - Organic	MIPR	UH PMO/matrix	13809	5872	1-3Q	1832	1-3Q	529	1-3Q	921	1-3Q	324	23287	
Development Support - Contractor	C/FP	Support Contractors	12032	1647	1-3Q	2060	1-3Q	1586	1-3Q	1475	1-3Q	972	19772	
IMD-HUMS Development Support - Organic	MIPR	Aviation Applied Tech Directorate (AATD) Matrix	6953										6953	
IMD-HUMS Development Support - Contractor	C/FP	Goodrich, 100 Panton Road, Vergennes, Vermont 05491	46862										46862	
MAST Development Support - Organic	MIPR'S	Other Government Agency Support	1429										1429	
MAST Development Support - Contractor	MIPR	Smith Industries Clear Water , FLI	5708										5708	
Full Authority Digital Engine Control (FADEC) Development - Organic						922	1-2Q	1429	1-2Q	1545	1-2Q	1709	5605	
Full Authority Digital Engine Control (FADEC) Development - Contractor						7198	1-2Q	11157	1-2Q	12065	1-2Q	13350	43770	
Internal Reprogramming - Payback for FY03			3413										3413	
HALS			1980	6695									8675	
Performance Support System - NG (Apache)	MIPR	Other Government Agency Support	1000										1000	
Transfer to Apache				3000									3000	

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY <b>7 - Operational system development</b>				PE NUMBER AND TITLE <b>0203744A - Aircraft Modifications/Product Improvement Program</b>								PROJECT <b>504</b>	
Improved Turbine Engine Program (ITEP) Engine Development and Qualification	C	TBS										130414	130414
Subtotal:			452979	106129		104665		83160		28383		159163	934479

Remarks: IMD-HUMS demonstration program was funded in FY02-05 and is separate from the UH-60M program.  
MAST demonstration program was funded in FY04 and FY05 and is separate from the UH-60M and the HUMS programs.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Cost Analysis Support	MIPR	AMCOM Matrix	646	75	1-3Q	77	1-3Q	78	1-3Q	80	1-3Q	81	1037	
Logistics Analysis Support - Organic	MIPR	AMCOM Matrix	287	542	1-3Q	640	1-3Q	423	1-3Q	393	1-3Q	259	2544	
Logistics Analysis Support - Support Contractor	MIPR	Support Contractor	502	466	1-3Q	640	1-3Q	352	1-3Q	327	1-3Q	216	2503	
Subtotal:			1435	1083		1357		853		800		556	6084	

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test Planning, Test and Evaluation	MIPR	Various Activities	12680	6646	1-3Q	12508	1-3Q	1829	1-3Q	3060	1-3Q	4963	41686	
Test Planning, Test and Evaluation	MIPR	Various Activities	125	257	1-3Q	230	1-3Q	134	1-3Q	137	1-3Q	105	988	
Subtotal:			12805	6903		12738		1963		3197		5068	42674	

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
PM Support - Organic	MIPR	UH PMO/matrix	5656	1395	1-4Q	1869	1-4Q	1139	1-4Q	1052	1-4Q	665	11776	
PM Support - Contract	C/FP	O2K Contractor	2640	782	1-3Q	1425	1-3Q	749	1-4Q	697	1-3Q	459	6752	

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY				PE NUMBER AND TITLE								PROJECT		
<b>7 - Operational system development</b>				<b>0203744A - Aircraft Modifications/Product Improvement Program</b>								<b>504</b>		
SIBR/STTR			4383			3535							7918	
Subtotal:				12679	2177		6829		1888		1749		1124	26446

<b>Project Total Cost:</b>				<b>479898</b>	<b>116292</b>		<b>125589</b>		<b>87864</b>		<b>34129</b>		<b>165911</b>	<b>1009683</b>
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# Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY  
**7 - Operational system development**

PE NUMBER AND TITLE  
**0203744A - Aircraft Modifications/Product Improvement Program**

PROJECT  
**504**

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13																															
	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	1	2	3	4																												
UH-60M Program																																																												
(1) FRP IPR																																					FRP IPR ▲ <sub>1</sub>																							
(2) Full Rate Production Contract Award, (3) FUE																																					FRP CA ▲ <sub>2</sub>				▲ <sub>3</sub> FUE																			
Test Article Fab/Checkout																																	UH-60M Test Article																											
DT/Flight Test																																	UH-60M DT/Flight Test																											
UH-60M LRIP																																	UH-60M LRIP																											
UH-60M OT																																	UH-60M OT																											
MYP VII PRODUCTION (UH/HH-60M NEW)																																													UH-60M MYP VII PRODUCTION															
(4) UH-60M Upgrade IPR																																	▲ <sub>4</sub> Upgrade IPR																											
(5) UH-60M Upgrade First Flight																																									▲ <sub>5</sub>																			
(6) UH-60M Upgrade LUT									▲ <sub>6</sub>																																																			
UH-60M Upgrade Development									UH-60M Upgrade Development																																																			
UH-60M Upgrade Cut-In													UH-60M Upgrade Cut-In																																															
MYP VIII Production (UH/HH-60M Upgrade New)																	MYP VIII Production (UH/HH-60M Upgrade New)																																											

# Schedule Detail (R4a Exhibit)

February 2007

BUDGET ACTIVITY  
**7 - Operational system development**

PE NUMBER AND TITLE  
**0203744A - Aircraft Modifications/Product Improvement Program** PROJECT  
**504**

<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
UH-60M Program	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q			
FRP IPR		3Q						
Full Rate Production Contract Award		3Q						
FUE			2Q					
Test Article Fab/Checkout	1Q - 2Q							
DT/Flight Test	1Q - 2Q							
UH-60M LRIP	1Q - 4Q	1Q - 3Q						
UH-60M OT	4Q	1Q						
MYP VII PRODUCTION (UH/HH-60M NEW)		3Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q		
UH-60M Upgrade IPR	2Q							
UH-60M Upgrade First Flight			1Q					
UH-60M Upgrade LUT			2Q					
UH-60M Upgrade Development	1Q - 4Q							
UH-60M Upgrade Cut-In			4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q		
MYP VIII Production (UH/HH-60M Upgrade New)						4Q	1Q - 4Q	1Q - 4Q
OT preparation and conduct	1Q							
Closeout of Integration and Qualification	2Q							
Full Rate Production IPR (UH-60M)	3Q							
First Unit Equipped (FUE) (UH-60M)		2Q						
UH-60M Upgrade Low Rate Cut-In			4Q					

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2007**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>			<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>						<b>PROJECT</b> <b>D17</b>	
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
D17 APACHE BLOCK III	104113	122043	193680	194639	135208	110934	83090	53790	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** Project D17, Apache Block III funding is for the non-recurring engineering (NRE), development, and testing work associated with the planned remanufacture of 634 Apache aircraft into Block III-configured aircraft (deliveries to begin in FY11). The Block III program will provide Network-Centric capabilities for 634 Apache Longbows at a critical time as the Army transitions from the current force to the Future Force (FF). Block III capability enhancements are achieved via planned technology insertions such as: FF Connectivity-Seamless Global Information Grid Communications (Interim Communications Suite embedded in an Open Systems Architecture (OSA)); extended range sensing; increased survivability; Cognitive Decision Aiding System (CDAS), which speeds critical battle tasks; improved aircraft performance: reduced Operations and Support (O&S) cost and logistics footprint, and increased aircraft readiness. As a result of United States Army transformation, emerging FF organizational and operational structure, lessons learned from OEF and OIF, and a changing operational environment, the Modernized Apache is integral to achieving air-ground synergy during FF operations. The Block III Modernized Apache fleet, with its upgraded system architecture, will enable FF compatibility and enhanced war-fighting capability.

<b><u>Accomplishments/Planned Program:</u></b>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Boeing NRE Contracts	71937	82800	146000	141600
Joint Venture NRE Contracts	25000	25000	22000	24000
Block III NRE Program Support Activities	1514	8028	15996	16677
Operational Assessments	365	410	3767	6430
Management Services	5297	5805	5917	5932
<b>Total</b>	<b>104113</b>	<b>122043</b>	<b>193680</b>	<b>194639</b>

<b><u>B. Other Program Funding Summary</u></b>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
APA, SSN AA6605	953420	1417652	715599	683693	456865	455719	628252	654238	5356440	11321878
APA, SSN AA6670	83380								Continuing	Continuing

Comment: FY08 increase is due primarily to support changes in requirements for software and testing which consist of the Critical Design Review (Limited User Test) which is scheduled for the 2nd quarter in FY08, others will include award of incremental funding for Boeing NRE contract and continued work; award of incremental funding for Joint Venture contract and to continue work and planning activities.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY

**7 - Operational system development**

PE NUMBER AND TITLE

**0203744A - Aircraft Modifications/Product Improvement Program**

PROJECT

**D17**

**C. Acquisition Strategy** The NRE will encompass subsystem integration resulting in a Critical Design Review (CDR) and will utilize existing test aircraft, incorporate the technical insertions, and initiate appropriate qualification and flight testing. The LRIP effort will include a total quantity of 59 aircraft which will take 18 months for delivery and therefore will be two separate contractual actions (FY 09 & FY 10). These 59 Low Rate Initial Production (LRIP) aircraft are to be used for operational testing, First Unit Equipped (FUE) and training base fielding.

In FY 11, a contract for Apache Block III Lot 3 (33 aircraft), initiating full rate production, will be awarded with options for Lot 4 (48 aircraft), Lot 5 (48 aircraft) and Lot 6 (48 aircraft), and continuing through to a total of 634 aircraft.

Interim Contractor Support is anticipated throughout LRIP to Apache Block III Lot 6 deliveries. Training device concurrency will be maintained with each technical insertion. Advanced material procurement is planned for award in FY 09 to support the LRIP deliveries in FY 11. All NRE efforts will be awarded as Cost Reimbursable. The LRIP and production efforts will be awarded as Firm Fixed Price (FFP) and include the Advanced Procurement requirements.

As the acquisition strategy and plan unfolds Multi-Year authority may be requested for the out-years.

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
7 - Operational system development			0203744A - Aircraft Modifications/Product Improvement Program									D17		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Boeing Contracts	Cost Reimb	Mesa, AZ	31440	71937	1-2Q	82800	1-2Q	146000	1-2Q	141600	1-2Q	281299	755076	755076
Joint Venture Contracts	Cost Reimb	Orlando, FL	24000	25000	1-2Q	25000	1-2Q	22000	1-2Q	24000	1-2Q	28754	148754	148754
Lockheed Martin Contracts	Cost Reimb	Orlando, FL										18831	18831	18831
Subtotal:			55440	96937		107800		168000		165600		328884	922661	922661
II. Support Costs			Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Block III NRE Support	Various	Various Activities	82	1514	1-3Q	8028	1-3Q	15996	1-3Q	16677	1-2Q	25460	67757	67757
Subtotal:			82	1514		8028		15996		16677		25460	67757	67757
III. Test And Evaluation			Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Assessments, Test Integration Working Group (TWIG), TEMP, etc.	MIPR, Various	Various Activities	307	365	1-2Q	410	1-2Q	3767	1-2Q	6430	1-2Q	7351	18630	18630
Subtotal:			307	365		410		3767		6430		7351	18630	18630
IV. Management Services			Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Management Svcs (In-House, Travel, etc.)	Various	PMO AAH, Matrix Support, AMCOM	1171	5297	1-2Q	5805	1-2Q	5917	1-2Q	5932	1-2Q	21326	45448	45448

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE								PROJECT			
<b>7 - Operational system development</b>			<b>0203744A - Aircraft Modifications/Product Improvement Program</b>								<b>D17</b>			
		Express												
Subtotal:			1171	5297		5805		5917		5932		21326	45448	45448

<b>Project Total Cost:</b>			<b>57000</b>	<b>104113</b>		<b>122043</b>		<b>193680</b>		<b>194639</b>		<b>383021</b>	<b>1054496</b>	<b>1054496</b>
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# Schedule Profile (R4 Exhibit)

February 2007

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	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	1	2	3	4
	NRE Contracts - Boeing	NRE Contracts - Boeing NRE																														
NRE Contracts - Joint Venture	NRE Contracts - Joint Venture																															
Lockheed Martin Contracts	Lockheed Martin Contracts																															
(1) Preliminary Design Review	▲ <sub>1</sub> PDR																															
(2) Critical Design Review (CDR)	▲ <sub>2</sub> CDR																															
(3) Limited User Test (LUT) I	▲ <sub>3</sub> Limited User Test (LUT) I																															
(4) Milestone C	▲ <sub>4</sub> MS C																															
(5) Initial Operating Capability (IOC)	▲ <sub>5</sub> IOC																															

# Schedule Detail (R4a Exhibit)

February 2007

BUDGET ACTIVITY		PE NUMBER AND TITLE						PROJECT	
<b>7 - Operational system development</b>		<b>0203744A - Aircraft Modifications/Product Improvement Program</b>						<b>D17</b>	
<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	
NRE Contracts - Boeing	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q	
NRE Contracts - Joint Venture	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q	
Lockheed Martin Contracts					1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q	
Preliminary Design Review		3Q							
Critical Design Review (CDR)			2Q						
Limited User Test (LUT) I					1Q				
Milestone C					3Q				
Initial Operating Capablity (IOC)								2Q	

<b>Termination Liability Funding For Major Defense Acquisition Programs, RDT&amp;E Funding (R5)</b>	<b>February 2007</b>
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BUDGET ACTIVITY <b>7 - Operational system development</b>	PE NUMBER AND TITLE <b>0203744A - Aircraft Modifications/Product Improvement Program</b>	PROJECT <b>D17</b>
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Funding in \$000								
Program	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
D17, Apache Block III	10400	12200	19500	19500	13500	11000	8300	5380
<b>Total Termination Liability Funding:</b>	10400	12200	19500	19500	13500	11000	8300	5380



# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2007**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>		<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>							<b>PROJECT</b> <b>D18</b>	
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
D18 UTILITY FW CARGO AIRCRAFT		5512	6535	3036						15083

**A. Mission Description and Budget Item Justification:** This Project supports Test and Evaluation of the Joint Cargo Aircraft. The RDT&E funds are to support statutorily-mandated Live Fire Test and Evaluation (LFT&E) including survivability/susceptability assessment and Initial Operational Test and Evaluation (IOT&E). The LFT&E will involve system, subsystem- and component-level live fire testing. Additionally, survivability/susceptability characterization assessments of nuclear, biological, chemical, and electromagnetic capabilities will be performed.

<b><u>Accomplishments/Planned Program:</u></b>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Production Qualification Test (PQT)		187	1148	864
Live Fire Test & Evaluation (LFT&E) Testing		723	5351	712
Live Fire Test & Evaluation (LFT&E) Hardware		4602		
Initial Operational Test & Evaluation (IOT&E)			36	1460
<b>Total</b>		<b>5512</b>	<b>6535</b>	<b>3036</b>

<b><u>B. Other Program Funding Summary</u></b>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
A11000 UTILITY F/W CARGO AIRCRAFT	4860	71864	157043	258622	303824	427737	303700	307400	Continuing	Continuing
USAF PE0401138F/Project 5259 Joint Cargo Aircraft		3150	1916	9695	439				Continuing	Continuing

**Comment:** The Joint Cargo Aircraft test program is a joint effort between the Army and the Air Force. Each service will provide 50% of the required funding critical to complete aircraft testing to include PQT, LFT&E and IOT&E. This agreement was approved in the Memorandum of Agreement (MOA) signed Jun 06. Air Force PE: 0401138F (Joint Cargo Aircraft), Project: 5259

**C. Acquisition Strategy** The Joint Cargo Aircraft's acquisition strategy is based on leveraging the commercial market. The intent is to procure a previously developed and fielded, low-risk, commercially available aircraft and Mission Equipment Package (MEP). Commercially available aircraft exist that will meet the Army's immediate requirements. Additionally, these aircraft possess open architecture systems that will support technology insertions as improvements become available.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY

**7 - Operational system development**

PE NUMBER AND TITLE

**0203744A - Aircraft Modifications/Product Improvement Program**

PROJECT

**D18**

The JCA program was established to correct operational shortfalls to cargo mission requirements, provide commonality with other aviation platforms, and replace multiple retiring aircraft systems. This aircraft addresses these shortfalls, and replaces retiring C-23 fleets, and selected C-12s.

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
<b>7 - Operational system development</b>			<b>0203744A - Aircraft Modifications/Product Improvement Program</b>									<b>D18</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:														
II. Support Costs			Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:														
III. Test And Evaluation			Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Production Qualification Test (PQT)	MIPR	Various				187	2-4Q	1148	2-4Q	864	2-3Q		2199	
LFT&E Testing	MIPR	Various				723	3Q	5351	2Q	712	2Q		6786	
LFT&E Hardware	C/FFP	TBD				4602	3Q						4602	4642
Initial Operational Test & Evaluation (IOT&E)	MIPR	PEO STRI, Orlando, Florida								634	2Q		634	
Initial Operational Test & Evaluation (IOT&E)	MIPR	Army Test Evaluation Command (ATEC), Alexandria, VA						36	3Q	826	2Q		862	
Subtotal:						5512		6535		3036			15083	4642
IV. Management Services			Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:														

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY <b>7 - Operational system development</b>	PE NUMBER AND TITLE <b>0203744A - Aircraft Modifications/Product Improvement Program</b>						PROJECT <b>D18</b>				
<b>Project Total Cost:</b>				5512		6535		3036		15083	4642

# Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY  
**7 - Operational system development**

PE NUMBER AND TITLE  
**0203744A - Aircraft Modifications/Product Improvement Program**

PROJECT  
**D18**

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	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	1	2	3	4
(1) Milestone C					▲ Milestone C																											
Production Qualification Test (POT)									PQT																							
Live Fire Test & Evaluation									LFT&E																							
Initial Operational Test & Evaluation (IOT&E)													IOT&E																			
(2) Full Rate Production Decision																	▲ FRP															

# Schedule Detail (R4a Exhibit)

February 2007

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>	<b>PE NUMBER AND TITLE</b> <b>0203744A - Aircraft Modifications/Product Improvement Program</b>	<b>PROJECT</b> <b>D18</b>
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<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
Milestone C		3Q						
Production Qualification Test (PQT)		2Q - 4Q	1Q - 4Q	1Q - 3Q				
Live Fire Test & Evaluation		3Q - 4Q	1Q - 4Q	1Q - 4Q				
Initial Operational Test & Evaluation (IOT&E)				4Q				
Full Rate Production Decision					2Q			

<b>Termination Liability Funding For Major Defense Acquisition Programs, RDT&amp;E Funding (R5)</b>	<b>February 2007</b>
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BUDGET ACTIVITY <b>7 - Operational system development</b>	PE NUMBER AND TITLE <b>0203744A - Aircraft Modifications/Product Improvement Program</b>	PROJECT <b>D18</b>
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Funding in \$000								
Program	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Joint Cargo Aircraft								
<b>Total Termination Liability Funding:</b>								

**Remarks:**  
 Joint Cargo Aircraft's acquisition strategy is based on leveraging the commercial market. The intent is to procure a previously developed and fielded, low-risk, commercially available aircraft and Mission Equipment Package (MEP). Based on this rationale, no Termination Liability Funding has been budgeted. RDTE funding in the JCA program is associated with PQT, OT and LFT&E only.