

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY

7 - Operational system development

PE NUMBER AND TITLE

0203726A - Adv Field Artillery Tactical Data System

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	16146	16605	23727	Continuing	Continuing
322 Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)	16146	16605	11821	Continuing	Continuing
F19 JADOCS			11906	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Advanced Field Artillery Tactical Data System (AFATDS) is the tool that performs automated fire support coordination for the Army, Navy, Air Force, and Marine Corps. Fire support is the effects of lethal and non-lethal weapons (fires) that directly support land, maritime, amphibious, and special operation forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives. Fire support coordination is the planning and execution of fires so that a suitable weapon or group of weapons adequately covers targets.

AFATDS performs the attack analysis necessary to determine the optimal weapon target pairing to provide maximum use of the fire support assets. AFATDS will automatically implement detailed Commander's guidance in the automation of operational planning, movement control, targeting, target value analysis and fire support planning. This project is a replacement system for the Initial Fire Support Automated System, the Battery Computer System, and the Fire Direction System. AFATDS will interoperate with the other Army Battle Command Systems, current and future Army, Navy and Air Force Command and Control weapon systems, and the German, French, British, and Italian fire support systems. AFATDS automates the planning, coordinating and controlling of all fire support assets in the Joint battlespace (field artillery, mortars, close air support, naval gunfire, attack helicopters, and offensive electronic warfare). AFATDS will perform the Fire Support Command, Control, and Coordination requirements at all echelons of field artillery and maneuver, from Echelons Above Corps to Battery or Platoon in support of all levels of conflict. The system is composed of Common Hardware/Software employed in varying configurations at different operational facilities (or nodes) and unique system software interconnected by tactical communications in the form of a software-driven, automated network.

Joint Automated Deep Operations Coordination System (JADOCS) is a Joint, Interagency, and Multinational (JIM) Targeting, Mission Management, and Common Operational Picture (COP) Windows based software suite which functions as a complementary system to the Advanced Field Artillery Tactical Data System (AFATDS). JADOCS provides integration and synergy between multiple Command & Control (C2) systems of the uniformed services, and joint and combined elements involved in the targeting process and performs coordination and calculates collateral damage. JADOCS Mission Managers support this coordination amongst Warfighter functional areas to rapidly execute critical missions.

JADOCS is a component of the Integrated Fires Family of Systems (FOS) and complementary to the Army Battle Command Systems (ABCS) System of Systems (SoS).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)				May 2009
BUDGET ACTIVITY 7 - Operational system development		PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System		
<u>B. Program Change Summary</u>	FY 2008	FY 2009	FY 2010	
Previous President's Budget (FY 2009)	16730	15860	11951	
Current BES/President's Budget (FY 2010)	16146	16605	23727	
Total Adjustments	-584	745	11776	
Congressional Program Reductions		-55		
Congressional Rescissions				
Congressional Increases		800		
Reprogrammings	-152			
SBIR/STTR Transfer	-432			
Adjustments to Budget Years			11776	
Change Summary Explanation: Funding - FY 2010: Increase to support the Joint Automated Deep Operations Coordination System (JADOCS) program.				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY 7 - Operational system development		PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System			PROJECT 322
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
322 Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)	16146	16605	11821	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Advanced Field Artillery Tactical Data System (AFATDS) performs Command and Control, increases Situational Awareness and automates fire support coordination for the Army, Navy, Air Force, and Marine Corps. Fire support is the effects of lethal and non-lethal weapons (fires) that directly support land, maritime, amphibious, and special operation forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives. Fire support coordination is the planning and execution of fires so that a suitable weapon or group of weapons adequately covers targets.

AFATDS performs the attack analysis necessary to determine the optimal weapon target pairing to provide maximum use of the fire support assets. As a result of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF), AFATDS has implemented precision fires capabilities in new/improved munitions such as Multiple Launch Rocket System (MLRS) Unitary Vertical Attack, Excalibur, Smart and 155 Bonus. Additional implemented capabilities include automatic conduct of Unit Fratricide Avoidance Checks and Collateral Damage Avoidance. AFATDS will field New Non Line of Sight - Launch System (NLOS-LS) Precision Attack Munition (PAM) and improved Command and Control (C2) for the United States Marine Corp (USMC) Firing platform and its new munitions. Development to port AFATDS to a windows based operating system was completed in FY 08. AFATDS will automatically implement detailed Commander's guidance in the automation of operational planning, movement control, targeting, target value analysis and fire support planning. This project is a replacement system for the Initial Fire Support Automated System (IFSAS), the Battery Computer System (BCS), and the Fire Direction System (FDS). AFATDS will interoperate with the other Army Battle Command Systems (ABCS), current and future Army, Navy and Air Force Command and Control weapon systems, and the German, French, British and Italian fire support systems.

AFATDS automates the planning, coordinating and controlling of all fire support assets in the Joint battlespace (field artillery, mortars, close air support, naval gunfire, attack helicopters and offensive electronic warfare). AFATDS will perform the Fire Support Command, Control, and Coordination requirements at all echelons of field artillery and maneuver, from Echelons Above Corps to Battery or Platoon in support of all levels of conflict. The system is composed of Common Hardware/Software employed in varying configurations at different operational facilities (or nodes) and unique system software interconnected by tactical communications in the form of a software-driven, automated network.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Provide program support for AFATDS (V6.5 (BC 09.0)), (V6.6 (BC 10-Marshall)), (V6.7 (BC 11 - MacArthur)) and (V6.8 (BC 13 - Eisenhower)).	897	947	997
Complete AFATDS (V 6.6). Continue development of (V6.7) and (V6.8). Initiate (V6.9) development efforts.	12749	12630	8124
Conduct and support test activities	2500	2600	2700
Small Business Innovative Research/Small Business Technology transfer program		428	
Total	16146	16605	11821

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)					May 2009	
BUDGET ACTIVITY 7 - Operational system development		PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System			PROJECT 322	
<u>B. Other Program Funding Summary</u>		FY 2008	FY 2009	FY 2010	To Compl	Total Cost
OPA (B28600)		17490	23171	1540	Continuing	Continuing
OPA (B28620)		14694	15387	35323	Continuing	Continuing
Spares					Continuing	Continuing
Comment: Beginning in FY08, procurement funding for AFATDS (B28600) and MIS-AFATDS (B28620) fall under the parent line Fire Support C2 Family - SSN: B28501.						
<u>C. Acquisition Strategy</u> AFATDS has been fielded since 1996, with the original AFATDS Version 96 Materiel Release. It has been updated with subsequent releases reflecting the Spiral development strategy of the program. AFATDS Version 6.3.2 was released in January 2004, and AFATDS Version 6.4.0.1 (out of cycle) was released in May 2007 and AFATDS Version 6.4.0.2 (out of cycle) released in Sep 2007. Full Materiel Release of AFATDS V6.5 (Software Block 2) was achieved in December 2008. As a result of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF), AFATDS has implemented precision fires capabilities in new/improved munitions such as Multiple Launch Rocket System (MLRS) Unitary Vertical Attack, Excalibur, Smart and 155 Bonus. Additional implemented capabilities include automatic conduct of Unit Fratricide Avoidance Checks and Collateral Damage Avoidance. AFATDS will field New Non Line of Sight-Launch System (NLOS-LS) Precision Attack Munition (PAM) and improved Command and Control (C2) for the United States Marine Corp (USMC) Firing platform and its new munitions. Development to port AFATDS to a Windows based operating system was completed in FY 08. Development efforts will continue to enhance Command and Control for precision weapons. Excalibur Height above Ellipsoid (HAE), Active Weapon Target pairing and Unexploded Ordnance (UXO) area computations. It will also provide backward interoperability to Pass and Subscribe Services (PASS) and AFATDS XML Engine (AXE) for Software Block 2 (SWB2) to enable connection to SWB1/1+ versions. Requirements documents for NLOS-Cannon are in process. AFATDS continues to develop to Battle Command Capability sets. In accordance with the TRADOC requirements document approved in 2008, entitled Battle Command Essential Capability, software capability will be developed in 2-year increments as capability sets designed to Collaborate, Collapse and Converge Battle Command products. The product development funded under this R-Form is an integral part of the Army Battle Command System (ABCS), a system of systems, under a strategy designed to optimize opportunity for improved interoperability among the systems, to capture the benefits of competition where possible and to ensure the rapid integration of new capability into warfighter systems. This strategy is designed to reduce the physical footprint, logistics support requirements and increase operational efficiency.						

ARMY RDT&E COST ANALYSIS (R3)										May 2009		
BUDGET ACTIVITY 7 - Operational system development				PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System						PROJECT 322		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software Development	CPAF	Raytheon Systems Corp, Ft. Wayne, IN	244378	12689	2-3Q	12565	2-3Q	8054	2-3Q	Cont.	Cont.	
Subtotal:			244378	12689		12565		8054		Cont.	Cont.	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Information Assurance	T&M	Telos, Shrewsbury, NJ		60	2-3Q	65	2-3Q	70	2-3Q		270	
Subtotal:				60		65		70			270	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test Support	MIPR	Titan, Ft. Sill, OK and various contractors	9254	1500	2Q	1600	2Q	1700	2Q	Cont.	Cont.	
Limited User Test/Government Confidence Demo	MIPR	Army Test & Evaluation Command (ATEC)/Fire Support Test Directorate (FSTD)	8052	1000	2-3Q	1000	2-3Q	1000	2Q	Cont.	Cont.	
Subtotal:			17306	2500		2600		2700		Cont.	Cont.	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract

ARMY RDT&E COST ANALYSIS (R3)									May 2009		
BUDGET ACTIVITY 7 - Operational system development			PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System							PROJECT 322	
Program Management	MIPR	PM Battle Command (BC), Ft. Monmouth, NJ	11438	897	1-4Q	1375	1-4Q	997	1-4Q	Cont.	Cont.
Subtotal:			11438	897		1375		997		Cont.	Cont.
Project Total Cost:			273122	16146		16605		11821		Cont.	Cont.

Schedule Profile (R4 Exhibit)																				May 2009																
BUDGET ACTIVITY										PE NUMBER AND TITLE																		PROJECT								
7 - Operational system development										0203726A - Adv Field Artillery Tactical Data System																		322								
Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15							
	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				
Development V6.5 (BC 09.0)																																				
(1) Materiel Release V6.5 (BC 09.0)																																				
Fielding V6.5 (BC 09.0)																																				
Development V6.6 (BC 10 - Marshall)																																				
(2) Materiel Release V6.6 (BC 10 - Marshall)																																				
Fielding V6.6 (BC 10 - Marshall)																																				
Development V6.7 (BC 11 - MacArthur)																																				
(3) Materiel Release V6.7 (BC 11 - MacArthur)																																				
Fielding V6.7 (BC 11 - MacArthur)																																				
Development V6.8 (BC 13 - Eisenhower)																																				
(4) Materiel Release V6.8 (BC 13 - Eisenhower)																																				
Fielding V6.8 (BC 13 - Eisenhower)																																				
Development V6.9 (BC 15 - Arnold)																																				
(5) Materiel Release V6.9 (BC 15 - Arnold)																																				

Schedule Detail (R4a Exhibit)							May 2009	
BUDGET ACTIVITY 7 - Operational system development			PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System				PROJECT 322	
<u>Schedule Detail</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>FY 2014</u>	<u>FY 2015</u>
Development V6.5 (BC 09.0)	1Q - 4Q							
Materiel Release V6.5 (BC 09.0)		1Q						
Fielding V6.5 (BC 09.0)		2Q - 3Q						
Development V6.6 (BC 10 - Marshall)	1Q - 4Q	1Q - 3Q						
Materiel Release V6.6 (BC 10 - Marshall)			1Q					
Fielding V6.6 (BC 10 - Marshall)			1Q - 2Q					
Development V6.7 (BC 11 - MacArthur)	1Q - 4Q	1Q - 4Q	1Q - 2Q					
Materiel Release V6.7 (BC 11 - MacArthur)				1Q				
Fielding V6.7 (BC 11 - MacArthur)				1Q - 3Q				
Development V6.8 (BC 13 - Eisenhower)			1Q - 4Q	1Q - 3Q				
Materiel Release V6.8 (BC 13 - Eisenhower)					1Q			
Fielding V6.8 (BC 13 - Eisenhower)					3Q			
Development V6.9 (BC 15 - Arnold)						1Q - 4Q	1Q	
Materiel Release V6.9 (BC 15 - Arnold)								1Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit) May 2009						
BUDGET ACTIVITY 7 - Operational system development		PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System			PROJECT F19	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost	
F19 JADOCS			11906	Continuing	Continuing	
A. Mission Description and Budget Item Justification: Joint Automated Deep Operations Coordination System (JADOCS) is a Joint, Interagency, and Multinational (JIM) Targeting, Mission Management, and Common Operational Picture (COP) Windows based software suite which functions as a complementary system to the Advanced Field Artillery Tactical Data System (AFATDS). JADOCS provides integration and synergy between multiple Command & Control (C2) systems of the uniformed services, and joint and combined elements involved in the targeting process and performs coordination and calculates collateral damage. JADOCS Mission Managers support this coordination amongst Warfighter functional areas to rapidly execute critical missions. JADOCS enables coordination and de-confliction of conventional and asymmetric war-fighting missions. JADOCS uses a map-oriented Graphical User Interface (GUI) and overlays as a framework for information display. JADOCS is fielded to Air Force, Navy and Marine Corps units and the Army staff sections involved in the targeting process at Army Service Component Command, Corps, Division and Brigade Combat Team levels. JADOCS provides the Combatant Commands with the capability to plan and direct theater counter-fire and precision strike operations through the real time synchronization of US and Coalition assets. The application provides the Warfighter with a combination of tools, services and Mission Managers for rapid "system of systems" integration, visualization, coordination and deconfliction of critical mission information. It not only enhances C4ISR systems in the areas of strike planning but also in situational awareness, joint and combined interoperability and force transition in war. JADOCS is a component of the Integrated Fires Family of Systems (FOS) and complementary to the Army Battle Command Systems (ABCS) System of Systems (SoS).						
<u>Accomplishments/Planned Program:</u>			<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	
Provide program support for JADOCS software blocks (BC 10), (BC 11-MacArthur) and (BC 13 - Eisenhower)					650	
Provide development for JADOCS software blocks (BC 10), (BC 11-MacArthur) and (BC 13 - Eisenhower)					8800	
Conduct and Support Test Activities					2456	
Total					11906	
<u>B. Other Program Funding Summary</u>		FY 2008	FY 2009	FY 2010	To Compl	Total Cost
Office Secretary of Defense (OSD)/Defense Acquisition Executive (DAE)		5800	5800			11600
Joint Forces Command (JFCOM)		2000	2000			4000

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)		May 2009
BUDGET ACTIVITY 7 - Operational system development	PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System	PROJECT F19
Comment: Funding to maintain the program to date has been provided by Office Secretary of Defense (OSD) and Defense Acquisition Executive (DAE). In addition, the program is supported by customer funding. C. Acquisition Strategy In FY 03 the Automated Deep Operations Coordination System (ADOCS) was renamed the Joint Automated Deep Operations Coordination System (JADOCS) and was transitioned to Product Manager, Fire Support Command and Control (FSC2). Currently, operational control resides with Product Director, FSC2 under Army Project Manager, Battle Command. JADOCS has operated as a graduated Advanced Concept Technology Demonstration (ACTD) program since 2005. In 2008, the Vice Chief of Staff Army approved JADOCS for Acquisition program Status under the Capabilities Development for Rapid Transition (CDRT) program. Commencing in FY 10 and continuing through FY 15, the Army will provide funding for its requirements under JADOCS; however, as a joint program, additional funding from the Air Force, Navy and Marine Corp is required. JADOCS is presently heavily embedded in the architecture at USCENTCOM, USPACOM ,USFK and USEUCOM, including their subordinate commands. JADOCS is distributed to over 200 servers, 2600 workstations and 4000 users worldwide. Additionally, JADOCS is established within the coalition community. The Republic of Korea, the United Kingdom and NATO have FMS cases. In accordance with the TRADOC requirements document approved in 2008, entitled Battle Command Essential Capability, software capability will be developed in 2-year increments as capability sets designed to Collaborate, Collapse and Converge Battle Command products. The product development funded under this R-Form is an integral part of the Army Battle Command System (ABCS), a system of systems, under a strategy designed to optimize opportunity for improved interoperability among the systems, to capture the benefits of competition where possible and to ensure the rapid integration of new capability into Warfighter systems. This strategy is designed to reduce the physical footprint, logistics support requirements and increase operational efficiency. The combat developer, TCM FSC3, is developing a Capabilites Production Document(CPD). Estimated JROC approval is in FY2010.		

ARMY RDT&E COST ANALYSIS (R3)										May 2009		
BUDGET ACTIVITY 7 - Operational system development				PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System						PROJECT F19		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software Development & Test	CPFF	Raytheon Systems VTC, Alexandria, VA						8800	1-4Q		8800	
Subtotal:								8800			8800	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management - Government	MIPR	Topographic Engineering Center (TEC), Ft. Belvoir, VA						185	1-4Q		385	
Subtotal:								185			385	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test Support	MIPR	Army/Navy/Air Force - Various Locations						2456	1-4Q		2456	
Subtotal:								2456			2456	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Business/Technical Services	T&M	Chenega Federal Systems, Alaska						465	1-2Q		931	

ARMY RDT&E COST ANALYSIS (R3)							May 2009		
BUDGET ACTIVITY 7 - Operational system development			PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System					PROJECT F19	
Subtotal:							465		931
Project Total Cost:							11906		12572

Schedule Profile (R4 Exhibit)																				May 2009																
BUDGET ACTIVITY										PE NUMBER AND TITLE																		PROJECT								
7 - Operational system development										0203726A - Adv Field Artillery Tactical Data System																		F19								
Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15							
	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				
OSD/DAE/JFCOM /Program Funded																																				
Software Development (BC 10) - Capability Set 10 (Marshall)																																				
(1) Materiel Release - Marshall																																				
Fielding - Marshall																																				
Software Development (BC 11) Capability Set 11-12 (McArthur)																																				
(2) Materiel Release - McArthur																																				
Fielding - McArthur																																				
Software Development (BC 13) Capability Set 13-14 (Eisenhower)																																				
(3) Materiel Release - Eisenhower																																				
Fielding - Eisenhower																																				
Software Development (BC 15) Capability Set 15-16 (Arnold)																																				
(4) Materiel Release - Arnold																																				
Fielding - Arnold																																				

Schedule Detail (R4a Exhibit)							May 2009	
BUDGET ACTIVITY 7 - Operational system development			PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System				PROJECT F19	
<u>Schedule Detail</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>FY 2014</u>	<u>FY 2015</u>
OSD/DAE/JFCOM /Program Funded								
Software Development (BC 10) - Capability Set 10 (Marshall)	1Q - 4Q	1Q - 3Q						
Materiel Release - Marshall			1Q					
Fielding - Marshall			1Q - 2Q					
Software Development (BC 11) Capability Set 11-12 (McArthur)		1Q - 2Q	4Q					
Materiel Release - McArthur				1Q				
Fielding - McArthur				1Q - 3Q				
Software Development (BC 13) Capability Set 13-14 (Eisenhower)				1Q - 4Q	1Q			
Materiel Release - Eisenhower						1Q		
Fielding - Eisenhower						2Q - 4Q		
Software Development (BC 15) Capability Set 15-16 (Arnold)							1Q	
Materiel Release - Arnold								1Q
Fielding - Arnold								2Q - 4Q