Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604602F: Armament/Ordnance Development

COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	12.088	18.671	6.693	0.000	6.693	5.563	4.973	4.966	3.529	Continuing	Continuing
653133: Armament Subsystems	12.088	11.986	1.215	0.000	1.215	1.222	1.225	1.194	1.154	Continuing	Continuing
655361: Stores-Aircraft Interface	0.000	6.685	5.478	0.000	5.478	4.341	3.748	3.772	2.375	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Armament Ordnance Development program provides for initial and continuing development of weapons/munitions (kinetic and non-kinetic) and munitions equipment for support and operational use. This PE develops and improves the following weapons and weapons subsystems: bomb fuzes, insensitive explosive fills (Insensitive Munitions - IM), aircraft ammunition, stores-aircraft interface upgrades to include the Universal Armament Interface (UAI), directed energy technology transition to weapons, munitions material handling equipment (MMHE), munitions containers, and other weapon subsystems.

Armament Subsystems: This project develops and improves conventional weapons/munitions (kinetic and non-kinetic) and fuzes. The project also provides an opportunity to quickly insert emerging technologies into existing and developing aircraft munitions. It currently includes enhancing and improving the reliability of the Joint Programmable Fuze (JPF), integration of the JPF on legacy weapons, and other fuze development, notably the Hard Target Void Sensing Fuze (HTVSF) Joint Capability Technology Demonstration (JCTD). The project helps the AF meet Insensitive Munitions (IM) compliance through strategic planning, development of insensitive explosive fills, and bomb case modifications for MK-80 and BLU- series bombs to make these weapons insensitive to unplanned stimuli. Armament Standardization/Control/Munitions Materiel Handling Equipment (MMHE) is a continuing project to develop and improve the standardization and commonality of munitions handling and armament equipment to preclude duplication. This project also funds the operation of the tri-service Container Design Retrieval System (CDRS). This maintains a container database to preclude proliferation and duplication of munitions containers. It also supports organic container design, acquisition transportation, prototyping, testing capabilities, as well as the Joint Ordnance Commander's Working Group (JOCG) for Packaging, Handling, and Loading.

Stores-Aircraft Interface: This project conducts stores-aircraft interface upgrades and standards development to include the Universal Armament Interface (UAI). UAI is an Air Force initiative to develop standardized software interfaces in aircraft, weapons and mission planning to support integration of future weapons independent of aircraft Operation Flight Program (OFP) cycles.

This program is in Budget Activity 5 - System Development and Demonstration because the projects support the SDD phase of several munitions related items and functions.

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

3600: Research, Development, Test & Evaluation, Air Force

PE 0604602F: Armament/Ordnance Development

BA 5: Development & Demonstration (SDD)

B. Program Change Summary (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	2.089	18.671	0.000	0.000	0.000
Current President's Budget	12.088	18.671	6.693	0.000	6.693
Total Adjustments	9.999	0.000	6.693	0.000	6.693
 Congressional General Reductions 		0.000			
 Congressional Directed Reductions 		0.000			
 Congressional Rescissions 	0.000	0.000			
 Congressional Adds 		0.000			
 Congressional Directed Transfers 		0.000			
Reprogrammings	0.000	0.000			
 SBIR/STTR Transfer 	0.000	0.000			
 Other Adjustments 	9.999	0.000	6.693	0.000	6.693

Change Summary Explanation

Other Adjustments in FY 2009 primarily reflects funds (\$8.569M) transferred to support the Hard Target Void Sensing Fuze (HTVSF) Joint Capability Technology Demonstration (JCTD).

The FY 2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. Therefore, explanation of changes between the two budget positions cannot be made in a relevant manner.

EXHIBIT R-2A, RD1&E Project Just	incation: Pi	3 2011 AIr F	orce						DATE: February 2010			
APPROPRIATION/BUDGET ACTIV 3600: Research, Development, Tes BA 5: Development & Demonstratio		IOMENCLA 2F: <i>Armame</i> nt		1	PROJECT 653133: Armament Subsystems							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost	
653133: Armament Subsystems	12.088	11.986	1.215	0.000	1.215	1.222	1.225	1.194	1.154	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			

A. Mission Description and Budget Item Justification

The Armament Subsystems BPAC contains a variety of work:

- Bombs/munitions and fuzes. The Joint Programmable Fuze (JPF) was developed primarily for JDAM and funded by the JDAM program. This project funds the integration of JPF on other AF legacy weapons and improvements to the JPF program, including reliability enhancements and producibility improvements. In addition, the project supports other fuze development activity, including characterization of the Hard Target Void Sensing Fuze (HTVSF), and AF participation in the DOD Fuze Integrated Product Team (IPT). This project is also conducting an Eglin Steel Producibility Enhancement (ESPE) for warhead manufacture (the BLU-122).
- Insensitive Munitions (IM). IM develops explosive fills and bomb case modifications to make conventional weapons insensitive to unplanned stimuli. The project also supports AF IM strategic planning to achieve IM compliance IAW U.S. Code, Title 10, Subtitle A, Part N, Chapter 141, Section 2389, "Ensuring safety regarding insensitive munitions."
- Munitions Materiel Handling Equipment (MMHE) and Container Design Retrieval System (CDRS). Armament Standardization/Control/Munitions Materiel Handling Equipment (MMHE) is a continuing project to develop and improve the standardization and commonality of munitions handling and armament equipment to preclude duplication. Efforts are limited to the study, design, and development of MMHE and armament control systems. Procurement will be performed and funded by the applicable weapons system project. The tri-service Container Design Retrieval System (CDRS) is a database intended to preclude proliferation and duplication of munitions containers. It also supports organic container design, acquisition transportation, prototyping, testing capabilities, as well as the Joint Ordnance Commander's Working Group (JOCG) for Packaging, Handling, and Loading.

This project is in Budget Activity 5 - System Development and Demonstration (SDD) because the projects support the SDD phase of several munitions related items and functions.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: The Hard Target Void Sensing Fuze (HTVSF) Joint Capability Technology Demonstration (JCTD) is a FY08-10 USSTRATCOM sponsored joint USAF/USN program.	8.569	9.930	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
PE 0604602F: Armament/Ordnance
Development

PROJECT
653133: Armament Subsystems

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: In FY 2009: JCTD serves as the risk reduction program for a follow-on Engineering Manufacturing and Development (EMD) effort scheduled to begin in FY10. HTVSF has been designated by the SecAF as a High Confidence Pathfinder program. Continue 27 month source selection with rolling downselect between two competing contractors. The JCTD will be the first step in providing a capability to Combatant Commands to employ legacy penetrator weapons against increasingly harder targets. The JCTD will demonstrate the ability to survive penetration into harder targets and detonate the weapon at a designated void or specified time delay. This JCTD will develop a system design, perform system testing, deliver an Operational Utility Assessment (OUA) and an appropriate concept of operations (CONOPs) with tactics, techniques, and procedures (TTPs).					
FY 2010 Plans: In FY 2010: To complete 27 month source selection resulting in selection of single contractor to continue into EMD and Production based on approved criteria specificed in source selection plan. Winning contractor has option on JCTD contract for 20 residual fuzes at the conclusion of JCTD. Residual assets will have limited "qualification" and will be made available to ACC.					
FY 2011 Base Plans: In FY 2011: N/A					
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.					
MAJOR THRUST: FMU-152, Joint Programmable Fuze (JPF)	1.532	0.738	0.700	0.000	0.700
FY 2009 Accomplishments: In FY 2009: Conducted/completed Phase 2 characterization sled testing, continued supplier initiative effort with ManTech, and began qualification effort for TATB, a fuze energetic (only current source is China)					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

PATE: February 2010

R-1 ITEM NOMENCLATURE
PE 0604602F: Armament/Ordnance
Development

653133: Armament Subsystems

FY 2011 | FY 2011 | FY 2011

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	Base	OCO	Total
FY 2010 Plans: In FY 2010: Conduct Phase 3 characterization sled testing, continue supplier initiative effort with ManTech, and continue TATB qualification effort					
FY 2011 Base Plans: In FY 2011: Continue TATB qualification effort					
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.					
MAJOR THRUST: Design, prototype, test and develop various Munitions Material Handling Equipment (MMHE) projects for AF use;	1.310	1.318	0.515	0.000	0.51
FY 2009 Accomplishments: In FY 2009: Provide container design expertise and technical support to AF munitions/weapons containers developers. Manage and operate the Tri-Service Container Design Retrieval System (CDRS) database. Completed 23 Munitions Materiel Handling Equipment (MMHE) support equipment projects. Completion of an MMHE project entails solidifying technical requirements from user inputs, developing CAD models of prototype concepts, developing shop drawings for approved prototype concepts, designing and constructing prototype hardware for user test, documenting test and analysis results, developing Technical Data Packages with finalized drawings, and developing procedures to inspect and use the new/modified equipment. Fabricated 29 prototypes for test and evaluation purposes. Completed thirteen 13 first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Provided F-22 program with equipment for loading internal bomb bay. Provided F-35 program with equipment to test and evaluate various pylons and adapters. Provided direct customer support through customer support visits to Tulsa ANG, Fort Smith ANG, Barksdale, Whiteman, Minot, Ellsworth, Edwards, Creech, Nellis, Dyess AFB					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE 3600: Research, Development, Test & Evaluation, Air Force PE 0604602F: Armament/Ordnance

BA 5: Development & Demonstration (SDD) Development

PROJECT

653133: Armament Subsystems

FY 2011 | FY 2011 | FY 2011

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	Base	OCO	Total
In FY 2010: Planned completion of 25 Munitions Materiel Handling Equipment (MMHE) support equipment projects to include engineering, drafting, proof load, technical data and safety coordination authorizing Air Force use. Planned fabrication of 30 prototypes for test and evaluation purposes. Project to complete 15 first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Continue support to the F-22 program. Continue to provide F-35 program with equipment to test and evaluate various pylons and adapters. Support the Massive Ordinance Penetrator(MOP) and B-2 Program Offices with development of equipment for safe handling, loading, and storage of the MOP and related components. Support Small Diameter Bomb (SDB) office with development and fielding of equipment. Provide direct customer support through customer support visits to Lakenheath AFB in the UK, Aviano AFB in Italy, Spangdahlem and Ramstein AFB in Germany. Additionally proposed stateside support visits include, Cannon, Holloman, Davis-Monthan and Tucson ANG.					
FY 2011 Base Plans: In FY 2011: planned completion of 7 Munitions Materiel Handling Equipment (MMHE) support equipment projects to include engineering, drafting, proof load, technical data and safety coordination authorizing Air Force use. Planned fabrication of 10 prototypes for test and evaluation purposes. Project to complete 5 first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Continue support to the F-22 program. Continue to provide F-35 program with equipment to test and evaluate various pylons and adapters. Provide support to all Specialized Program Office (SPO) with new weapons development					
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.					
MAJOR THRUST: Development planning/tech transition Insensitive Munitions (IM), Eglin Steel Producibility Enhancement (ESPE)	0.427	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE PROJECT

3600: Research, Development, Test & Evaluation, Air Force

PE 0604602F: Armament/Ordnance

653133: Armament Subsystems

BA 5: Development & Demonstration (SDD)

Development

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: In FY 2009: Preparation of the IM Strategic Plan; Successful completion of the ESPE initiative in support of BLU-122 production					
FY 2010 Plans: In FY 2010: N/A					
FY 2011 Base Plans: In FY 2011: N/A					
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.					
MAJOR THRUST: Medium Caliber Ammunition requirements generation	0.250	0.000	0.000	0.000	0.000
FY 2009 Accomplishments: In FY 2009: Define, characterize, and prioritize current and future requirements for medium caliber ammunition.					
FY 2010 Plans: In FY 2010: N/A					
FY 2011 Base Plans: In FY 2011: N/A					
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.					
Accomplishments/Planned Programs Subtotals	12.088	11.986	1.215	0.000	1.215

Exhibit R-2A, **RDT&E Project Justification:** PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

3600: Research, Development, Test & Evaluation, Air Force

PE 0604602F: Armament/Ordnance

653133: Armament Subsystems

BA 5: Development & Demonstration (SDD)

Development

C. Other Program Funding Summary (\$ in Millions)

			FY 2011	FY 2011	FY 2011					Cost 10	
<u>Line Item</u>	FY 2009	FY 2010	<u>Base</u>	OCO	<u>Total</u>	FY 2012	FY 2013	FY 2014	FY 2015	Complete	Total Cost
• PE 0604635F: Ground Attack	0.000	18.778	32.513	0.000	32.513	27.038	5.208	0.000	0.000	0.000	0.000
Weapons Fuze Development											

D. Acquisition Strategy

Fuzes (including JPF) is a continuing effort with most activities performed in-house or through contracted services (small contracts). HTVSF JCTD is a two-contractor competition leading to down-select for EMD.

MMHE and container project activities performed in-house with limited technical and analysis contract support.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE PE 0604602F: Armament/Ordnance

Development

PROJECT

653133: Armament Subsystems

Product Development (\$ in Millions)

				FY 2	2010	FY 2 Bas	-	FY 2		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuzes (JPF) legacy weapons, characterization	SS/FPI	Kaman Precision Products Inc Orlando, FL	9.560	0.036	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	8.699
ESPE	TBD/TBD	Air Force Research Lab/ RWF Eglin AFB, FL	0.295	0.000		0.000		0.000		0.000	0.000	0.295	Continuing
IM	TBD/TBD	Air Force Research Lab RWM Eglin AFB, FL	0.245	0.000		0.000		0.000		0.000	0.000	0.245	0.000
HTVSF JCTD - Competitor 1	C/FFP	Alliant Techsystems Minneapolis, MN	5.544	3.809		0.000		0.000		0.000	0.000	9.353	0.000
HTVSF JCTD - Competitor 2	C/FFP	Thales Electronics Basingstoke, UK	5.669	3.809		0.000		0.000		0.000	0.000	9.478	0.000
CDRS Data Management	MIPR	EDSC Eglin AFB, FL	0.013	0.007		0.006		0.000		0.006	Continuing	Continuing	Continuing
MMHE Prototypes	ТМ	Prototype Fabrication Shop Eglin AFB, FL	0.699	0.209		0.120		0.000		0.120	Continuing	Continuing	Continuing
TATB Qualification, source 1	MIPR	BAE Holston TN	0.278	0.040		0.350		0.000		0.350	0.350	1.018	0.000
TATB Qualification, source 2	MIPR	ATK Radford VA	0.126	0.040		0.350		0.000		0.350	0.350	0.866	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

3600: Research, Development, Test & Evaluation, Air Force

PE 0604602F: Armament/Ordnance

653133: Armament Subsystems

BA 5: Development & Demonstration (SDD)

Development

Product Development (\$ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	22.429	7.950		0.826		0.000		0.826			

Remarks

Kaman Dayron changed its name to Kaman Precision Products

Support (\$ in Millions)

				FY 2	010	FY 20 Bas		FY 2		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IM, ESPE	TBD/TBD	AAC XR Eglin AFB, FL	2.605	0.000		0.000		0.000		0.000	0.000	2.605	1.761
A&AS contract support	C/CPAF	TEAS TAMS Eglin AFB, FL	0.604	1.119		0.235		0.000		0.235	0.000	1.958	0.000
Fuzes Progam Office support	TBD/TBD	679 ARSS Eglin AFB	0.539	0.994		0.000		0.000		0.000	0.000	1.533	0.000
External Support (HTVSF,JPF)	Various/ Various	ManTech Stratcom AFOTEC Safety Various	1.544	0.731		0.000		0.000		0.000	0.000	2.275	0.000
MMHE Program Office support/analysis	TBD/TBD	688 ARSS Eglin AFB, FL	2.561	0.921		0.154		0.000		0.154	Continuing	Continuing	Continuing
	C/FFP	Booz Allen Hamilton	0.250	0.000		0.000		0.000		0.000	0.000	0.250	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

3600: Research, Development, Test & Evaluation, Air Force

PE 0604602F: Armament/Ordnance

653133: Armament Subsystems

BA 5: Development & Demonstration (SDD)

Development

Support (\$ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Medium Caliber Ammunition requirements generation		Various											
		Subtotal	8.103	3.765		0.389		0.000		0.389			

Remarks

TEAS/TAMS contractors provide support to the System Program Office (SPO) for technical (TEAS) and management/financial (TAMS) services

Test and Evaluation (\$ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuzes target build; sled and flight tests	TBD/TBD	46th Test Wing Various	2.158	0.271		0.000	Oct 2010	0.000		0.000	Continuing	Continuing	Continuing
		Subtotal	2.158	0.271		0.000		0.000		0.000			

Remarks

	Total Prior Years Cost	FY 2010	FY 2 Ba	-	FY 2	-	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	32.690	11.986	1.215		0.000		1.215			

		UNCL	ASSIFIED					
Exhibit R-3, RDT&E Project Cost Analysis: F	PB 2011 Air Forc	e				DATE: Febru	ary 2010	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluati BA 5: Development & Demonstration (SDD)	on, Air Force		INOMENCLATURE 602F: Armament/Ord ment		PROJECT 653133: Arm	ament Subsy		
	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To	Total Cost	Target Value of Contract

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604602F: Armament/Ordnance

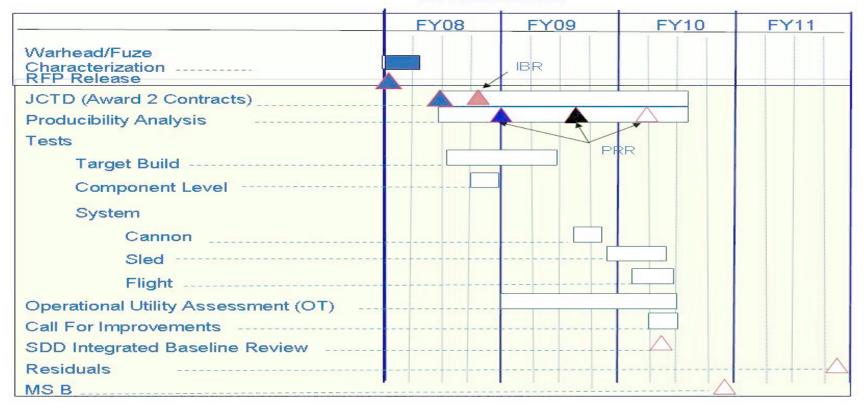
Development

PROJECT

653133: Armament Subsystems

Hard Target Void Sensing Fuze

JCTD Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force	DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT		
3600: Research, Development, Test & Evaluation, Air Force	PE 0604602F: Armament/Ordnance	653133: Ari	mament Subsystems	
BA 5: Development & Demonstration (SDD)	Development			

The Fuze, Insensitive Munitions (IM), Munitions Materiel Handling Equipment (MMHE), and Munitions Container programs are continuing activities that support fuze development, IM compliance, MMHE design and development, and container standardization activities throughout the year. IM strategic planning is also an ongoing activity.

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force PE 0604602F: Armament/

BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
PE 0604602F: Armament/Ordnance

PR
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Development

PROJECT

653133: Armament Subsystems

Schedule Details

	St	art	E	nd
Event	Quarter	Year	Quarter	Year
FUZES: JPF Integration on Legacy Weapons & Other Fuze Activity	1	2009	4	2011
HTVSF JCTD	1	2009	4	2010
HTVSF JCTD - Downselect	4	2010	4	2010
Study, design, and test MMHE	1	2009	4	2011
Support CDRS Activities/Meetings	1	2009	4	2011
TATB source qualification effort (JPF)	4	2009	4	2011

DATE: Fobruary 2010

EXHIBIT R-2A, RDT&E Project Just	incation: Pi	3 ZUTT AIT F	orce					DATE: February 2010					
APPROPRIATION/BUDGET ACTIV 3600: Research, Development, Test BA 5: Development & Demonstration	elopment, Test & Evaluation, Air Force PE 0604602F: Armament/Ordnance 655361: Stores-Aircraft Interface						PE 0604602F: Armament/Ordnance 655361: Stores-Aircraft Interface						
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost		
655361: Stores-Aircraft Interface	0.000	6.685	5.478	0.000	5.478	4.341	3.748	3.772	2.375	Continuing	Continuing		
Quantity of RDT&E Articles	0	0	0	0	0	0	0						

A. Mission Description and Budget Item Justification

Exhibit P 24 PDT8 E Project Justification: DR 2011 Air Force

Universal Armament Interface (UAI) is an Air Force initiative to develop, enhance, and implement standardized interfaces in aircraft, weapons and mission planning to support integration of weapons independent of aircraft Operation Flight Program (OFP) cycles. UAI is currently being implemented on the F-15E and F-16 Block 40/50 aircraft, Small Diameter Bomb (SDB) I and II, Joint Direct Attack Munition (JDAM), Joint Air-to-Surface Stand-off Missile (JASSM) and Precision Guided Munitions Planning Software (PGMPS). Additional aircraft and weapons have program plans to implement UAI. The UAI program office is responsible for development and enhancement of the standard, provision of certification tools (test assets) and implementation support to aircraft and weapons.

The UAI efforts now reside in PE64602F and BPAC 655361. The new project number is established to provide greater visibility.

This program is in Budget Activity 5 - System Development and Demonstration (SDD) because it supports armament integration, an SDD-type activity.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Conduct stores-aircraft interface upgrades and standards development to include the Universal Armament Interface (UAI).	0.000	6.685	5.478	0.000	5.478
FY 2009 Accomplishments: In FY 2009: N/A					
FY 2010 Plans: In FY 2010: UAI is an Air Force initiative to develop standardized software interfaces in aircraft, weapons and mission planning to support integration of future weapons independent of aircraft Operational Flight Program (OFP) updates. Development and configuration management of UAI					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT 655361: Stores-Aircraft Interface

0.000

6.685

EV 2011

5.478

EV 2011

0.000

EV 2011

5.478

BA 5: Development & Demonstration (SDD)

PE 0604602F: Armament/Ordnance

Development

B. Accomplishments/Planned Program (\$ in Millions)

3600: Research, Development, Test & Evaluation, Air Force

	FY 2009	FY 2010	Base	OCO	Total
standards in response to user needs, working group management, technical meetings and workshops, risk reduction studies, common mission planning, integration support and procurement of one test tool to complete CV01 and continue CV02.					
FY 2011 Base Plans: In FY 2011: Development and configuration management of UAI standards in response to user needs, working group management, technical meetings and workshops, risk reduction studies, common mission planning, integration support and procurement of one test tool to complete CV02 and continue CV03.					
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.					

C. Other Program Funding Summary (\$ in Millions)

			FY 2011	FY 2011	FY 2011					Cost To	
Line Item	FY 2009	FY 2010	<u>Base</u>	<u>000</u>	<u>Total</u>	FY 2012	FY 2013	FY 2014	FY 2015	Complete	Total Cost
• PE 0605011: Aging Aircraft	9.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Accomplishments/Planned Programs Subtotals

D. Acquisition Strategy

In December 2004, under the authority of a class Justification and Approval (J&A), the UAI program office awarded individual Cost Plus Fixed Fee (CPFF) contracts to Boeing, Lockheed-Martin, Northrop-Grumman and Raytheon. These four vendors are the Original Equipment Manufacturers (OEMs) for approximately 90% of the Department of Defense' platforms and weapons. Each OEM is responsible for a different piece of the total UAI requirement based on its platform or weapon expertise. The current contracts are active to June 2010 and acquisition for continuation of the program in 3rd QTR 2010 is in process.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604602F: Armament/Ordnance

Development

PROJECT

655361: Stores-Aircraft Interface

Product Development (\$ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Interface Control Document (ICD) Development/Updates	SS/CPFF	Boeing Northrop Grumman Lockheed Martin Raytheon Various	0.000	5.014	Feb 2010	4.092	Jan 2011	0.000		4.092	Continuing	Continuing	Continuing
UAI Common Component	SS/CPFF	Northrop Grumman Hollywood MD	0.000	0.786	Mar 2010	0.639	Nov 2010	0.000		0.639	Continuing	Continuing	Continuing
Certification Tool	SS/CPFF	Boeing Northrop Grumman Lockheed Martin Raytheon Various	0.000	0.197	Feb 2010	0.197	Jan 2011	0.000		0.197	Continuing	Continuing	Continuing
		Subtotal	0.000	5.997		4.928		0.000		4.928			

Remarks

Management Services (\$ in Millions)

_	-			FY 2	010	FY 2 Ba		FY 2		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration/Program Support	Various/ Various	Various Various	0.000	0.688	Oct 2009	0.550	Oct 2010	0.000		0.550	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604602F: Armament/Ordnance

Development

PROJECT

655361: Stores-Aircraft Interface

Management Services (\$ in Millions)

				FY 20	010	FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.688		0.550		0.000		0.550			

Remarks

	Total Prior Years Cost FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To	Total Cost	Target Value of Contract
								•		
Project Cost Totals	0.000	6.685	5.478		0.000		5.478			

Remarks

Total Prior Years Cost may include only FY 2009 data.

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604602F: Armament/Ordnance

Development

PROJECT

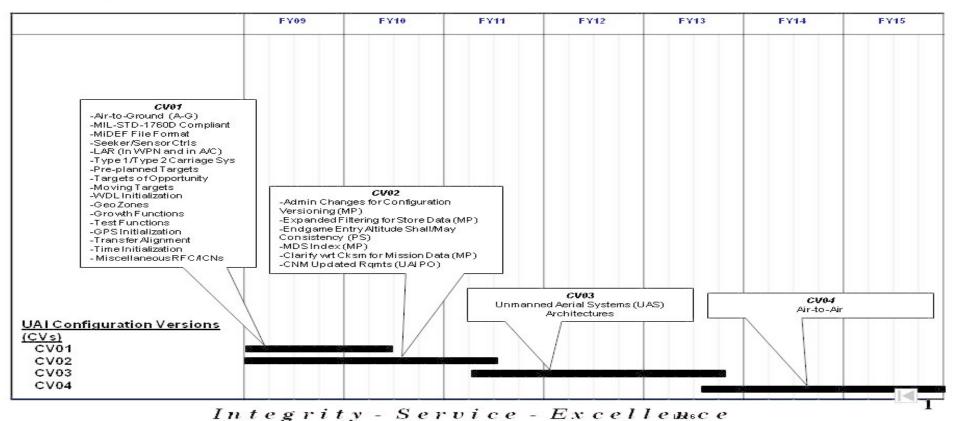
655361: Stores-Aircraft Interface





Exh R-4, UAI Technical Roadmap





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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

PROJECT R-1 ITEM NOMENCLATURE 3600: Research, Development, Test & Evaluation, Air Force PE 0604602F: Armament/Ordnance

BA 5: Development & Demonstration (SDD) Development 655361: Stores-Aircraft Interface

Schedule Details

	St	art	End		
Event	Quarter	Year	Quarter	Year	
CV01 - Version 1	1	2009	3	2010	
CV01 - Version 2	1	2009	2	2011	
CV03 - Version 3	1	2011	4	2011	