Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force

Date: March 2014

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

3600: Research, Development, Test & Evaluation, Air Force I BA 5: System

PE 0604602F I Armament/Ordnance Development

Development & Demonstration (SDD)

COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	8.874	13.661	31.112	-	31.112	37.460	16.788	6.012	6.126	Continuing	Continuing
653133: Bombs & Fuzes	-	3.561	0.720	11.001	-	11.001	20.856	11.162	1.083	1.104	Continuing	Continuing
653134: <i>BLU-109</i> and <i>BLU-113 Upgrade</i>	-	-	8.877	14.325	-	14.325	11.069	0.791	-	-	Continuing	Continuing
655361: Stores-Aircraft Interface	-	5.313	4.064	5.786	-	5.786	5.535	4.835	4.929	5.022	Continuing	Continuing

<sup>&</sup>lt;sup>#</sup> The FY 2015 OCO Request will be submitted at a later date.

#### **Note**

In FY 2015, Project 653133, Bombs & Fuzes, includes new start efforts, Improved Lethality (IL).

#### 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 program develops and improves the following weapons and weapons subsystems: bombs, bomb fuzes (to include the FMU-152 and FMU-139 general purpose, commodity 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.

- Bombs and Fuzes (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 and fuzes. Bombs and fuzes provides research, development and testing of conventional warhead and fuzing modifications to improve lethality against area targets, to include anti-personnel anti-material (APAM) targets. This project provides for the development and testing necessary to provide a suitable manufacturing base of conventional warheads and fuzes. The project provides for research, development, and testing of medium caliber ammunition and enterprise management of guns, ammunition, and Munitions Materiel Handling Equipment (MMHE) systems integration and testing to ensure tested and certified medium caliber ammunition is provided to users. The project helps the AF meet Insensitive Munitions (IM) compliance requirements through strategic planning, development of insensitive explosive fills, and bomb case modifications to make 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 triservice Container Design Retrieval System (CDRS), maintaining a container database to preclude proliferation and duplication of munitions containers and supporting organic container design.
- BLU-109 and BLU-113 Upgrade [Advanced BLU-109 and BLU-113 (A2K/A5K)]: This project demonstrates advancements in capability of these two legacy penetrator warheads, enabling them to hold more targets at risk than currently achievable.

PE 0604602F: Armament/Ordnance Development Air Force

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force

Date: March 2014

#### Appropriation/Budget Activity

R-1 Program Element (Number/Name)

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

PE 0604602F I Armament/Ordnance Development

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	9.951	16.284	23.596	-	23.596
Current President's Budget	8.874	13.661	31.112	-	31.112
Total Adjustments	-1.077	-2.623	7.516	-	7.516
<ul> <li>Congressional General Reductions</li> </ul>	-0.013	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-2.623			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-0.230	-			
Other Adjustments	-0.834	-	7.516	-	7.516

### **Change Summary Explanation**

FY 2013, Other Adjustments: -\$0.834M, Sequestration

FY 2014, Congressional Directed Reductions: -\$2.623M, Program decrease

FY 2015, Other Adjustments: +\$7.516M

- +9.900M, Improved Lethality
- -1.384M, Reduction of funds due to higher AF priorities

PE 0604602F: Armament/Ordnance Development Air Force

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<sup>-</sup> 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 weapons independent of aircraft Operational Flight Program (OFP) cycles. Significant savings of cost and time are achieved using UAI.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force										Date: March 2014			
Appropriation/Budget Activity 3600 / 5					,				Project (Number/Name) 653133 / Bombs & Fuzes				
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
653133: Bombs & Fuzes	-	3.561	0.720	11.001	-	11.001	20.856	11.162	1.083	1.104	Continuing	Continuing	
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-			

<sup>\*</sup> The FY 2015 OCO Request will be submitted at a later date.

#### Note

In FY 2015, Project 653133, Bombs & Fuzes, includes new start efforts.

#### A. Mission Description and Budget Item Justification

The Bombs & Fuzes (Armament Subsystems) Project contains a variety of work:

- Bombs/munitions and fuzes.
- (a) Medium Caliber Ammunition project assesses, refines, and develops medium caliber ammunition, to include, but not limited to, conducting PGU-28A/B (F-22) and 25mm (F-35) qualification testing.
- (b) This project funds follow-on development activities for legacy fuzes, including reliability enhancements and producibility improvements.
- (c) Improved Lethality (IL): IL continues and expands development planning and legacy warhead efforts to improve lethality against area targets, to include antipersonnel anti-material (APAM) targets. This effort studies, designs, develops and tests warhead and fuzing modifications which improve lethality against APAM while meeting current DoD policy on cluster munitions and unintended harm to civilians. These improvements may be synergistic with maintaining a suitable manufacturing base. This effort is a new start effort in Project 653133, Bombs & Fuzes, in FY15.
- Insensitive Munitions (IM). IM develops less sensitive explosive fills and bomb case modifications to improve the response of conventional weapons 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 and testing capabilities, as well as the Joint Ordnance Commander's Working Group (JOCG) for Packaging, Handling, and Loading.
- BA5 This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

PE 0604602F: Armament/Ordnance Development Air Force

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force	9		Date: M	arch 2014	
Appropriation/Budget Activity 3600 / 5					
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2013	FY 2014	FY 2015
Title: Munitions Materiel Handling Equipment/Container Design	Retrieval System		0.734	0.466	0.738
<b>Description:</b> Munitions Materiel Handling Equipment (MMHE) a Standardization/Control/Munitions Materiel Handling Equipment the standardization and commonality of munitions handling and limited to the study, design, and development of MMHE and arm funded by the applicable weapons system project. The tri-service intended to preclude proliferation and duplication of munitions contransportation, prototyping, Packaging, Handling, Storage & Train the Joint Ordnance Commander's Working Group (JOCG) for Page 1.	(MMHE) is a continuing project to develop and improve armament equipment to preclude duplication. Efforts are nament control systems. Procurement will be performed and ce Container Design Retrieval System (CDRS) is a database ontainers. It also supports organic container design, acquisit nsportation (PHS&T) support and testing capabilities, as wel	ion			
FY 2013 Accomplishments:  CDRS provided DoD wide customer support with container design developers. Completed 54 customer requests to provide contains container cost savings. Provided repair and test procedures of Container. Provided System Program Office (SPO) Integrated For Tail Fin Container acquisition. Provided specification and budge MMHE completed 16 MMHE support equipment projects to inclusive authorizations. Fabricated 17 prototypes and first article equipments for additional test and evaluation. Engineered and developed support F-35 Program Office. Engineered and developed F-22 and developed GAU-8 Drum Helix Handler for the A-10 30MM geto ease bomb rack handling. Engineered and developed Bomb support to all SPOs with new weapons and container development items developed by the MMHE program office.	iner or technical information and design resulting in \$550K for the Conventional Air Launched Cruise Missile (CALCM) Product Team (IPT) Team with technical guidance for the B6 stary cost estimate for the HARM Control Section Container. Unde engineering, drafting, proof load, technical data, and safe nent fabrications for drafting verification and delivery to Air Forced a Pylon Lift Adapter and Missile Pylon Load Adapter to Single Pylon Storage Stand for ready pylon storage. Engine gun system. Engineered and developed BRU-57 Load Adapter Rack Load Adapter for B-1B maintenance personnel. Provide	ety orce ered ter ded			
FY 2014 Plans: Provide container design expertise and technical support to AF is service Container Design Retrieval System (CDRS) database secontainers. Complete six Munitions Materiel Handling Equipment drafting, proof load, technical data, and safety authorizations. Factour first article equipment fabrications for drafting verification and Provide support to all SPO with new weapons and container deviprograms with equipment to test and evaluate various Alternate.	earch ability to preclude proliferation and duplication of munit nt (MMHE) support equipment projects to include engineerin abricate six prototypes for test and evaluation purposes. Con nd delivery to Air Force units for additional test and evaluation velopment. Continue support to the multi service F-35/JSF	g, nplete			

PE 0604602F: *Armament/Ordnance Development* Air Force

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date:	March 2014		
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604602F / Armament/Ordnance Development	Project (Number/Name) 653133 / Bombs & Fuzes			
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014	FY 2015	
Continue support and sustainment of all previously existing items direct customer support through limited customer support visits.	developed by the MMHE program office. Continue to prov	vide			
FY 2015 Plans: Provide expert DoD wide customer support with container design developers. Complete 10 Munitions Materiel Handling Equipment drafting, proof load, technical data, and safety authorizations. Fab 7 first article equipment fabrications for drafting verification and de Provide support to all Specialized Program Office (SPO) with new F-35 program with equipment to aid safe munitions loading and has sustainment of all previously existing items developed by the MMH	t (MMHE) support equipment projects to include engineering incate 7 prototypes for test and evaluation purposes. Completivery to Air Force units for additional test and evaluation. It weapons and container development. Continue support to andling of various pylons and adapters. Continue support a	o the			
Title: Medium Caliber Ammunition	1 0	2.460	-	0.10	
<b>Description:</b> Assess, refine, and develop medium caliber ammun ammunition, and Munitions Materiel Handling Equipment (MMHE)		5,			
FY 2013 Accomplishments: Completed 20mm PGU-28A/B F-22 ground qualification and operation	ational suitability and flight testing.				
Procured 25mm FAP rounds to support updates to LFT&E lethality Initiated procurement of 25mm FAP rounds to support DT/OT of g (now PGU-48/B); FATEPEN = Fast Air Target Encounter Penetrat	jun system during F-35 EMD. [FAP = Frangible Armor Pie				
<b>FY 2014 Plans:</b> N/A					
FY 2015 Plans: Complete procurement of 25mm FAP rounds to support DT/OT of	gun system during F-35 EMD.				
Title: Insensitive Munitions (IM)		0.367	0.254	0.40	
<b>Description:</b> Strategic IM planning for the AF; support Joint Servi AF IM programs	ce IM efforts; provide technical guidance and test expertis	e to			
FY 2013 Accomplishments:					

PE 0604602F: *Armament/Ordnance Development* Air Force

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: N	1arch 2014	
Appropriation/Budget Activity 3600 / 5	PE 0604602F I Armament/Ordnance Development				
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2013	FY 2014	FY 2015
Initiated the FY15/16 AF IM Strategic Plan; supported DoD and Joint individual AF programs, including AMRAAM, SDB II, BLU-109/113, E (HTVSF).					
FY 2014 Plans: Deliver the FY 15/16 AF IM Strategic Plan; support DoD and Joint Se AF programs.	ervice IM planning; provide IM planning expertise to ind	ividual			
FY 2015 Plans: Initiate the FY17/18 AF IM Strategic Plan; support DoD and Joint Sel AF programs.	rvice IM planning; provide IM planning expertise to indiv	/idual			
Title: Improved Lethality (IL) - New Start			-	-	9.763
<b>Description:</b> Improve lethality against area targets, to include anti-pomeet current DoD policy on cluster munitions and unintended harm to manufacturing base.					
FY 2015 Plans:					
Expand previous development planning efforts to study options and of scenarios which meet DoD policy on cluster munitions and unintended a direct attack employed, interim, 500lb warhead for improved APAN	ed harm to civilians. Complete development and begin				
	Accomplishments/Planned Programs Sul	btotals	3.561	0.720	11.001

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

			FY 2015	FY 2015	FY 2015					Cost To	
Line Item	FY 2013	FY 2014	<u>Base</u>	<u>000</u>	<u>Total</u>	FY 2016	FY 2017	FY 2018	FY 2019	<b>Complete</b>	<b>Total Cost</b>
<ul><li>RDTE: BA04: PE</li></ul>	14.760	11.884	-	-	-	-	-	-	-	-	-

0604337F: Requirements Analysis and Maturation

#### Remarks

The Improved Lethality (IL) effort continues and expands upon developmental planning work accomplished in the Requirements Analysis and Maturation PE.

## D. Acquisition Strategy

- Fuzes (including the FMU-152) is a continuing effort with most activities performed in-house or through contracted services (small contracts).

PE 0604602F: *Armament/Ordnance Development* Air Force

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Exhibit R-2A, RDT&E Project Justification: PB 2015 A	Air Force	Date: March 2014
Appropriation/Budget Activity 8600 / 5	R-1 Program Element (Number/Name) PE 0604602F / Armament/Ordnance Development	Project (Number/Name) 653133 / Bombs & Fuzes
- MMHE/CDRS project activities are performed in-house	e with limited technical and analysis contract support.	
<ul> <li>Medium Caliber project activities are performed in-hou services (small contracts).</li> </ul>	use with technical and analysis contract support, organic governmen	nt test support, and possible contracted
E. Performance Metrics		
	Book for information on how Air Force resources are applied and h	now those resources are contributing to Air
Force performance goals and most importantly, how the	ey contribute to our mission.	

PE 0604602F: *Armament/Ordnance Development* Air Force

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

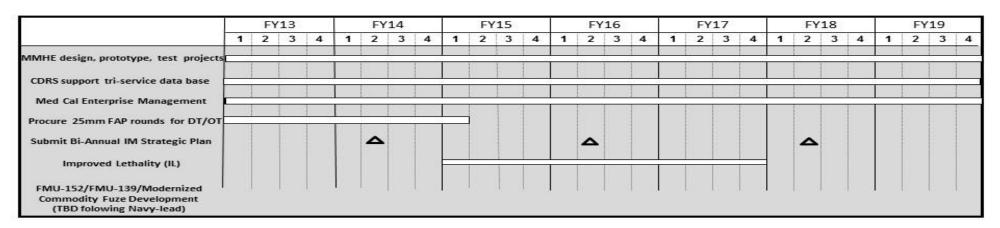
Appropriation/Budget Activity
3600 / 5

R-1 Program Element (Number/Name)
PE 0604602F / Armament/Ordnance
Development

Project (Number/Name)
653133 / Bombs & Fuzes



# **Armament/Ordinance RDT&E Schedule**



PE 0604602F: Armament/Ordnance Development Air Force

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force									Date: Mar	Date: March 2014		
Appropriation/Budget Activity 3600 / 5					, , ,				Project (Number/Name) 653134 / BLU-109 and BLU-113 Upgrade			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
653134: BLU-109 and BLU-113 Upgrade	-	-	8.877	14.325	-	14.325	11.069	0.791	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

<sup>\*</sup> The FY 2015 OCO Request will be submitted at a later date.

#### A. Mission Description and Budget Item Justification

BLU-109 and BLU-113 Upgrade [Advanced BLU-109 and BLU-113 (A2K/A5K)]: This project develops, tests and implements upgrades to penetrator bomb designs (BLU-109, BLU-113) to improve their reliability and survivability during penetration into hardened targets. The enhancements will enable these two weapons to hold more targets at risk than currently achievable with legacy weapons. The initial effort will focus on demonstrating an advanced 2000 lb (A2K) warhead and an advanced 5000 lb (A5K) warhead, which improve the survivability and reliability of the legacy warheads. The project leverages work previously accomplished by the Legacy Warhead Improvement Program (LWIP).

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2013	FY 2014	FY 2015	
Title: Advanced 2000 lb Penetrator (A2K) and Advanced 5000 lb Penetrator (A5K) Demonstrations	-	8.877	14.325	
<b>Description:</b> Conduct A2K & A5K design analysis, warhead modifications, and testing to improve BLU-109/113 performance against increasingly hardened targets. Designs will maintain the current BLU-109/113 mold lines and will attempt to maintain current BLU-109/113 mass properties and Insensitive Munitions (IM) characteristics.				
FY 2014 Plans: Complete risk reduction and begin demonstration/qualification testing of A2K design to include modified FMU-152 fuzing units (FZUs) and cables, modified JDAM hardbacks, and modified warhead cases employed on the threshold platform (B-2A). The demonstration/qualification effort will complete in FY16. Design new A5K warhead in FY14 in preparation for test asset production in FY15.				
FY 2015 Plans: Complete risk reduction and begin demonstration/qualification testing of A2K design to include modified FMU-152 FZUs and cables, modified JDAM hardbacks, and modified warhead cases employed on the threshold platform (B-2A). The demonstration/				

PE 0604602F: Armament/Ordnance Development Air Force

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Exhibit R-2A, RD1&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604602F I Armament/Ordnance Development	Project (Number/Name) 653134 / BLU-109 and BLU-113 Upgrade
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013 FY 2014 FY 2015

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2013	FY 2014	FY 2015
qualification effort will complete in FY16. Build A5K test assets in preparation for test and produceability study in FY16, and			
limited qualification in FY17.			
Accomplishments/Planned Programs Subtotals	-	8.877	14.325

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

Fullibit B OA BRIGE Businest Investigations BB 0045 Air Farre

			FY 2015	FY 2015	FY 2015					<b>Cost To</b>	
<u>Line Item</u>	FY 2013	FY 2014	<b>Base</b>	OCO	<u>Total</u>	FY 2016	FY 2017	FY 2018	FY 2019	Complete	<b>Total Cost</b>
RDTE:BA04:PE 0604618F:  Joint Direct Attack Munition	-	2.500	2.469	-	2.469	-	-	-	-	-	-
<ul><li>PAAF:BA01:Line Item # 353020: Legacy Weapon</li></ul>	3.000	3.000	3.000	-	3.000	3.000	3.000	3.000	-	Continuing	Continuing

#### Remarks

N/A

# D. Acquisition Strategy

Improvement Program

The A2K/A5K Demonstration and Partial Qualification program will provide a BLU-109/BLU-113 modification package that would precede efforts to achieve a full qualification and low rate initial production (LRIP) phase in FY18.

#### 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.

PE 0604602F: Armament/Ordnance Development Air Force

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R-1 Line #69

Data: March 2014

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

Appropriation/Budget Activity
3600 / 5

R-1 Program Element (Number/Name)
PE 0604602F / Armament/Ordnance
Development

Project (Number/Name)
653134 / BLU-109 and BLU-113 Upgrade



# **A2K Schedule**



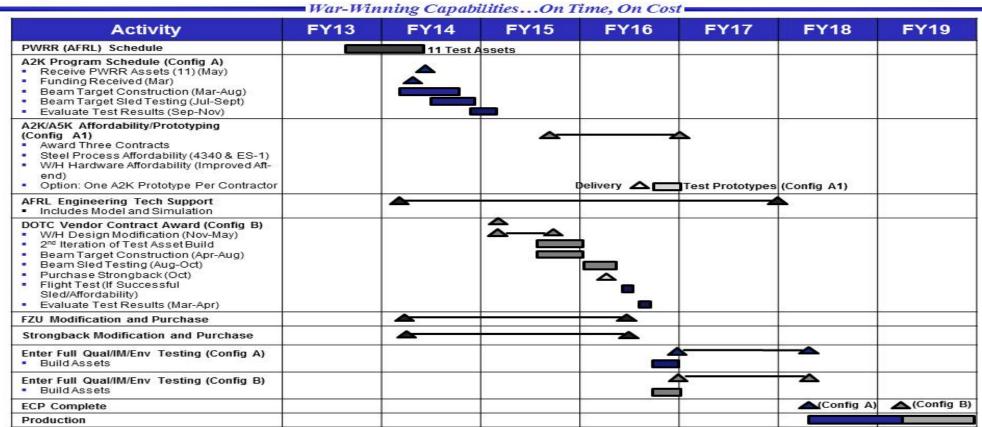


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

Date: March 2014

Appropriation/Budget Activity R-1 Program Element (Number/Name) Project (Number/Name)

3600 *l* 5 PE 0604602F *l Armament/Ordnance* 653134 *l BLU-109 and BLU-113 Upgrade* 

Development



# **A5K Schedule**



■ War-Winning Capabilities...On Time, On Cost ■

Activity	FY13	FY14	FY15	FY16	FY17	FY18	FY19
A5K WPRR (AFRL) Develop Drawing Pkg		_					
A5K Program Schedule (Config A)  Funding received (Mar) Build assets (4) Beam Target Construction (July-Sep) Beam Target Sled Testing (Sep-Nov) Evaluate Test Results (Dec)		=					
AFRL Engineering Tech Support (Config A)		_	24.2.2.2			_	
2nd Iteration of Test Asset Build  Beam Target Construction  Beam Sled Testing  Purchase Strongback  Flight Test (If Successful Sled/Affordability)  Evaluate Test Results					_		
A2K/A5K Alt Manf/Affordability (Config A1) • Award Three Contracts			_	_			
AFRL Engineering Tech Support (Config B)				_		_	
Enter Full Qual/IM/Env Testing (Config A)  Build Assets					_		
Enter Full Qual/IM/Env Testing (Config B)  Build Assets						_	
ECP Complete					(Config	A) 🛆 (Co	nfig B)
Production					7		

2

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force											Date: March 2014		
Appropriation/Budget Activity 3600 / 5						<b>am Elemen</b> )2F / Arman ent			Project (Number/Name) 655361 / Stores-Aircraft Interface				
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
655361: Stores-Aircraft Interface	-	5.313	4.064	5.786	-	5.786	5.535	4.835	4.929	5.022	Continuing	Continuing	
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-			

<sup>&</sup>lt;sup>#</sup> The FY 2015 OCO Request will be submitted at a later date.

#### A. Mission Description and Budget Item Justification

B Accomplishments/Planned Programs (\$ in Millions)

Universal Armament Interface (UAI) is an Air Force program to develop, enhance, and implement standardized interfaces in current and future aircraft (manned or unmanned), weapons and mission planning to support integration of weapons independent of aircraft Operational Flight Program (OFP) cycles. UAI is currently being implemented on the F-15E, F-16 Block 40/50, and EPAF(European Participating Air Forces) F-16 aircraft, Small Diameter Bomb (SDB) I and II, Joint Direct Attack Munition (JDAM), Laser JDAM, Joint Air-to-Surface Stand-off Missile (JASSM) and Precision Guided Munitions Planning Software (PGMPS). Additional aircraft and weapons, including but not limited to, Joint Strike Fighter (JSF/F-35), MQ-9, as well as Army and Navy systems, have program plans to implement UAI. The UAI program office is responsible for development and enhancement of the standard (U.S. and allied), support to coalition/allied/joint interoperability efforts for weapons-platform interface efforts, provision of certification tools and implementation support to aircraft and weapons.

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

b. Accomplishments/Figures (\$\psi\$ in \text{willions})	F1 2013	F1 2014	F1 2015
Title: UAI Development	5.313	4.064	5.786
<b>Description:</b> Conduct stores-aircraft interface upgrades and standards development to the Universal Armament Interface (UAI), development of and maintenance to the UAI, and facilitation of aircraft and stores program users in the UAI process.			
FY 2013 Accomplishments:			
Continued 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, and integration support and updates to test.  Accomplishments: Completed Moving Target Launch Acceptability Region Study Interface Control Notice; Released version 4			
of began/completed 14 Platform-Store and 2 Mission Planning (MP) interface changes Interface Control Documents in response			
to aircraft program needs. With support from UAI SPO, B-2 MP SPO signed the UAI Interface Control Program, precision Guided			
Munitions Planning System designated UAI as its single future MP interface (even to non-UAI a/c), and Army/Navy/AF Unmanned Systems Interoperability Profile (USIP) Weapons IP 5.0 mandated UAI as its primary interface on Unmanned Aerial Vehicles.			
FY 2014 Plans:			
Continue 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, and integration support. Also, continue			

PE 0604602F: Armament/Ordnance Development Air Force

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Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604602F I Armament/Ordnance Development	, , , , , , , , , , , , , , , , , , , ,					
B. Accomplishments/Planned Programs (\$ in Millions) integration and updates to test tools, including maintenance ar aircraft and weapons programs to reduce time and cost for UA of Understanding to broaden the use of coalition partners.			FY 2013	FY 2014	FY 2015		
FY 2015 Plans:							

Continue 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 updates to test tools. Procure certification tools with miniature and micro munitions interface capability to meet F-35, SDB II and other future user

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

system integration lab test certification needs.

Exhibit R-2A RDT&E Project Justification: PB 2015 Air Force

			FY 2015	FY 2015	FY 2015					Cost To	
Line Item	FY 2013	FY 2014	Base	OCO	<u>Total</u>	FY 2016	FY 2017	FY 2018	FY 2019	Complete	<b>Total Cost</b>
<ul> <li>None: N/A</li> </ul>	-	_	-	-	-	_	_	_	_	_	-

**Accomplishments/Planned Programs Subtotals** 

#### Remarks

N/A

#### 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. Each Original Equipment Manufacturer is responsible for a different piece of the total UAI requirement based on its product-specific (platform/weapon) expertise. During FY10 these contracts expired. Under the authority of a new class J&A, Cost Plus Incentive Fee (CPIF) contracts were awarded to the four UAI vendors in August 2010. Follow-on period of performance was awarded in February 2013 for 12 months to better align future contract awards with funding through the Five Year Defense Plan.

#### **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.

PE 0604602F: Armament/Ordnance Development

Air Force

R-1 Line #69

Date: March 2014

5.313

4.064

5.786

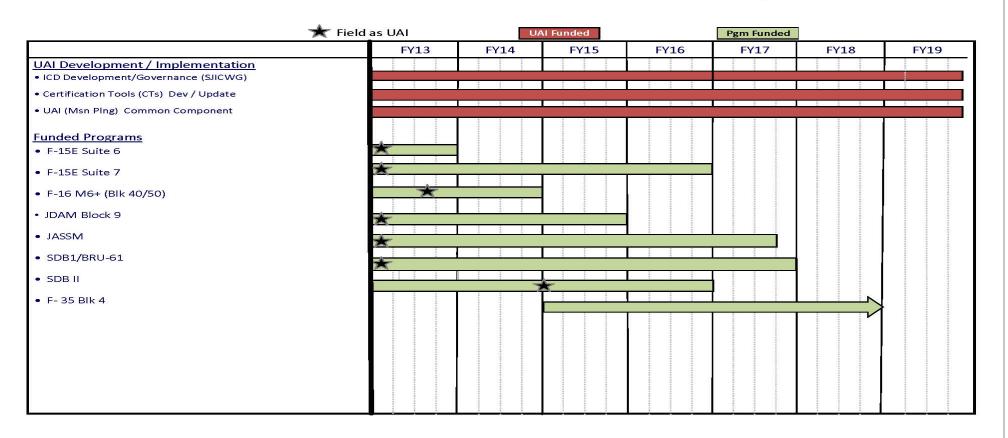
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

Appropriation/Budget Activity
3600 / 5

R-1 Program Element (Number/Name)
PE 0604602F / Armament/Ordnance
Development

Project (Number/Name)
655361 / Stores-Aircraft Interface

# Exh R-4, UAI Technical Roadmap



PE 0604602F: Armament/Ordnance Development Air Force