

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>
--	---

COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	23.472	21.564	25.308	0.000	25.308	25.324	24.875	25.337	25.786	Continuing	Continuing
674037: <i>SEEK EAGLE Certifications</i>	-	23.472	21.564	25.308	0.000	25.308	25.324	24.875	25.337	25.786	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force operates a variety of combat aircraft that carry numerous and varied stores (munitions, missiles, fuel tanks, targeting pods, range pods, electronic countermeasures pods, etc.). Stores are carried in countless different loading combinations determined by operational and training scenarios, missions, tactics, and weapon development programs. Aircraft stores combinations change as operational plans and tactics change and as new stores are developed and fielded. Before operational, training, or test use, the Air Force must certify these configurations for safe loading, carriage, and separation (jettison and normal release), as well as verify ballistics accuracy under the user-certified carriage and employment parameters. The Air Force SEEK EAGLE program completes certification recommendations and recommended flight clearances through any combination of engineering analysis, wind tunnel testing, modeling and simulation, and ground/flight test and evaluation. The SEEK EAGLE effort encompasses eight disciplines: Fit and Function, Flutter, Loads, Stability and Control, Electromagnetic Compatibility/Interference (EMC/EMI), Separations, Ballistics, and Safe Escape.

In support of certification, the program recommends about 1000 aircraft/store combinations for flight each year with analysis and testing, requiring from weeks to years depending on the complexity. Integrated solutions for combat aircrew weapon delivery planning problems are developed and provided to combat forces via Combat Weapons Delivery Software (CWDS) and Joint Safe Escape Analysis Solution (JSEAS). SEEK EAGLE works in coordination with the Air Force Safety Center to provide Hazards of Electromagnetic Radiation to Ordnance (HERO) analysis and certification recommendations of ordnance systems containing electro-explosive devices. The program is also responsible for inserting new and emerging technologies into the SEEK EAGLE process as well as providing resources for the sustainment of a viable Air Force aircraft/store certification capability.

SEEK EAGLE funds are currently budgeted to support certification testing and analysis for new and inventory stores including, but not limited to: Small Diameter Bomb I & II (SDB), Laser Joint Direct Attack Munitions (LJDAM), Joint Air-to-Surface Standoff Missile (JASSM), Air Intercept Missile (AIM-9X), Advanced Medium Range Air-to-Air Missile (AIM-120D), Miniature Air-Launched Decoy (MALD), BRU-57 (Smart Bomb Rack), BRU-61 (SDB Bomb Rack), Wind Corrected Munitions Dispenser (WCMD), Sniper Targeting Pod with video data link, LITENING Targeting Pod with video data link, laser guided bombs, F-22 supersonic tank, B61 (Mod 12), penetrator warhead upgrades (BLU-111/BLU-117), practice bomb and aircraft instrumentation pod modifications. SEEK EAGLE funds are also used to support certification of other inventory stores on Combat Air Forces (CAF) and Special Operations Command (SOCOM) aircraft, assist the F-35 JPO with subject matter expertise in the System Development and Demonstration phase (e.g., development of organic store certifications capability to support F-35 in the Production, Sustainment, and Follow-on Development phases), sustain organic F-22 store certifications capability, and to obtain non-inventory stores and store data for post-integration certification requirements.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force	Date: February 2016
--	----------------------------

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>
--	---

This program is in Budget Activity 7, Operational System Development. These budget activities include development efforts to upgrade systems currently fielded or which have approval for full rate production and anticipate production funding in the current or subsequent year.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	23.844	21.564	25.560	0.000	25.560
Current President's Budget	23.472	21.564	25.308	0.000	25.308
Total Adjustments	-0.372	0.000	-0.252	0.000	-0.252
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.372	0.000			
• Other Adjustments	0.000	0.000	-0.252	0.000	-0.252

Change Summary Explanation

No Significant Changes

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: F-22A	1.045	1.035	1.148	0.000	1.148
Description: F-22A Capability Development and Weapons Certification.					
FY 2015 Accomplishments:					
- Continued AIM-9X certification efforts					
- Completed certification of GBU-32 w/BLU-32 W/ BLU-110/B QRC					
- Completed certification of NAIM-120C7 and ATM-9AM-13					
FY 2016 Plans:					
- Complete certification of AIM-9X					
- Begin aircraft/store compatibility (ASC) efforts for requested configurations					
FY 2017 Base Plans:					
- Continue ASC efforts for requested configurations					
FY 2017 OCO Plans:					

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force	Date: February 2016
--	----------------------------

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>
--	---

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
---	---------	---------	--------------	-------------	---------------

N/A					
-----	--	--	--	--	--

<p>Title: F-35</p> <p>Description: F-35 Capability Development for SEEK EAGLE to support Combat Air Force's (CAF's) anticipated requirements after Initial Operational Capability (IOC).</p> <p>FY 2015 Accomplishments:</p> <ul style="list-style-type: none"> - Continued development of organic F-35 engineering capability in all eight SEEK EAGLE engineering disciplines by receiving contractor data, tools, and technical support (IOC Toolsets) <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> - Continue development of organic F-35 engineering capability in all eight SEEK EAGLE engineering disciplines by receiving contractor data, tools, and technical support (IOC Toolsets) - Complete certification of GBU-12 and GBU-31 mixed loads <p>FY 2017 Base Plans:</p> <ul style="list-style-type: none"> - Continue development of organic F-35 engineering capability in all eight SEEK EAGLE engineering disciplines by receiving contractor data, tools, and technical support (IOC Toolsets) - Complete certification of GBU-31 envelope expansion <p>FY 2017 OCO Plans:</p> <p>N/A</p>	1.500	1.500	2.600	0.000	2.600
---	-------	-------	-------	-------	-------

<p>Title: M&S Capability</p> <p>Description: Modeling and Simulation (M&S) capability development in support of store certification</p> <p>FY 2015 Accomplishments:</p> <ul style="list-style-type: none"> - Continued development and improvement of M&S capability to support store certification disciplines. - Developed tools necessary to characterize F-22 and F-35 weapons bay environments including aero-acoustic prediction. <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> - Continue development and improvement of M&S capability to support store certification disciplines. 	3.038	2.020	2.480	0.000	2.480
--	-------	-------	-------	-------	-------

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force				Date: February 2016	
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>			
C. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p>- Develop tools necessary to characterize F-22 and F-35 weapons bay environments including aero-acoustic prediction.</p> <p>FY 2017 Base Plans:</p> <ul style="list-style-type: none"> - Continue development and improvement of M&S capability to support store certification disciplines. - Develop tools necessary to characterize F-22 and F-35 weapons bay environments including aero-acoustic prediction. <p>FY 2017 OCO Plans: N/A</p>					
<p>Title: Aircraft/Store Compatibility (ASC) Analysis</p> <p>Description: Evaluate aircraft/store compatibility through analysis, M&S and flight and ground test. Provide flight recommendations to airworthiness authorities.</p> <p>FY 2015 Accomplishments:</p> <ul style="list-style-type: none"> - Continually provided compatibility flight recommendations as requested by ACC/A8, AFLCMC, AFSOC and other agencies. - Supported SDB II, AIM-9X and B-61 (MOD 12) flight testing. <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> - Continue to provide compatibility flight recommendations as requested by ACC/A8, AFLCMC, AFSOC and other agencies. - Perform extensive SDB II, AIM-9X and B-61 (MOD 12) flight testing. <p>FY 2017 Base Plans:</p> <ul style="list-style-type: none"> - Continue to provide compatibility flight recommendations as requested by ACC/A8, AFLCMC, AFSOC and other agencies. - Perform extensive SDB II, AIM-9X and B-61 (MOD 12) flight testing. <p>FY 2017 OCO Plans: N/A</p>					
	4.880	4.980	5.280	0.000	5.280
<p>Title: Organic F-35 and CWDS Capabilities</p> <p>Description: Develop Mission Planning Software, including Combat Weapon Delivery Software (CWDS).</p>					
	13.009	12.029	13.800	0.000	13.800

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force	Date: February 2016
--	----------------------------

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>
--	---

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p><i>FY 2015 Accomplishments:</i></p> <ul style="list-style-type: none"> - Supported F-35 and other airframe efforts aimed at improving aircrew interface. Supported CWDS requirements for multiple MPEs on the JMPS framework. - Continued transition to the redeveloped CWDS software for alignment with the JMPS roadmap architecture. - Continued support of legacy CWDS development until full transition of all MPEs to new JMPS framework has occurred. <p><i>FY 2016 Plans:</i></p> <ul style="list-style-type: none"> - Support F-35 and other airframes for continued support of efforts aimed at improving aircrew interface. Continue support of CWDS requirements for multiple MPEs on the JMPS framework. - Begin to support the F-35 mission planning support environment using the current CWDS development as a baseline for development. - Continue transition to the redeveloped CWDS software for alignment with the JMPS roadmap architecture. - Continue support of legacy CWDS development until full transition of all MPEs to new JMPS framework has occurred. <p><i>FY 2017 Base Plans:</i></p> <ul style="list-style-type: none"> - Support F-35 and other airframes for continued support of efforts aimed at improving aircrew interface. Continue support of CWDS requirements for multiple MPEs on the JMPS framework. - Begin to support the F-35 mission planning support environment using the current CWDS development as a baseline for development. - Continue transition to the redeveloped CWDS software for alignment with the JMPS roadmap architecture. - Continue support of legacy CWDS development until full transition of all MPEs to new JMPS framework has occurred. <p><i>FY 2017 OCO Plans:</i> N/A</p>					
Accomplishments/Planned Programs Subtotals	23.472	21.564	25.308	0.000	25.308

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>	
E. Acquisition Strategy The SEEK EAGLE program does not execute in accordance with established acquisition program milestones. For initial aircraft-weapons integration, the aircraft or weapon program office is responsible for budgeting and providing the test assets to AFSEO for the store certification requirements. For post integration certification requirements, AFSEO funds are used to obtain the non-inventory test assets.		
F. 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.		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>	Project (Number/Name) 674037 / <i>SEEK EAGLE Certifications</i>
--	---	---

Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Organic F-22 Capabilities	C/CPFF	Lockheed Martin : Marietta, GA	-	0.550	Aug 2015	0.540	Mar 2016	0.653	Mar 2017	0.000		0.653	Continuing	Continuing	-
F-22 Capabilities	C/CPFF	Raytheon : Waltham, MA	-	0.495	Aug 2015	0.495	Mar 2016	0.495	Mar 2017	0.000		0.495	Continuing	Continuing	-
Organic F-35 and CWDS Capabilities	C/CPFF	Survice : Ft. Walton Beach, FL	-	13.009	Oct 2014	12.029	Oct 2015	13.800	Oct 2016	0.000		13.800	Continuing	Continuing	-
Organic F-35 Capabilities	C/CPFF	Lockheed Martin : Marietta, GA	-	1.500	Mar 2016	1.500	Mar 2016	2.600	Mar 2017	0.000		2.600	Continuing	Continuing	-
Multiple fighter and weapon capability support	C/CPFF	Lockheed Martin : Marietta, GA	-	0.000		0.200	Nov 2015	0.200	Nov 2016	0.000		0.200	Continuing	Continuing	-
F15 Test Support	C/CPFF	Boeing : St Louis, MO	-	0.010	Feb 2015	0.010	Jan 2016	0.010	Jan 2017	0.000		0.010	Continuing	Continuing	-
Enhance Existing and Develop Organic Electro EMI Capabilities	C/CPFF	Applied Research : Baltimore, MD	-	0.250	Feb 2015	0.250	Mar 2016	0.250	Mar 2017	0.000		0.250	Continuing	Continuing	-
Subtotal			-	15.814		15.024		18.008		0.000		18.008	-	-	-

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
96th Test Wing	RO	Eglin AFB : Eglin AFB, FL	-	6.623	Oct 2014	5.500	Oct 2015	6.250	Oct 2016	0.000		6.250	Continuing	Continuing	-
AEDC	PO	Arnold Engineering Dev Complex : Arnold AFB, TN	-	0.515	Jan 2015	0.520	Jan 2016	0.530	Jan 2017	0.000		0.530	Continuing	Continuing	-

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>	Project (Number/Name) 674037 / <i>SEEK EAGLE Certifications</i>
--	---	---

FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
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

Store compatabily analysis, to include, but not limited to, LJDAM, JASSM,SDB, AIM-9X, AIM-120, MALD, SNIPER, BRU-57, B61 (Mod 12), BLU-111, and BLU-117 [Requests are processed by user priority]	
F-35 Capability Development: Initial Operational Capability	
F-35 Capability Development: Full Operational Capability	
F-22A Capability Development and Weapons Certification	
Modeling and Simulation Capability: development and refresh of analysis tools	
Organic F-35 and Combat Weapon Delivery Software: develop and enhance multiple mission planning environments on the Joint Mission Planning Software framework	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>	Project (Number/Name) 674037 / <i>SEEK EAGLE Certifications</i>
--	---	---

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Store compatabilty analysis, to include, but not limited to, LJDAM, JASSM,SDB, AIM-9X, AIM-120, MALD, SNIPER, BRU-57, B61 (Mod 12), BLU-111, and BLU-117 [Requests are processed by user priority]	1	2015	4	2021
F-35 Capability Development: Initial Operational Capability	4	2015	4	2017
F-35 Capability Development: Full Operational Capability	4	2017	4	2019
F-22A Capability Development and Weapons Certification	1	2015	4	2018
Modeling and Simulation Capability: development and refresh of analysis tools	1	2015	4	2021
Organic F-35 and Combat Weapon Delivery Software: develop and enhance multiple mission planning environments on the Joint Mission Planning Software framework	1	2015	4	2021