

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0207590F I Seek Eagle							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	28.204	25.397	24.699	0.000	24.699	25.160	25.595	26.128	26.604	Continuing	Continuing
674037: SEEK EAGLE Certifications	-	28.204	25.397	24.699	0.000	24.699	25.160	25.595	26.128	26.604	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), Advanced Precision Kill Weapon System (APKWS), Sniper Targeting Pod with video data link, LITENING Targeting Pod with video data link, laser guided bombs, 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 2019 Air Force				Date: February 2018				
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0207590F I Seek Eagle						
This program element may include necessary civilian pay expenses required to manage, execute, and deliver seek eagle capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.								
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent year.								
To ensure the SEEK EAGLE program office completes certification recommendations and recommended flight clearances through any combination of analysis, testing, simulation, and test and evaluation in order to support inventory stores for multiple programs.								
B. Program Change Summary (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total		
Previous President's Budget		25.308	25.397	24.885	0.000	24.885		
Current President's Budget		28.204	25.397	24.699	0.000	24.699		
Total Adjustments		2.896	0.000	-0.186	0.000	-0.186		
• 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		3.415	0.000					
• SBIR/STTR Transfer		-0.519	0.000					
• Other Adjustments		0.000	0.000	-0.186	0.000	-0.186		
Change Summary Explanation								
FY17: \$3.415M for AFSEO Mission and Planning								
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: F-22A				1.000	0.800	0.600	0.000	0.600
Description: F-22A Capability Development and Weapons Certification.								
FY 2018 Plans:								
- Continue Aircraft/Store Compatibility (ASC) efforts for requested configurations								
FY 2019 Base Plans:								

**UNCLASSIFIED**

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force				Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0207590F I Seek Eagle				
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Continue Aircraft/Store Compatibility (ASC) efforts for requested configurations. <b>FY 2019 OCO Plans:</b> N/A <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Small reduction in requirement from FY18 to FY19						
<b>Title:</b> F-35 <b>Description:</b> F-35 Capability Development for SEEK EAGLE to support Combat Air Force's (CAF's) anticipated requirements after Initial Operational Capability (IOC). <b>FY 2018 Plans:</b> - Continue development of F-35 engineering capability in all eight SEEK EAGLE engineering disciplines by receiving contractor data, tools, and technical support (FOC Toolsets) - Continue implementing high priority user requirements reviewed by ACC <b>FY 2019 Base Plans:</b> - Continue development of F35 engineering capability in five of eight SEEK EAGLE engineering disciplines not addressed under first contract by receiving contractor data, tools, and technical support (FOC Toolsets) - Continue implementing high priority user requirements reviewed by ACC <b>FY 2019 OCO Plans:</b> N/A <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease based on less technical Lockheed Martin support being required at that phase.		3.200	3.715	3.445	0.000	3.445
<b>Title:</b> M&S Capability <b>Description:</b> Modeling and Simulation (M&S) capability development in support of store certification <b>FY 2018 Plans:</b> - 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/wing buffet. <b>FY 2019 Base Plans:</b> - Continue development and improvement of M&S capability to support store certification disciplines.		3.558	3.000	3.000	0.000	3.000

**UNCLASSIFIED**

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force				Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0207590F I Seek Eagle				
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Develop tools necessary to characterize F-22 and F-35 weapons bay environment/wing buffet. Develop tools necessary to characterize electromechanical interference environment on 4th and 5th gen fighters. <b>FY 2019 OCO Plans:</b> N/A <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> N/A						
<b>Title:</b> Aircraft/Store Compatibility (ASC) Analysis <b>Description:</b> Evaluate aircraft/store compatibility through analysis, M&S and flight and ground test. Provide flight recommendations to airworthiness authorities. <b>FY 2018 Plans:</b> - Continue to provide compatibility flight recommendations as requested by ACC/A8, AFLCMC, AFSOC, AFGSC and other agencies. - Perform extensive SDB II, AIM-9X and B-61 (MOD 12) flight testing. <b>FY 2019 Base Plans:</b> - Continue to provide compatibility flight recommendations as requested by ACC/A8, AFLCMC, AFSOC, AFGSC, and other agencies. - Perform extensive SDB II, AIM-9X, and B-61 (MOD 12) flight testing. <b>FY 2019 OCO Plans:</b> N/A <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Reduced flight testing due to less flights required due to modeling and simulation abilities.		3.800	3.820	3.644	0.000	3.644
<b>Title:</b> AFSEO Mission and Planning Support <b>Description:</b> AFSEO Mission and Planning Support for all disciplines. Previously titled "Organic F-35 and CWDS Capabilities" <b>FY 2018 Plans:</b>		16.646	14.062	14.010	0.000	14.010

# UNCLASSIFIED

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2019 Air Force				<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>		<b>R-1 Program Element (Number/Name)</b> PE 0207590F / <i>Seek Eagle</i>				
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>						
		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<p>- AFSEO Mission and Planning support for all disciplines to include, but not limited to, mission planning, loads, flutter, separations, safe escape, engineering analysis, and information assurance for B21, 5th generation aircraft, and immediate warfighter support.</p> <p><b>FY 2019 Base Plans:</b> - AFSEO Mission and Planning support for all disciplines to include, but not limited to, mission planning, loads, flutter, separations, safe escape, engineering analysis, and information assurance for B21, 5th generation aircraft, and immediate warfighter support.</p> <p><b>FY 2019 OCO Plans:</b> N/A</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Slight reduction to requirement costs for information assurance due to investment into software in prior year.</p>						
<b>Accomplishments/Planned Programs Subtotals</b>		28.204	25.397	24.699	0.000	24.699
<b>D. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>Remarks</b>						
<b>E. Acquisition Strategy</b> 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.						
<b>F. Performance Metrics</b> 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 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0207590F / Seek Eagle				Project (Number/Name) 674037 / SEEK EAGLE Certifications					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
F-22 Capabilities Lockheed	C/CPFF	Lockheed Martin : Marietta, GA	-	0.600	Mar 2017	0.450	Mar 2018	0.350	Mar 2019	0.000		0.350	Continuing	Continuing	-
F-22 Capabilities Raytheon	C/CPFF	Raytheon : Waltham, MA	-	0.400	Mar 2017	0.350	Mar 2018	0.250	Mar 2019	0.000		0.250	Continuing	Continuing	-
AFSEO Mission and Planning Support	C/CPFF	Survice : Ft. Walton Beach, FL	-	13.533	Mar 2017	13.246	Mar 2018	13.069	Mar 2019	0.000		13.069	Continuing	Continuing	-
F-35 Capabilities	C/CPFF	Lockheed Martin : Marietta, GA	-	3.200	Nov 2016	3.715	Nov 2017	3.650	Nov 2018	0.000		3.650	Continuing	Continuing	-
Multiple fighter and weapon capability support	C/CPFF	Lockheed Martin : Marietta, GA	-	0.200	Nov 2016	0.150	Nov 2017	0.150	Nov 2018	0.000		0.150	Continuing	Continuing	-
F15 Test Support	C/CPFF	Boeing : St Louis, MO	-	0.010	Jan 2017	0.010	Jan 2018	0.010	Jan 2019	0.000		0.010	Continuing	Continuing	-
Enhance Existing and Develop Organic Electro EMI Capabilities	C/CPFF	Applied Research : Baltimore, MD	-	0.250	Mar 2017	0.250	Mar 2018	0.250	Mar 2019	0.000		0.250	Continuing	Continuing	-
Subtotal			-	18.193		18.171		17.729		0.000		17.729	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
96th Test Wing	RO	Eglin AFB : Eglin AFB, FL	-	8.961	Oct 2016	6.300	Oct 2017	6.090	Oct 2018	0.000		6.090	Continuing	Continuing	-
AEDC	PO	Arnold Engineering Dev Complex : Arnold AFB, TN	-	0.530	Jan 2017	0.515	Jan 2018	0.520	Jan 2019	0.000		0.520	Continuing	Continuing	-
412th Test Wing	Various	Edwards AFB : Edward AFB, CA	-	0.500	Aug 2017	0.400	Aug 2018	0.350	Aug 2019	0.000		0.350	Continuing	Continuing	-
Various: Navy, other AF	Various	China Lake, Patuxent River, other : Multiple, NV	-	0.020	Aug 2017	0.011	Aug 2018	0.010	Aug 2019	0.000		0.010	Continuing	Continuing	-
Subtotal			-	10.011		7.226		6.970		0.000		6.970	Continuing	Continuing	N/A

# UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force										Date: February 2018					
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207590F / Seek Eagle					Project (Number/Name) 674037 / SEEK EAGLE Certifications					
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	28.204		25.397		24.699		0.000		24.699	Continuing	Continuing	N/A
Remarks															

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2019 Air Force	<b>Date:</b> February 2018
---	----------------------------

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

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
<b>SEEK EAGLE</b>																												
Store compatabilty analysis on legacy fighter/bomber/RPA aircraft and weapons modifications																												
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																												
AFSEO Mission and Planning Support																												



# UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207590F / <i>Seek Eagle</i>	Project (Number/Name) 674037 / <i>SEEK EAGLE</i> Certifications	

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>SEEK EAGLE</b>				
Store compatabilty analysis on legacy fighter/bomber/RPA aircraft and weapons modifications	1	2017	4	2023
F-35 Capability Development: Initial Operational Capability	1	2017	4	2017
F-35 Capability Development: Full Operational Capability	4	2017	4	2023
F-22A Capability Development and Weapons Certification	1	2017	4	2023
Modeling and Simulation Capability: development and refresh of analysis tools	1	2017	4	2023
AFSEO Mission and Planning Support	1	2017	4	2023

### Note

Note: The SEEK EAGLE program does not execute in accordance with established acquisition program milestones. Rather, user requirements trigger the SEEK EAGLE process for requested aircraft-store configurations for flight clearances. AFSEO work is completed in accordance with the designated user priority established through the SEEK EAGLE Prioritization List process.