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

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0305176F / <i>Combat Survivor Evader Locator</i>
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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	-	0.000	0.993	29.253	0.000	29.253	0.785	0.946	0.000	0.000	Continuing	Continuing
654522: <i>CSAR EMD</i>	-	0.000	0.993	29.253	0.000	29.253	0.785	0.946	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

In FY16, Project 654522 CSAR EMD, included an effort for CSEL Crypto. FY17 continues the Crypto effort.

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

The Combat Survivor Evader Locator (CSEL) System provides aircrews with end-to-end global satellite secure emergency communication capability during combat and peace-time flying operations. A hand held rescue radio is required as part of the mandatory aircrew survival gear. CSEL is the Joint Program of Record. CSEL supports four of five Personnel Recovery Mission Phases; Report, Locate, Support and Recover.

A NSA Cryptographic Modernization mandate and the Ultra High Frequency Follow-On satellite constellation at end of life are both driving upgrades to 54,876 hand held CSEL rescue radios and base station. FY16 funding is to conduct an abbreviated analysis of alternatives detailing the development required to integrate common waveforms, provide for cryptographic modernization, and leverage software defined capabilities.

FY17 funding includes \$27.660M for the development effort to modernize the system to integrate common waveforms, provide for cryptographic modernization, leverage software defined capabilities based on the analysis of alternatives, and to procure intellectual property. This funding will also be used to perform various studies and analysis in support of the CSEL Enterprise.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2015</u></b>	<b><u>FY 2016</u></b>	<b><u>FY 2017 Base</u></b>	<b><u>FY 2017 OCO</u></b>	<b><u>FY 2017 Total</u></b>
Previous President's Budget	0.000	0.993	1.885	0.000	1.885
Current President's Budget	0.000	0.993	29.253	0.000	29.253
Total Adjustments	0.000	0.000	27.368	0.000	27.368
• 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	0.000	0.000			
• Other Adjustments	0.000	0.000	27.368	0.000	27.368

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**Change Summary Explanation**

FY17 funding includes \$27.660M for the development effort to modernize the system to integrate common waveforms, provide for cryptographic modernization, leverage software defined capabilities based on the analysis of alternatives, and to procure intellectual property. This funding will also be used to perform various studies and analysis in support of the CSEL Enterprise.

**C. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2015	FY 2016	FY 2017
<b>Title:</b> CSEL Crypto	-	0.993	29.253
<b>Description:</b> A NSA Cryptographic Modernization mandate and the Ultra High Frequency Follow-On satellite constellation at end of life are both driving upgrades to 54,876 hand held CSEL rescue radios and base station.			
<b>FY 2016 Plans:</b> FY16 funding is to conduct an abbreviated analysis of alternatives detailing the development required to integrate common waveforms, provide for cryptographic modernization, and leverage software defined capabilities.			
<b>FY 2017 Plans:</b> FY17 funding is for the development effort to modernize the system to integrate common waveforms, provide for cryptographic modernization, leverage software defined capabilities based on the analysis of alternatives, and to procure intellectual property. This funding will also be used to perform various studies and analysis in support of the CSEL Enterprise.			
<b>Accomplishments/Planned Programs Subtotals</b>			
	-	0.993	29.253

**D. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• P-54: <i>OPAF: BA03: Line Item # 837170: Combat Survivor Evader Locator</i>	0.000	0.000	0.000	0.000	0.000	27.290	0.000	0.000	0.000	0.000	0.000

**Remarks**

**E. Acquisition Strategy**

Every effort will be made to use full and open competition and evolutionary acquisition strategies.

**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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force												Date: February 2016				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
3600 / 5				PE 0305176F / Combat Survivor Evader Locator				654522 / CSAR EMD								
<b>Product Development (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
Crypto Modernization - HW/SW Development	C/TBD	Not specified : Hill AFB, UT	-	0.000		0.000		28.053	Jul 2017	0.000		28.053	Continuing	Continuing	-	
<b>Subtotal</b>			-	0.000		0.000		28.053		0.000		28.053	-	-	-	
<b>Support (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-	
<b>Test and Evaluation (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-	
<b>Management Services (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
Program Management Administration	C/Variou	Various : Hill AFB, UT	-	0.000		0.363	Jan 2016	0.400	Jan 2017	0.000		0.400	Continuing	Continuing	-	
Systems Engineering	C/Variou	Various : Hill aAFB, UT	-	0.000		0.630	Jan 2016	0.800	Jan 2017	0.000		0.800	Continuing	Continuing	-	
<b>Subtotal</b>			-	0.000		0.993		1.200		0.000		1.200	-	-	-	
<b>Project Cost Totals</b>			-	0.000		0.993		29.253		0.000		29.253	-	-	-	

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	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	

**Remarks**  
 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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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Air Force		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0305176F / <i>Combat Survivor Evader Locator</i>	<b>Project (Number/Name)</b> 654522 / <i>CSAR EMD</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Crypto Modernization Analysis of Alternatives (AoA)	2	2016	2	2017
Crypto Modernization Development	4	2017	4	2019
Crypto Modernization Test & Evaluation (T&E)	3	2019	4	2019