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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305202F: <i>Dragon U-2 (JMIP)</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	-	23.644	-	23.644	18.700	11.368	12.295	8.706	Continuing	Continuing
674820: <i>Sensor Development</i>	-	-	23.644	-	23.644	18.700	11.368	12.295	8.706	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

A. Mission Description and Budget Item Justification

The CIA established the Senior Year Program in 1955. The program has evolved to include the U-2 airframes, engines, sensors, cameras, recorders, data links life support systems, test facilities, and equipment. The U-2S model airframes were constructed in the late 1980s, with the last aircraft rolling off the assembly line in 1989. The U-2S provides global reconnaissance signals intelligence (SIGINT) and geospatial intelligence (GEOINT) 24 hours a day, seven days a week in support of national and DoD worldwide missions. The U-2 is currently deployed to forward operating locations (FOL) around the world. Due to delays in the Global Hawk program, the U-2 has been extended to 2025.

The Lithium-Ion Battery replacement activity addresses a critical U-2 sustainment issue by developing a replacement for the lead-acid batteries that provide emergency electrical power in the event of an engine/generator failure during flight. The lithium-ion battery solution eliminates the need to remove the batteries from the aircraft for recharging/maintenance and eliminates the need to replace the current battery recharging system at a cost savings of \$5M. The lighter weight lithium-ion batteries will also improve the fuel consumption.

The U-2 Fuel Conversion activity will certify an additive to the widely available JP8 jet fuel for flight on the U-2 as a replacement for the current Jet Propellant Thermally Stable (JPTS) fuel. The U-2 has special fuel requirements due to the extreme temperatures it encounters in its operating environment. The production, special handling, and prepositioning of JPTS results in significant cost increase. By switching to an additive to the common JP8, the logistical challenges are greatly reduced and the fuel costs are reduced by 50%.

The U-2 Sump Tank activity develops a composite materials replacement for the existing aluminum sump tank that will reduce the mean time between failure rate for this key component. Annual cost of replacing the existing aluminum tank is currently \$1.8M.

The U-2 GPS receiver replacement activity addresses a vanishing vendor item/diminishing material source issue in the FY17 timeframe for this critical navigation component. Development and testing of a replacement GPS receiver for the U-2 in FY13 is required to ensure continued operations beyond FY17.

Activities also include, but not limited to, studies and analysis to support both current program planning and execution, and future program planning.

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 fiscal year.

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B. Program Change Summary (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total		
Previous President's Budget		-	-	-	-	-		
Current President's Budget		-	-	23.644	-	23.644		
Total Adjustments		-	-	23.644	-	23.644		
• Congressional General Reductions		-	-					
• Congressional Directed Reductions		-	-					
• Congressional Rescissions		-	-					
• Congressional Adds		-	-					
• Congressional Directed Transfers		-	-					
• Reprogrammings		-	-					
• SBIR/STTR Transfer		-	-					
• Other Adjustments		-	-	23.644	-	23.644		
Change Summary Explanation								
The FY 13-17 funding increase is a result of the Air Force Chief of Staff's decision to extend the U-2 through 2025 and sustain the U-2 ability to support combatant commander emerging requirements.								
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Lithium-Ion Batteries				-	-	8.400	-	8.400
Description: Provides extended power availability with loss of engine/generator during flight.								
FY 2013 Base Plans: Will begin development of Li-Ion Battery replacement.								
Title: Sump Tank Replacment				-	-	2.100	-	2.100
Description: Develop new composite material sump tank to replace current aluminum sump tank.								
FY 2013 Base Plans: Will begin development of new composite material tank.								
Title: GPS Receiver Replacement				-	-	3.100	-	3.100
Description: Develop a replacement GPS receiver for the U-2 to address vanishing vendor/diminishing material source issue.								

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C. Accomplishments/Planned Programs (\$ in Millions)								FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2013 Base Plans: Will begin development of a replacement U-2 GPS receiver, a critical navigation component.												
Title: Fuel Conversion Description: Identify a replacement option for Jet Propellant Thermally Stable (JPTS) fuel, the current high altitude fuel. FY 2013 Base Plans: Will begin testing a JP8 additive for use with U-2, leading towards its certification.								-	-	10.044	-	10.044
Accomplishments/Planned Programs Subtotals								-	-	23.644	-	23.644
D. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost	
• APAF, PE 0305202F, U-2: Dragon U-2 Proc	0.000	0.000	53.664	82.500	136.164	67.404	66.991	25.481	52.808	Continuing	Continuing	
E. Acquisition Strategy For these U-2 Airborne collection capability upgrades, modifications to existing platform and associated ground control equipment via Engineering Change Proposals (ECPs)/Task Orders on existing USAF contracts. Details are classified and available on a need-to-know basis. There is associated procurement funding tied to this development activity.												
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-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Lithium-Ion Battery	1	2013	1	2014
U-2 Sump Tank	1	2013	3	2014
U-2 GPS Receiver	1	2013	4	2013
Fuel Conversion	1	2013	4	2014
Stab Trim/Flap Actuator	1	2014	4	2015
ECM System	1	2015	4	2016
CNS/ATM	1	2016	4	2017