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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)					PE 0604288F I National Airborne Ops Center (NAOC) Recap							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	6.141	7.440	16.669	0.000	16.669	102.739	136.684	138.000	141.000	Continuing	Continuing
646507: NAOC Recap Development	-	6.141	7.440	16.669	0.000	16.669	102.739	136.684	138.000	141.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note												
In FY2018, PE 0302015F, E-4B National Airborne Operations Center (NAOC) Project 674777, E-4B Aircraft Modernization efforts were transferred to PE 0604288F, National Airborne Ops Center (NAOC) Recap, Project 646507, NAOC Recap Development, in order to provide greater transparency and consolidate efforts.												
A. Mission Description and Budget Item Justification												
The E-4B National Airborne Operations Center (NAOC) is a survivable node of the National Military Command System (NMCS), providing POTUS, SECDEF and the CJCS a worldwide, survivable, and enduring node of the NMCS to fulfill national security requirements throughout all stages of conflict. As a command, control and communications center directing US forces, executing emergency war orders and coordinating the activities of civil authorities including national contingency plans, this capability ensures continuity of operations plans and continuity of government as required in a national emergency or after negation/destruction of ground command and control centers.												
The E-4B NAOC Recapitalization effort will replace the aging E-4B fleet which faces capability gaps, diminishing manufacturing sources, increased maintenance costs, and parts obsolescence as it approaches the end of its serviceable life. The recapitalization effort will be informed by Air Force and Department of Defense analyses used to determine a holistic approach to replacing the aging E-4B fleet and integrating its capabilities with other nuclear and national command and control mission sets.												
In 2015, the Joint Staff completed a Mission Area Analysis (MAA) focused on the Nuclear Command, Control and Communication (NC3) National Military Command system (NMCS) airborne fleets. This analysis examined alternative architectures and CONOPS for achieving requirements, and suggested potential programmatic, platform, and/or mission system synergies across and between fleet recapitalization programs (E-4B, E-6B, VC-25, C-32A). Further, the Joint Staff documented the essential functions necessary to execute Nuclear Command and Control, and defined the operational role of the NC2 enterprise out to 2030 in a NC2 CONOPS. From 2014-2016, the Joint Staff performed an NC2 Capabilities Based Assessment (CBA) to determine potential gaps in the NC2 mission and architecture. The findings of these studies have culminated in an evolved NMCS "aerial layer mission alignment strategy" that may allow the Department of Defense (DoD) to consolidate the airborne command center capabilities provided by the E-4B and E-6B into an optimized fleet of appropriately configured aircraft. This concept is known as the Survivable Airborne Operations Center, or SAOC.												
This program element may include necessary civilian pay expenses (direct cite) required to manage, execute, and deliver E-4B weapon system 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.												

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Furthermore, it includes support funding for emerging requirements to support program office operations, management services (FFRDC, A&AS, etc.), PMS, equipment and other as required.						
As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.						
This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.						
B. Program Change Summary (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget		7.850	9.740	19.549	0.000	19.549
Current President's Budget		6.141	7.440	16.669	0.000	16.669
Total Adjustments		-1.709	-2.300	-2.880	0.000	-2.880
• Congressional General Reductions		0.000	0.000			
• Congressional Directed Reductions		-1.500	-2.300			
• 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		-0.209	0.000			
• Other Adjustments		0.000	0.000	-2.880	0.000	-2.880
Change Summary Explanation						
FY18: Congressional Mark -\$1.5M sited "Maintain program affordability, Recap excess to need".						
FY19: Congressional Mark -\$2.3M sited " Materiel solution analysis funding early to need."						
FY20: Re-phased -\$2.88M from FY20 into FY21 (+\$1.728M) and FY22 (+\$1.152M)						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2018	FY 2019	FY 2020
Title: E-4B NAOC Recap				6.141	7.440	16.669
Description: Efforts will involve early acquisition activities, to include but not limited to, preparation for an acquisition entry decision, completion of the Analysis of Alternatives (AoA), development of initial requirements/acquisition strategy, risk reduction activities, and other efforts necessary to initiate a recapitalization program.						

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020
<p><i>FY 2019 Plans:</i> Complete AoA and continue Materiel Solution Analysis activities. Establish program office and staff to accomplish pre-acquisition activities leading to a MS A or MS B decision dependent on the outcome of the AoA.</p> <p><i>FY 2020 Plans:</i> Complete Materiel Solution Analysis activities. Continue program office stand up, pre-EMD studies and risk reduction activities, and other efforts necessary to a recapitalization program.</p> <p><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i> FY20 increases efforts to support pre-EMD planning and activities and continues stand up of program office.</p>			
Accomplishments/Planned Programs Subtotals	6.141	7.440	16.669

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u> <u>Base</u>	<u>FY 2020</u> <u>OCO</u>	<u>FY 2020</u> <u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 07 PE 0302015F: E-4B National Airborne Operations Center (NAOC)	37.481	57.758	70.173	-	70.173	3.474	136.684	0.000	0.000	0.000	305.570

Remarks

E. Acquisition Strategy
The E-4B Recapitalization program is currently in the Materiel Solution Analysis phase. After completing the program's Analysis of Alternatives (AoA), a formal acquisition strategy will follow.

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 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0604288F / National Airborne Ops Center (NAOC) Recap				Project (Number/Name) 646507 / NAOC Recap Development					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Analysis of Alternatives and Studies	MIPR	Various : TBD	-	2.500	Jun 2018	3.749	Oct 2018	-		-		-	Continuing	Continuing	-
Risk Reduction Studies	MIPR	Various : TBD	-	0.802	Jun 2018	-		-		-		-	Continuing	Continuing	-
Pre-EMD Studies and Activities	TBD	TBD : TBD	-	-		-		11.750	Jan 2020	-		11.750	Continuing	Continuing	-
Subtotal			-	3.302		3.749		11.750		-		11.750	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
FFRDC	Various	Various : Bedford, MA : Hanscom AFB, MA	-	1.844	Jun 2018	1.697	Oct 2018	1.950	Oct 2019	-		1.950	Continuing	Continuing	-
EPASS (A&AS)	Various	Various : Bedford, MA : Hanscom AFB, MA	-	0.000		1.216	Nov 2018	1.320	Nov 2019	-		1.320	Continuing	Continuing	-
PMA - Other	Various	Various : Bedford, MA : Hanscom AFB, MA	-	0.995	Jun 2018	0.778	Oct 2018	1.649	Oct 2019	-		1.649	Continuing	Continuing	-
Subtotal			-	2.839		3.691		4.919		-		4.919	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	6.141		7.440		16.669		-		16.669	Continuing	Continuing	N/A
Remarks Costs associated with development planning, risk reduction and preliminary planning activities including systems engineering strategy and analysis; completion and reporting of the Analysis of Alternatives.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 4								R-1 Program Element (Number/Name) PE 0604288F / National Airborne Ops Center (NAOC) Recap				Project (Number/Name) 646507 / NAOC Recap Development			

	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
NAOC Recap Development																												
Analysis of Alternatives																												
Materiel Solution Analysis																												
Pre-EMD Studies and Activities																												
Milestone B																												
EMD																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604288F / National Airborne Ops Center (NAOC) Recap	Project (Number/Name) 646507 / NAOC Recap Development	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NAOC Recap Development				
Analysis of Alternatives	4	2018	1	2020
Materiel Solution Analysis	4	2018	1	2020
Pre-EMD Studies and Activities	2	2020	2	2022
Milestone B	2	2022	2	2022
EMD	2	2022	4	2024