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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 1203001F I Family of Advanced BLoS Terminals (FAB-T)							
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	0.000	26.262	60.168	197.388	0.000	197.388	246.010	190.594	99.569	76.220	0.000	896.211
672490: Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)	0.000	26.262	60.168	16.000	0.000	16.000	17.000	15.000	0.000	0.000	0.000	134.430
673035: Presidential and National Voice Conferencing	0.000	0.000	0.000	65.911	0.000	65.911	62.219	43.525	27.887	3.247	0.000	202.789
673040: Force Element Terminal	0.000	0.000	0.000	115.477	0.000	115.477	166.791	132.069	71.682	72.973	0.000	558.992
Program MDAP/MAIS Code: 199												
A. Mission Description and Budget Item Justification												
<p>The FAB-T project replaces legacy Milstar terminals and will provide Extremely High Frequency (EHF), protected high data rate communication for nuclear and conventional forces to include Presidential and Nation Voice Conferencing (PNVC). FAB-T will provide the new, highly secure, state-of-the-art capability for DoD platforms to include strategic platforms and airborne/ground command posts via Milstar, AEHF, and Enhanced Polar System (ESP) Satellites. FAB-T terminals will also support the critical command and control (C2) of the Milstar, AEHF and EPS satellite constellations. The Air Force will continue development of the FAB-T Command Post Terminal (CPT), performing activities to meet current and future emerging SATCOM requirements.</p>												
<p>The Force Element Terminal (FET) project provides secure, protected, and survivable communications for the strategic and tactical warfighter through airborne based MILSATCOM terminals, The FET will provide the B-52, and RC-135 aircraft with worldwide nuclear and non-nuclear survivable, anti-jam Low Probability of Detect (LPD)/ Low Probability of Intercept (LPI), data and voice communications. The FET will be interoperable with Milstar, AEHF, Enhanced Polar Systems - Recapitalization (EPS-R), and Evolved Strategic SATCAM (ESS) Satellite constellations utilizing both Low Data Rate (LDR) and Extended Data Rate (XDR) waveforms.</p>												
<p>The PNVC capability is a critical element of the Nuclear Command, Control, and communications (NC3) System. PNVC is the Survivable Emergency Conferencing Network (SECN) replacement capability which provides anti-jam, anti-scintillation, survivable, and endurable voice communications through the AEHF satellite system for national and strategic users. There are several components being developed and procured by other organizations that must be synchronized to expeditiously field the capability. The PNVC Integrator is responsible for end-to-end integration of these components, to include requirements traceability, end-to-end system testing, configuration and checkout activities, training and technical manuals, network transition support, identification of deficiencies in overall PNVC system capability, enterprise and life cycle support for PNVC components. The AFPEO-SP approved entry into the acquisition lifecycle as post MS-A ACAT III Program of Record in January 2016. Starting in December 2018 PNVC Integrator is responsible for all program elements' requests for funding related to the Defense Information Systems and Agency (DISA) components of the PNVC System in accordance with FY 2018 National Defense Authorization Act, Sec. 1661.</p>												
<p>Space acquisition must respond with speed and agility to emerging adversary threats. Space & Missile Systems Center (SMC) is transforming the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships,</p>												

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and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SMC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.						
The FY 2020 funding request was reduced by \$12.154 million to account for the availability of prior year execution balances.						
Reduce Family of Beyond Line-of-Sight Terminal (FAB-T) Force Element Terminal (FET) saved \$29.700M in FY 2020. Reduce Family of Beyond Line-of-Sight Terminal (FAB-T) Force Element Terminal (FET) description: Redirects an identified FY 2020 excess in RDT&E funding to programs aligned with the National Defense Strategy for improvement of lethality, such as Kill Chain Automation.						
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 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.						
B. Program Change Summary (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget		32.426	80.168	184.320	0.000	184.320
Current President's Budget		26.262	60.168	197.388	0.000	197.388
Total Adjustments		-6.164	-20.000	13.068	0.000	13.068
• Congressional General Reductions		-1.134	0.000			
• Congressional Directed Reductions		-5.000	-20.000			
• 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		-0.030	0.000			
• Other Adjustments		0.000	0.000	13.068	0.000	13.068
Change Summary Explanation						
FY 2018: -\$5.000M Congressional Reduction for prior year carryover						
FY 2019: -\$20.000M Congressional Reduction; FET Terminals early to need						
FY 2020: -\$41.840M Reduction to FAB-T FET; +\$35.900M increase to PNVC						

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)				Project (Number/Name) 672490 / Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)			
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
672490: Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)	0.000	26.262	60.168	16.000	0.000	16.000	17.000	15.000	0.000	0.000	0.000	134.430
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY 2020 PE 1203001F, Project 672490, transferred to PE 1203001F, Project 673035 for PNVC and Project 673040 for FET for program transparency.

The FAB-T program replaces legacy Milstar terminals and will provide Extremely High Frequency (EHF), protected high data rate communication for nuclear and conventional forces to include Presidential and National Voice Conferencing (PNVC). FAB-T will provide this new, highly secure, state-of-the-art capability for DoD platforms to include strategic platforms and airborne/ground command posts via Milstar, AEHF, and Enhanced Polar System (EPS) satellites. FAB-T terminals will also support the critical command and control (C2) of the Milstar, AEHF and EPS satellite constellations. The Air Force will continue development of the FAB-T Command Post Terminal (CPT), performing systems engineering, architecture studies, development & operational test efforts, FAB-T terminal interoperability with the full AEHF satellite constellation activities, and other program activities to meet current and future emerging SATCOM requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
Title: FAB-T CPT Development	1.859	0.100	16.000
Description: The FAB-T program will provide EHF voice and data MILSATCOM for nuclear and conventional forces as well as airborne and ground command posts with connectivity to Milstar, AEHF, and EPS satellites.			
FY 2019 Plans: The FAB-T program provides EHF voice and data MILSATCOM for nuclear and conventional forces as well as airborne and ground command posts with connectivity to Milstar, AEHF, and EPS satellites.			
FY 2020 Plans: The FAB-T program will continue to provide EHF voice and data MILSATCOM for nuclear and conventional forces as well as airborne and ground command posts with connectivity to Milstar, AEHF, and EPS satellites. Additional development will be for National Security Agency (NSA) AEHF terminal certification.			
FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 increased compared to FY 2019 by \$15.900M. Justification for this increase is described in the plans above.			
Title: PNVC Integrator	18.810	28.346	0.000

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Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)		Project (Number/Name) 672490 / Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)		
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2018	FY 2019	FY 2020
<p>Description: PNVC is the SECN replacement capability which provides anti-jam, anti-scintillation, survivable, and endurable voice communications through the AEHF satellite system for national and strategic users. The PNVC capability consists of constituent programs being developed and produced by other organizations. This program will integrate test and support configuration of hardware from these other programs. PNVC components will be installed at ground fixed and mobile command locations, as well as in the airborne E-4B, E-6B and Very Important Person Special Airlift Mission (VIPSAM) aircraft.</p> <p>FY 2019 Plans: Award Product Support Integrator contract activity to complete training, technical publications and conclude Developmental and Operational Testing activities. Execute further Developmental Test focused on system functional performance with an expanded number of network participants to address all nodes (fixed, transportable, airborne and special users) in a scintillated environment with component variants. Continue support of fielding activities and site checkout. Continue program office and other related support activities that may include, but are not limited to studies, technical analysis, etc.</p> <p>FY 2020 Plans: N/A</p> <p>FY 2019 to FY 2020 Increase/Decrease Statement: N/A</p>						
<p>Title: FAB-T FET</p> <p>Description: Funding ensures the continued development of Force Element Terminals. Development activities related to FET design, development and qualification testing will be executed.</p> <p>FY 2019 Plans: Funding for the continued development of Force Element Terminals. Activities will include, but not limited to, development and coordination of regulatory and statutory Milestone documents, technical requirements definition, and FET Request for Proposal (RFP) planning for award of a development contract in FY 2019. Funding will also be used for technology risk reduction activities and platform environmental studies to ensure a viable AEHF terminal can be developed in timely manner for the B-52 and RC-135.</p> <p>FY 2020 Plans: N/A</p> <p>FY 2019 to FY 2020 Increase/Decrease Statement: N/A</p>				5.593	31.722	0.000
Accomplishments/Planned Programs Subtotals				26.262	60.168	16.000

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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)	Project (Number/Name) 672490 / Family of Advanced Beyond Line- of-Sight Terminals (FAB-T)	

C. Other Program Funding Summary (\$ in Millions)

Line Item	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
• APAF 05 FBLOST: FAB-T	12.553	14.293	9.610	-	9.610	5.062	0.000	0.000	-	0.000	41.518
• APAF 05 PNVC: PNVC	2.464	-	-	-	-	-	-	-	-	0.000	2.464
• SPAF 01 FBLOST: FAB-T	78.737	27.867	32.105	-	32.105	8.497	0.000	0.000	-	0.000	147.206
• SPAF 02 PNVC: PNVC	2.214	-	1.915	-	1.915	5.246	5.877	1.578	1.607	0.000	18.437
• SPAF FET:: FET	-	-	-	-	-	-	-	88.913	90.515	0.000	179.428
• SPAF FAB-T: FAB-T	1.343	6.141	0.000	-	0.000	0.000	0.000	-	-	0.000	7.484
• SPAF 02 SSPARE Spares and Repair...: FAB-T	3.598	15.863	0.057	-	0.057	0.000	0.000	-	-	0.000	19.518

Remarks

D. Acquisition Strategy

FAB-T Acquisition Strategy: In FY 2012, the government restructured the FAB-T development program to introduce competition into the acquisition strategy in order to reduce risk in delivering this capability as well as to drive down production costs. To ensure the best value to the government, the Air Force awarded production contracts in September 2013 to both contractors (Boeing and Raytheon). The production contracts began with production planning for both contractors. In June 2014, the Air Force down-selected to Raytheon. Development and production of FAB-T Command Post Terminals continued with Raytheon. The first Production contract options to produce CPT terminals were exercised after a successful Milestone C decision was approved September 1, 2015.

E. 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 / 7						R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)				Project (Number/Name) 672490 / Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)					
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
FAB-T CPT Prime Contract	C/Various	Raytheon : Marlboro, MA	0.000	0.029	Dec 2018	-		12.677	Oct 2019	-		12.677	0.000	12.706	-
FAB-T CPT Technical Mission Analysis	Various	MITRE : Various, MA	0.000	1.435	Nov 2018	-		1.200	Oct 2019	-		1.200	0.000	2.635	-
FAB-T CPT GFE	Various	TBD : TBD	0.000	-		-		0.400	Oct 2019	-		0.400	0.000	0.400	-
FAB-T FET Prime Contracts	Various	Various : Various, MA	0.000	2.296	Jan 2018	13.910	Dec 2018	-		-		-	0.000	16.206	-
FAB-T FET Technical Mission Analysis	Various	Various : Various, MA	0.000	1.519	Jan 2018	2.750	Dec 2018	-		-		-	0.000	4.269	-
PNVC Prime Contract	Various	Various : Various, MA	0.000	12.210	Feb 2018	12.400	Jan 2019	-		-		-	0.000	24.610	-
PNVC Technical Mission Analysis	Various	Various : Various, MA	0.000	2.300	Jan 2018	6.400	Oct 2018	-		-		-	0.000	8.700	-
PNVC Enterprise SE&I	Various	Various : Various, MA	0.000	2.500	Jan 2018	1.900	Nov 2018	-		-		-	0.000	4.400	-
PNVC GFE/GFP	Various	Various : Various, MA	0.000	0.200	Jan 2018	7.000		-		-		-	0.000	7.200	-
Subtotal			0.000	22.489		44.360		14.277		-		14.277	0.000	81.126	N/A
Test and Evaluation (\$ 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
FAB-T CPT Test	PO	Various : Various	0.000	0.116	Dec 2018	-		0.523	Dec 2019	-		0.523	0.000	0.639	-
FAB-T FET Test and Evaluation	PO	Various : Various	0.000	-		-		-		-		-	0.000	0.000	-
PNVC Government Test and LDTO Support	PO	Various : Various	0.000	0.000		2.400	Apr 2019	-		-		-	0.000	2.400	-
Subtotal			0.000	0.116		2.400		0.523		-		0.523	0.000	3.039	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)				Project (Number/Name) 672490 / Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)					
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
FAB-T CPT FFRDC	Various	Various : TBD	0.000	0.204	Dec 2018	-		-		-		-	0.000	0.204	-
FAB-T FET Other Support	Various	Various : MA	0.000	0.057	Oct 2017	0.589	Dec 2018	-		-		-	0.000	0.646	-
FAB-T FET A&AS	Various	Various : MA	0.000	1.721	Jan 2018	6.373	Mar 2019	-		-		-	0.000	8.094	-
PNVC FFRDC	MIPR	Various : CA	0.000	0.100		0.200	Nov 2018	-		-		-	0.000	0.300	-
PNVC A&AS	Various	Various : TBD	0.000	0.500	Mar 2019	2.096	Nov 2018	-		-		-	0.000	2.596	-
PNVC Other Support	Various	Various : MA	0.000	1.000		4.100	Nov 2018	-		-		-	0.000	5.100	-
FAB-T CPT Other Support	Various	Various : MA	0.000	0.075		0.050		1.200	Nov 2019	-		1.200	0.000	1.325	-
Subtotal			0.000	3.657		13.408		1.200		-		1.200	0.000	18.265	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			0.000	26.262		60.168		16.000		-		16.000	0.000	102.430	N/A
Remarks Prior Years funding, FY 2016/FY 2017 \$95.229M was executed in PE 0303001F. Prior to FY 2016, \$180.602M was executed in PE 0303601F.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7								R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)				Project (Number/Name) 672490 / Family of Advanced Beyond Line- of-Sight Terminals (FAB-T)			

	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
FAB-T																												
FAB-T CPT Raytheon Development Contract																												
FAB-T CPT Government Test Support																												
FAB-T CPT AEHF Terminal Certification																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203001F / <i>Family of Advanced BLoS Terminals (FAB-T)</i>	Project (Number/Name) 672490 / <i>Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>FAB-T</i>				
FAB-T CPT Raytheon Development Contract	1	2018	2	2019
FAB-T CPT Government Test Support	1	2018	2	2019
FAB-T CPT AEHF Terminal Certification	1	2020	4	2022

Note
FAB-T Raytheon Development Contract actual award date 4Q 2012, completion is 2Q 2019.

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)				Project (Number/Name) 673035 / Presidential and National Voice Conferencing			
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
673035: Presidential and National Voice Conferencing	0.000	0.000	0.000	65.911	0.000	65.911	62.219	43.525	27.887	3.247	0.000	202.789
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project is not a New Start. In FY 2020 PE 1203001F, the PNVC effort in Project 672490 transferred to PE 1203001F, Project 673035, PNVC, for additional transparency.

The PNVC capability is a critical element of the Nuclear Command, Control, and Communications (NC3) System. PNVC is the Survivable Emergency Conferencing Network (SECN) replacement capability which provides anti-jam, anti-scintillation, survivable, and endurable voice communications through the AEHF satellite system for national and strategic users. There are several components being developed and procured by other organizations that must be synchronized to expeditiously field this capability. The PNVC Integrator is responsible for end-to-end integration of these components, to include requirements traceability, end-to-end system testing, configuration and checkout activities, training and technical manuals, network transition support, identification of deficiencies in overall PNVC system capability, enterprise and life cycle support for PNVC components. The AFPEO/SP approved entry into the acquisition lifecycle as a post MS-A ACAT III Program of Record in January 2016. Starting in December 2018, PNVC Integrator is responsible for all program elements' requests for funding related to the Defense Information Systems Agency (DISA) components of the PNVC System in accordance with FY 2018 National Defense Authorization Act, Sec. 1661.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
Title: PNVC Integrator	0.000	0.000	65.911
Description: PNVC is the SECN replacement capability which provides anti-jam, anti-scintillation, survivable, and endurable voice communications through the AEHF satellite system for national and strategic users. The PNVC capability consists of constituent programs being developed and produced by other organizations. This program will integrate test and support configuration of hardware from these other programs. PNVC components will be installed at ground fixed and mobile command locations as well as in the airborne E-4B, E-6 and Very Important Person Special Airlift Mission (VIPSAM) aircraft.			
FY 2019 Plans: PNVC was included in project 672490 in FY 2019.			
FY 2020 Plans: PNVC Integrator government team will conduct Phase 1 Developmental Test for ground based systems, with prime contractor support. In parallel, prime contractor and component contractors will identify and resolve hardware and software deficiencies identified during risk reduction testing, and conduct regression and interoperability testing post-disposition using both contractor and government test laboratories. Prime contractor will also be conducting Phase 2 risk reduction and contractor test for three			

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B. Accomplishments/Planned Programs (\$ in Millions)							FY 2018	FY 2019	FY 2020		
airborne and SMART-T systems, and completing integration and checkout of PNVC systems at 12 locations world-wide. Finally, government and contract teams will conduct technical order verification and conducting user training across all nodes and sites.											
Planning and support activities will include qualification test planning, logistics support planning, risk reduction activities, technical analysis and studies, platform integration support, and program office support. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, prototyping, etc.											
FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 increased by \$27.003M compared to FY 2019 due to establishment of new project line for PNVC.											
Accomplishments/Planned Programs Subtotals							0.000	0.000	65.91		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• RDTE 07 672490: PNVC	18.810	36.496	-	-	-	-	-	-	-	0.000	55.306
• APAF 05 FBLOST: FAB-T	12.553	14.293	9.610	-	9.610	5.062	-	-	-	0.000	41.518
• APAF 05 PNVC: PNVC	2.464	-	-	-	-	-	-	-	-	0.000	2.464
• SPAF 03 FBLOST: FAB-T	78.837	27.867	32.105	-	32.105	8.497	-	0.000	-	0.000	147.306
• SPAF 03 PNVC: PNVC	2.214	-	-	-	-	-	-	-	-	0.000	2.214
• SPAF 03 FET: FET	-	-	-	-	-	-	-	88.913	90.515	0.000	179.428
• APAF 05 Aircraft Spares and Repa...: FAB-T	1.343	6.141	-	-	-	-	-	-	-	0.000	7.484
• SPAF 03 SSPARE Spares and Repair...: FAB-T	3.598	15.583	0.057	-	0.057	-	-	-	-	0.000	19.238
Remarks											
In FY 2020, PE 1203001F, PE Family of Advanced Beyond Line-of-Sight Terminals, Project 673035, Presidential and National Voice Conferencing efforts were transferred from PE 1203001F, PE Family of Advanced Beyond Line-of-Sight Terminals, Project 672490, Family of Advanced Beyond Line-of-Sight Terminals.											
D. Acquisition Strategy											
PNVC Acquisition Strategy: On May 15, 2015 the Deputy Secretary of Defense assigned the PNVC End-to-End Integration responsibility to the Air Force; effective May 16, 2015, SAF/AQ designated the AFPEO/SP. The PNVC End-to-End Integrator program is responsible for requirements traceability, End-to-End system testing, site configuration activities, training and technical manuals, network transition support, identifying deficiencies in the PNVC capability, and enterprise and life cycle support											

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203001F / <i>Family of Advanced BLoS Terminals (FAB-T)</i>	Project (Number/Name) 673035 / <i>Presidential and National Voice Conferencing</i>

for all PNVC components. Starting in December 2018 PNVC Integration is responsible for all program elements' requests for funding related to the Defense Information Systems and Agency (DISA) components of the PNVC System in accordance with FY 2018 National Defense Authorization Act, Sec. 1661.

E. 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 / 7						R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)				Project (Number/Name) 673035 / Presidential and National Voice Conferencing					
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
PNVC Prime Contract	Various	Various : Various, MA	0.000	-		-		43.111	Jan 2020	-		43.111	Continuing	Continuing	-
PNVC Technical Mission Analysis	Various	Various : Various, MA	0.000	-		-		6.800	Oct 2019	-		6.800	Continuing	Continuing	-
PNVC Enterprise SE&I	Various	Various : Various, MA	0.000	-		-		1.900	Nov 2019	-		1.900	Continuing	Continuing	-
PNVC GFE/GFP	Various	Various : Various, MA	0.000	-		-		0.000	Jan 2020	-		0.000	Continuing	Continuing	-
Subtotal			0.000	-		-		51.811		-		51.811	Continuing	Continuing	N/A
Test and Evaluation (\$ 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
PNVC Government Test and LDTO Support	Various	Various : Various	0.000	-		-		2.500	Apr 2020	-		2.500	Continuing	Continuing	-
Subtotal			0.000	-		-		2.500		-		2.500	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
PNVC FFRDC	MIPR	TBD : TBD	0.000	-		-		0.200	Nov 2019	-		0.200	Continuing	Continuing	-
PNVC A&AS	Various	Various : Various TBD	0.000	-		-		2.200	Oct 2019	-		2.200	Continuing	Continuing	-
PNVC Other Support	Various	Various : MA	0.000	-		-		9.200	Oct 2019	-		9.200	Continuing	Continuing	-
Subtotal			0.000	-		-		11.600		-		11.600	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force										Date: February 2019					
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)					Project (Number/Name) 673035 / Presidential and National Voice Conferencing					
			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			0.000	-		0.000		65.911		-		65.911	Continuing	Continuing	N/A
Remarks In FY 2020, PE 1203001F, PE Family of Advanced Beyond Line-of-Sight Terminals, Project 673035, Presidential and National Voice Conferencing efforts were transferred from PE 1203001F, PE Family of Advanced Beyond Line-of-Sight Terminals, Project 672490, Family of Advanced Beyond Line-of-Sight Terminals.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force																Date: February 2019			
Appropriation/Budget Activity 3600 / 7								R-1 Program Element (Number/Name) PE 1203001F / <i>Family of Advanced BLoS Terminals (FAB-T)</i>								Project (Number/Name) 673035 / <i>Presidential and National Voice Conferencing</i>			

	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
<i>PNVC Integrator</i>																												
Phase I Ground Development Test 1																												
Phase II Integration & Test																												
Phase II Install & Check Out																												
Phase II Dry-Runs & Development Test																												
Multi-Service Operational Test & Evaluation																												
Deficiency Workoff																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)	Project (Number/Name) 673035 / Presidential and National Voice Conferencing	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>PNVC Integrator</i>				
Phase I Ground Development Test 1	2	2020	2	2020
Phase II Integration & Test	4	2019	1	2021
Phase II Install & Check Out	2	2020	1	2021
Phase II Dry-Runs & Development Test	1	2021	4	2021
Multi-Service Operational Test & Evaluation	1	2022	2	2022
Deficiency Workoff	3	2019	1	2022

Note

FAB-T / FET was started in prior year BPAC 672490.

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)				Project (Number/Name) 673040 / Force Element Terminal			
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
673040: Force Element Terminal	0.000	0.000	0.000	115.477	0.000	115.477	166.791	132.069	71.682	72.973	0.000	558.992
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project is not a New Start. In FY 2020, PE 1203001F, Family of Advanced Beyond Line-of-Sight Terminals, Project 673040, Force Element Terminal efforts were transferred from PE 1203001F, PE Family of Advanced Beyond Line-of-Sight Terminals, Project 672490, Family of Advanced Beyond Line of Sight Terminals to provide program transparency.

The Force Element Terminal (FET) program provides secure, protected, and survivable communications for the strategic and tactical warfighter through airborne based MILSATCOM terminals. The FET will provide the B-52, and RC-135 aircraft with worldwide nuclear and non-nuclear survivable, anti-jam, Low Probability of Detect (LPD)/Low Probability of Intercept (LPI), data and voice communications. The FET will be interoperable with Milstar, AEHF, Enhanced Polar Systems - Recapitalization (EPS-R), and Evolved Strategic SATCOM (ESS) Satellite constellations utilizing both Low Data Rate (LDR) and Extended Data Rate (XDR) waveforms.

The FY 2020 funding request was reduced by \$12.154 million to account for the availability of prior year execution balances.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
Title: FAB-T FET	0.000	0.000	115.477
Description: Description: Continue development of Force Element Terminals. Development activities include, but are not limited to, FET design, development and qualification testing.			
FY 2019 Plans: FAB-T FET was included BPAC 672490 in FY 2019.			
FY 2020 Plans: Funding is for the continued development of Force Element Terminals. Design activities will include, but not limited to, the conduct of design reviews including a Systems Requirement Review, Preliminary Design Review, and Critical Design Review. FET development activities will include nuclear hardness parts analysis and testing, performance of reliability growth testing, and fabrication of prototypes and test assets to support terminal environmental and functional qualification and flight testing.			
Planning and support activities will include qualification test planning, logistics support planning, risk reduction activities, technical analysis and studies, platform integration support, and program office support. Rapidly respond to implement system resiliency			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 1203001F / <i>Family of Advanced BLoS Terminals (FAB-T)</i>				Project (Number/Name) 673040 / <i>Force Element Terminal</i>				
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2018	FY 2019	FY 2020
and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, prototyping, etc.												
FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 increased by \$115.477 compared to FY 2019. This increase is due to establishment of new Project line.												
Accomplishments/Planned Programs Subtotals										0.000	0.000	115.477
C. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
• RDTE 04 672490: <i>FET</i>	5.575	43.672	-	-	-	-	-	-	-	0.000	49.247	
• APAF 05 FBLOST: <i>FAB-T</i>	22.252	14.292	9.610	-	9.610	5.062	-	-	-	0.000	51.216	
• APAF 05 PNVC: <i>PNVC</i>	2.464	-	-	-	-	-	-	-	-	0.000	2.464	
• SPAF 01 FBLOST: <i>FAB-T</i>	78.737	27.867	32.105	-	32.105	8.497	-	88.913	-	0.000	236.119	
• PNVC: <i>PNVC</i>	2.214	-	-	-	-	-	-	-	-	0.000	2.214	
• SPAF FET: <i>FET</i>	-	-	-	-	-	-	-	88.913	90.515	0.000	179.428	
• APAF 05 Aircraft Spares and Repa...: <i>FAB-T</i>	1.343	6.141	0.000	-	0.000	-	-	-	-	0.000	7.484	
• SSPARE Spares and Repair Parts: <i>FAB-T</i>	3.598	15.583	0.057	-	0.057	-	-	-	-	0.000	19.238	
Remarks												
D. Acquisition Strategy												
FET Acquisition Strategy: Per the Vector Check brief to SAF/AQ on November 8, 2018, FET will pursue a Rapid Prototyping development approach under Section 804 of the National Defense Authorization Act for FY 2016 (Public Law 114-92). FET will award a development effort in FY 2019 leading to a production decision in FY 2023. The development effort includes system design and build of sufficient test assets to allow for expeditious development, testing, qualification and integration support of the FET capability. FET will meet B-52 and RC-135 platform requirements to support USSTRATCOM's Strategic Nuclear Command Control and Communication (NC3) mission.												
E. 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 / 7						R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)				Project (Number/Name) 673040 / Force Element Terminal					
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
FAB-T FET Development Contracts	Various	TBD : TBD, MA	0.000	-		-		76.076	Oct 2019	-		76.076	Continuing	Continuing	-
FAB-T FET Technical Mission Analysis	Various	TBD : TBD, MA	0.000	-		-		7.197	Oct 2019	-		7.197	Continuing	Continuing	-
Subtotal			0.000	-		-		83.273		-		83.273	Continuing	Continuing	N/A
Test and Evaluation (\$ 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
FAB-T FET Test & Evaluation and Assets	PO	Multiple Agencies : TBD	0.000	-		-		16.417	Nov 2019	-		16.417	Continuing	Continuing	-
Subtotal			0.000	-		-		16.417		-		16.417	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
FAB-T FET Other Support	Various	Various : Various, MA	0.000	-		-		10.220	Oct 2019	-		10.220	Continuing	Continuing	-
FAB-T FET A&AS	Various	Various : Various, MA	0.000	-		-		5.567	Oct 2019	-		5.567	Continuing	Continuing	-
Subtotal			0.000	-		-		15.787		-		15.787	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			0.000	-		0.000		115.477		-		115.477	Continuing	Continuing	N/A
Remarks															
In FY 2020, PE 1203001F, PE Family of Advanced Beyond Line-of-Sight Terminals, Project 673040, Force Element Terminal efforts were transferred from PE 1203001F, PE Family of Advanced Beyond Line-of-Sight Terminals, Project 672490, Family of Advanced Beyond Line of Sight Terminals.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force										Date: February 2019									
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203001F / Family of Advanced BLoS Terminals (FAB-T)					Project (Number/Name) 673040 / Force Element Terminal									

	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
FET																												
FAB-T Force Element Terminal Development																												
FAB-T FET Parts Hardness Testing																												
FAB-T FET Design, Fabrication and Development of Prototypes and Test Assets																												
FAB-T FET Qualification Testing																												
FAB-T Force Element Terminal Production																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203001F / <i>Family of Advanced BLoS Terminals (FAB-T)</i>	Project (Number/Name) 673040 / <i>Force Element Terminal</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>FET</i>				
FAB-T Force Element Terminal Development	4	2019	4	2024
FAB-T FET Parts Hardness Testing	1	2020	1	2021
FAB-T FET Design, Fabrication and Development of Prototypes and Test Assets	1	2020	4	2022
FAB-T FET Qualification Testing	3	2021	1	2023
FAB-T Force Element Terminal Production	1	2023	4	2024