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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303001F / <i>Family of Advanced BLoS Terminals (FAB-T)</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	3.895	42.378	0.000	42.378	0.000	0.000	0.000	0.000	0.000	46.273
672490: <i>Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)</i>	-	0.000	3.895	42.378	0.000	42.378	0.000	0.000	0.000	0.000	0.000	46.273
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Prior Years Funding \$180.602 was executed in PE 0303601F

In FY2014, PE 0303601F MILSATCOM Terminals, Project 672489 Family of Advanced Beyond Line-of-Sight Terminals(FAB-T) transferred to PE 0303601F MILSATCOM Terminals, Project 672490 Family of Advanced Beyond Line-of-Sight Terminals(FAB-T) in order to provide improved visibility.

In FY2016, PE 0303601F, MILSATCOM Terminals, Project 672490, Family of Advanced Beyond Line-of-Sight Terminals(FAB-T) transferred to PE 0303001F Family of Advanced BLoS Terminals (FAB-T), Project Family of Advanced Beyond Line-of-Sight Terminals(FAB-T) in order to provide improved visibility.

A. Mission Description and Budget Item Justification

The Family of Advanced Beyond Line-of-Sight Terminals (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. In FY16, the Air Force continued development of the FAB-T terminal, performing systems engineering, architectures, continuation of test efforts for Initial Operational Test & Evaluation (IOT&E) & other activities to meet current & future emerging SATCOM requirements.

The Presidential and National Voice Conferencing (PNVC) capability is a critical element of the Nuclear Command, Control, and Communications (NC3) System. There are several components being developed that must be synchronized to expeditiously field this capability. In May 2015, the Air Force was designated as the end-to-end PNVC Integrator. The Defense Information Systems Agency will transfer \$15M RDT&E to the Air Force for PNVC Integration. The Air Force will request a Prior Approval reprogramming for the remaining FY16 requirements. This continuing effort was previously programmed and budgeted in DISA's PE 0303126K/Long-Haul Communications - DCS, PC01: Presidential and National Voice Conferencing Equipment and is not a New Start.

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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.000	3.907	0.000	0.000	0.000
Current President's Budget	0.000	3.895	42.378	0.000	42.378
Total Adjustments	0.000	-0.012	42.378	0.000	42.378
• Congressional General Reductions	0.000	-0.012			
• 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	42.378	0.000	42.378

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
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<p>Title: FAB-T Development</p> <p>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.</p> <p>FY 2016 Plans: FAB-T will continue development efforts on CPT and conduct the Ground Transportable Antenna (GTA) Functional Configuration Audit (FCA) and conduct ground and flight tests on new antenna configurations.</p> <p>FY 2017 Plans: FAB-T will continue development efforts on CPT and will conduct FCA on the new antenna configuration, conduct Block 2 FCA/ Physical Configuration Audit (PCA), and continue flight and ground tests.</p>	-	3.795	14.555
<p>Title: PNVC Integrator</p> <p>Description: PNVC is the Survivable Emergency Conferencing Network (SECN) replacement capability for the AEHF satellite system which provides anti-jam, anti-scintillation, survivable, and endurable voice communications 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 fielding 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 2016 Plans:</p>	-	0.100	27.823

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
PNVC has developed a requirements traceability matrix among previously approved operational requirements documents to individual component specifications to ensure that a bi-directional system specification allocation and decomposition review and audit can be completed. PNVC will work towards a Material Development Decision to gain entry into the acquisition lifecycle as an ACAT III Program of Record, anticipated in January 2016. Conduct Independent Logistics Health Assessment to garner feedback on sufficiency of component program training and TO's from a system perspective. In FY16, PNVC will award an ID/IQ delivery order solicitation to support the system specification technical review and audit and subsequent factory integration test activities. FY 2017 Plans: Conduct PNVC Technical Review of system specification traceability, verification cross reference matrix, and system test verification plan for Program Office and End User authentication. Providing logistics support for all PNVC components and sustainment activities (including terminals). Execute site verification, validation, installation and checkout activities. Training and technical manuals and identifying deficiencies in the PNVC system. Will also initiate market research for product support integrator contract to address enterprise logistics shortfalls dependent on results from Independent Logistics Health Assessment.			
Accomplishments/Planned Programs Subtotals			
	-	3.895	42.378

D. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• APAF; BA05, FBLOST:: <i>FAB-T</i>	0.000	43.844	4.673	0.000	4.673	22.216	14.410	1.985	1.589	Continuing	Continuing
• SPAF; BA03, FBLOST:: <i>FAB-T</i>	0.000	52.192	88.963	0.000	88.963	125.225	21.266	32.357	8.569	Continuing	Continuing
• SPAF; BA03, PNVC: <i>PNVC</i>	0.000	0.000	0.000	0.000	0.000	19.652	17.862	13.495	7.839	Continuing	Continuing
• APAF; Aircraft Spares and Repair...: <i>FAB-T</i>	0.000	3.253	3.561	0.000	3.561	1.341	6.191	0.057	0.001	Continuing	Continuing
• SPAF; SSPARE Spares and Repair P...: <i>FAB-T</i>	0.000	0.000	14.078	0.000	14.078	3.590	20.752	0.000	0.000	Continuing	Continuing
• OPAF; BA03, 836700: <i>FAB-T</i>	0.000	44.436	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-
• 0303601F Project 672490: <i>FAB-T</i>	54.678	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	54.678

Remarks
 Prior through FY15 APAF and OTHACF are in BA: 05, PE: 0303601F Lines #59 and #64.

 Prior through FY14 OPAF are in BA: 03, PE: 0303601F BPAC: 836780 Line #48.

 FY15 OPAF PROJECT: 836780 transferred to PROJECT: 836700 Line #48 same program element.

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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>
FY15 APAF Spares and Repair Parts and FY15 OPAF Spares and Repair Parts are in PE: 0303601F.											

In FY16 APAF Spares and Repair Parts and FY16 OPAF Spares and Repair parts PE: 0303601F transferred to PE: 0303001F

In FY16 OPAF Project 836780 transferred to PROJECT: Space Programs FBLOST, same program element.

In FY17 OPAF Spares and Repair Parts transferred to PROJECT: Space Programs SSPARE, same program element.

E. Acquisition Strategy

FAB-T Acquisition Strategy: In FY12, 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 will continue with Raytheon and production of FAB-T Command Post Terminals. The first Production contract options to produce CPT terminals were exercised after a successful Milestone C decision was approved September 1, 2015.

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 for Space as the PEO. The PNVC End-to-End Integrator program is responsible for requirements traceability, End-to-End system testing, site installation and checkout activities, training and technical manuals, network transition support, identifying deficiencies in the PNVC capability, and logistics supports for all PNVC components.

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

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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FAB-T Development (WS)	C/FFP	Raytheon : Marlborough, MA	-	0.000		0.183	Dec 2015	0.000		0.000		0.000	0.000	0.183	0.000
FAB-T Technical Mission Analysis	Various	Various : Various, MA	-	0.000		1.352	Jan 2016	1.600		0.000		1.600	Continuing	Continuing	-
PNVC Development (WS)	Various	Not specified. : TBD	-	0.000		0.000		17.023		0.000		17.023	0.000	17.023	-
PNVC Technical Mission Analysis	Various	Not specified. : TBD	-	0.000		0.000		6.800		0.000		6.800	Continuing	Continuing	-
Subtotal			-	0.000		1.535		25.423		0.000		25.423	-	-	-

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FAB-T Government Test and LDTO Support	Various	Various : Various	-	0.000		0.393	Jan 2016	10.555		0.000		10.555	0.000	10.948	-
PNVC Government Test and LDTO Support	Various	Not specified. : TBD	-	0.000		0.000		0.500		0.000		0.500	Continuing	Continuing	-
Subtotal			-	0.000		0.393		11.055		0.000		11.055	-	-	-

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FAB-T A&AS	Various	Various : TBD	-	0.000		1.632		1.300		0.000		1.300	Continuing	Continuing	-

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FAB-T Raytheon Development Contract	1	2015	4	2016
FAB-T Government Test Support	1	2015	4	2017
Milestone C Decision	4	2015	4	2015
FAB-T Production Contract Options	4	2015	4	2021
PNVC Integrator	1	2015	4	2017