Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force											Date: February 2016	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603438F / *Space Control Technology*							
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	-	5.799	4.057	7.534	0.000	7.534	7.819	7.986	8.188	8.481	Continuing	Continuing
642611: *Technology Insertion Planning and Analysis*	-	5.799	4.057	7.534	0.000	7.534	7.819	7.986	8.188	8.481	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program supports a range of activities including technology planning, development, prototyping and developmental test, as well as modeling, simulations and exercises to support development of tactics and procedures in the Space Control mission area. The types of Space Control activities accomplished are Space Situational Awareness (SSA), Defensive Counterspace (DCS), Offensive Counterspace (OCS), and Command and Control (C2) and Battle Management. SSA includes monitoring, detecting, identifying, tracking, assessing, verifying, categorizing, and characterizing objects and events in space and includes terrestrial based space capabilities. DCS includes defensive activities to protect U.S. and friendly space-systems assets, resources, and operations from enemy attempts to negate or interfere and prevention activities that limit or eliminate an adversary's ability to use U.S. space systems and services for purposes hostile to U.S. national security interests. OCS activities disrupt, deny, degrade or destroy space systems, or the information and the technology they provide, which may be used for purposes hostile to U.S. national security interests. Command & Control efforts include identifying technology solutions to enable fusion of data for use in multi-level security environments, and near-real-time data delivery and decision support to warfighter needs. This program supports the development of Rapid Reaction Capabilities in response to immediate warfighter needs, including Urgent Operational Needs (UONs) and Joint Urgent Operational Needs (JUONs), in the Space Control mission area.

These projects are 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.

The FY2017 funding request includes original baseline for development and testing of advanced prototype, Signal Processing Lab and quick reaction capabilities (QRC) on a standardized Government Referenced Architecture, enabling integration and transition of those capabilities to multiple programs of record. Additional funding in FY2017 and beyond enables robust CONUS and OCONUS formal developmental testing of capabilities prior to operational testing and acceptance.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force					Date: February 2016
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*		R-1 Program Element (Number/Name) PE 0603438F / *Space Control Technology*			
B. Program Change Summary ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**
Previous President's Budget	6.075	4.070	5.509	0.000	5.509
Current President's Budget	5.799	4.057	7.534	0.000	7.534
Total Adjustments	-0.276	-0.013	2.025	0.000	2.025
• Congressional General Reductions	0.000	-0.013			
• 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	-0.017	0.000			
• SBIR/STTR Transfer	-0.259	0.000			
• Other Adjustments	0.000	0.000	2.025	0.000	2.025

Change Summary Explanation

FY17: Additional funding in FY2017 and beyond enables robust CONUS and OCONUS formal developmental testing of capabilities prior to operational testing and acceptance.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force			Date: February 2016
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603438F / *Space Control Technology*	Project (Number/Name) 642611 / *Technology Insertion Planning and Analysis*	

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
642611: *Technology Insertion Planning and Analysis*	-	5.799	4.057	7.534	0.000	7.534	7.819	7.986	8.188	8.481	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports a range of activities including technology planning, development, demonstrations and prototyping, and testing, as well as modeling, simulations and exercises to support development of tactics and procedures for a responsive and resilient Space Control mission area. This incudes technology development and prototyping for Defensive Counterspace (DCS) and Offensive Counterspace (OCS). Specifically supported are OCS activities which include disruption, denial, or degradation (and associated Electronic Support) of adversary space systems which may be used to purposes hostile to U.S. national security interests. Rapid Reaction Capabilities in response to immediate warfighter needs in the Space Control mission area are developed within this program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Rapid Reaction Branch (RRB)	5.799	4.057	7.534
Description: Develops advanced capabilities for rapid prototyping and integration into space control programs of record and, if requested, to warfighter Urgent Operational Needs (UONs) and Joint Urgent Operational Needs (JUONs). Conducts prototyping, demonstration, testing, and rapid transition of technology and techniques to space control systems. ***FY 2015 Accomplishments:*** Completed development and testing for Multi Mission Platform (MMP) Increment 2 prototype. Integrated Increment 2 architecture into space control programs of record. ***FY 2016 Plans:*** Continue integration and testing of MMP Increment 2 architecture into programs of record. If requested, field quick reaction capabilities using MMP Increment 2 architecture. ***FY 2017 Plans:*** Expand development and testing of advanced prototype, Signal Processing Lab and QRC capabilities. Test MMP Increment 2 Government Referenced Architecture across multiple programs of record and their mission-specific capabilities. Execute robust test on program of record, to include CONUS and OCONUS test activities spanning full range of system capabilities and integration of MMP Increment 2. Conduct prototype development and testing of MMP Increment 3, to include integration, testing and transition of advanced Quick Reaction Capabilities (QRC). Accelerate Strategic Portfolio Review initiatives. If requested, develop, test, train, field and sustain quick reaction capabilities.			
Accomplishments/Planned Programs Subtotals	5.799	4.057	7.534

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*

C. 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
• None: *None*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Remarks

D. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible. Program consists of numerous small projects.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force			Date: February 2016
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Counterspace Technology Prototyping/Rapid Reaction Development	Various	Various : Various	-	5.381	Jan 2015	3.639	Jan 2016	6.399	Jan 2017	0.000		6.399	Continuing	Continuing	TBD
Technical Mission Analysis	RO	Aerospace : El Segundo, CA	-	0.000		0.000		0.712	Oct 2016	0.000		0.712	Continuing	Continuing	-
		Subtotal	-	5.381		3.639		7.111		0.000		7.111	-	-	-

Remarks

N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Space and Missile Systems Center : El Segundo, CA	-	0.208	Jan 2015	0.208	Jan 2016	0.000		0.000		0.000	Continuing	Continuing	TBD
		Subtotal	-	0.208		0.208		0.000		0.000		0.000	-	-	-

Test and Evaluation ($ in Millions)

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

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A&AS	Various	SMC : El Segundo, CA	-	0.210	Jan 2015	0.210	Jan 2016	0.423	Jan 2017	0.000		0.423	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	0.210		0.210		0.423		0.000		0.423	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	5.799		4.057		7.534		0.000		7.534	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*

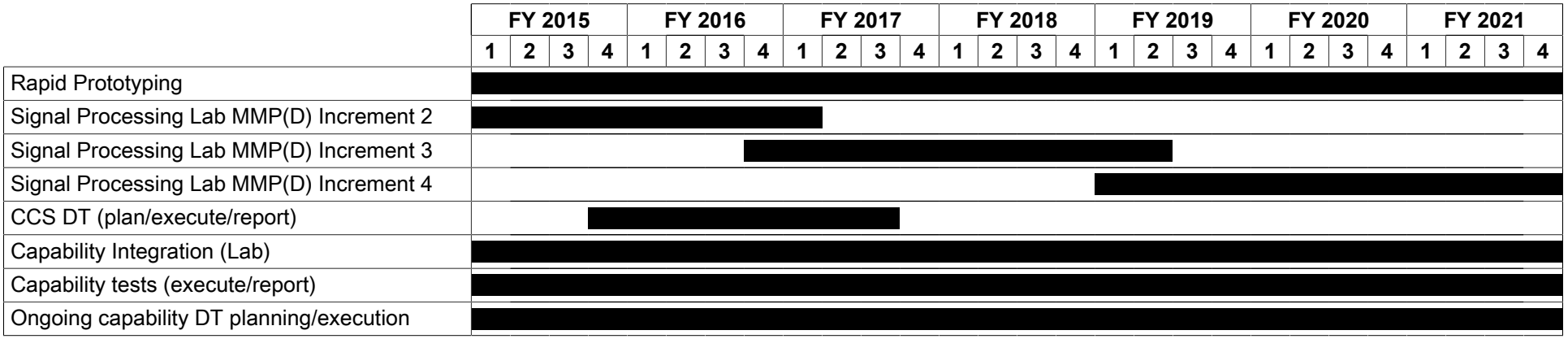

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Rapid Prototyping	1	2015	4	2021
Signal Processing Lab MMP(D) Increment 2	1	2015	1	2017
Signal Processing Lab MMP(D) Increment 3	4	2016	2	2019
Signal Processing Lab MMP(D) Increment 4	1	2019	4	2021
CCS DT (plan/execute/report)	4	2015	3	2017
Capability Integration (Lab)	1	2015	4	2021
Capability tests (execute/report)	1	2015	4	2021
Ongoing capability DT planning/execution	1	2015	4	2021