Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	20.584	22.862	6.075	-	6.075	6.336	6.909	7.044	7.179	Continuing	Continuing
642611: *Technology Insertion Planning and Analysis*	-	3.645	5.534	6.075	-	6.075	6.336	6.909	7.044	7.179	Continuing	Continuing
64A007: *Space Range*	-	16.939	17.328	-	-	-	-	-	-	-	-	34.267

The FY 2015 OCO Request will be submitted at a later date.

Note

Beginning in FY15 the Space Range (64A007) content and funding was transferred to PE 0606116F, Space Test and Training Range Development.

A. Mission Description and Budget Item Justification

This program supports a range of activities including technology planning, development, demonstrations and prototyping, 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. For use in the Space Control mission area, 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 war fighter 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.

Funding also supports the development of the technology and infrastructure for space control elements in a live signal environment of the Space Test and Training Range (STTR). This includes development and demonstration of first-ever test assets, special test equipment, capabilities and systems required to test, validate, and verify performance of integrated space control systems. Additionally, this program supports the development of test range assets required to support developmental and operational test, exercises, training, and tactics development for space control systems in the face of an emerging threat. A collaborative command & control capability will be integrated into several range systems to provide real time communications during test event scenarios to enable operators to be better prepared prior to deploying into the AOR.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force					Date: March 2014
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 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	25.144	27.024	25.907	-	25.907
Current President's Budget	20.584	22.862	6.075	-	6.075
Total Adjustments	-4.560	-4.162	-19.832	-	-19.832
• Congressional General Reductions	-0.030	-			
• Congressional Directed Reductions	-2.000	-4.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-0.162			
• SBIR/STTR Transfer	-0.669	-			
• Other Adjustments	-1.861	-	-19.832	-	-19.832

Change Summary Explanation

FY 2013: -$2.0M Congressional Reduction: "Project decrease. ORS add."
-$1.861M Sequester reduction

FY 2014: -$4.0M Congressional Reduction: "Hold to FY 2013 level"
-$.0162M FFRDC reduction

FY 2015: -$19.832: Space Range content and funding transferred to PE 0606116F, Space Test and Training Range Development

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
642611: *Technology Insertion Planning and Analysis*	-	3.645	5.534	6.075	-	6.075	6.336	6.909	7.044	7.179	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 Space Situational Awareness (SSA), Defensive Counterspace (DCS) and Offensive Counterspace (OCS). Specifically supported are OCS activities which include disruption, denial, or degradation of adversary space systems, or the information they provide, which may be used for 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 2013	FY 2014	FY 2015
Title: Rapid Reaction Branch (RRB)	3.645	3.560	6.075
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 2013 Accomplishments:*** Developed and tested quick reaction capabilities for rapid prototyping and integration into space control programs of record. ***FY 2014 Plans:*** Developing and testing quick reaction capabilities for rapid prototyping and integration into space control programs of record. ***FY 2015 Plans:*** Develop and test quick reaction capabilities for rapid prototyping and integration into space control programs of record. Complete Multi-Mission Processor (MMP) increment 2 prototype and purchase initial eqipment required for final integration and assembly. Support final test to confirm existing and new capabilities on the increment 2 MMP.			
Title: Responsive, Resilient Space Architecture Support	-	1.974	-
Description: Assist space control programs to develop increasingly responsive, resilient and affordable capabilities via architectures emphasizing hostable payloads, small satellites, interface standards and government/commercial hosting opportunities.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
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*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Assisted space control programs to develop increasingly responsive, resilient and affordable capabilities via architectures emphasizing hostable payloads, small satellites, interface standards and government/commercial hosting opportunities. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	3.645	5.534	6.075

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• None: *None*	-	-	-	-	-	-	-	-	-	-	-

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-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
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*

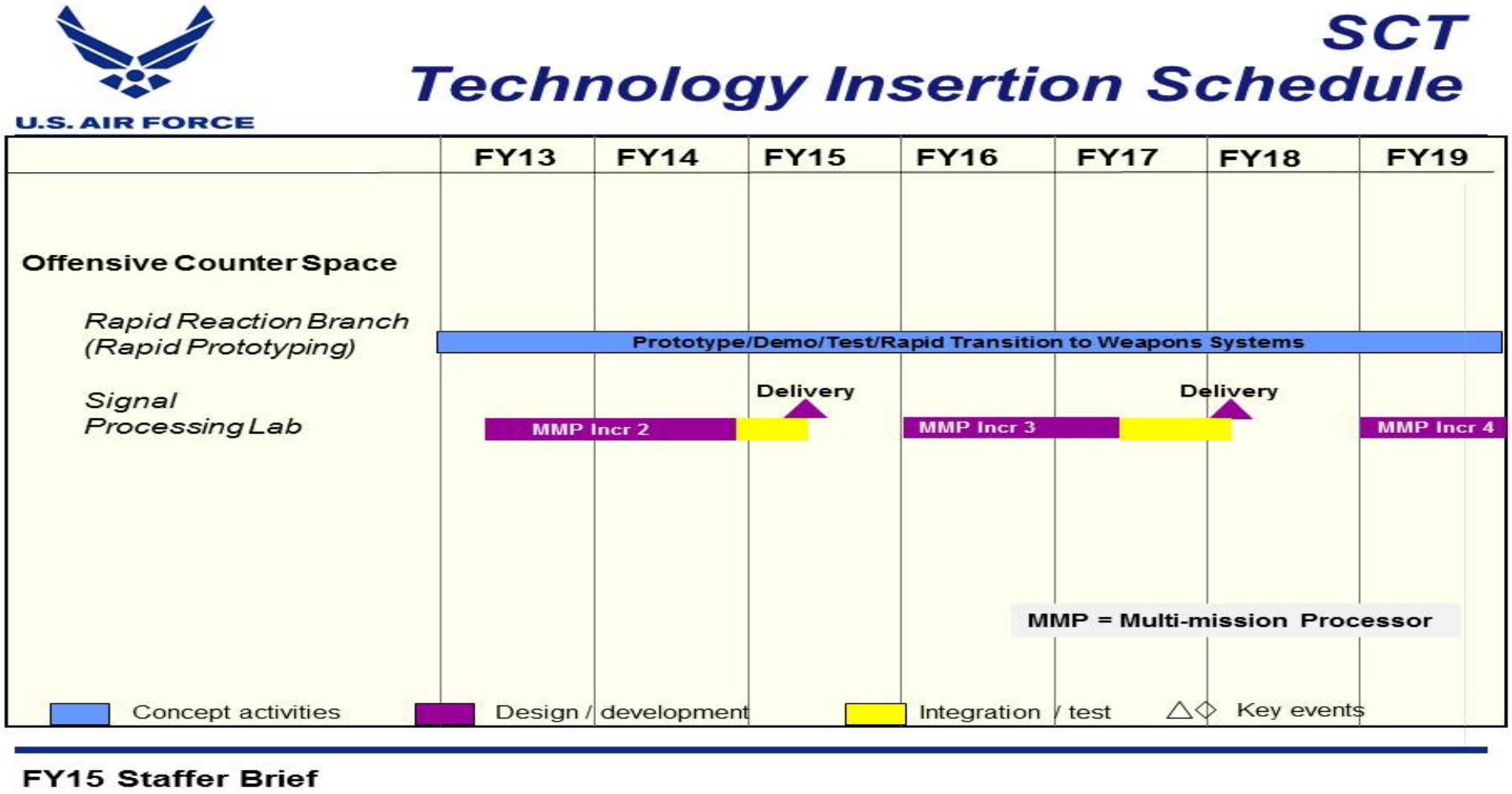


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603438F / *Space Control Technology*	Project (Number/Name) 64A007 / *Space Range*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
64A007: *Space Range*	-	16.939	17.328	-	-	-	-	-	-	-	-	34.267
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

Beginning in FY 2015, all Space Range content and funding is transferred to PE 0606116F, Space Test and Training Range Development

A. Mission Description and Budget Item Justification

This project supports the development of Space Test and Training Range (STTR) capabilities required to support developmental and operational test, training, exercises and tactics development for Space Control systems and related architecture. This includes development, demonstration and delivery of test assets, special test equipment, capabilities and systems required to test, validate, and verify performance of integrated space control systems. The objective of the STTR is to provide a safe, secure, controllable and repeatable environment for the testing and training of Space Control mission systems and operators that is both realistic and relevant. Additionally, this program supports the development of test range assets required to support developmental and operational test, exercises, training, and tactics development for Air Force and Joint-service space control systems/units. Included are both the fixed node Space Range Operation Center (SROC) at Schriever AFB and a deployable capability to support complex Joint and AF exercises. A space range Family of Systems (FoS) called Big Top is being developed to accomplish the STTR mission. The Big Top objective is integration into a Distributed Mission Architecture, tying into both the Information Operations (IO) and Air ranges for increased realism and complexity. This technology will allow for the first-ever use of a realistic signal environment to increase the realism and efficiency of space control squadron training.

Satellite bandwidth is leased in this program for use in support of live testing and training events.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Range Control	15.670	15.019	-
Description: Development and acquisition of mobile, transportable, and fixed range monitoring and communications capabilities for the space range.			
FY 2013 Accomplishments: Completed operational acceptance of both initial Space Range Operations Center (iSROC) and Signal Monitoring Unit (SMU) to meet STTR IOC criteria. Finalized and delivered Space Center Scheduling Enterprise (S-CSE) Spiral-2 for Operational Test and Acceptance. Continued execution of SROC Spiral-1 upgrades. Conducted pre-contract award activities for "Big Top" range family of systems contract for capability development of world-wide distributed capability, analysis and scoring toolsets, scripted scenarios, with emulation and playback capability. Transferred Government Furnished Equipment prototypes to sustainable capabilities.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 64A007 / *Space Range*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete initial delivery of the Deployable Range and SMU. Initiate Deployable Package 2. Initiate tech refresh activities for SROC Spiral 0. Complete SROC Spiral 1 upgrades and initiate Spiral 2 development. Continue development of advanced live, virtual and constructive environment and closed loop training capabilities via virtual packages and advanced software simulation tools. ***FY 2015 Plans:*** N/A			
Title: Live Fire Training In Degraded Environments ***Description:*** Development of closed loop trainers that joint forces will use to simulate operating through denied GPS and SATCOM environments. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Will develop and deliver closed loop trainer capability for the STTR that joint forces will use to simulate operating though denied GPS and SATCOM environments. ***FY 2015 Plans:*** N/A	-	1.000	-
Title: Bandwidth Support ***Description:*** Provides for leased SATCOM bandwidth for STTR operations. ***FY 2013 Accomplishments:*** Provided required space range satellite communications bandwidth for exercise, testing and training of both offensive and defensive space control systems on the space range. ***FY 2014 Plans:*** Provide required space range satellite communications bandwidth for exercise, testing and training of both offensive and defensive space control systems on the space range. ***FY 2015 Plans:*** Provide required space range satellite communications bandwidth for exercise, testing and training of both offensive and defensive space control systems on the space range.	1.269	1.309	-
Accomplishments/Planned Programs Subtotals	16.939	17.328	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 64A007 / *Space Range*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• N/A: *None*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.

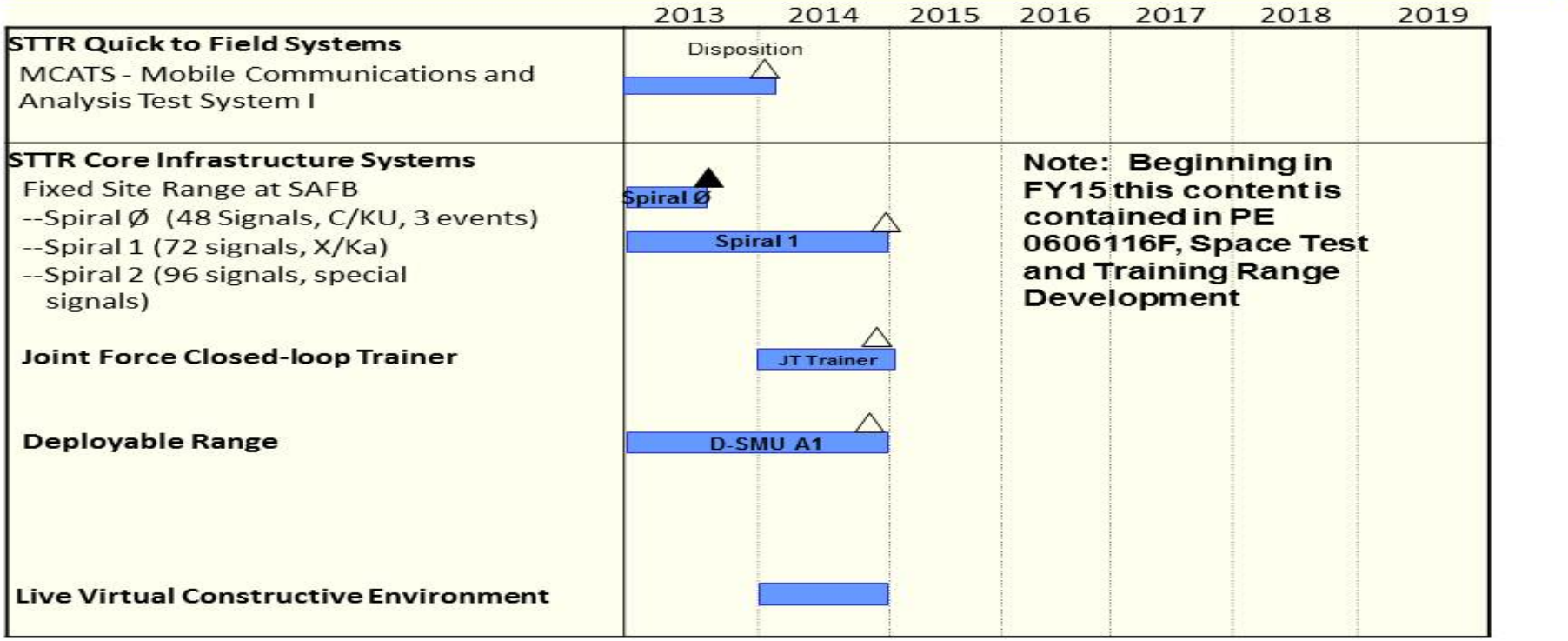
E. Performance Metrics

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-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 64A007 / *Space Range*

U.S. AIR FORCE

STTR Program Schedule



FY15 Staffer Brief