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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force **Date:** February 2018

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 0305116F / <i>Aerial Targets</i>
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COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	2.981	21.295	8.383	0.000	8.383	7.448	5.491	1.554	1.584	Continuing	Continuing
675136: <i>Target Systems Development</i>	-	2.381	5.029	6.398	0.000	6.398	3.478	5.491	1.554	1.584	Continuing	Continuing
675336: <i>QF-16 AST Budget Authority</i>	-	0.000	0.000	1.985	0.000	1.985	3.970	0.000	0.000	0.000	Continuing	Continuing
675366: <i>QF-16</i>	-	0.600	16.266	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Full-scale Aerial Targets assure warfighters weapon systems perform effectively against real-world enemy fighters and cruise missiles. Aerial Targets support adherence to Public Law Title 10, Section 2366, which requires major systems and munitions programs to conduct live fire survivability and lethality testing before full-rate production. Targets are used to validate operational missile/weapon system effectiveness and fighter operational flight program (OFP) updates. Targets are required for developmental/operational testing for all air-to-air and surface-to-air missiles, and for the F-22A, F-35, F-18, F-16, F-15, and other aircraft. Funding supports simulator development and improvements on the QF-16 full scale aerial target, BQM-167A subscale aerial target, and updates of target control systems and specialized target payload subsystems for requirements such as: missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems. Development is required to evolve aerial targets capabilities to meet current and future threats identified by OSD.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver "Aerial Targets BA 07: Operational Systems Development" weapon system capabilities. 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, 0605898F, and 0605833F.

BA 07: 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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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force				Date: February 2018	
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0305116F I Aerial Targets			
B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	3.051	21.295	1.446	0.000	1.446
Current President's Budget	2.981	21.295	8.383	0.000	8.383
Total Adjustments	-0.070	0.000	6.937	0.000	6.937
• Congressional General Reductions	0.000	0.000			
• 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	-0.070	0.000			
• Other Adjustments	0.000	0.000	6.937	0.000	6.937
Change Summary Explanation					
FY19: Funding increased to continue threat realism enhancements associated with future Title 10 Live Fire Test & Evaluation requirements.					

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675136 / Target Systems Development			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
675136: Target Systems Development	-	2.381	5.029	6.398	0.000	6.398	3.478	5.491	1.554	1.584	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Full-scale aerial targets, subscale aerial targets, and companion Target Control Systems (TCS) assure the effectiveness and currency of warfighter weapon systems to combat real-world enemy fighters and cruise missiles. The BQM-167A Air Force Subscale Aerial Target (AFSAT) is a reusable jet-powered target aircraft measuring approximately 20 feet long with a mission to simulate threat aircraft for testing and evaluation of surface-to-air, ship-to-air, or air-to-air missiles. The target accomplishes this mission through the use of optional payloads including chaff and flare, electronic attack, and infrared devices. Funding supports continued improvement of launch phase performance and overall performance enhancement efforts. Funding supports development, improvements, and updates of target control systems and specialized target payload subsystems for requirements to include but not limited to missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems.												
Electronic Attack (EA) payload upgrade provides new techniques and capabilities critical to subscales and full-scales to realistically emulate foreign threat systems in support of weapons testing.												
TCS provides a myriad of sub-systems that together delivers the capability to control and track mission aerial targets (full-scale and subscale) and to track a mix of other critical mission participants (to include relay platforms, shooters, and the missile system under test). In this role, TCS ensures an optimum integrated aerial target environment that enhances both weapon system assessments and companion aircrew skills, all the while assuring the full safety of mission participants throughout the conduct and fulfillment of T&E objectives. Funding supports continued improvement (modernization) of TCS capabilities to effectively meet the multi-service T&E demands of current and future warfighter weapon systems.												
This program element may include necessary civilian pay expenses required to manage, execute, and deliver "Aerial Targets 675136: Target Systems Development" 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, 0605898F and 0605833F.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: BQM-167A Development								0.000	1.340	2.036	0.000	2.036
Description: Provide enhancements to AFSAT ability to emulate emerging threats in support of weapon testing.												
FY 2018 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force				Date: February 2018		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets		Project (Number/Name) 675136 / Target Systems Development		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continue BQM-167A improvement efforts based on research and analysis results on potential affordable, subscale aerial target platform concepts, support user requirements generation for the current AFSAT platform and improve target endurance. FY 2019 Base Plans: Continue BQM-167A improvement efforts to include enhanced payload capability. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Funds increased to continue threat realism enhancements associated with future Title 10 Live Fire Test & Evaluation (LFT&E) requirements.						
Title: Target Control System Description: Provide system modernization enhancements to Target Control System Gulf Range Drone Control System, (GRDCS) for command and control and tracking of Aerial Targets. FY 2018 Plans: Continue system modernization enhancements to include but not limited to GRDCS software updates to support QF-16 Full Operational Capability at Holloman AFB and future TCS capability assessment. FY 2019 Base Plans: Continue system modernization enhancements to include but not limited to GRDCS software updates to support implementing QF-16 and AFSAT enhancements and future TCS capability assessment. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Funds decreased due to return to steady state operations, FY18 increase supported threat realism enhancements associated with future Title 10 LFT&E requirements.		1.693	2.389	1.392	0.000	1.392
Title: Digital Radio Frequency Memory (DRFM) Description: Develop, improve, and update specialized target payload subsystems both software and hardware for requirements to emulate evolving adversary EA, IR, and radar tactics and techniques. FY 2018 Plans:		0.688	1.300	2.970	0.000	2.970

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018	
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>				Project (Number/Name) 675136 / <i>Target Systems Development</i>			
B. Accomplishments/Planned Programs (\$ in Millions)											
				FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total			
Continue efforts to upgrade existing and develop new EA pod hardware and software used on QF-16 and subscales to emulate evolving adversary EA tactics and techniques.											
<i>FY 2019 Base Plans:</i> Continue efforts to upgrade existing and develop new EA pod hardware and software used on QF-16 and subscales to emulate evolving adversary EA tactics and techniques.											
<i>FY 2019 OCO Plans:</i> N/A											
<i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> Funds increased to continue threat realism enhancements associated with future Title 10 LFT&E requirements.											
Accomplishments/Planned Programs Subtotals				2.381	5.029	6.398	0.000	6.398			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• APAF 04 Line Item 10TRGT: <i>Target Drones</i>	114.656	109.841	139.053	-	139.053	130.837	133.454	136.127	138.600	Continuing	Continuing
• APAF 06 Line Item 10TRGT: <i>Initial Spares/Repair Parts</i>	0.595	0.596	0.579	-	0.579	0.589	0.601	0.613	0.624	Continuing	Continuing
• APAF 07 Line Item 10TRGT: <i>War Consumables</i>	4.460	4.560	4.599	-	4.599	4.012	4.764	4.859	4.947	Continuing	Continuing
• APAF 07 Line Item 10TRGT (3)...: <i>Other Production Charges</i>	20.476	15.780	19.806	-	19.806	12.050	12.055	12.333	12.333	Continuing	Continuing
• APAF 07 Line Item 000075: <i>Other Production Charges</i>	-	-	4.463	-	4.463	4.464	4.462	4.462	4.464	Continuing	Continuing
Remarks											
D. Acquisition Strategy The AFSAT acquisition strategy is sole source follow-on with fixed price and time and materials contracts. The Target Control System acquisition strategy includes several small projects to provide enhancements to Target Control System (to include GRDCS) and will be accomplished with other government agencies and contracts as needed. EA Payloads acquisition strategy includes several small projects managed by the US Navy program office to provide enhancements to the target payloads for subscale and full-scale targets.											

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>	Project (Number/Name) 675136 / <i>Target Systems Development</i>
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 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675136 / Target Systems Development					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Air Force Subscale Aerial Target (AFSAT) Product Improvements	SS/FFP	Various : NV	-	0.000		1.336	May 2018	2.033	May 2019	-		2.033	Continuing	Continuing	-
Target Control System	Various	Various : NV	-	1.676	Jan 2017	2.390	Jan 2018	1.392	Jan 2019	-		1.392	Continuing	Continuing	-
Digital Radio Frequency Memory (DRFM)	Various	Various : Pt Mugu, CA	-	0.688	Jan 2017	1.300	Dec 2018	2.970	Dec 2018	-		2.970	Continuing	Continuing	-
Subtotal			-	2.364		5.026		6.395		-		6.395	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Target Control System Program Management Administration (PMA)	Various	Various : Eglin AFB, FL	-	0.017		0.003		0.003		-		0.003	Continuing	Continuing	-
Subtotal			-	0.017		0.003		0.003		-		0.003	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	2.381		5.029		6.398		-		6.398	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force			Date: February 2018		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>		Project (Number/Name) 675136 / <i>Target Systems Development</i>	

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
Target Systems Development																												
BQM-167A: Alternate Launch Activity																												
BQM-167A: APC-4 Pod Enhancement																												
BQM-167A: Enhanced Payload Capabilities																												
TCS: Utah Test and Training Range (UTTR) Upgrade																												
TCS: Loss of Carrier (LOC) Waypoint																												
TCS: GRDCS Software Version 61																												
TCS: GRDCS Software Version 62																												
TCS: Future Capability Assessment																												
TCS: Modernization																												
EA Pods-Multi Channel Digital Radio Frequency Memory (DRFM) Software Spiral Upgrade																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>	Project (Number/Name) 675136 / <i>Target Systems Development</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Target Systems Development</i>				
BQM-167A: Alternate Launch Activity	3	2017	4	2021
BQM-167A: APC-4 Pod Enhancement	3	2018	4	2020
BQM-167A: Enhanced Payload Capabilities	3	2019	4	2021
TCS: Utah Test and Training Range (UTTR) Upgrade	1	2017	1	2017
TCS: Loss of Carrier (LOC) Waypoint	1	2017	2	2017
TCS: GRDCS Software Version 61	1	2017	4	2017
TCS: GRDCS Software Version 62	2	2017	4	2018
TCS: Future Capability Assessment	1	2017	4	2018
TCS: Modernization	1	2018	4	2022
EA Pods-Multi Channel Digital Radio Frequency Memory (DRFM) Software Spiral Upgrade	1	2017	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675336 / QF-16 AST Budget Authority			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
675336: QF-16 AST Budget Authority	-	0.000	0.000	1.985	0.000	1.985	3.970	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note												
This BPAC is an administrative continuation of BPAC 675366: QF-16, and encompasses the same efforts with the addition of threat realism enhancements to support future Title 10 LT&E requirements.												
A. Mission Description and Budget Item Justification												
Full-scale Aerial Targets assure warfighters weapon systems perform effectively against real-world enemy fighters and cruise missiles. Aerial Targets support adherence to Public Law Title 10, Section 2366, which requires major systems and munitions programs to conduct live fire survivability and lethality testing before full-rate production. Targets are used to validate operational missile/weapon system effectiveness and fighter operational flight program (OFP) updates. Targets are required for developmental/operational testing for all air-to-air and surface-to-air missiles, and for the F-22A, F-35, F-18, F-16, F-15, and other aircraft. Funding supports simulator development and improvements on the QF-16 full scale aerial target, BQM-167A subscale aerial target, and updates of target control systems and specialized target payload subsystems for requirements such as: missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems. Development is required to evolve aerial targets capabilities to meet current and future threats identified by OSD.												
This program element may include necessary civilian pay expenses required to manage, execute, and deliver "Aerial Targets BA 07: Operational Systems Development" weapon system capabilities. 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, 0605898F, and 0605833F.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: QF-16 Development Program								-	0.000	1.985	0.000	1.985
Description: Provide enhancements to emulate emerging threat in support of weapons testing.												
FY 2018 Plans: N/A												
FY 2019 Base Plans: Continue threat realism improvements to improve countermeasures and their control. Conduct studies and analysis on QF-16 Radar Cross Section. This effort is not a new start. FY18 efforts identified in BPAC 675366.												
FY 2019 OCO Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force									Date: February 2018		
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675336 / QF-16 AST Budget Authority			
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A											
FY 2018 to FY 2019 Increase/Decrease Statement: Funds increased to continue threat realism enhancements associated with future Title 10 LFT&E requirements.											
Accomplishments/Planned Programs Subtotals							-	0.000	1.985	0.000	1.985
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• APAF 04 10TRGT: Target Drones	114.656	109.841	139.053	-	139.053	130.837	133.454	136.127	138.600	Continuing	Continuing
• APAF 06 10TRGT: Initial Spares/Repair Parts	0.595	0.596	0.579	-	0.579	0.589	0.601	0.613	0.624	Continuing	Continuing
• APAF 07 10TRGT: War Consumables	-	4.560	4.599	-	4.599	4.012	4.764	4.859	4.947	Continuing	Continuing
• APAF 07 10TRGT (3)...: Other Production Charges	20.476	15.780	19.806	-	19.806	12.050	12.055	12.333	12.557	Continuing	Continuing
• APAF 07 000075: Other Production Charges	-	-	4.463	-	4.463	4.464	4.462	4.462	4.464	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
The QF-16 was a competitive contract award, including fixed price incentive development contract with fixed priced production options (Lots 1-5). In FY19, planning is in progress to award a sole source follow-on production and sustainment contract to the incumbent for Lots 6-8.											
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 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675336 / QF-16 AST Budget Authority					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Drone Peculiar Equipment	C/Various	The Boeing Company : Saint Louis, MO	-	-		-		1.985	Nov 2019	-		1.985	Continuing	Continuing	-
Subtotal			-	-		-		1.985		-		1.985	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		0.000		1.985		-		1.985	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force			Date: February 2018		
Appropriation/Budget Activity		R-1 Program Element (Number/Name)		Project (Number/Name)	
3600 / 7		PE 0305116F / Aerial Targets		675336 / QF-16 AST Budget Authority	

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
QF-16 Development																												
Threat Realism Improvements																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>	Project (Number/Name) 675336 / <i>QF-16 AST Budget Authority</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>QF-16 Development</i>				
Threat Realism Improvements	1	2019	1	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>				Project (Number/Name) 675366 / <i>QF-16</i>			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
675366: <i>QF-16</i>	-	0.600	16.266	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Full-scale Aerial Targets assure warfighters weapon systems perform effectively against real-world enemy fighters and cruise missiles. Aerial Targets support adherence to Public Law Title 10, Section 2366, which requires major systems and munitions programs to conduct live fire survivability and lethality testing before full-rate production. Targets are used to validate operational missile/weapon system effectiveness and fighter operational flight program (OFP) updates. Targets are required for developmental/operational testing for all air-to-air and surface-to-air missiles, and for the F-22A, F-35, F-18, F-16, and F-15, aircraft. The United States Air Force's (USAF) Air Superiority Modernization/Mission Area Plan has identified aerial targets as a capability shortfall; the QF-16 program fulfills this requirement. Funding supports simulator development and improvements on the QF-16 full scale aerial target, and updates of target control systems and specialized target payload subsystems for requirements such as: missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems. Development is required to evolve QF-16 threat capabilities to meet current and future threats identified by OSD.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver "Aerial Targets 675366: QF-16" 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, 0605898F, and 0605833F.

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

	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: QF-16 Development Program	0.600	16.266	0.000	0.000	0.000
Description: Provide enhancements to emulate emerging threat in support of weapons testing.					
FY 2018 Plans: Continue threat realism improvements to improve countermeasures and their control. Conduct studies and analysis on QF-16 Radar Cross Section (RCS).					
FY 2019 Base Plans: Continue threat realism improvements to improve countermeasures and their control. Continue studies and analysis on QF-16 RCS.					
FY 2019 OCO Plans: N/A					
FY 2018 to FY 2019 Increase/Decrease Statement:					

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force			Date: February 2018		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>		Project (Number/Name) 675366 / <i>QF-16</i>	

B. Accomplishments/Planned Programs (\$ in Millions)					FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Funds decreased due to decreased requirements for threat realism enhancements, this BPAC is associated with efforts in BPAC 675336.									
Accomplishments/Planned Programs Subtotals					0.600	16.266	0.000	0.000	0.000

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

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• APAF 04 Line Item 10TRGT: <i>Target Drones</i>	114.656	109.841	139.053	-	139.053	130.837	133.454	136.127	138.600	Continuing	Continuing
• APAF 06 Line Item 10TRGT: <i>Initial Spares/Repair Parts</i>	0.595	0.596	0.579	-	0.579	0.589	0.601	0.613	0.624	Continuing	Continuing
• APAF 07 Line Item 10TRGT: <i>War Consumables</i>	4.460	4.560	4.599	-	4.599	4.012	4.764	4.859	4.947	Continuing	Continuing
• APAF 07 Line Item 10TRGT (3)...: <i>Other Production Charges</i>	20.476	15.780	19.806	-	19.806	12.050	12.055	12.333	12.557	Continuing	Continuing
• APAF 07 Line Item 00075: <i>Other Production Charges</i>	-	-	4.463	-	4.463	4.464	4.462	4.462	4.464	Continuing	Continuing

Remarks

D. Acquisition Strategy

The QF-16 was a competitive contract award, including fixed price incentive development contract with fixed priced production options (Lots 1-5). In FY19, planning is in progress to award a sole source follow-on production and sustainment contract to the incumbent for Lots 6-8.

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 2019 Air Force													Date: February 2018		
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>				Project (Number/Name) 675366 / <i>QF-16</i>					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Drone Peculiar Equipment	C/Various	The Boeing Company : Saint Louis, MO	-	0.600	Mar 2017	16.266	Mar 2018	-		-		-	Continuing	Continuing	-
Subtotal			-	0.600		16.266		-		-		-	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	0.600		16.266		-		-		-	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force	Date: February 2018
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>	Project (Number/Name) 675366 / <i>QF-16</i>
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	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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>QF-16 Development</i>																												
Threat Realism Improvements																												
Electronic Flight Termination System / Loss of Carrier																												
Future F-16 Block Studies and Development																												
Radar Cross Section Model Development																												
Radar Cross Section Study/Analysis																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / <i>Aerial Targets</i>	Project (Number/Name) 675366 / <i>QF-16</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>QF-16 Development</i>				
Threat Realism Improvements	1	2019	1	2021
Electronic Flight Termination System / Loss of Carrier	1	2017	2	2018
Future F-16 Block Studies and Development	1	2017	3	2018
Radar Cross Section Model Development	1	2017	2	2017
Radar Cross Section Study/Analysis	1	2019	3	2020