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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force	Date: February 2018
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Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					PE 0604222F I Nuclear Weapons Support							
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	-	0.000	27.579	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.579
674237: EMP Certification	-	0.000	27.579	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.579

A. Mission Description and Budget Item Justification

This program executes and provides technical and programmatic support to the testing, evaluation, and mitigation of effects of nuclear weapon employment that impact Air Force systems with initial emphasis on existing nuclear weapons, their delivery systems, and associated communications systems. It includes facilities and equipment required to perform testing, risk assessments, survivability/vulnerability studies, and effectiveness evaluation of various mitigation strategies. It includes modeling and simulation efforts for systems of systems analysis where assessments are not possible through testing alone. This program will recommend upgrades to existing/fielded systems as well as informing requirements for future (modernization/recapitalization) systems.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver nuclear weapon support 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.

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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	0.000	27.579	0.000	0.000	0.000
Current President's Budget	0.000	27.579	0.000	0.000	0.000
Total Adjustments	0.000	0.000	0.000	0.000	0.000
• 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	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Change Summary Explanation

No Significant Changes

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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 0604222F / Nuclear Weapons Support				Project (Number/Name) 674237 / EMP Certification			
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
674237: EMP Certification	-	0.000	27.579	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.579
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program executes and provides technical and programmatic support to the testing, evaluation, and mitigation of effects of nuclear weapon employment that impact Air Force systems with initial emphasis on existing nuclear weapons, their delivery systems, and associated communications systems. It includes facilities and equipment required to perform testing, risk assessments, survivability/vulnerability studies, and effectiveness evaluation of various mitigation strategies. It includes modeling and simulation efforts for systems of systems analysis where assessments are not possible through testing alone. This program will recommend upgrades to existing/fielded systems as well as informing requirements for future (modernization/recapitalization) systems.

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. Accomplishments/Planned Programs (\$ in Millions)

	FY 2017	FY 2018	FY 2019
Title: Electronic Magnetic Pulse (EMP)	0.000	27.579	0.000
Description: Provide technical and programmatic support required to test, evaluate, and mitigate Electromagnetic Pulse (EMP) impacts across all Air Force systems with initial emphasis on existing nuclear weapons, their delivery systems, and associated communications systems			
FY 2018 Plans: Begin technical and programmatic support required to test, evaluate, and mitigate Electromagnetic Pulse (EMP) impacts across all Air Force systems with initial emphasis on existing nuclear weapons, their delivery systems, and associated communications systems. It includes facilities and equipment required to perform EMP testing, risk assessments, survivability/vulnerability studies, and effectiveness evaluation of various mitigation strategies. It includes modeling and simulation efforts for systems of systems analysis where assessments are not possible through testing alone. This program will recommend upgrades to existing systems as well as informing requirements for future systems.			
FY 2019 Plans: N/A			
FY 2018 to FY 2019 Increase/Decrease Statement: Funding decrease due to higher Air Force priorities.			
Accomplishments/Planned Programs Subtotals	0.000	27.579	0.000

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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 0604222F / <i>Nuclear Weapons Support</i>	Project (Number/Name) 674237 / <i>EMP Certification</i>
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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
• RDTE 05 64222F/654236: <i>Engineering Analysis</i>	-	3.009	3.001	-	3.001	4.002	4.500	4.511	4.592	0.000	23.615
• RDTE 05 64222F/655708: <i>Weapon Storage Facility</i> <i>Material Handling System</i>	-	-	1.500	-	1.500	2.000	12.000	7.000	2.000	0.000	24.500

Remarks

D. Acquisition Strategy

Funds will be MIPR'd to Navy at Patuxent River to perform testing of AF aircraft/systems

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 0604222F / Nuclear Weapons Support				Project (Number/Name) 674237 / EMP Certification					
Test and Evaluation (\$ 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
NWC, Pax River	MIPR	US Navy : Patuxent River, MD	-	-		25.579	Mar 2018	-		-		-	Continuing	Continuing	-
Subtotal			-	-		25.579		-		-		-	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
Program Management Support (PMA)	TBD	Various : Various	-	-		2.000	Mar 2018	-		-		-	Continuing	Continuing	-
Subtotal			-	-		2.000		-		-		-	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			-	-		27.579		-		-		-	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 0604222F / Nuclear Weapons Support					674237 / EMP Certification	

	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
EMP Certification																												
Award and MIPR acceptance																												
Survivability and vulnerability studies																												
Testing and Analysis																												
Final Reports																												

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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 0604222F / <i>Nuclear Weapons Support</i>	Project (Number/Name) 674237 / <i>EMP Certification</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>EMP Certification</i>				
Award and MIPR acceptance	1	2018	1	2018
Survivability and vulnerability studies	1	2018	4	2018
Testing and Analysis	2	2018	2	2019
Final Reports	3	2019	3	2019