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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: FY 2018 Air Force</b>	<b>Date: May 2017</b>
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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604222F / <i>Nuclear Weapons Support</i>
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COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	27.579	0.000	27.579	0.000	0.000	0.000	0.000	Continuing	Continuing
674237: <i>EMP Certification</i>	-	0.000	0.000	27.579	0.000	27.579	0.000	0.000	0.000	0.000	Continuing	Continuing

**Note**

This program, BA 07 PE 0604222F, project 674237, Electronic Magnetic Pulse (EMP), is a new start.

**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><u>B. Program Change Summary (\$ in Millions)</u></b>	<b><u>FY 2016</u></b>	<b><u>FY 2017</u></b>	<b><u>FY 2018 Base</u></b>	<b><u>FY 2018 OCO</u></b>	<b><u>FY 2018 Total</u></b>
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	27.579	0.000	27.579
Total Adjustments	0.000	0.000	27.579	0.000	27.579
• 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	27.579	0.000	27.579

**Change Summary Explanation**

FY18 increase by \$27.579M for Electronic Magnetic Pulse (EMP)

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
674237: EMP Certification	-	0.000	0.000	27.579	0.000	27.579	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

This program, BA 07 PE 0604222F, project 674237, Electronic Magnetic Pulse (EMP), is a new start.

**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)**

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>
<b>Title:</b> Electronic Magnetic Pulse (EMP)	0.000	0.000	27.579	0.000	27.579
<b>Description:</b> 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					
<b>FY 2016 Accomplishments:</b> N/A					
<b>FY 2017 Plans:</b> N/A					
<b>FY 2018 Base Plans:</b> 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					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Air Force				<b>Date:</b> May 2017	
<b>Appropriation/Budget Activity</b> 3600 / 7		<b>R-1 Program Element (Number/Name)</b> PE 0604222F / <i>Nuclear Weapons Support</i>		<b>Project (Number/Name)</b> 674237 / <i>EMP Certification</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>
are not possible through testing alone. This program will recommend upgrades to existing systems as well as informing requirements for future systems.					
<b>FY 2018 OCO Plans:</b> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>		0.000	0.000	27.579	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A					
<b>Remarks</b>					
<b>D. Acquisition Strategy</b> Funds will be MIPR'd to Navy at Patuxent River to perform testing of AF aircraft/systems					
<b>E. Performance Metrics</b> 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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: FY 2018 Air Force</b>													<b>Date: May 2017</b>		
<b>Appropriation/Budget Activity</b> 3600 / 7							<b>R-1 Program Element (Number/Name)</b> PE 0604222F / <i>Nuclear Weapons Support</i>				<b>Project (Number/Name)</b> 674237 / <i>EMP Certification</i>				

  

<b>Product Development (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

  

<b>Support (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

  

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
NWC, Pax River	MIPR	US Navy : Patuxent River, MD	-	0.000		0.000		25.579	Mar 2018	0.000		25.579	Continuing	Continuing	-
<b>Subtotal</b>			-	0.000		0.000		25.579		0.000		25.579	-	-	-

  

<b>Management Services (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Support (PMA)	TBD	Various : Various	-	0.000		0.000		2.000	Mar 2018	0.000		2.000	Continuing	Continuing	-
<b>Subtotal</b>			-	0.000		0.000		2.000		0.000		2.000	-	-	-

  

			<b>Prior Years</b>	<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	0.000		0.000		27.579		0.000		27.579	-	-	-

  

<b>Remarks</b>															

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> FY 2018 Air Force	<b>Date:</b> May 2017
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<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0604222F / <i>Nuclear Weapons Support</i>	<b>Project (Number/Name)</b> 674237 / <i>EMP Certification</i>
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	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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
Award and MIPR acceptance																												
Survivability and vulnerability studies																												
Testing and Analysis																												
Final Reports																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> FY 2018 Air Force			<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0604222F / <i>Nuclear Weapons Support</i>	<b>Project (Number/Name)</b> 674237 / <i>EMP Certification</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
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