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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army										Date: May 2017		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Capability Increment 2							
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	83.995	175.069	-	175.069	149.506	52.300	24.700	0.000	0.000	485.570
EY7: IFPC Increment 2 - Block 1	-	0.000	83.995	175.069	-	175.069	149.506	52.300	24.700	0.000	0.000	485.570

Note

Funding for FY17 and out has been realigned for IFPC Inc 2-I Block 1 system development activities from BA4, PE 0604319/DU3 to BA5, PE 0605052/EY7 as the program transitions to EMD.

A. Mission Description and Budget Item Justification

This program supports the overall integrated Air and Missile Defense (AMD) architecture and provides a robust intercept capability against Cruise Missiles (CM), Unmanned Aircraft System (UAS) and Rocket, Artillery, and Mortar (RAM) threats for deployed forces. The Indirect Fire Protection Capability Increment 2 - Intercept (IFPC Inc 2-I) is a ground-based weapon system that will be designed to acquire, track, engage, and defeat the UAS, CM, and RAM threats. The system will provide 360-degree protection and will simultaneously engage threats arriving from different azimuths. A block acquisition approach will be used to provide this capability. The IFPC Inc 2-I Block 1 system will consist of an existing interceptor and sensor and development of fire control software and a Multi-Mission Launcher (MML) to support the UAS and CM defeat mission. The IFPC Inc 2-I system will be compatible with the Army Integrated Air and Missile Defense (IAMD) Command and Control (C2) architecture. The IFPC Inc 2-I system will be transportable by Army common mobile platforms.

FY 2018 Base dollars in the amount of \$175.069 million are designated for the fabrication and delivery of EMD Assets #1-6, program management/administration, system engineering, hardware and software integration, additional spares and system/subsystem developmental testing.

B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.000	83.995	63.370	-	63.370
Current President's Budget	0.000	83.995	175.069	-	175.069
Total Adjustments	0.000	0.000	111.699	-	111.699
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	0.000	0.000	111.699	-	111.699

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<u>Change Summary Explanation</u> Funding increase in FY18 of \$111.699 million is due to a change in the Acquisition Strategy associated with a Milestone C delay from FY18 to FY19 as identified in Milestone B Army Cost Position, funding adjustment to transition four MMLs originally designated as Low Rate Initial Production assets funded with Missile Procurement, Army to be designated as additional test assets for Initial Operation Test and Evaluation, and an increase to fund EMD Risk Mitigation activities to lower the programmatic risk as discussed by the Army Acquisition Executive and the Vice Chief of Staff of the Army.		

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Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Capability Increment 2				Project (Number/Name) EY7 / IFPC Increment 2 - Block 1			
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
EY7: IFPC Increment 2 - Block 1	-	0.000	83.995	175.069	-	175.069	149.506	52.300	24.700	0.000	0.000	485.570
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding for FY17 and out has been realigned for IFPC Inc 2-I Block 1 system development activities from BA4, PE 0604319/DU3 to BA5, PE 0605052/EY7 as the program transitions to EMD.

A. Mission Description and Budget Item Justification

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

	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: IFPC Inc 2-I Program Management/Admin	-	25.134	6.834	-	6.834
Description: Funding is provided for the following efforts: Starting in FY18, R-2A Program Management will be split out into PM Admin, PM System Engineering, and System Engineering & Integration to better align with R-3.					
FY 2017 Plans: - Transition to and continue RDT&E efforts associated with the Engineering and Manufacturing Development (EMD) phase - Perform system engineering, logistics engineering, system test and evaluation management, technical configuration control, and business management activities					

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B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Conduct system design and program reviews						
FY 2018 Base Plans: - Continue RDT&E efforts associated with the Engineering and Manufacturing Development (EMD) phase - Perform system engineering, integration, logistics engineering, system test and evaluation management, technical configuration control, cost and business management activities - Conduct system technical reviews and program management reviews - Perform developmental testing and performance evaluations - Perform logistics and maintenance demonstrations - Conduct validation of logistics publications						
Title: IFPC Inc 2-I Program Management - System Engineering Description: Funding is provided for the following efforts: Starting in FY18, R-2A Program Management will be split out into PM Admin, PM System Engineering, and System Engineering & Integration to better align with R-3. FY 2018 Base Plans: - Continue RDT&E efforts associated with the Engineering and Manufacturing Development (EMD) phase - Perform system engineering, integration, logistics engineering, system test and evaluation management, technical configuration control, cost and business management activities - Conduct system technical reviews and program management reviews - Perform developmental testing and performance evaluations - Perform logistics and maintenance demonstrations - Conduct validation of logistics publications		-	-	2.852	-	2.852
Title: System Engineering & Integration Description: Funding is provided for the following efforts: Starting in FY18, R-2A Program Management will be split out into PM Admin, PM System Engineering, and System Engineering & Integration to better align with R-3. FY 2018 Base Plans: - Continue engineering and technical support of MML hardware, software and interface development and integration - Participate in system technical and program management reviews		-	-	23.513	-	23.513

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
<div>- Perform technical assessments, concept studies, cost reduction, risk reduction, final design, and required documentation</div> <div>- Continue IFPC Integration Lab (I2 Lab) system integration, performance analysis and test</div> <div>- Continue I2 Lab software development and integration</div> <div>- Conduct EMD MML functional checkout</div> <div>- Additional FY18 Risk Mitigation efforts to lower programmatic risks as discussed with Army Acquisition Executive and Vice Chief of Staff of the Army include</div> <div>- Procure and integrate 2 EOC lites, SFNK lab kits, additional system integration lab assets, and additional MML LRUs, and conduct additional system analysis to support the requirement for concurrent integration and test events to be performed</div>						
<div>Title: IFPC Inc 2-I Engineering and Technical Support</div> <div>Description: Funding is provided for the following efforts:</div> <div>FY 2017 Plans:</div> <div>- Continue MML engineering and technical support for design of system hardware, software, and integration requirements definition</div> <div>- Participate in system and program reviews</div> <div>- Perform technical assessments, concept studies, cost reduction, risk reduction, final design, qualification testing and required documentation</div> <div>FY 2018 Base Plans:</div> <div>- Fabricate and deliver EMD MML Assets #1-6</div> <div>- Continue engineering and technical support of MML hardware, software, interface development, qualification and integration</div> <div>- Continue MML component hardware, software, and integration development activities</div> <div>- Continue development of MML technical data package</div> <div>- Participate in system technical and program management reviews</div> <div>- Perform technical assessments, concept studies, cost reduction, risk reduction, final design, and required documentation</div> <div>- Conduct maintenance and repair of EMD MML assets to enable scheduled use in further test activities</div>		-	36.592	95.875	-	95.875
Title: IFPC Inc 2-I System/Subsystem Development and Integration		-	22.269	20.659	-	20.659

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
<p>Description: Funding is provided for the following efforts:</p> <p>FY 2017 Plans:</p> <ul style="list-style-type: none">- Continue system component hardware, software, and integration development activities- Participate in system and program reviews- Continue development of technical data package- Perform integration, component, and system level risk reduction- Continue system/subsystem hardware, software, and integration test activities- Continue manufacturing, assembly, and integration of Engineering and Manufacturing Development (EMD) phase test assets <p>FY 2018 Base Plans:</p> <ul style="list-style-type: none">- Continue system component hardware, software, and integration development activities- Participate in system technical and program management reviews- Perform integration, component, and system level qualification, performance verification and risk reduction- Continue system/subsystem hardware, software, and integration test and simulation activities- Continue manufacturing, assembly, integration and repair of EMD phase test assets, to include all MEIs						
<p>Title: IFPC Inc 2-I System/Subsystem Logistics Support</p> <p>Description: Funding is provided for the following efforts:</p> <p>FY 2018 Base Plans:</p> <ul style="list-style-type: none">- Conduct RDT&E logistics and maintenance efforts associated with the Engineering and Manufacturing Development (EMD) phase- Perform logistics engineering and supply chain management activities- Perform logistics and maintenance demonstrations- Conduct validation of logistics publications and manuals		-	-	5.529	-	5.529
<p>Title: IFPC Inc 2-I System/Subsystem Developmental Testing</p> <p>Description: Funding is provided for the following efforts:</p> <p>FY 2018 Base Plans:</p> <ul style="list-style-type: none">- Conduct Component Qualification Testing- Conduct Developmental Testing (#1)		-	-	19.807	-	19.807

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B. Accomplishments/Planned Programs (\$ in Millions)								FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Initiate System Qualification Testing												
- Conduct End-to-End Modeling and Simulation and Performance Analysis Activities												
- Conduct Cyber Security test activities												
Accomplishments/Planned Programs Subtotals								-	83.995	175.069	-	175.069
C. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
• PE 0605456A, Proj PA3: PAC-3/MSE MISSILE	2.201	-	-	-	-	-	-	-	-	0.000	2.201	
• SSN C53101: MSE Missile	514.946	702.201	459.040	-	459.040	499.915	540.669	523.413	524.934	Continuing	Continuing	
• PE 0205456A, Proj EF9: System Integration and Test	61.653	73.417	78.926	-	78.926	80.314	109.222	112.614	123.007	Continuing	Continuing	
• PE 0604114A, Proj EX2: Lower Tier Air Missile Defense (LTAMD) Capability	-	35.132	76.728	-	76.728	67.088	83.195	141.185	142.000	Continuing	Continuing	
• SSN C50016: Lower Tier Air and Missile Defense (AMD)	130.275	126.470	140.826	-	140.826	125.161	144.243	119.282	121.825	Continuing	Continuing	
• PE 0604319A, Proj DU3: IFPC2	149.222	-	31.303	-	31.303	52.604	239.305	259.804	316.104	Continuing	Continuing	
• SSN C62002: IFPC Inc 2-I Block 1 Missile	-	19.319	57.742	-	57.742	31.641	191.830	315.025	277.500	Continuing	Continuing	
• SSN C62001: IFPC Inc 2-I Block 1 System	-	-	-	-	-	157.406	144.740	100.400	14.600	Continuing	Continuing	
• PE 0604820A, Proj E10: Sentinel	11.821	15.983	32.968	-	32.968	31.761	51.897	72.562	81.351	Continuing	Continuing	
• PE 0605457A, Proj S40: Army Integrated Air and Missile Defense (AIAMD)	222.074	272.811	336.420	-	336.420	290.250	190.600	117.470	64.510	Continuing	Continuing	
• SSN BZ5075: IAMD Battle Command System	20.917	204.969	-	-	-	-	274.494	375.026	513.464	Continuing	Continuing	
• PE 0604741A, Proj 146, 149: Air Defense C2I Eng Dev	33.619	61.532	28.726	-	28.726	28.320	14.638	8.674	-	Continuing	Continuing	

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• SSN AD50700: AIR & MSL Defense Planning & Control Sys	28.176	126.539	26.635	24.100	50.735	17.960	6.366	32.397	-	Continuing	Continuing
• SSN C62004: IFPC Inc 2-I Block 2 Missile	-	-	-	-	-	-	-	-	12.300	Continuing	Continuing
• PE 0605457A, Proj DU4: Advanced Electronic Protection Enhancements AEPE	-	-	23.165	-	23.165	25.010	26.719	26.218	26.500	Continuing	Continuing
Remarks											
This program is an integral part of the Army Integrated Air and Missile Defense (IAMD) architecture.											
D. Acquisition Strategy											
An independent Cost Benefit Analysis (CBA) was completed in FY2015 and the recommendation was made to continue organic development through the Engineering and Manufacturing Development (EMD) Phase. The Government will fund the Aviation and Missile Research Development and Engineering Center (AMRDEC) and Letterkenny Army Depot (LEAD) to continue the development, manufacturing, and testing of the Multi-Mission Launcher (MML) during the Engineering and Manufacturing Development (EMD) phase of the program.											
During the transition to and initiation of the EMD phase, the IFPC Inc 2-I Product Office will award tasks on existing contracts for: Sentinel software modification to support Low Slow Small capability; integration of IFPC Inc 2-I software code into the IAMD architecture with IBCS v5.0 baseline software for Initial Operational Test and Evaluation; AIM-9X Block II interceptor software modification; AIM-9X Block II Weapon Interface Controller and Engagement Calculator software development; MML logistics products development; and complete system Critical Design Review. The IFPC Inc 2-I Product Office will conduct MML qualification testing and will conduct publication validation and verification, training, logistics demonstration, developmental flight testing, support a cyber security assessment, and initiate MML Production Technical Data Package (TDP) independent assessment. The IFPC Inc 2-I Product Office will support a Technology Readiness Assessment and receive results from the MML Production TDP assessment to support the Limited User Test, Milestone C, and the Low Rate Initial Production Decision. The IFPC Inc 2-I Product Office has modified its Acquisition Strategy by transferring four MML assets, originally designated as part of LRIP, to be test articles for use in IOT&E and other developmental test activities, as required.											
The IFPC Inc 2-I Product Office will fund AMRDEC to integrate IFPC Inc 2-I software into the IBCS v4.0 baseline to support the Limited User Test, continue component qualification testing, order materials for MML EMD assets, assemble two MML assets, and support software integration, test and checkout activities in the I2 Lab.											
The IFPC Inc 2-I Product Office will fund LEAD to fabricate components, assemble, and deliver the ten remaining MML assets.											

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E. Performance Metrics N/A		

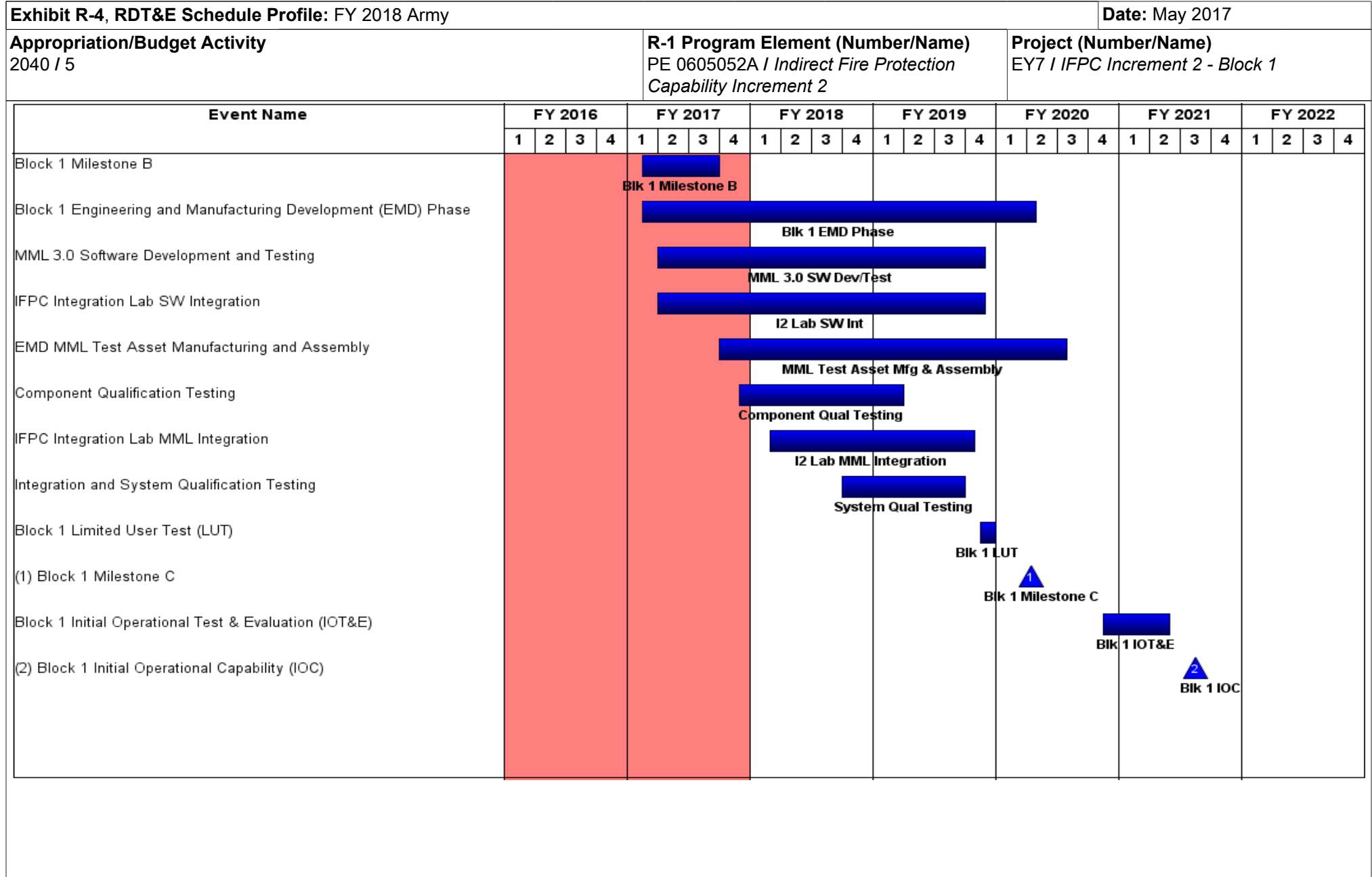
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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army												Date: May 2017			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Capability Increment 2						Project (Number/Name) EY7 / IFPC Increment 2 - Block 1			
Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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 - Program Management	MIPR	Cruise Missile Defense Systems Project Office : Huntsville, Alabama	0.000	-		8.778	Oct 2016	6.834	Oct 2017	-		6.834	Continuing	Continuing	Continuing
PM - System Engineering	MIPR	Cruise Missile Defense Systems Project Office : Huntsville, Alabama	0.000	-		-		2.852	Oct 2017	-		2.852	Continuing	Continuing	Continuing
Subtotal			0.000	-		8.778		9.686		-		9.686	-	-	-
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
System Engineering & Integration	MIPR	Multiple Activities : Multiple Locations	0.000	-		16.356	Oct 2016	23.513	Oct 2017	-		23.513	Continuing	Continuing	Continuing
Engineering and Product Development/Fabrication	MIPR	Multiple Activities : Multiple Locations	0.000	-		36.592	Oct 2016	95.875	Oct 2017	-		95.875	Continuing	Continuing	Continuing
System/Subsystem Development and Integration	MIPR	Multiple Activities : Multiple Locations	0.000	-		22.269	Oct 2016	20.659	Oct 2017	-		20.659	Continuing	Continuing	Continuing
Subtotal			0.000	-		75.217		140.047		-		140.047	-	-	-
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
PM Log Support	MIPR	Cruise Missile Defense Systems Project Office : Huntsville, Alabama	0.000	-		-		1.429	Oct 2017	-		1.429	Continuing	Continuing	Continuing

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Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Log Support	C/FFP	Potomac Wave Consulting, Inc. : Redstone Arsenal	0.000	-		-		4.101	Oct 2017	-		4.101	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		5.530		-		5.530	-	-	-
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
System/Subsystem Developmental Testing	IA	Multiple Activities : Multiple Locations	0.000	-		-		19.806	Oct 2017	-		19.806	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		19.806		-		19.806	-	-	-
			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	-		83.995		175.069		-		175.069	-	-	-
Remarks															

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army			Date: May 2017
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605052A / <i>Indirect Fire Protection Capability Increment 2</i>	Project (Number/Name) EY7 / <i>IFPC Increment 2 - Block 1</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Block 1 Milestone B	1	2017	3	2017
Block 1 Engineering and Manufacturing Development (EMD) Phase	1	2017	2	2020
MML 3.0 Software Development and Testing	2	2017	4	2019
IFPC Integration Lab SW Integration	2	2017	4	2019
EMD MML Test Asset Manufacturing and Assembly	4	2017	3	2020
Component Qualification Testing	4	2017	1	2019
IFPC Integration Lab MML Integration	1	2018	4	2019
Integration and System Qualification Testing	4	2018	3	2019
Block 1 Limited User Test (LUT)	4	2019	4	2019
Block 1 Milestone C	2	2020	2	2020
Block 1 Initial Operational Test & Evaluation (IOT&E)	4	2020	2	2021
Block 1 Initial Operational Capability (IOC)	3	2021	3	2021