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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605033A / Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)							
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	-	4.838	5.207	5.175	-	5.175	6.794	0.000	0.000	0.000	0.000	22.014
EQ3: Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)	-	4.838	5.207	5.175	-	5.175	6.794	0.000	0.000	0.000	0.000	22.014

**Note**

Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) was funded in Integrated Base Defense (IBD) Program Element: 0205402A EF2 in FY2016.

**A. Mission Description and Budget Item Justification**

Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) will replace the interim Persistent Surveillance System-Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities and will provide network integration and better mobility utilizing modular configurations. GBOSS-E will replace obsolete, quick reaction capability (QRC) surveillance and force protections systems utilizing modular configurations: Light variant (man transportable/detachable) for extra small base camps or small outpost/company, Medium variant (mid sensor height) for small to medium size base, and Heavy variant (high level sensor height) for large contingency base camps. GBOSS-E will operate in a stand-alone mode or as part of an integrated network utilizing government owned software, be easily operated and maintained, and be rugged enough to support employment in expeditionary operations worldwide.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
Previous President's Budget	5.032	5.207	3.529	-	3.529
Current President's Budget	4.838	5.207	5.175	-	5.175
Total Adjustments	-0.194	0.000	1.646	-	1.646
• Congressional General Reductions	-0.002	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.192	-			
• Adjustments to Budget Years	-	-	1.646	-	1.646

**Change Summary Explanation**

FY 2019 increase of \$1.646 million is due to an adjustment required to align funding with planned acquisition strategy.

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Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605033A / Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)				Project (Number/Name) EQ3 / Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)			
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
EQ3: Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)	-	4.838	5.207	5.175	-	5.175	6.794	0.000	0.000	0.000	0.000	22.014
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) was funded in Integrated Base Defense Program Element: 0205402A EF2 in FY 2016.

**A. Mission Description and Budget Item Justification**

Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) will replace the interim Persistent Surveillance System-Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities and will provide network integration and better mobility utilizing modular configurations. GBOSS-E will replace obsolete, quick reaction capability (QRC) surveillance and force protections systems utilizing modular configurations: Light variant (man transportable/detachable) for extra small base camps or small outpost/company, Medium variant (mid sensor height) for small to medium size base, and Heavy variant (high level sensor height) for large contingency base camps. GBOSS-E will operate in a stand-alone mode or as part of an integrated network utilizing government owned software, be easily operated and maintained, and be rugged enough to support employment in expeditionary operations worldwide.

FY 2019 Base Funding in the amount of \$5.175 million supports the continued development efforts for GBOSS-E to include the Technical Data Package (TDP) and Product Support Analysis for all system configurations and participation in Technical Support Operational Analysis (TSOA) events that will provide user feedback and capability assessments. This funding also supports acquisition of Engineering Development Models for the following components, Heavy Tower Trailer, Electro Optic Infrared (EOIR) sensor, and Radio Frequency (RF) Sensor. In addition, funding supports technical testing, Developmental Testing, Limited User Testing (LUT) and program management activities.

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

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<b>Title:</b> GBOSS-E Design and Build	4.838	5.207	5.175
<b>Description:</b> GBOSS-E completes building of Prototype/Engineering Development Models (EDMs) and starts Development Testing (DT).			
<b>FY 2018 Plans:</b> Funding supports continued development of Engineering Development Models, integration testing, and program management activities.			
<b>FY 2019 Plans:</b> FY 2019 Plans:			

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<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605033A / <i>Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)</i>	<b>Project (Number/Name)</b> EQ3 / <i>Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)</i>

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

Funding supports completion of the Engineering Development Models, technical testing of the chosen components, Integration activities, Developmental Testing, Limited User Testing (LUT), Logistics demonstration and program management activities

***FY 2018 to FY 2019 Increase/Decrease Statement:***

FY 2018 to FY 2019 Increase/Decrease Statement:

Change in funding level from FY 2018 to FY 2019 is due to an adjustment of the planned acquisition milestones. Developmental activities originally planned in FY18 will now cross fiscal years with additional support required for integrated testing events realigned to FY19. (Note: Program Management Office (PMO) support funds realigned from RDT&E to Operations and Maintenance Army (OMA)).

FY 2017	FY 2018	FY 2019
4.838	5.207	5.175

### 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
• M90212: G-BOSS(E) (M90212)	26.572	-	0.000	-	0.000	-	-	-	-	Continuing	Continuing

## Remarks

### D. Acquisition Strategy

Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) will replace the interim Persistent Surveillance System - Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities along with network integration and better mobility utilizing modular configurations. The GBOSS-E Capability Design Document (CDD) was AROC approved May 2014. In FY 2013, FY 2014 & FY 2015, the Department of Defense (DoD) Physical Security Enterprise and Analysis Group (PSEAG) provided funds to conduct pre-milestone B activities.

GBOSS-E received an approved Materiel Development Decision (MDD) from the Milestone Decision Authority (MDA) on 4 December 2015. Milestone B decision accomplished 29 Sep 2017, the existing United States Marine Corps (USMC) tower's design (Ground Based Operational Surveillance System) (GBOSS) will be leveraged and modified to meet the Army's GBOSS-E program requirements.

The acquisition strategy for GBOSS-E was approved by the Milestone Decision Authority (MDA) on 11 December 2016, which approved plans to leverage the Naval Surface Warfare Center (NSWC) at Crane, Indiana and the Night Vision and Electronic Sensors Directorate (NVESD), Fort Belvoir, Virginia to provide system design, development, and integration support, as well as a Technical Data Package (TDP) to support future procurements. The Heavy Tower Trailer, EO/IR, and RF Sensor which are the main cost drivers for the system will be competitively awarded through the product office and provided to a prime integrator with the TDP to construct future GBOSS-E systems.

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Milestone C is planned for FY 2020 and will align GBOSS-E, IGSSR-C, and Tactical Security System (TSS) in order to gain programmatic efficiencies.		
<u>E. Performance Metrics</u> N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army												Date: February 2018			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605033A / Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)				Project (Number/Name) EQ3 / Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)					
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
GBOSS-E Project Management	MIPR	PM FPS : Fort Belvoir, VA	-	1.112	Dec 2016	0.365		-		-		-	0.000	1.477	-
Subtotal			-	1.112		0.365		-		-		-	0.000	1.477	N/A
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
GBOSS-E Design Engineering	MIPR	NSWC Crane : Crane, IN	-	1.933	Dec 2016	0.821		2.049	Feb 2019	-		2.049	Continuing	Continuing	Continuing
GBOSS-E Software Development	TBD	TBD : TBD	-	0.263	Dec 2016	0.504		0.520	Feb 2019	-		0.520	Continuing	Continuing	Continuing
GBOSS-E Integration Support	MIPR	NSWC Crane : Crane, IN	-	1.125		1.203		0.664	Oct 2018	-		0.664	Continuing	Continuing	Continuing
Tech Data	MIPR	NSWC Crane : Crane, IN	-	-		0.687		0.866	Feb 2019	-		0.866	Continuing	Continuing	Continuing
Subtotal			-	3.321		3.215		4.099		-		4.099	Continuing	Continuing	N/A
Support (\$ 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
GBOSS-E Design Support	MIPR	RDECOM CERDEC : Fort Belvoir, VA	-	0.310	Dec 2016	0.707		0.190	Jan 2019	-		0.190	Continuing	Continuing	Continuing
ARL Human Systems Integration Support	MIPR	US Army ARL : Adelphi, MD	-	0.025	Dec 2016	0.025		0.025	Jan 2019	-		0.025	Continuing	Continuing	Continuing
CECOM FSD - Safety	MIPR	CECOM : APG, MD	-	0.025	Dec 2016	0.050		0.016	Jan 2019	-		0.016	Continuing	Continuing	Continuing
Subtotal			-	0.360		0.782		0.231		-		0.231	Continuing	Continuing	N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2019 Army												<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 2040 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0605033A / <i>Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)</i>				<b>Project (Number/Name)</b> EQ3 / <i>Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)</i>				

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 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>
GBOSS-E Test and Evaluation	MIPR	ATEC : Aberdeen Proving Ground, MD	-	0.045	Dec 2016	0.845		0.845		-		0.845	Continuing	Continuing	Continuing	
<b>Subtotal</b>			-	0.045		0.845		0.845		-		0.845	Continuing	Continuing	N/A	

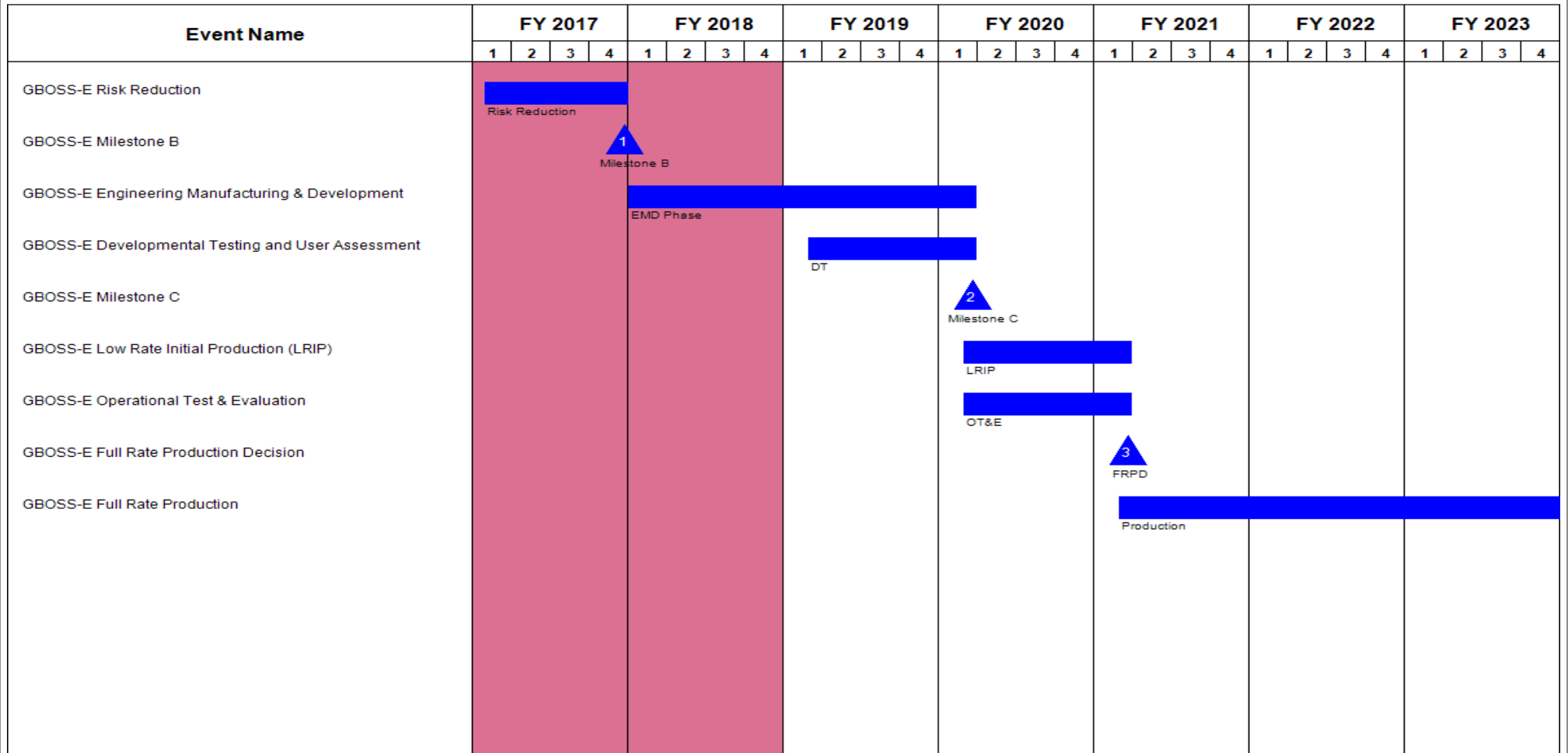
			<b>Prior Years</b>	<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>		<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	4.838		5.207		5.175		-		5.175	Continuing	Continuing	N/A	

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2019 Army</b>			<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 2040 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0605033A / <i>Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)</i>		<b>Project (Number/Name)</b> EQ3 / <i>Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)</i>	



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Army			<b>Date:</b> February 2018
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**Schedule Details**

<b>Events</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
GBOSS-E Risk Reduction	1	2016	4	2017
GBOSS-E Milestone B	4	2017	4	2017
GBOSS-E Engineering Manufacturing & Development	1	2018	1	2020
GBOSS-E Developmental Testing and User Assessment	1	2019	1	2020
GBOSS-E Milestone C	1	2020	1	2020
GBOSS-E Low Rate Initial Production (LRIP)	1	2020	1	2021
GBOSS-E Operational Test & Evaluation	1	2020	1	2021
GBOSS-E Full Rate Production Decision	1	2021	1	2021
GBOSS-E Full Rate Production	1	2021	1	2025