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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 0605033A / Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)							
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	5.032	5.207	-	5.207	3.529	0.000	0.000	0.000	0.000	13.768
EQ3: Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)	-	0.000	5.032	5.207	-	5.207	3.529	0.000	0.000	0.000	0.000	13.768

**Note**

Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) was previously funded in Integrated Base Defense (IBD) Program Element: 0205402A EF2. This is not a new start program in FY17.

**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 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>
Previous President's Budget	0.000	5.032	1.720	-	1.720
Current President's Budget	0.000	5.032	5.207	-	5.207
Total Adjustments	0.000	0.000	3.487	-	3.487
• 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	3.487	-	3.487

**Change Summary Explanation**

FY 2018 increase 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 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
EQ3: Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)	-	0.000	5.032	5.207	-	5.207	3.529	0.000	0.000	0.000	0.000	13.768
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

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**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 2018 Base Funding in the amount of \$5.207 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 and program management activities.

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

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<b>Title:</b> GBOSS-E Design and Build	-	5.032	5.207
<b>Description:</b> GBOSS-E completes building of Prototype/Engineering Development Models (EDMs) and starts Development Testing (DT).			
<b>FY 2017 Plans:</b> G-BOSS(E) completes building of Engineering Development Models (EDMs) and starts Development Testing (DT)/Early Operational Assessment (OA).			
<b>FY 2018 Plans:</b>			

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B. Accomplishments/Planned Programs (\$ in Millions)										FY 2016	FY 2017	FY 2018
Funding supports continued development of Engineering Development Models, integration testing, and program management activities.												
Accomplishments/Planned Programs Subtotals										-	5.032	5.207
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	
• M90212: G-BOSS(E) (M90212)	-	26.572	-	-	-	3.668	3.668	3.668	3.668	Continuing	Continuing	
• Integrated Base Defense (0205402A): Integrated Base Defense (0205402A)	10.324	3.450	-	-	-	-	-	-	-	0	13.774	
Remarks												
Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) was previously funded in Integrated Base Defense (IBD) Program Element: 0205402A EF2, which was a shared funding line between Integrated Ground Security, Surveillance and Response Capability (IGSSR-C), GBOSS-E and Integrated Base Defense (IBD). GBOSS-E portion was \$5.507 million in FY 2016. OPA funding of \$26.572 million in FY 2017 are Overseas Contingency Operations (OCO) funds to procure components for Integrated Base Defense –Kits (IBD-K) for 9 remote operating bases supporting Operation Inherent Resolve above the PB 2017 Request. The IBD-Ks will provide integrated and interoperable capability for persistent surveillance, entry control, perimeter security, data fusion and warn and alert to increase force protection and situational awareness in base camps.												
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. Pending successful Milestone B decision in FY 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												

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<p>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.</p> <p>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.</p> <p><b><u>E. Performance Metrics</u></b> N/A</p>		