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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605034A / <i>Tactical Security System (TSS)</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	4.326	6.928	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	11.254
EQ4: <i>Tactical Security System (TSS)</i>	-	4.326	6.928	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	11.254

A. Mission Description and Budget Item Justification

The Tactical Security System (TSS) is a modular, scalable, lightweight, rapidly deployable, ground based security and surveillance Family of Systems (FoS). The design of TSS allows for hasty emplacement and is tailorable to support short and long term security, surveillance and detection missions. The TSS and its components are designed to be employed as a stand-alone system, in a layered effort or integrated with additional force protection (FP) systems. Integration with additional sensors will be obtained through network communications and software in line with Net-Ready requirements. TSS will address four of the five base camp core protection/security capabilities identified in the Integrated Base Defense (IBD) Concept of Operations (CONOPS) which are perimeter security, entry control, persistent surveillance, warning and alerting. The TSS will be compliant with the Common Operating Environment (COE) Architecture and Implementation Plan. TSS is designed to be employed as a stand-alone system in a layered effort or integrated with additional force protection systems including motion, acoustic, seismic, surface, and detection technologies.

FY 2020 is the last year of funding for this program.

B. Program Change Summary (\$ in Millions)

	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>
Previous President's Budget	4.490	6.928	3.057	-	3.057
Current President's Budget	4.326	6.928	0.000	-	0.000
Total Adjustments	-0.164	0.000	-3.057	-	-3.057
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.164	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-3.057	-	-3.057

Change Summary Explanation

FY 2020 is the last year of funding for this program.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army										Date: February 2020		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605034A / <i>Tactical Security System (TSS)</i>					Project (Number/Name) EQ4 / <i>Tactical Security System (TSS)</i>		
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
EQ4: <i>Tactical Security System (TSS)</i>	-	4.326	6.928	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	11.254
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The TSS is a modular, scalable, lightweight, rapidly deployable, ground based security and surveillance Family of Systems (FoS). The design of TSS allows for hasty emplacement and is tailorable to support short and long term security, surveillance and detection missions. The TSS and its components are designed to be employed as a stand-alone system, in a layered effort or integrated with additional force protection (FP) systems. Integration with additional sensors will be obtained through network communications and software in line with Net-Ready requirements. TSS will address four of the five base camp core protection/security capabilities identified in the Integrated Base Defense (IBD) Concept of Operations (CONOPS) which are perimeter security, entry control, persistent surveillance, warning and alerting. The TSS will be compliant with the Common Operating Environment (COE) Architecture and Implementation Plan. TSS is designed to be employed as a stand-alone system in a layered effort or integrated with additional force protection systems including motion, acoustic, seismic, surface, and detection technologies.

FY 2020 is the last year of funding for this program.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: TSS Design and Build	4.323	6.614	-	-	-
Description: TSS completes building of Engineering Development Model (EDM), initial integration with Integrated Ground Security Surveillance and Response Capability (IGSSR-C) and Common Operating Environment (COE), and Developmental Testing (DT) of prototype, achieves Milestone C decision, procures LRIP articles and completes IOT&E.					
FY 2020 Plans: TSS completes the Limited User Testing (LUT) and Logistics Demonstration, achieves Milestone C decision, procures three LRIP articles, and completes IOT&E.					
FY 2020 to FY 2021 Increase/Decrease Statement: FY 2020 is the last year of funding for this program.					
Title: FY19 NDAA, Section 8109, MDAP Cost Overrun - \$3,000	0.003	-	-	-	-
Title: FY 2020 SBIR/STTR Transfer	-	0.314	-	-	-
Description: Funding transferred in accordance with Title 15 USC ?638					

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605034A / <i>Tactical Security System (TSS)</i>	Project (Number/Name) EQ4 / <i>Tactical Security System (TSS)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
<i>FY 2020 Plans:</i> Funding transferred in accordance with Title 15 USC 7638					
<i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> Funding transferred in accordance with Title 15 USC 7638					
Accomplishments/Planned Programs Subtotals	4.326	6.928	-	-	-

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• M90220: <i>TACTICAL SECURITY SYSTEM (TSS)</i>	-	-	0.000	14.189	14.189	-	-	-	-	0.000	14.189

Remarks

D. Acquisition Strategy

TSS will eliminate the Non-Standard Equipment (NSE) currently used in the Force Protection Suite (FPS) under the Base Expeditionary Targeting and Surveillance System - Combined (BETSS-C) Quick Reaction Capability (QRC) with improved surveillance capabilities in modular configurations along with enhanced network integration across the command and control system and Common Operating Environment (COE).

Tactical Security System (TSS) received Materiel Development Decision (MDD) approval on 6 January 2017. The acquisition concept and contracting strategy for TSS was approved on 30 April 2018 by the Milestone Decision Authority (MDA) to leverage an existing task order through Night Vision and Electronic Sensors Directorate (NVESD), Fort Belvoir, Virginia to provide engineering and developmental support for the TSS design, development, and integration of an EDM and to support Operational Assessments (OA). Key efforts include the development of the EDM, testing and evaluation for TSS Key Performance Parameters (KPPs)/Key System Attributes (KSAs)/Additional Performance Parameters (APAs), and Developmental and Operational Test and Evaluation (DOT&E). MS B was achieved on 29 October 2018.

Milestone C is planned for FY 2020.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army													Date: February 2020		
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)						
2040 / 5				PE 0605034A / Tactical Security System (TSS)					EQ4 / Tactical Security System (TSS)						
Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TSS Project Management	MIPR	PM FPS : Fort Belvoir, VA	0.516	0.604	Jun 2019	0.484	May 2020	-		-		-	0.000	1.604	-
TSS Project Management	TBD	PM TS : Fort Belvoir, VA	-	0.105	Jun 2019	-		-		-		-	0.000	0.105	-
RAM support	TBD	Alion : Crane, Indiana	-	0.071	Nov 2019	-		-		-		-	0.000	0.071	-
MDAP Cost Overrun	TBD	OASA(FM&C) : Pentagon, DC	-	0.003		-		-		-		-	0.000	0.003	-
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.314		-		-		-	0.000	0.314	-
Subtotal			0.516	0.783		0.798		-		-		-	0.000	2.097	N/A
Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TSS Design	MIPR	Polaris Alpha : Fredericksburg, VA	1.874	0.881	Jan 2019	0.165	Jan 2020	-		-		-	0.000	2.920	-
TSS Prototypes	MIPR	Polaris Alpha : Fredericksburg, VA	0.409	0.950	Jan 2019	3.540	Jan 2020	-		-		-	0.000	4.899	-
TSS Software Development	TBD	MTEQ : Lorton, VA	0.100	0.050	Jan 2019	-		-		-		-	0.000	0.150	-
TSS Integration	MIPR	Polaris Alpha : Fredericksburg, VA	0.623	0.426	Jan 2019	0.695	Jan 2020	-		-		-	0.000	1.744	-
TSS Embedded SW development	TBD	Alion : Crane, Indiana	-	0.098	Nov 2018	-		-		-		-	0.000	0.098	-
Subtotal			3.006	2.405		4.400		-		-		-	0.000	9.811	N/A

UNCLASSIFIED

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2040 / 5				PE 0605034A / Tactical Security System (TSS)				EQ4 / Tactical Security System (TSS)							
Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
TSS Design Support	MIPR	RDECOM CERDEC : Fort Belvoir, VA	0.154	0.142	Jan 2019	0.102	Jan 2020	-		-		-	0.000	0.398	-
ARL Human Systems Integration Support	MIPR	US Army Research Lab : Adelphi, MD	0.025	0.026	Jan 2019	-		-		-		-	0.000	0.051	-
CECOM FSD - Safety	MIPR	CECOM : APG, MD	0.015	0.016	May 2019	0.015	Nov 2019	-		-		-	0.000	0.046	-
CECOM ILSC	TBD	CECOM : Aberdeen Proving Grounds, MD	-	0.027	Mar 2019	-		-		-		-	0.000	0.027	-
TSS LORA Support	TBD	C5ISR PRD : Aberdeen Proving Grounds, MD	-	0.014	Jun 2019	-		-		-		-	0.000	0.014	-
Contract Support Services	TBD	ACC : Fort Belvoir, VA	-	0.090	Dec 2018	-		-		-		-	0.000	0.090	-
Cyber Support	TBD	Mitre : Fort Belvoir, VA	-	0.259	Dec 2018	-		-		-		-	0.000	0.259	-
Subtotal			0.194	0.574		0.117		-		-		-	0.000	0.885	N/A
Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
TSS Test and Evaluation	MIPR	Army Evaluation Center : APG, MD	0.282	0.015	Jul 2019	1.613	Mar 2020	-		-		-	0.000	1.910	-
TSS Test Planning and Support	TBD	Redstone Test Center : Redstone, AL	-	0.549	Sep 2019	-		-		-		-	0.000	0.549	-
Subtotal			0.282	0.564		1.613		-		-		-	0.000	2.459	N/A
Project Cost Totals			3.998	4.326		6.928		-		-		-	0.000	15.252	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605034A / <i>Tactical Security System (TSS)</i>	Project (Number/Name) EQ4 / <i>Tactical Security System (TSS)</i>

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
TSS Engineering & Manufacturing Development	EMD Phase																											
TSS Development Testing/Operational Assessment					DT/OA																							
TSS Milestone C					1 Milestone C																							
TSS Low Rate Initial Production (LRIP)					LRIP																							
TSS Operational Test & Evaluation					OT&E																							
TSS Full Rate Production Decision									2 FRPCR																			
TSS Full Rate Production													Production															

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605034A / <i>Tactical Security System (TSS)</i>	Project (Number/Name) EQ4 / <i>Tactical Security System (TSS)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
TSS Material Development Decision	1	2018	1	2018
TSS Pre Milestone B Activities / Risk Reduction	2	2016	4	2017
TSS Milestone B	4	2018	4	2018
TSS Engineering & Manufacturing Development	4	2018	3	2020
TSS Development Testing/Operational Assessment	1	2020	3	2020
TSS Milestone C	3	2020	3	2020
TSS Low Rate Initial Production (LRIP)	3	2020	2	2021
TSS Operational Test & Evaluation	4	2020	3	2021
TSS Full Rate Production Decision	4	2021	4	2021
TSS Full Rate Production	4	2021	4	2024