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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Army **Date:** May 2021

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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	7.343	-	-	-	-	-	-	-	-	-	-
EQ4: <i>Tactical Security System (TSS)</i>	-	7.343	-	-	-	-	-	-	-	-	-	-

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.

FY2020 is the last year of RDTE funding for this program and transitioned to OPA (M90101).

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	6.928	0.000	0.000	-	0.000
Current President's Budget	7.343	0.000	0.000	-	0.000
Total Adjustments	0.415	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.700	-			
• SBIR/STTR Transfer	-0.285	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Army										Date: May 2021		
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
EQ4: <i>Tactical Security System (TSS)</i>	-	7.343	-	-	-	-	-	-	-	-	-	-
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. TSS is formally changing its program name to Surveillance Security System (SSS) in FY21.

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

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

	FY 2020	FY 2021	FY 2022
Title: TSS Design and Build	7.343	-	-
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 Test articles and completes an Operational Assessment.			
Accomplishments/Planned Programs Subtotals	7.343	-	-

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

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• M90220: <i>TACTICAL SECURITY SYSTEM (TSS)</i>	-	14.189	1.588	-	1.588	-	-	-	-	-	-
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605034A / Tactical Security System (TSS)	Project (Number/Name) EQ4 / Tactical Security System (TSS)

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. In 4Q FY21 PM FPS is positioned to enter Milestone C and execute an OA to support a Full Rate Production Decision and initiate production of TSS. In FY22-26, PM FPS is positioned to complete TSS production up to the APO and sustain fielded systems while managing obsolescence and technology refreshes.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army **Date:** May 2021

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>
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Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	1.120	0.723	May 2020	-		-		-		-	0.000	1.843	-
TSS Project Management	TBD	PM TS : Fort Belvoir, VA	0.105	0.525		-		-		-		-	0.000	0.630	-
RAM support	TBD	Alion : Crane, Indiana	0.071	0.070		-		-		-		-	0.000	0.141	-
MDAP Cost Overrun	TBD	OASA(FM&C) : Pentagon, DC	0.003	-		-		-		-		-	0.000	0.003	-
Subtotal			1.299	1.318		-		-		-		-	0.000	2.617	N/A

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	2.755	2.434	Jan 2020	-		-		-		-	0.000	5.189	-
TSS Prototypes	MIPR	Polaris Alpha : Fredericksburg, VA	1.359	0.452	Jan 2020	-		-		-		-	0.000	1.811	-
TSS Software Development	TBD	MTEQ : Lorton, VA	0.150	-		-		-		-		-	0.000	0.150	-
TSS Integration	MIPR	Polaris Alpha : Fredericksburg, VA	1.049	1.020	Jan 2020	-		-		-		-	0.000	2.069	-
TSS Embedded SW development	TBD	Alion : Crane, Indiana	0.098	0.400		-		-		-		-	0.000	0.498	-
Subtotal			5.411	4.306		-		-		-		-	0.000	9.717	N/A

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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)							
Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	0.296	0.070	Jan 2020	-		-		-		-	0.000	0.366	-
ARL Human Systems Integration Support	MIPR	US Army Research Lab : Adelphi, MD	0.051	-		-		-		-		-	0.000	0.051	-
CECOM FSD - Safety	MIPR	CECOM : APG, MD	0.031	0.062	Nov 2019	-		-		-		-	0.000	0.093	-
CECOM SEC	TBD	CECOM : Aberdeen Proving Grounds, MD	0.027	0.054		-		-		-		-	0.000	0.081	-
TSS LORA Support	TBD	C5ISR PRD : Aberdeen Proving Grounds, MD	0.014	-		-		-		-		-	0.000	0.014	-
Contract Support Services	TBD	ACC : Fort Belvoir, VA	0.090	0.090		-		-		-		-	0.000	0.180	-
Cyber Support	TBD	Mitre : Fort Belvoir, VA	0.259	0.124		-		-		-		-	0.000	0.383	-
Subtotal			0.768	0.400		-		-		-		-	0.000	1.168	N/A
Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	0.297	1.098	Mar 2020	-		-		-		-	0.000	1.395	-
TSS Test Planning and Support	TBD	Redstone Test Center : Redstone, AL	0.549	0.221		-		-		-		-	0.000	0.770	-
Subtotal			0.846	1.319		-		-		-		-	0.000	2.165	N/A
Project Cost Totals			8.324	7.343		0.000		-		-		-	0.000	15.667	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army		Date: May 2021
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 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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	[Blue Bar]				[Grey Bar]																							
	EMD Phase																											
TSS Development Testing	[Blue Bar]																											
	Developmental Testing																											
TSS Operational Assessment (OA)					[Blue Bar]																							
					Operational Assessment																							
TSS Milestone C									[Blue Triangle]																			
									Milestone C																			
TSS Authority to Operate											[Blue Bar]																	
											ATO																	
TSS Full Rate Production Decision													[Blue Triangle]															
													FRPDR															
TSS Full Rate Production													[Blue Bar]															
																	Production											

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army		Date: May 2021
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	1	2021
TSS Development Testing	2	2020	4	2020
TSS Operational Assessment (OA)	2	2021	2	2021
TSS Milestone C	4	2021	4	2021
TSS Authority to Operate	2	2022	3	2022
TSS Full Rate Production Decision	4	2022	4	2022
TSS Full Rate Production	4	2022	3	2025