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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 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0603627A / Smoke, Obscurity and Target Defeating Sys AD							
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	-	43.177	7.135	22.700	1.500	24.200	0.000	0.000	0.000	0.000	0.000	74.512
E79: SMOKE/OBSCURANT SYSTEM	-	43.177	7.135	22.700	1.500	24.200	0.000	0.000	0.000	0.000	0.000	74.512
Note Nuclear Biological Chemical Radiological Vehicle Sensor Suite (NBCRVSS) funding moves to a separate Program Element starting in FY18. It will be reflected under PE 655038, Project Code EQ7.												
A. Mission Description and Budget Item Justification The Screening Obscuration Module (SOM) will provide a man portable mountable and dismountable medium area visual screening obscuration capability for the war fighter. The SOM will increase platform survivability and soldier protection levels of maneuver forces by degrading enemy forces ability to detect US targets in the visual and near infrared region of the electromagnetic spectrum. The SOM will utilize miniaturized obscuration generator technology to produce an effective visual obscuration cloud to screen against enemy forces. This effort replaces obsolete technology used in older smoke pots. The individual Soldier or team will employ the SOM devices on open and complex terrain. The Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) program provides a Sensor Suite Upgrade (SSU) for the Stryker NBCRV. The NBCRV Sensor Suite is the Mission Equipment Package for the Stryker NBCRV and consists of chemical point detectors, a standoff chemical vapor detector, a biological point detector, a chemical vapor sampling system, radiological detectors, and the Sensor Processing Group. NBCRV SS provides the Stryker NBCRV the ability to detect, identify, collect, report, and mark NBC Hazards. The Stryker NBCRV SSU will improve chemical, biological and radiological and nuclear detection and identification capabilities, and reduce sustainment costs over the current system. A Chemical Surface Detector (CSD) will be developed to replace the Dual Wheel Sampling System to increase maneuver speed when conducting NBC missions and increase reliability.												

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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603627A / <i>Smoke, Obscurity and Target Defeating Sys AD</i>
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B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	44.264	7.135	6.166	-	6.166
Current President's Budget	43.177	7.135	22.700	1.500	24.200
Total Adjustments	-1.087	0.000	16.534	1.500	18.034
• Congressional General Reductions	-0.014	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.073	-			
• Adjustments to Budget Years	-	-	16.534	1.500	18.034

Change Summary Explanation

FY 2019 increase is a result of \$1.5M in OCO programmed in support of CBRN Theater Chem Bio Defense efforts. The increase also supports the CBRN Theatre Chem Bio Defense Effort (\$16.534M).

Note: FY 2017 reduction is a result of FFRDC and SBIR/STTR reductions.

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Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603627A / Smoke, Obscurity and Target Defeating Sys AD				Project (Number/Name) E79 / SMOKE/OBSCURANT SYSTEM			
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
E79: SMOKE/OBSCURANT SYSTEM	-	43.177	7.135	22.700	1.500	24.200	0.000	0.000	0.000	0.000	0.000	74.512
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY18 funds for NBC Reconnaissance Platform Integration move to PE655038 EQ7.

A. Mission Description and Budget Item Justification

The Screening Obscuration Module (SOM) will provide a man portable mountable and dismountable medium area visual screening obscuration capability for the war fighter. The SOM will increase platform survivability and soldier protection levels of maneuver forces by degrading enemy forces ability to detect US targets in the visual and near infrared region of the electromagnetic spectrum. The SOM will utilize miniaturized obscuration generator technology to produce an effective visual obscuration cloud to screen against enemy forces. This effort replaces obsolete technology used in older smoke pots. The individual Soldier or team will employ the SOM devices on open and complex terrain.

The Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) provides a Sensor Suite Upgrade (SSU) for the NBCRV. The NBCRV Sensor Suite is the Mission Equipment Package for the Stryker NBCRV and consists of chemical point detectors, a standoff chemical vapor detector, a biological point detector, a chemical vapor sampling system, radiological detectors, and the Sensor Processing Group. NBCRV SS provides the Stryker NBCRV the ability to detect, identify, collect, report, and mark NBC Hazards. The Stryker NBCRV SSU will improve chemical, biological and radiological and nuclear detection and identification capabilities, and reduce sustainment costs over the current system. A Chemical Surface Detector (CSD) will be developed to replace the Dual Wheel Sampling System to increase maneuver sped when conducting NBC missions and increase reliability.

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

	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: SOM: Product Development	5.289	4.400	2.049	-	2.049
Description: Provide Screening Obscuration Module (SOM) Development.					
FY 2018 Plans: SOM: Continue and complete development of the SOM systems and produce test systems.					
FY 2019 Base Plans: Will continue development, incorporate changes from the DT test.					
FY 2018 to FY 2019 Increase/Decrease Statement:					

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Development was initiated in FY16 and will be in the end of the cycle during these years.						
Title: SOM: Test, Evaluation & OGA's Description: Provide Test and Evaluation of SOM systems FY 2018 Plans: SOM: Continue test and evaluation planning, and initiate funding to test agencies for planning. FY 2019 Base Plans: Will continue test and evaluation planning, and conduct DT testing. FY 2018 to FY 2019 Increase/Decrease Statement: Funding increase as prototypes will be developed and government testing will ramp up.		0.620	1.612	2.835	-	2.835
Title: SOM: Project Management Description: Provide Project Management FY 2018 Plans: SOM: Continue Government program management, systems engineering, and Integrated Product Team (IPT) support. FY 2019 Base Plans: Will continue Government program management, systems engineering, and Integrated Product Team (IPT) support. FY 2018 to FY 2019 Increase/Decrease Statement: Increase to account for inflation and slight team shifts.		1.216	1.123	1.216	-	1.216
Title: NBCRV: Sensor Suite Upgrade Development Description: Provide Sensor suite upgrade development		16.195	-	-	-	-
Title: NBCRV Integration Support Description: Provide ILS and Integration support to the sensor suite upgrades		0.967	-	-	-	-
Title: NBCRV: Test & Evaluation		1.962	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: Provide NBCRV testing of prototypes					
Title: NBCRV: Project Management	1.991	-	-	-	-
Description: Provide NBCRV Project Management Labor					
Title: JUONS CC-0557: Part B/Initialization of Part C	11.297	-	-	-	-
Description: Joint Urgent Operational Needs Statement (JUONS) CC-0557: Provide analysis, development and demonstration of materiel solutions to automate early warning notifications and reporting among the Forward Operating Bases and their higher headquarters /command posts. Support test to existing early warning and proximate chemical detection systems as a risk reduction means for emerging threats.					
Title: Tactical Disablement System (TacDS)	3.640	-	-	-	-
Description: Tactical Disablement System (TacDS) will provide capabilities that delay, disrupt, degrade, and or destroy small quantities of chemical and biological warfare materiel in bulk containers and munitions in a hostile environment.					
Title: CBRN: Theater Chem Bio-Defense	-	-	16.600	1.500	18.100
Description: CBRN Theater Chem Bio Defense efforts.					
FY 2019 Base Plans: TBD					
FY 2019 OCO Plans: TBD					
FY 2018 to FY 2019 Increase/Decrease Statement: Funding provided for CBRN Theater Chem Bio Defense effort.					
Accomplishments/Planned Programs Subtotals	43.177	7.135	22.700	1.500	24.200
C. Other Program Funding Summary (\$ in Millions)					
N/A					
Remarks					

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<p><u>D. Acquisition Strategy</u></p> <p>Acquisition Strategy:</p> <p>Screening Obscuration Module (SOM): The SOM acquisition strategy is a single-step System Integration and Development (SID) phase leading to a Milestone C production decision. A Full and Open Cost Plus Incentive Fee competitive contract will be used to develop the SOM during the SID phase. Fixed Price Incentive (Successive Targets) options for production will be included in the contract. The acquisition strategy includes system development and demonstration, full system integration, design for producibility and demonstration of interoperability, safety, military utility and reliability.</p> <p>Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite (NBCRVSS) Upgrade is an upgrade for the Stryker Nuclear Biological Chemical Reconnaissance Vehicle. The contract approach of the Chemical Surface Detector (CSD) will be a Full and Open Cost Plus Fixed Fee competitive prototyping contract. After the TMRR phase, the contract approach for CSD will be a Full and Open Cost Plus Incentive Fee Engineering Manufacturing Development contract with Fixed Price Incentive Fee options for Low Rate Initial Production and Full Rate Production.</p> <p><u>E. Performance Metrics</u></p> <p>N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army												Date: February 2018			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603627A / Smoke, Obscurity and Target Defeating Sys AD				Project (Number/Name) E79 / SMOKE/OBSCURANT SYSTEM					
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
SOM-Project Management Personnel	MIPR	JPM NBC CA : Edgewood, MD	6.755	1.216	Nov 2016	1.123	Nov 2017	1.216	Nov 2018	-		1.216	Continuing	Continuing	Continuing
NBCRV-Project Management Personnel	MIPR	JPM NBC CA & JPEO CBD : Edgewood, MD	1.876	1.991	Nov 2016	-		-		-		-	0.000	3.867	-
Subtotal			8.631	3.207		1.123		1.216		-		1.216	Continuing	Continuing	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
SOM Product Development	C/CPIF	L3 : Melbourne, FL	22.761	5.289	Oct 2016	4.400	Feb 2018	2.049	Feb 2019	-		2.049	Continuing	Continuing	Continuing
NBCRV: Product Development (CSD)	C/CPIF	FLIR : Elkridge, MD	-	3.852	Feb 2017	-		-		-		-	0.000	3.852	Continuing
NBCRV: Product Development (CSD)	C/CPIF	UTC Areospace : Pomona, CA	-	2.922	Feb 2017	-		-		-		-	0.000	2.922	-
NBCRV: Product Development (CSD)	C/CPIF	L3 Sonoma : Santa Rosa, CA	-	8.964	Feb 2017	-		-		-		-	0.000	8.964	-
NBCRV: NBCSPG	Option/ CPFF	CACI : Lorton, VA	-	0.457	Feb 2017	-		-		-		-	0.000	0.457	-
JUONS CC-0557	MIPR	various : various	-	4.970	Jun 2017	-		-		-		-	0.000	4.970	-
TaDS	MIPR	various : various	-	3.640	Jun 2017	-		-		-		-	0.000	3.640	-
CBRN-Theater Chem Bio Defense	TBD	TBD : TBD	-	-		-		16.600	Mar 2019	1.500	Mar 2019	18.100	0.000	18.100	-
Subtotal			22.761	30.094		4.400		18.649		1.500		20.149	Continuing	Continuing	N/A

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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
NBCRV ILS	MIPR	ECBC : Edgewood, MD	-	0.967	Nov 2016	-		-		-		-	0.000	0.967	-
Subtotal			-	0.967		-		-		-		-	0.000	0.967	N/A
Test and Evaluation (\$ 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
SOM Test, Evaluation & OGA's	MIPR	Various OGA : Various	1.643	0.620	Dec 2016	1.612		2.835	Nov 2018	-		2.835	Continuing	Continuing	Continuing
NBCRV-Test, Evaluation & OGA's	MIPR	OGA : Various	0.571	1.962	Jan 2017	-		-		-		-	0.000	2.533	-
JUONS CC-0557	MIPR	various : various	-	6.327	Jun 2017	-		-		-		-	0.000	6.327	-
Subtotal			2.214	8.909		1.612		2.835		-		2.835	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			33.606	43.177		7.135		22.700		1.500		24.200	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army	Date: February 2018
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Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603627A / <i>Smoke, Obscurity and Target Defeating Sys AD</i>	Project (Number/Name) E79 / <i>SMOKE/OBSCURANT SYSTEM</i>
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Event Name	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
SOM Design and Fabrication																												
SOM Developmental Testing #1																												
SOM Developmental Testing #2																												
SOM User Testing																												
SOM MS C																												
SOM Production Award																												
SOM FAT																												
NBCRV: NGCD 3M Design and Fabrication																												
NBCRV: Chemical Surface Detector (CSD) Award (SID)																												
NBCRV: CSD Design and Fabrication (FY18 forward Under 65503)																												
NBCRV: NGCD 3M Testing																												
NBCRV: CSD Developmental Testing																												
NBCRV: NGCD 3M Maturation																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army			Date: February 2018		
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Event Name	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
NBCRV: CSD Milestone B																												
NBCRV: CSD Maturation																												
NBCRV: NGCD 3M PQT																												
NBCRV: CSD Production Qualification Testing (PQT)																												
NBCRV: CSD Low Rate Initial Production (LRIP)																												
NBCRV: NGCD 3M LRIP																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603627A / <i>Smoke, Obscurity and Target Defeating Sys AD</i>	Project (Number/Name) E79 / <i>SMOKE/OBSCURANT SYSTEM</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SOM Design and Fabrication	4	2016	1	2019
SOM Developmental Testing #1	1	2018	2	2018
SOM Developmental Testing #2	1	2019	4	2019
SOM User Testing	4	2019	4	2019
SOM MS C	3	2020	3	2020
SOM Production Award	3	2020	3	2020
SOM FAT	1	2021	1	2021
NBCRV: Next Generation Chemical Detector Mounted (NGCD 3M) Award	2	2016	2	2016
NBCRV: NGCD 3M Design and Fabrication	2	2016	2	2017
NBCRV: JSLSCAD Modeling and Simulation Award	4	2016	4	2016
NBCRV: Chemical Surface Detector (CSD) Award (SID)	1	2017	1	2017
NBCRV: CSD Design and Fabrication (FY18 forward Under 655038 EQ7)	1	2017	3	2018
NBCRV: NGCD 3M Testing	2	2017	3	2017
NBCRV: CSD Developmental Testing	3	2017	4	2018
NBCRV: NGCD 3M Maturation	1	2018	2	2020
NBCRV: CSD Milestone B	4	2018	4	2018
NBCRV: CSD Maturation	1	2019	2	2020
NBCRV: NGCD 3M PQT	4	2019	1	2020
NBCRV: CSD Production Qualification Testing (PQT)	3	2020	1	2021
NBCRV: CSD Low Rate Initial Production (LRIP)	1	2022	2	2022
NBCRV: NGCD 3M LRIP	1	2023	2	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
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Note Starting in FY18 all NBCRV funds moved to 655038 EQ7		