Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army											Date: February 2018	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604290A *I Mid-Tier Wideband Networking Vehicular Radio*							
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	-	9.363	10.589	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.952
DW1: *Mid-Tier Wideband Networking Vehicular Radio Mnvr*	-	9.363	10.589	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.952

Note

There is currently no funding allocated to MNVR in FY2019.

A. Mission Description and Budget Item Justification

The Mid-tier Networking Vehicular Radio (MNVR) enables the extension of data services within the tactical network through seamless integration of the upper and lower tiers; providing software-defined, multi-channel networking radios for a wide variety of Army tactical vehicles to meet the Army's requirement for the Mid-tier Wideband Networking (MWN) capability. The MNVR provides self-forming and self-healing communication networks from the brigade to the platoon level throughout the full range of military operations.

The MNVR, a modified Non-Developmental Item (NDI), supports Army Mission Command operational requirements with a multi-channel, Type 1 (supporting multiple independent levels of security), vehicular mounted radio hosting networking waveforms. The MNVR narrows the data capability gap at the Brigade Combat Team (BCT) company level and provides the capability to build a data extension to the lowest echelons, and then enables the extension of services from the Forward Operating Base (FOB) to the platform. MNVR provides a dynamic, scalable, On-the-Move (OTM) network architecture, connecting the Soldier to the Mission Command (MC) Network and enhances capability to exchange voice and data simultaneously and faster than current systems. The advanced network waveforms provide rapid distribution of data and imagery with increased information assurance protection and automatic routing across complex terrain. The system operates Internet Protocol (IP) based networking waveforms offering increased data throughput through self-forming, self-healing, managed communication networks. Its route and retransmit functionality links waveforms in different frequency bands, within the 2 Megahertz (MHz) to 2 Gigahertz (GHz) range, to form one cohesive network. MNVR nomenclature has been designated as AN/VRC-118(V)1.

A single award contract was awarded on 24 September 2013, Indefinite Delivery Indefinite Quantity (IDIQ), firm fixed price, 3-year ordering period. Production of 232 radios for Test & Evaluation and certification purposes was completed in 3QFY 2014. On 3 Oct 2016, Defense Acquisition Executive (DAE) published a MNVR MS C Acquisition Decision Memorandum.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army					Date: February 2018
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604290A *I Mid-Tier Wideband Networking Vehicular Radio*		
B. Program Change Summary ($ in Millions)	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**
Previous President's Budget	12.172	10.589	5.401	-	5.401
Current President's Budget	9.363	10.589	0.000	-	0.000
Total Adjustments	-2.809	0.000	-5.401	-	-5.401
• Congressional General Reductions	-0.006	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.341	-			
• SBIR/STTR Transfer	-0.462	-			
• Adjustments to Budget Years	-	-	-5.401	-	-5.401

Change Summary Explanation

FY 2017 Reduction in funding: FFRDC adjustment and SBIR/STTR Transfers

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604290A / *Mid-Tier Wideband Networking Vehicular Radio*	Project (Number/Name) DW1 / *Mid-Tier Wideband Networking Vehicular Radio Mnvr*	

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
DW1: *Mid-Tier Wideband Networking Vehicular Radio Mnvr*	-	9.363	10.589	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.952
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Mid-tier Networking Vehicular Radio (MNVR) enables the extension of data services within the tactical network through seamless integration of the upper and lower tiers; providing software-defined, multi-channel networking radios for a wide variety of Army tactical vehicles to meet the Army's requirement for the Mid-tier Wideband Networking (MWN) capability. The MNVR provides self-forming and self-healing communication networks from the brigade to the platoon level throughout the full range of military operations.

The MNVR, a modified Non-Developmental Item (NDI), supports Army Mission Command operational requirements with a multi-channel, Type 1 (supporting multiple independent levels of security), vehicular mounted radio hosting networking waveforms. The MNVR narrows the data capability gap at the Brigade Combat Team (BCT) company level and provides the capability to build a data extension to the lowest echelons, and then enables the extension of services from the Forward Operating Base (FOB) to the platform. MNVR provides a dynamic, scalable, On-the-Move (OTM) network architecture, connecting the Soldier to the Mission Command (MC) Network and enhances capability to exchange voice and data simultaneously and faster than current systems. The advanced network waveforms provide rapid distribution of data and imagery with increased information assurance protection and automatic routing across complex terrain. The system operates Internet Protocol (IP) based networking waveforms offering increased data throughput through self-forming, self-healing, managed communication networks. Its route and retransmit functionality links waveforms in different frequency bands, within the 2 Megahertz (MHz) to 2 Gigahertz (GHz) range, to form one cohesive network. MNVR nomenclature has been designated as AN/VRC-118(V)1.

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Mid-tier Networking Vehicular Radio (MNVR)	9.363	10.589	-
Description: RDTE funding supports efforts to test and certify industry solutions for a modified NDI radio; contract management, and test & certification efforts.			
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604290A / *Mid-Tier Wideband Networking Vehicular Radio*	**Project (Number/Name)** DW1 / *Mid-Tier Wideband Networking Vehicular Radio Mnvr*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
FY2018 supports system test and evaluation efforts to execute the modified NDI strategy for the mid-tier networking vehicular radio capability; focus is on development of a Request for Proposal (RFP) release for follow on contract award; conduct Source Selection Performance Demonstration test, and engineering Contract Support. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** There is currently no funding allocated to MNVR in FY 2019.			
Accomplishments/Planned Programs Subtotals	9.363	10.589	-

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
• B51001: *Mid-tier Networking Vehicular Radio (MNVR)*	25.017	25.100	0.000	-	0.000	-	-	-	-	0.000	50.117

Remarks

There is currently no funding allocated to MNVR in FY2019.

D. Acquisition Strategy

The MNVR is a modified NDI industry solution for a multi-channel vehicular radio hosting networking waveforms. This modified NDI approach takes advantage of competitively priced, mature and producible technology that meets technical specifications.

An Acquisition Decision Memorandum (ADM) was signed on 20 September 2013 by the Defense Acquisition Executive (DAE), approving a Materiel Development Decision (MDD). The ADM designated MNVR as an ACAT 1D Special Interest Program under the continued oversight of the DAE. The ADM also approved the award of a competitive contract, and authorized the procurement of up to 232 modified NDI radios for Test & Evaluation, Platform Integration and Certification purposes in order to inform a MS C decision. On 3 Oct 2016, Defense Acquisition Executive (ADM) published a MNVR MS C Acquisition Decision Memorandum. In Nov 2017, the DAE rescinded the Special Interest designation, as well as the ACAT ID designation. The Army will determine the ACAT designation and MDA at a later date.

E. Performance Metrics

N/A

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 0604290A / *Mid-Tier Wideband Networking Vehicular Radio*	Project (Number/Name) DW1 / *Mid-Tier Wideband Networking Vehicular Radio Mnvr*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services - PMO	Various	Aberdeen Proving Ground : Maryland	36.529	-		0.385		-		-		-	5.912	42.826	-
Management Services - Engineering Contractor Support	Various	Various : Various	-	2.718		2.675		-		-		-	0.000	5.393	-
		Subtotal	36.529	2.718		3.060		-		-		-	5.912	48.219	N/A

Remarks

There is currently no funding allocated to MNVR in FY2019.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Test and Evaluation	Various	Multiple : Various	39.050	4.981		-		-		-		-	0.000	44.031	-
Dynamic Network Connectivity	TBD	To Be Determined : To Be Determined	-	1.664		1.873		-		-		-	0.000	3.537	-
Source Selection Performance Demonstration (SSPDS) Tests	Various	Multiple : Various	14.301	-		5.656		-		-		-	0.000	19.957	-
		Subtotal	53.351	6.645		7.529		-		-		-	0.000	67.525	N/A

Remarks

There is currently no funding allocated to MNVR in FY2019.

	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	89.880	9.363		10.589		-		-		-	5.912	115.744	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604290A / *Mid-Tier Wideband Networking Vehicular Radio*	**Project (Number/Name)** DW1 / *Mid-Tier Wideband Networking Vehicular Radio Mnvr*

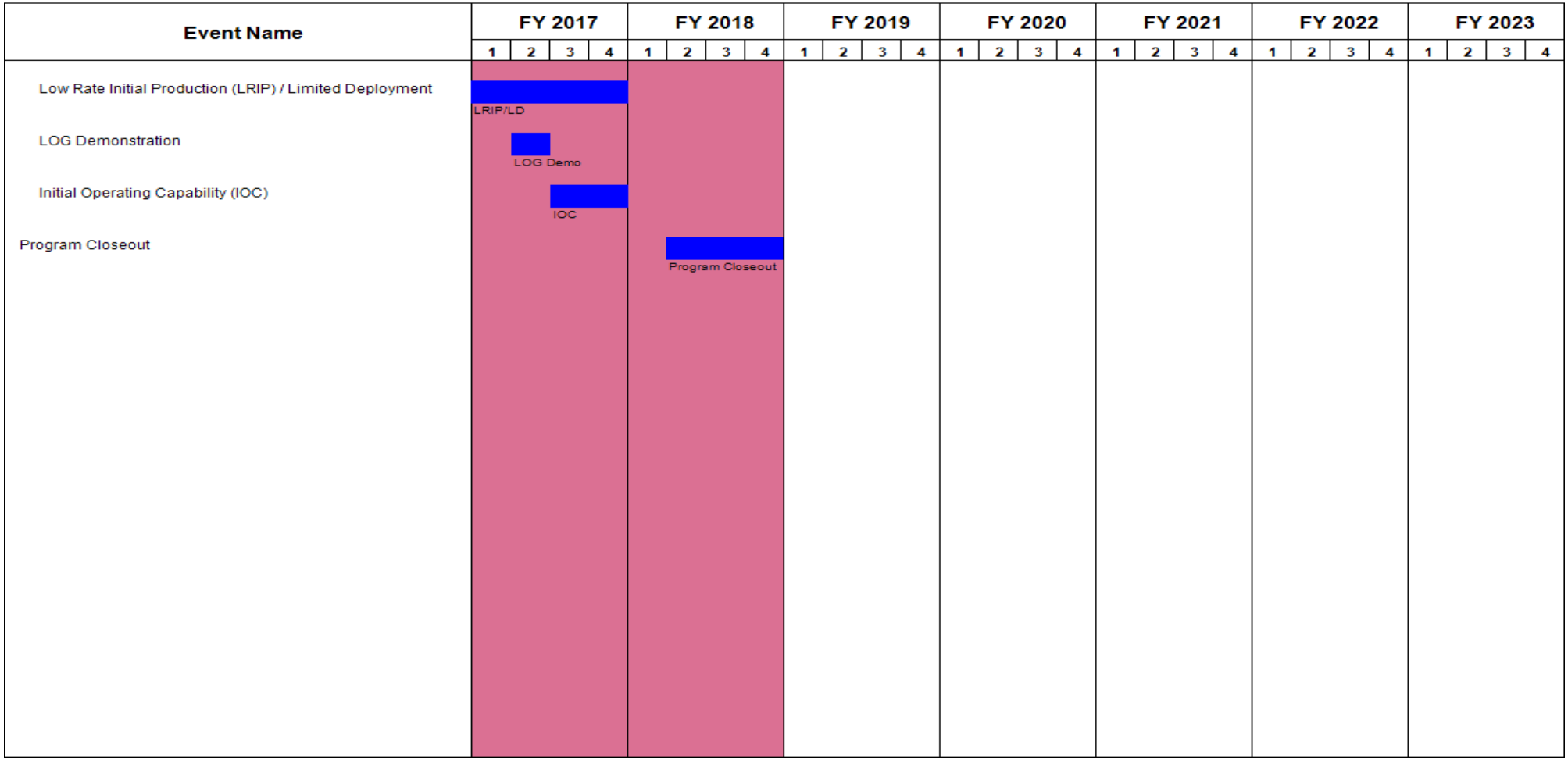

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604290A / *Mid-Tier Wideband Networking Vehicular Radio*	**Project (Number/Name)** DW1 / *Mid-Tier Wideband Networking Vehicular Radio Mnvr*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
First Production Delivery	4	2013	4	2014
Demonstration at NIE 14.2	2	2014	3	2014
Developmental Test (Govt Integration Test) 1	1	2015	1	2015
Limited User Test (LUT) at NIE 15.2	3	2015	3	2015
Logistics Demonstration	4	2015	4	2015
Government Regression Testing (GRT) 1.2	1	2016	2	2016
Mission Command Network Refinement (MCNR) at NIE 16.2	3	2016	3	2016
Low Rate Initial Production (LRIP) / Limited Deployment	4	2016	4	2017
LOG Demonstration	2	2017	2	2017
Initial Operating Capability (IOC)	3	2017	4	2017
Program Closeout	2	2018	4	2018

Note

06 May 2013: Joint Requirements Review Council (JROC) approved the MNVR Capability Production Document (CPD)
09 May 2013: Defense Acquisition Executive (DAE) changed basis of the program from Directed Requirement to the MNVR CPD
- Directed that MNVR would not field until all MS C requirements met. Delayed fielding from Capability Set (CS) 15 to CS 17
20 Sept 2013: DAE signs MNVR Milestone Decision Document (MDD)
24 Sept 2013: Army Contracting Command (ACC) awards MNVR contract to Harris Corporation; executed delivery order of 232 radios.
May 2015: MNVR conducted a successful LUT at Network Integration Evaluation (NIE) 15.2 in preparation for MS C.
May 2016: MNVR participated in the MCNR assessment at NIE 16.2 where the Army validated the mid-tier requirement, recommending to proceed to MS C, and the ARMY postponed IOT&E from FY 2017 to FY 2020.
Oct 2016: MS C Achieved. On 3 Oct 2016, Defense Acquisition Executive (ADM) published a MNVR MS C Acquisition Decision Memorandum.
Aug 2017: There is currently no funding allocated to MNVR in FY2019 and out.