Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-471

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Armored Multi-Purpose Vehicle (AMPV)

As of FY 2020 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Sensitivity Originator

No originator information is available at this time.

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

Program Information

Program Name
Armored Multi-Purpose Vehicle (AMPV)

DoD Component
Army

Responsible Office

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Date Assigned: September 5, 2014

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated May 12, 2015

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated May 12, 2015

Mission and Description

The Armored Multi-Purpose Vehicle (AMPV) is the materiel solution for replacement of the Army's M113 Armored Personnel Carrier Family of Vehicles (FoV) within the Armored Brigade Combat Team (ABCT). It will mitigate current and future capability gaps in force protection, mobility, reliability and interoperability across the spectrum of conflict. The AMPV will replace five mission roles currently performed by the M113 FoV by transferring the current M113 Mission Equipment Packages to a new Military Vehicle Derivative platform. In total, the AMPV FoV will account for approximately 30% of the ABCT's tracked fleet and consists of the following five variants:

Mission Command Vehicle: This platform enables effective mission command planning and execution for both the Command Post and Tactical Command Vehicle versions. It will host current Battle Command Systems, communications equipment future replacements and upgrades of hardware and software.

Medical Treatment Vehicle: This platform will provide a protected surgical environment with adequate lighting and accessible medical equipment. It will provide a capability for immediate medical care for one patient by a medical crew of four.

Medical Evacuation Vehicle: This platform will conduct combat medical evacuation activities and provide evacuation for up to four litter or six ambulatory patients with a crew of three medical attendants.

General Purpose Vehicle: This platform will operate throughout the battle space by conducting re-supply, maintenance, casualty evacuation and other tasks within the formation.

Mortar Carrier Vehicle: This platform will provide immediate responsive fire support to conduct fast-paced offensive operations.

Executive Summary

Program Highlights Since Last Report

The AMPV program requirements are stable and funding is adequate to meet cost, schedule, and performance requirements. The 2017 SAR certified with increased risk due to a potential delay to the APB start date of the Limited User Test (LUT). This risk was not realized and the LUT started on its APB objective date. The program is reporting increased risk in the 2018 SAR due to a schedule risk associated with BAE's ability to meet initial production delivery schedules and production ramp-up. Current estimates against the APB parameters remain unchanged from the previous SAR.

As stated above, PM AMPV successfully executed LUT and the test produced sufficient data to evaluate AMPV effectiveness/suitability/survivability and improved system design; concerns of reliability impacting test were not realized and Soldier feedback was positive. The Army Test and Evaluation Command calculated the vehicle reliability after 4,031 total fleet miles during the LUT at 576 Mean Miles Between System Abort (MMBSA) (below the KSA 1 threshold requirement of 713 MMBSA). The program is conducting failure analysis and making corrections to address reliability concerns as part of a planned update for LRIP. More importantly, based on the specific failure modes identified, the root cause analysis conducted, and the determination of parts supply impacts to resolve the failures, updated System of Systems Assessment tool modeling runs demonstrated an Operational Availability ranging from 92.9-94.8% (above the KPP 4 threshold requirement of 91.8%). In addition to LUT, numerous other test activities were completed including: completion of 18,600 miles of reliability testing, automotive performance testing, and ballistic hull characterization. Additionally, Live Fire Test & Evaluation began in September 2018; five live shots were conducted with positive results.

Overall program system performance is tracking to the APB KPP characteristics. Verification is ongoing during tests and a successful completion of a Functional Configuration Audit and System Verification Review on August 8, 2018 that demonstrated compliance to functional requirements and system performance to support the Production Readiness Review (PRR) and Milestone C decision. The program transitioned from a CDD to a CPD and the JROC changed the classification of AMPV requirement from Joint Interest to Joint Information. This delegates all requirements management back to the Army. The Vice Chief of Staff of the Army (VCSA) approved the CPD requirements on January 23, 2019. There was no change to the Army Acquisition Objective (AAO) or performance requirements since the last report, demonstrating that the requirements are stable. The Program Management Office (PMO) estimates that the program will achieve all Threshold KPP Performance characteristics.

The PMO executed the Army Acquisition Executive (AAE) approved LRIP Early Order Material on August 31, 2018 for $298.3M. This supports the pre-Milestone C material procurement and production planning efforts for LRIP vehicles required to maintain schedule. BAE held a PRR in Sterling Heights, Michigan on October 15-16, 2018. This review demonstrated the program is on path to a Manufacturing Readiness Level greater than or equal to 8 at PRR, sufficient to enter Milestone C and LRIP.

The AAE held an Army Systems Acquisition Review Council (ASARC) on December 20, 2018 with the AAE and the VCSA approving the program to enter LRIP. The program received its LRIP ADM on January 25, 2019. The ADM directs the Army to fund the AMPV program to the OSD CAPE ICE and approves an LRIP Quantity of up to 551 vehicles. This quantity is above 10% of the total production quantity to support European Deterrence Initiative and a U.S. Army Europe Operational Needs Statement reported in previous SARs. Upon receipt of the ADM, the PMO executed LRIP Option Year 1 and the first increment of LRIP Option Year 2, 117 total vehicles, on January 25, 2019 in the amount of $128.3M. Execution of increment two of LRIP Option Year 2 occurred on February 7, 2019 in the amount of $446.6M, 180 total vehicles. These LRIP options, combined with EMD award and LRIP Early Order Material modification increases the total contract value to $1,370.5M.

From a funding standpoint, the current FY 2020 PB request adjusts procurement funding in FY 2021 - FY 2023 to procure 143 vehicles per year and reduces FY 2019 Procurement funding by $37.3 million and RDT&E funding by $6.3 million. The program expects no impact to execution based on funding reductions due to economies achieved with the increased number of vehicles procured during LRIP. The approved AAO remains the same at 2,897 vehicles and total program funding is adequate to meet cost, schedule, and performance in the approved baseline.

There are no significant software-related issues with this program at this time.

History of Significant Developments Since Program Initiation

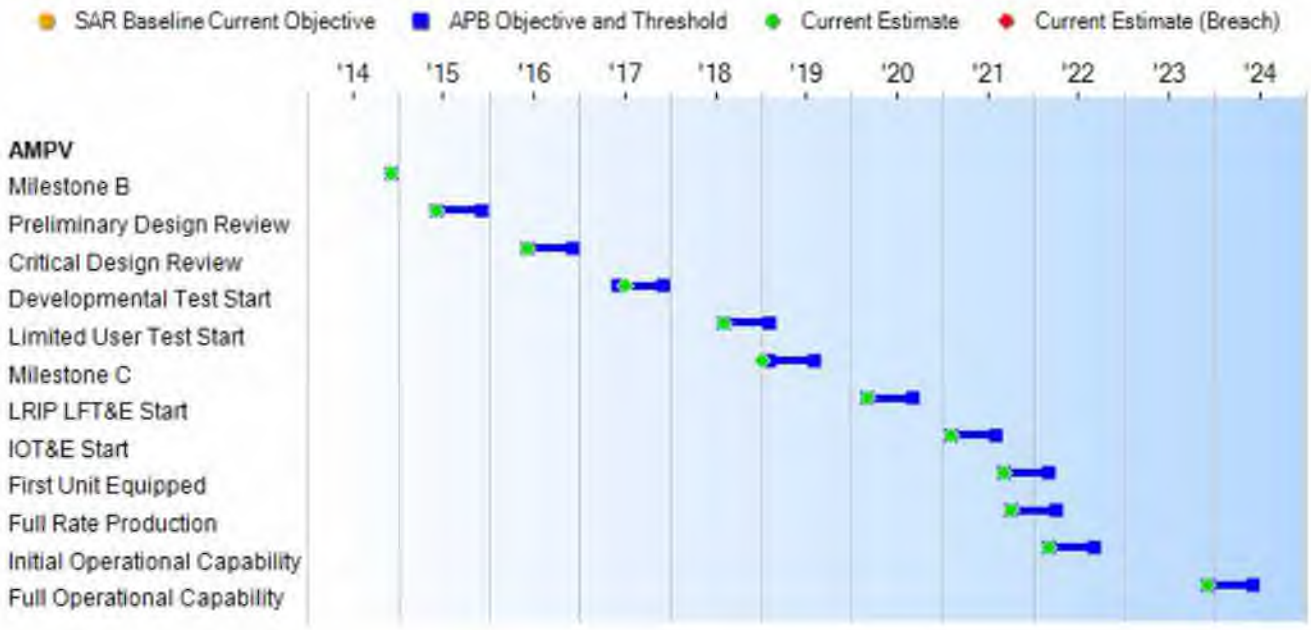
History of Significant Developments Since Program Initiation	
Date	**Significant Development Description**
June 2013	AMPV CDD approved.
December 2014	AMPV Milestone B DAB.
December 2014	The DAE ADM authorizes AMPV to enter the acquisition lifecycle at Milestone B. The ADM directs the Army to fund the AMPV program to the OSD CAPE ICE.
December 2014	BAE Systems Land & Armaments is awarded a Cost Plus Incentive Fee EMD contract.
March 2015	The System Requirements Review (SRR) was completed. The SRR deemed the program ready to proceed into preliminary design.
May 2015	Development APB approved.
June 2015	Completed the Preliminary Design Review ensuring the allocated baseline was properly documented, assessed to be consistent with CDD requirements and under configuration control.
June 2016	Completed Critical Design review demonstrating that the program was ready to proceed to prototype production. Performance risks were understood and will be characterized with prototype testing.
October 2016	CDD revised to incorporate changes to KPP 2 – Survivability.
December 2016	Roll-out ceremony for first AMPV prototype.
January 2017	First AMPV Prototype Delivered.
July 2017	Developmental Test started.
September 2017	AMPV Milestone B ADM was amended to increase LRIP quantities from 289 to 551 vehicles.
March 2018	Final EMD prototype delivered.
August 2018	Functional Configuration Audit and System Verification Review completed.
September 2018	Limited User Test Completed.
October 2018	Production Readiness Review completed.
December 2018	AMPV Milestone C Army Systems Acquisition Review Council approved entrance into LRIP.
January 2019	AMPV CPD approved.
January 2019	Army Acquisition Executive signed the Milestone C ADM authorizing AMPV to enter LRIP. The ADM directs the Army to fund the AMPV program to the OSD CAPE ICE.
January 2019	LRIP Option Year 1 and the first increment of LRIP Option Year 2 exercised to BAE Systems Land & Armaments to begin LRIP production.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Schedule Events					
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	
Milestone B	Dec 2014	Dec 2014	Dec 2014	Dec 2014	
Preliminary Design Review	Jun 2015	Jun 2015	Dec 2015	Jun 2015	
Critical Design Review	Jun 2016	Jun 2016	Dec 2016	Jun 2016	
Developmental Test Start	Jun 2017	Jun 2017	Dec 2017	Jul 2017	
Limited User Test Start	Aug 2018	Aug 2018	Feb 2019	Aug 2018	
Milestone C	Feb 2019	Feb 2019	Aug 2019	Jan 2019	(Ch-1)
LRIP LFT&E Start	Mar 2020	Mar 2020	Sep 2020	Mar 2020	
IOT&E Start	Feb 2021	Feb 2021	Aug 2021	Feb 2021	
First Unit Equipped	Sep 2021	Sep 2021	Mar 2022	Sep 2021	
Full Rate Production	Oct 2021	Oct 2021	Apr 2022	Oct 2021	
Initial Operational Capability	Mar 2022	Mar 2022	Sep 2022	Mar 2022	
Full Operational Capability	Dec 2023	Dec 2023	Jun 2024	Dec 2023	

Change Explanations

(Ch-1) The current estimate for Milestone C changed from MMM YYYY to January 2019 with approval of the ADM on January 25, 2019.

Notes

Limited User Test started on time in August 2018.

Acronyms and Abbreviations

IOT&E - Initial Operational Test & Evaluation
LFT&E - Live Fire Test & Evaluation

Performance

Performance Characteristics				
SAR Baseline Development Estimate	**Current APB Development Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
KPP 1 Net Ready				
The capability, system, and/or service must fully support execution of all operational activities and information exchanges identified in DoD Enterprise Architecture and solution architectures based on integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges 2) Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-	The capability, system, and/or service must fully support execution of all operational activities and information exchanges identified in DoD Enterprise Architecture and solution architectures based on integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges 2) Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communications 3) Compliant with GIG Technical Guidance to include IT standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, and non-	The capability, system, and/or service must fully support execution of Joint critical operational activities and information exchanges identified in the DoD Enterprise Architecture and solution architectures based on integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges 2) Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP Communications 3) Compliant with GIG Technical Guidance to include IT standards identified in the TV-1 and implementation guidance of GESPs necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views 4) IA requirements including availability, integrity, authentication, confidentiality, non-	TBD	AMPV Management estimates that the program will achieve the Threshold requirement.

repudiation, and issuance of an ATO by the DAA, and 5) Supportability requirements to include SAASM, spectrum, and JTRS requirements.	repudiation, and issuance of an ATO by the DAA, and 5) Supportability requirements to include SAASM, spectrum, and JTRS requirements.	repudiation, and issuance of an IATO or ATO by the DAA, and 5) supportability requirements to include SAASM, spectrum, and JTRS requirements.		
KPP 3 Force Protection				
Objective values listed in Table 6.1 and shall provide for spall reducing floor material or spall blanket.	Objective values listed in Table 6.1 and shall provide for spall reducing floor material or spall blanket.	The AMPV will provide protection for crew and occupant compartments to meet mission requirements. A kitting strategy can be used for selected threats as detailed in Table 6.1. The protection level from ballistic engagements shall be based on the most recent injury criteria thresholds provided by the ARL SLAD. At a minimum, the AMPV will provide integral protection for the crew and occupants from serious or greater injuries due to on-board fires, various blast, shock, overpressure, fragments and accelerative effects of attack by the threshold threats listed in the Table 6.1 for threat weapons systems. The AMPV shall prevent a sustained fuel fire when fuel container(s) are exposed to the RPG, IED, and EFP threats and conditions specified in Table 6.1. The AMPV shall minimize spall from overmatching threats.	TBD	AMPV Management estimates that the program will achieve the Threshold requirement.
KPP 4 Sustainment				
The AMPV, at full combat configuration (excluding failures and maintenance of the Government directed GFE/GFM MEP), shall achieve an Ao of at least 93.3% when measured continuously over a three-day mission (consistent with the General Purpose	The AMPV, at full combat configuration (excluding failures and maintenance of the Government directed GFE/GFM MEP), shall achieve an Ao of at least 93.3% when measured continuously over a three-day mission (consistent with the General Purpose	The AMPV, at full combat configuration (excluding failures and maintenance of the Government directed GFE/GFM MEP), shall achieve an Ao of at least 91.8% when measured continuously over a three-day mission (consistent with the General Purpose	TBD	AMPV Management estimates that the program will achieve the Threshold requirement.

M113A3 Mission Profile defined in the HBCT OMS/MP) with only SA failures factored into the Ao assessment. The AMPV FDSC shall include all provisions necessary to fully address each vehicle variant with GFE/GFM MEP integrated therein, to support the supplementary assessment/evaluation of total vehicle system availability and hold accountable vehicle development for proper functional integration of the MEP (MEP failures caused by integration issues are chargeable to the host vehicle). Accordingly, availability of the MEP is not reduced (degraded or lessened) beyond that of its current performance as a result of integration into the host AMPV chassis. The AMPV at full combat configuration (excluding Department of the Army directed GFE/GFM MEP will achieve an Am of not less than 86.5% when assessed at the Army fleet level.	M113A3 Mission Profile defined in the HBCT OMS/MP) with only SA failures factored into the Ao assessment. The AMPV FDSC shall include all provisions necessary to fully address each vehicle variant with GFE/GFM MEP integrated therein, to support the supplementary assessment/evaluation of total vehicle system availability and hold accountable vehicle development for proper functional integration of the MEP (MEP failures caused by integration issues are chargeable to the host vehicle). Accordingly, availability of the MEP is not reduced (degraded or lessened) beyond that of its current performance as a result of integration into the host AMPV chassis. The AMPV at full combat configuration (excluding Department of the Army directed GFE/GFM MEP will achieve an Am of not less than 86.5% when assessed at the Army fleet level.	M113A3 Mission Profile defined in the HBCT OMS/MP) with only SA failures factored into the Ao assessment. The AMPV FDSC shall include all provisions necessary to fully address each vehicle variant with GFE/GFM MEP integrated therein, to support the supplementary assessment/evaluation of total vehicle system availability and hold accountable vehicle development for proper functional integration of the MEP (MEP failures caused by integration issues are chargeable to the host vehicle). Accordingly, availability of the MEP is not reduced (degraded or lessened) beyond that of its current performance as a result of integration into the host AMPV chassis. The AMPV at full combat configuration (excluding Department of the Army directed GFE/GFM MEP) will achieve an Am of not less than 81.5% when assessed at the Army fleet level.		
KPP 5 Energy				
Energy objective values are developed at a vehicle weight meeting the Survivability KPP and Force Protection KPP objectives and other performance KPP objectives while ensuring the vehicle can operate within fuel apportioned for the AMPV during the 72-hour mission cycle of HBCT OMS/MP (for each individual mission role). The AMPV, using standard (JP8) fuel, will consume fuel at, or better than, the	Energy objective values are developed at a vehicle weight meeting the Survivability KPP and Force Protection KPP objectives and other performance KPP objectives while ensuring the vehicle can operate within fuel apportioned for the AMPV during the 72-hour mission cycle of HBCT OMS/MP (for each individual mission role). The AMPV, using standard (JP8) fuel, will consume fuel at, or better than, the	Energy threshold values are developed at a vehicle weight meeting the Survivability KPP and Force Protection KPP thresholds and other performance KPP thresholds while ensuring the vehicle can operate within fuel apportioned for the AMPV during the 72-hour mission cycle of HBCT OMS/MP (for each individual mission role). The AMPV, using standard (JP8) fuel, will consume fuel at, or better than, the	TBD	AMPV Management estimates that the program will achieve the Threshold requirement.

level identified in Table 6.2 (O) at full combat configuration, when evaluated at sustained speeds of 30-MPH on primary roads, maneuvering the distance outlined in the HBCT OMS/MP for the 72-hour mission cycle without refueling, and while providing power sustained loads to support all electronic equipment with a 50% spare electrical capacity for all variants. The AMPV will consume fuel at, or better than, the level identified in Table 6.2 for stationary operations (Idle/GPH) when evaluated at providing power at sustained loads to support all electronic equipment with a 50% spare electrical capacity for all variants.	level identified in Table 6.2 (O) at full combat configuration, when evaluated at sustained speeds of 30-MPH on primary roads, maneuvering the distance outlined in the HBCT OMS/MP for the 72-hour mission cycle without refueling, and while providing power sustained loads to support all electronic equipment with a 50% spare electrical capacity for all variants. The AMPV will consume fuel at, or better than, the level identified in Table 6.2 for stationary operations (Idle/GPH) when evaluated at providing power at sustained loads to support all electronic equipment with a 50% spare electrical capacity for all variants.	level identified in Table 6.2 (T) at full combat configuration, when evaluated at sustained speeds of 30-MPH on primary roads, maneuvering the distance outlined in the HBCT OMS/MP for the 72-hour mission cycle without refueling, and while providing power at sustained loads to support all electronic equipment with a 20% spare electrical capacity for all variants. The AMPV will consume fuel at, or better than, the level identified in Table 6.2 for stationary operations (Idle/GPH) when evaluated at providing power at sustained loads to support all electronic equipment with a 20% spare electrical capacity for all variants.		
KPP 6 Mobility				
The AMPV mobility is aligned with Survivability and Force Protection KPP requirements. The vehicle must be capable of traversing steep hills, valleys, and man-made objects typical in cross-country and urban terrain. The AMPV must be able to maintain mobility threshold as outlined in the HBCT OMS/MP. The platform must have the speed and mobility to successfully fulfill its role in the BCT and maintain its doctrinal positioning within the ABCT formation.	The AMPV mobility is aligned with Survivability and Force Protection KPP requirements. The vehicle must be capable of traversing steep hills, valleys, and man-made objects typical in cross-country and urban terrain. The AMPV must be able to maintain mobility threshold as outlined in the HBCT OMS/MP. The platform must have the speed and mobility to successfully fulfill its role in the BCT and maintain its doctrinal positioning within the ABCT formation.	(T=O) The AMPV mobility is aligned with Survivability and Force Protection KPP requirements. The vehicle must be capable of traversing steep hills, valleys, and man-made objects typical in cross-country and urban terrain. The AMPV must be able to maintain mobility threshold as outlined in the HBCT OMS/MP. The platform must have the speed and mobility to successfully fulfill its role in the BCT and maintain its doctrinal positioning within the ABCT formation.	TBD	AMPV Management estimates that the program will achieve the Threshold requirement.
KPP 7 Training				
Upon completion of FUE NET the soldier, both operator and maintainer, will successfully accomplish >99% (O) of	Upon completion of FUE NET the soldier, both operator and maintainer, will successfully accomplish >99% (O) of	Upon completion of FUE NET the soldier, both operator and maintainer, will successfully accomplish >80% (T) of	TBD	AMPV Management estimates that the program will

the critical tasks and >80% (O) of the non-critical tasks required to operate and maintain the AMPV. Further, institutional and sustainment training will be IAW AR 71-70 and AR 350-1.	the critical tasks and >80% (O) of the non-critical tasks required to operate and maintain the AMPV. Further, institutional and sustainment training will be IAW AR 71-70 and AR 350-1.	the critical tasks and >70% (T) of the non-critical tasks required to operate and maintain the AMPV. Further, institutional and sustainment training will be IAW AR 71-70 and AR 350-1.		achieve the Threshold requirement.
KPP 8 Lethality				
The Lethality KPP addresses the GCV ICD Capability 3, Lethality. The AMPV MC will host and integrate the current M121 120-mm mortar system to provide indirect fires in support of maneuver units. The mortar system must accommodate a smoothbore 120-mm mortar system, which must be capable of firing the full family of mortar ammunition: HE, illumination, IR illumination, smoke, precision munitions, and future extended range munitions. The system will integrate the current M95 Mortar Fire Control System-Mounted and carry current ground mounting and firing equipment as utilized on the M1064 MC. The AMPV MC's lethality, responsiveness and accuracy will be equal to or greater than the M1064 MC.	The Lethality KPP addresses the GCV ICD Capability 3, Lethality. The AMPV MC will host and integrate the current M121 120-mm mortar system to provide indirect fires in support of maneuver units. The mortar system must accommodate a smoothbore 120-mm mortar system, which must be capable of firing the full family of mortar ammunition: HE, illumination, IR illumination, smoke, precision munitions, and future extended range munitions. The system will integrate the current M95 Mortar Fire Control System-Mounted and carry current ground mounting and firing equipment as utilized on the M1064 MC. The AMPV MC's lethality, responsiveness and accuracy will be equal to or greater than the M1064 MC.	(T=O) The Lethality KPP addresses the GCV ICD Capability 3, Lethality. The AMPV MC will host and integrate the current M121 120-mm mortar system to provide indirect fires in support of maneuver units. The mortar system must accommodate a smoothbore 120-mm mortar system, which must be capable of firing the full family of mortar ammunition: HE, illumination, IR illumination, smoke, precision munitions, and future extended range munitions. The system will integrate the current M95 Mortar Fire Control System-Mounted and carry current ground mounting and firing equipment as utilized on the M1064 MC. The AMPV MC's lethality, responsiveness and accuracy will be equal to or greater than the M1064 MC.	TBD	AMPV Management estimates that the program will achieve the Threshold requirement.

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference

Capability Development Document (CDD) dated June 21, 2013

Change Explanations

None

Notes

Detailed KPP information is available in the approved Armored Multi-Purpose Vehicle CDD, dated September 29, 2016, including Table 6.1 and Table 6.2 referenced in the Performance Characteristics above.

Acronyms and Abbreviations

% - percent
ABCT - Armor Brigade Combat Team
Am - Materiel Availability
Ao - Operational Availability
AR - Army Regulation
ARL - Army Research Laboratory
ATO - Authorization To Operate
BCT - Brigade Combat Team
DAA - Designated Accrediting Authority
DoDAF - Department of Defense Architecture Framework
EFP - Explosively Formed Penetrator
FDSC - Failure Definition and Scoring Criteria
FUE - First Unit Equipped
GCV - Ground Combat Vehicle
GESP - GIG Enterprise Service Profile
GFE - Government Furnished Equipment
GFM - Government Furnished Material
GIG - Global Information Grid
GPH - Gallons Per Hour
HBCT - Heavy Brigade Combat Team
HE - High Explosive
IA - Information Assurance
IATO - Interim Authority To Operate
IAW - In Accordance With
ICD - Initial Capability Document
IEA - Information Enterprise Architecture
IED - Improvised Explosive Device
IP - Internet Protocol
IR - InfraRed
IT - Information Technology
JTRS - Joint Tactical Radio System
MC - Mortar Carrier
MEP - Mission Equipment Package
mm - millimeter
MPH - Miles Per Hour
NET - New Equipment Training
O - Objective
OMS/MP - Operational Mode Summary/Mission Profile
RPG - Rocket Propelled Grenade
SA - System Abort
SAASM - Selective Availability Anti-Spoofing Module
SLAD - Survivability/Lethality Analysis Directorate
T - Threshold
TV - Technical View

Track to Budget

RDT&E

Appn	BA	PE
Army	2040	05	0605028A

Project	Name
EB5	Armored Multi-Purpose Vehicle (AMPV)

Procurement

Appn	BA	PE
Army	2033	01	0211708A

Line Item	Name
2944G80819	Armored Multi Purpose Vehicle (AMPV)

Acq O&M

Appn	BA	PE
Army	2020	04	0702806A

Subactivity Group	Name	
435	Acquisition & Management Support: Armored Multi-Purpose Vehicle (AMPV)	(Shared)

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2015 $M			BY 2015 $M	TY $M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	988.2	988.2	1087.0	969.3	1073.8	1073.8	1034.8
Procurement	9736.6	9736.6	10710.3	9763.0	12871.0	12871.0	12653.3
Flyaway	--	--	--	9237.1	--	--	11974.2
Recurring	--	--	--	9200.5	--	--	11933.7
Non Recurring	--	--	--	36.6	--	--	40.5
Support	--	--	--	525.9	--	--	679.1
Other Support	--	--	--	357.9	--	--	458.9
Initial Spares	--	--	--	168.0	--	--	220.2
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	80.3	0.0	0.0	103.2
Total	10724.8	10724.8	N/A	10812.6	13944.8	13944.8	13791.3

Current APB Cost Estimate Reference

CAPE ICE dated December 08, 2014

Cost Notes

An ICE was completed for this program in the previous year to support the Milestone C decision. In the LRIP ADM, signed on January 25, 2019, the Army Acquisition Executive directs the Army to fund the AMPV program to the OSD CAPE ICE dated December 19, 2018. The ICE identified the Original Equipment Manufacturer's (BAE Systems) ability to increase its skilled workforce and/or expand its production infrastructure sufficiently to meet the contractual delivery schedules as a risk to the AMPV program due to the large number of programs at the BAE' York facility. The program office approach to mitigate the risk is to intensively monitor parts, people, and processes through onsite monitoring of the York production planning efforts to ensure final fabrication and assembly processes are complete as currently scheduled, along with tracking order and supply status, staffing, and training.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	39	39	39
Procurement	2897	2897	2897
Total	2936	2936	2936

Quantity Notes

To support the development phase, 39 AMPVs are required: 29 AMPV prototype vehicles for EMD and ten production representative AMPVs for Full-Up System Level live fire tests; the live fire test assets are RDT&E-funded in LRIP.

Cost and Funding

Funding Summary

Appropriation Summary FY 2020 President's Budget / December 2018 SAR (TY$ M)									
Appropriation	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
RDT&E	729.6	111.8	96.7	96.7	0.0	0.0	0.0	0.0	1034.8
Procurement	558.3	672.7	485.7	617.0	621.2	642.7	738.2	8317.5	12653.3
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	5.5	5.5	5.6	5.5	5.6	5.6	69.9	103.2
PB 2020 Total	1287.9	790.0	587.9	719.3	626.7	648.3	743.8	8387.4	13791.3
PB 2019 Total	1192.7	833.9	584.9	924.7	605.2	626.9	682.9	8323.4	13774.6
Delta	95.2	-43.9	3.0	-205.4	21.5	21.4	60.9	64.0	16.7

Funding Notes

The FY 2020 PB position adjusts Procurement funding in FY 2018 and FY 2020 to procure 131 vehicles per year, equivalent to one Brigade set. It also adjusts Procurement funding in FY 2021 - FY 2023 to procure 143 vehicles per year. The Procurement funds in FY 2021 for $617.0M includes an Overseas Contingency Operations funding amount of $267.7M. The approved Army Acquisition Objective remains the same at 2,897 vehicles and total program funding is adequate to meet cost, schedule, and performance in the approved baseline.

Quantity Summary FY 2020 President's Budget / December 2018 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Development	39	0	0	0	0	0	0	0	0	39
Production	0	131	197	131	143	143	143	192	1817	2897
PB 2020 Total	39	131	197	131	143	143	143	192	1817	2936
PB 2019 Total	39	107	197	130	204	139	139	180	1801	2936
Delta	0	24	0	1	-61	4	4	12	16	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding 2040 | RDT&E | Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2012	--	--	--	--	--	--	12.3
2013	--	--	--	--	--	--	26.8
2014	--	--	--	--	--	--	27.3
2015	--	--	--	--	--	--	88.8
2016	--	--	--	--	--	--	213.0
2017	--	--	--	--	--	--	177.1
2018	--	--	--	--	--	--	184.3
2019	--	--	--	--	--	--	111.8
2020	--	--	--	--	--	--	96.7
2021	--	--	--	--	--	--	96.7
Subtotal	39	--	--	--	--	--	1034.8

Annual Funding 2040 | RDT&E | Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2012	--	--	--	--	--	--	12.6
2013	--	--	--	--	--	--	27.0
2014	--	--	--	--	--	--	27.0
2015	--	--	--	--	--	--	86.4
2016	--	--	--	--	--	--	205.1
2017	--	--	--	--	--	--	167.1
2018	--	--	--	--	--	--	170.9
2019	--	--	--	--	--	--	102.1
2020	--	--	--	--	--	--	86.4
2021	--	--	--	--	--	--	84.7
Subtotal	39	--	--	--	--	--	969.3

Annual Funding 2033 | Procurement | Procurement of Weapons and Tracked Combat Vehicles, Army							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2018	131	527.7	4.0	20.3	552.0	6.3	558.3
2019	197	624.5	7.5	14.5	646.5	26.2	672.7
2020	131	425.8	22.7	3.5	452.0	33.7	485.7
2021	143	503.5	64.1	2.2	569.8	47.2	617.0
2022	143	490.2	72.2	--	562.4	58.8	621.2
2023	143	510.2	76.8	--	587.0	55.7	642.7
2024	192	629.8	71.5	--	701.3	36.9	738.2
2025	180	646.0	67.6	--	713.6	37.9	751.5
2026	180	658.1	69.5	--	727.6	39.1	766.7
2027	180	671.0	71.7	--	742.7	39.1	781.8
2028	180	684.7	73.9	--	758.6	39.9	798.5
2029	180	699.2	76.1	--	775.3	40.7	816.0
2030	180	714.3	78.5	--	792.8	41.7	834.5
2031	180	730.0	80.8	--	810.8	42.5	853.3
2032	180	746.3	83.3	--	829.6	43.5	873.1
2033	180	763.3	72.0	--	835.3	44.4	879.7
2034	197	848.6	53.8	--	902.4	45.5	947.9
2035	--	--	14.5	--	14.5	--	14.5
Subtotal	2897	10873.2	1060.5	40.5	11974.2	679.1	12653.3

Annual Funding 2033 | Procurement | Procurement of Weapons and Tracked Combat Vehicles, Army							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2018	131	482.1	3.7	18.6	504.4	5.7	510.1
2019	197	559.4	6.7	13.0	579.1	23.5	602.6
2020	131	373.9	19.9	3.1	396.9	29.6	426.5
2021	143	433.5	55.2	1.9	490.6	40.6	531.2
2022	143	413.8	60.9	--	474.7	49.6	524.3
2023	143	422.2	63.6	--	485.8	46.1	531.9
2024	192	511.0	58.0	--	569.0	29.9	598.9
2025	180	513.8	53.8	--	567.6	30.1	597.7
2026	180	513.2	54.2	--	567.4	30.5	597.9
2027	180	513.0	54.8	--	567.8	29.9	597.7
2028	180	513.2	55.4	--	568.6	29.9	598.5
2029	180	513.8	55.9	--	569.7	29.9	599.6
2030	180	514.6	56.6	--	571.2	30.0	601.2
2031	180	515.6	57.1	--	572.7	30.0	602.7
2032	180	516.8	57.7	--	574.5	30.1	604.6
2033	180	518.2	48.8	--	567.0	30.2	597.2
2034	197	564.8	35.8	--	600.6	30.3	630.9
2035	--	--	9.5	--	9.5	--	9.5
Subtotal	2897	8392.9	807.6	36.6	9237.1	525.9	9763.0

Annual Funding 2020 | Acq O&M | Operation and Maintenance, Army	
Fiscal Year	TY $M Total Program
2019	5.5
2020	5.5
2021	5.6
2022	5.5
2023	5.6
2024	5.6
2025	5.7
2026	5.9
2027	6.0
2028	6.1
2029	6.2
2030	6.3
2031	6.5
2032	6.6
2033	6.7
2034	6.9
2035	7.0
Subtotal	103.2

Annual Funding 2020 | Acq O&M | Operation and Maintenance, Army	
Fiscal Year	BY 2015 $M
	Total Program
2019	5.0
2020	4.9
2021	4.9
2022	4.7
2023	4.7
2024	4.6
2025	4.6
2026	4.7
2027	4.7
2028	4.7
2029	4.7
2030	4.6
2031	4.7
2032	4.7
2033	4.7
2034	4.7
2035	4.7
Subtotal	80.3

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	12/23/2014	9/26/2017
Approved Quantity	289	551
Reference	Milestone B ADM	Milestone B ADM Amendment
Start Year	2018	2018
End Year	2022	2022

The Current Total LRIP Quantity is more than 10% of the total production quantity due to an amendment to the AMPV Milestone B ADM on September 26, 2017. This amendment increased the LRIP quantity from 289 to 551 vehicles. The increased AMPV LRIP quantity is in support of the European Deterrence Initiative and in response to an U.S. Army Europe (USAREUR) Operational Needs Statement (ONS). In response to the ONS, the Army approved a Directed Requirement for AMPV to replace the M113 family of vehicles in the Armored Brigade Combat Teams aligned with USAREUR. The Directed Requirement requires initial fielding of AMPV by the end of CY 2019, with a maximum of 262 combat platforms acquired and integrated into the European Activity Set and Army Prepositioned Stock-2.

Foreign Military Sales

None

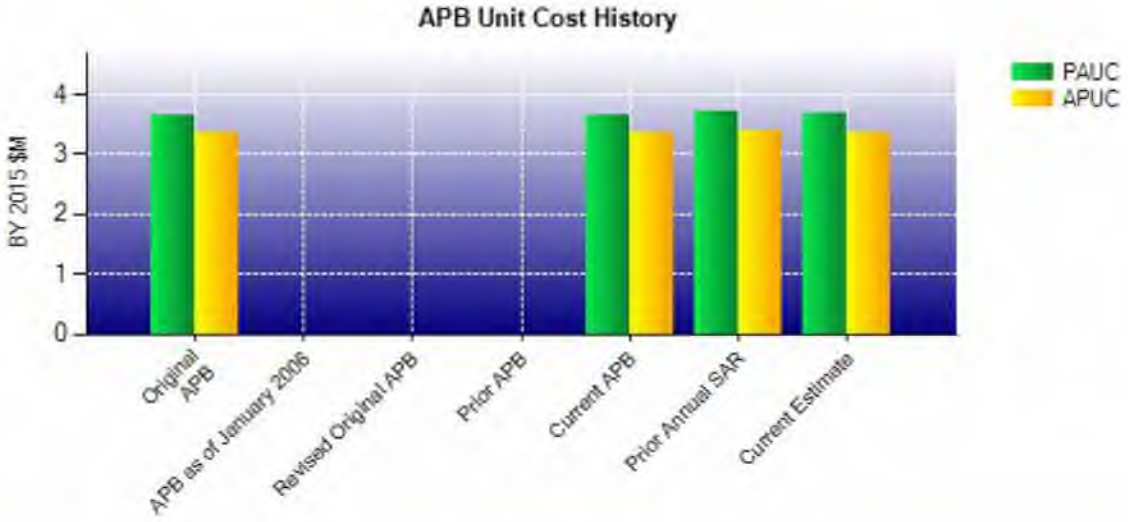
Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2015 $M Current UCR Baseline (May 2015 APB)	BY 2015 $M Current Estimate (Dec 2018 SAR)	% Change
Program Acquisition Unit Cost			
Cost	10724.8	10812.6	
Quantity	2936	2936	
Unit Cost	3.653	3.683	+0.82
Average Procurement Unit Cost			
Cost	9736.6	9763.0	
Quantity	2897	2897	
Unit Cost	3.361	3.370	+0.27

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2015 $M Original UCR Baseline (May 2015 APB)	BY 2015 $M Current Estimate (Dec 2018 SAR)	% Change
Program Acquisition Unit Cost			
Cost	10724.8	10812.6	
Quantity	2936	2936	
Unit Cost	3.653	3.683	+0.82
Average Procurement Unit Cost			
Cost	9736.6	9763.0	
Quantity	2897	2897	
Unit Cost	3.361	3.370	+0.27



APB Unit Cost History					
Item	Date	BY 2015 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	May 2015	3.653	3.361	4.750	4.443
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	May 2015	3.653	3.361	4.750	4.443
Prior Annual SAR	Dec 2017	3.717	3.397	4.692	4.356
Current Estimate	Dec 2018	3.683	3.370	4.697	4.368

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
4.750	-0.033	0.000	-0.041	0.000	0.035	0.000	-0.014	-0.053	4.697

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
4.443	-0.027	0.000	-0.042	0.000	0.007	0.000	-0.014	-0.076	4.368

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Dec 2014	N/A	Dec 2014
Milestone C	N/A	Feb 2019	N/A	Jan 2019
IOC	N/A	Mar 2022	N/A	Mar 2022
Total Cost (TY $M)	N/A	13944.8	N/A	13791.3
Total Quantity	N/A	2936	N/A	2936
PAUC	N/A	4.750	N/A	4.697

Cost Variance

Summary TY $M					
Item	RDT&E	Procurement	MILCON	Acq O&M	Total
SAR Baseline (Development Estimate)	1073.8	12871.0	--	--	13944.8
Previous Changes					
Economic	-25.4	-201.8	--	--	-227.2
Quantity	--	--	--	--	--
Schedule	--	-135.0	--	--	-135.0
Engineering	--	--	--	--	--
Estimating	+0.3	+79.4	--	+107.4	+187.1
Other	--	--	--	--	--
Support	--	+4.9	--	--	+4.9
Subtotal	-25.1	-252.5	--	+107.4	-170.2
Current Changes					
Economic	+6.5	+124.1	--	+0.7	+131.3
Quantity	--	--	--	--	--
Schedule	--	+14.2	--	--	+14.2
Engineering	--	--	--	--	--
Estimating	-20.4	-58.2	--	-4.9	-83.5
Other	--	--	--	--	--
Support	--	-45.3	--	--	-45.3
Subtotal	-13.9	+34.8	--	-4.2	+16.7
Total Changes	-39.0	-217.7	--	+103.2	-153.5
CE - Cost Variance	1034.8	12653.3	--	103.2	13791.3
CE - Cost & Funding	1034.8	12653.3	--	103.2	13791.3

Summary BY 2015 $M					
Item	RDT&E	Procurement	MILCON	Acq O&M	Total
SAR Baseline (Development Estimate)	988.2	9736.6	--	--	10724.8
Previous Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	+0.3	+90.2	--	+84.3	+174.8
Other	--	--	--	--	--
Support	--	+14.6	--	--	+14.6
Subtotal	+0.3	+104.8	--	+84.3	+189.4
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-19.2	-38.1	--	-4.0	-61.3
Other	--	--	--	--	--
Support	--	-40.3	--	--	-40.3
Subtotal	-19.2	-78.4	--	-4.0	-101.6
Total Changes	-18.9	+26.4	--	+80.3	+87.8
CE - Cost Variance	969.3	9763.0	--	80.3	10812.6
CE - Cost & Funding	969.3	9763.0	--	80.3	10812.6

Previous Estimate: December 2017

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+6.5
Adjustment for current and prior escalation. (Estimating)	-4.1	-4.4
Revised estimate to align with the 2020 PB. (Estimating)	-15.1	-16.0
RDT&E Subtotal	-19.2	-13.9

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+124.1
Stretch-out of procurement buy profile. (Schedule)	0.0	+14.2
Revised estimate to align with the FY2020 PB. (Estimating)	-28.7	-47.7
Adjustment for current and prior escalation. (Estimating)	-9.4	-10.5
Adjustment for current and prior escalation. (Support)	-0.6	-0.6
Decrease in Other Support to align with new procurement buy profile. (Support)	-33.2	-37.2
Decrease in Initial Spares to align with new procurement buy profile. (Support)	-6.5	-7.5
Procurement Subtotal	-78.4	+34.8

Acq O&M	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.7
Revised estimate to align with the FY 2020 PB. (Estimating)	-3.9	-4.8
Adjustment for current and prior escalation. (Estimating)	-0.1	-0.1
Acq O&M Subtotal	-4.0	-4.2

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: AMPV EMD Contract with LRIP Options
Contractor: BAE Systems Land & Armaments, L.P.
Contractor Location: 34201 Van Dyke Avenue
Sterling Heights, MI 48312-4648
Contract Number: W56HZV-15-C-A001
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: December 23, 2014
Definitization Date: December 23, 2014

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
383.0	N/A	29	417.6	N/A	29	548.4	556.4

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to clarification and update to the contract Scope of Work, specifically tailoring language to articulate the Government's requirement for the contractor to produce designs for the hardware integration for all vehicle mission equipment within the AMPV Family of Vehicles. Additionally, scope was added to incorporate a third workstation into the vehicle, upgrade to Driver's Vision Enhancement-Wide, and to incorporate the Army's latest network configuration into the vehicle.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/25/2019)	-3.8	-6.1
Previous Cumulative Variances	-3.4	-9.1
Net Change	-0.4	+3.0

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to higher than planned cost for test spares.

The favorable net change in the schedule variance is due to completion of previously late prototype deliveries.

Notes

The current EMD contract experienced cost growth as indicated by the $130.8M difference between the Estimated Price and Completion and the Current Contract Price. Contributing to the cost growth are additional efforts necessary to meet performance requirements, under resourcing of logistics product development, under estimation of the number and complexity of engineering drawings, inadequate engineering support to manufacturing and test and unplanned efforts related to the replacement of prohibited materials on legacy parts. The contract cost growth to date remains less than the program estimate at Milestone B and the Army funded the program to the OSD CAPE ICE. The program remains within cost and funding parameters.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	29	29	39	74.36%
Production	0	0	2897	0.00%
Total Program Quantity Delivered	29	29	2936	0.99%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	13791.3	Years Appropriated	8
Expended to Date	662.7	Percent Years Appropriated	33.33%
Percent Expended	4.81%	Appropriated to Date	2077.9
Total Funding Years	24	Percent Appropriated	15.07%

The above data is current as of March 11, 2019.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	December 08, 2014
Source of Estimate:	CAPE ICE
Quantity to Sustain:	2897
Unit of Measure:	Vehicle
Service Life per Unit:	26.00 Years
Fiscal Years in Service:	FY 2021 - FY 2062

The 39 RDTE-funded development vehicles will not be sustained.

The Sustainment cost estimate was updated to support the January 2019 Milestone C decision. The cost estimate will be updated in the next SAR upon approval of the Production APB.

Sustainment Strategy

The AMPV sustainment concept leverages existing organic structures for maintenance and supply support to maximize commonality and minimize the logistics footprint. By using an existing base platform materiel solution, the common and unique Line Replaceable Units (LRU) will be sustained with the two level maintenance and sustainment repair concepts. Field-level maintenance will maintain, handle, and support the LRUs with the same concept as the existing Armor Brigade Combat Team (ABCT) structure. Sustainment-level maintenance will use common repair programs, facilities and depots wherever economical and feasible. Newly developed maintenance tasks and support will be determined and supported by results from the Logistics Support Analysis, Level of Repair Analysis, Source of Repair Analysis, Business Case Analysis, and/or Management Analysis, as required.

Any new operator and maintainer training requirements will be determined by task analysis and results from the Logistics Demonstration, Limited User Test, and other vehicle tests. AMPV will provide Operator New Equipment Training and Field Maintenance New Equipment Training to each gaining unit. Mission equipment package training will be provided by the corresponding equipment representatives.

PEO Ground Combat Systems performed the analysis required by section 2464, title 10 U.S. Code and determined that AMPV is a core system. PM AMPV is committed to developing the detailed requirements for core depot-level maintenance and repair capabilities as well as the associated sustaining workloads required to support such requirements when the vehicle configuration is solidified. A preliminary estimate of core depot hours, using an existing tracked vehicle as the baseline, was included in the section 2366b, title 10 U.S. Code certification. The LRIP option scope of work contains the development of a National Maintenance Work Requirement which will be in place within four years of IOC.

The O&S estimate assumes that the AMPV will support 20 Active and National Guard ABCTs, across the range of military operations and will train in environments typical in cross-country and urban terrain. It replaces the M113 Family of Vehicles (FoV), which comprise 30% of the ABCT vehicle fleet.

Antecedent Information

The Antecedent system is the M113 FoV. Antecedent estimate is based on data from O&S Management Information System and Army Manpower Cost System.

Annual O&S Costs BY2015 $M		
Cost Element	**AMPV Average Annual Cost Per Vehicle**	**M113 (Antecedent) Vehicle**
Unit-Level Manpower	0.262	0.263
Unit Operations	0.033	0.030
Maintenance	0.074	0.058
Sustaining Support	0.023	0.027
Continuing System Improvements	0.012	0.003
Indirect Support	0.055	0.055
Other	--	--
Total	0.459	0.436

Item	Total O&S Cost $M			
	AMPV			M113 (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	34540.1	37994.1	34540.1	32823.9
Then Year	55313.8	N/A	55313.8	0.0

Equation to Translate Annual Cost to Total Cost

Total Cost = # of systems x service life per system x average annual cost (BY 2015 $M)

$34,540.1M = 2897 x 26 x $0.458565 (BY 2015 $M)

O&S Cost Variance		
Category	**BY 2015 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2017 SAR	34540.1	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	34540.1	

Disposal Estimate Details

Date of Estimate: December 08, 2014

Source of Estimate: CAPE ICE

Disposal/Demilitarization Total Cost (BY 2015 $M): 128.0