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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army										Date: March 2014		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	570.121	100.147	49.160	-	49.160	49.247	-	-	-	-	768.675
FC8: BCT Ground Combat Vehicle	-	570.121	100.147	49.160	-	49.160	49.247	-	-	-	-	768.675
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The Ground Combat Vehicle (GCV) program was initiated on the basis of an Initial Capabilities Document (ICD) that was approved 10 December 2009. An Acquisition Decision Memorandum (ADM) was signed 17 August 2011 and it granted the Army approval to enter a 24 month Technology Development (TD) phase. Two contracts were awarded: one contract was awarded to BAE Systems Land & Armaments, Limited Partnership (L.P.) and one was awarded to General Dynamics Land Systems Inc. Revisions to the GCV strategy were approved via an ADM that was signed on 16 January 2013. The Army's exploration of the capabilities trade-space prior to finalizing requirements led to a modified set of requirements that required additional preliminary design effort. The ADM directed the TD phase to be extended by six months (for a total of 30 months) and envisioned a MS B in late FY2014. The GCV Project Manager took steps to incorporate these decisions into the program by issuing Unfinalized Change Orders to both contractors in April, 2013. The following funding requirements/justifications reflect these decisions.												
Fiscal constraints and competing demands during budget uncertainty forced the Army to make hard choices between near-term readiness and modernizing current systems to meet near term capability gaps and developing the GCV. Given fiscal constraints and where we are in current technology, the Army concludes this is not the right time to develop the GCV and will end the program following the Technology Development phase. We have benefitted from our investment in GCV and will use the insights gained to inform technology maturation efforts in support of a strategy for the Army's future Infantry Fighting Vehicle (IFV) modernization program.												
The funding in FY2015 will support continuing advanced concept development, trade studies, technology maturation, technical / operational / affordability analyses, and perhaps limited prototyping to assess future designs that integrate emerging S&T technologies.												

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2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		PE 0605625A / Manned Ground Vehicle			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	639.874	592.201	953.081	-	953.081
Current President's Budget	570.121	100.147	49.160	-	49.160
Total Adjustments	-69.753	-492.054	-903.921	-	-903.921
• Congressional General Reductions	-0.845	-			
• Congressional Directed Reductions	-	-492.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-17.860	-			
• Other Adjustments 1	-51.048	-0.054	-903.921	-	-903.921

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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
FC8: BCT Ground Combat Vehicle	-	570.121	100.147	49.160	-	49.160	49.247	-	-	-	-	768.675
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
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Fiscal constraints and competing demands during budget uncertainty forced the Army to make hard choices between near-term readiness and modernizing current systems to meet near term capability gaps and developing the GCV. Given fiscal constraints and where we are in current technology, the Army concludes this is not the right time to develop the GCV and will end the program following the Technology Development phase. We have benefitted from our investment in GCV and will use the insights gained to inform technology maturation efforts in support of a strategy for the Army's future Infantry Fighting Vehicle (IFV) modernization program.												
The funding in FY2015 will support continuing advanced concept development, trade studies, technology maturation, technical / operational / affordability analyses, and perhaps limited prototyping to assess future designs that integrate emerging S&T technologies.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Government System Engineering & Program Management									51.516	12.725	9.160	
									Articles: -	-	-	
Description: Provides for basic Government oversight of the Ground Combat Vehicle (GCV) program. Includes funding for government personnel (labor, travel, training, supplies) and other support (other government agencies, support contractors, automated data processing, communications, and equipment).												
FY 2013 Accomplishments:												
Provided integrated program management for all development activities by continuing to execute the GCV knowledge based management plan and by providing USC Title 10 oversight to the TD contractors. The GCV Earned Value Management (EVM) team continued to evaluate cost and schedule performance against the established Performance Measurement Baselines												

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p>(PMB) and Integrated Master Schedules (IMS) for each separate contractor. The GCV IPTs continued to oversee the technical development efforts of each separate contractor in order to monitor and track technical progress related to the development of the various subsystems. This included review and acceptance of all formal contract deliverables for the two contractor teams. The government management team also continued to oversee each separate contractor as they performed systems engineering, requirements analysis, functional analysis, configuration management, risk management, interface management, data management, technical reviews, trade studies, modeling and simulation, specialty engineering, software engineering, test and training. An emphasis for the Government team in FY2013 was on supporting each contractor's Preliminary Design Review (PDR), completed 4QFY2013 for the BAE team and completed 1QFY2014 for the GDLS team. Approximately 35 contract deliverables were associated with each PDR and they were reviewed and approved by the Government team prior to the reviews. Information generated from the three-pronged strategy was used to complete an updated performance specification for inclusion in both the TD contracts and the EMD Request for Proposal (RFP), which was planned for release in 1QFY2014. The final reports for both the non developmental vehicle assessment and the Dynamic AoA Update were completed. Drafts of approximately 40 documents to support the originally planned Milestone B were completed.</p> <p>FY 2014 Plans: Oversight of the TD contracts will continue through 3QFY2014. Preliminary Design Reviews will be complete 1QFY2014 and a PDR report will be completed. The GCV IPTs will continue to oversee the technical development efforts of each separate contractor in order to monitor and track technical progress related to the development of the various subsystems. This includes review and acceptance of all formal contract deliverables for the two contractor teams. The Project Management team will support TD contract close-outs 3QFY2014 and then develop detailed plans to facilitate the transition of the program to supporting S&T efforts in FY2015 and FY2016.</p> <p>FY 2015 Plans: The Project Management team will be significantly scaled back, but will continue to provide oversight to planned contract efforts. The contract effort will be focused on advanced concept development, technology risk reduction, and integration of S&T developed components. The Government Future Fighting Vehicle (FFV) team will also lead, integrate, and collaborate across technical and analytical efforts with the S&T and Requirements communities.</p>				
<p>Title: Contractor Systems Engineering/Program Management</p> <p style="text-align: right;">Articles:</p> <p>Description: Provides for contractor basic development, engineering, and management for the GCV prime contracts, less prototype hardware and software development (which are captured in the following sections). Includes material consumed in support of component level engineering efforts.</p> <p>FY 2013 Accomplishments:</p>		424.819 -	67.226 -	40.000 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p>Contractors conducted and supported TD subsystem prototype testing. Utilized the System Integration Environment and the Hot Bench to mature subsystem designs. Delivered approximately 35 data items and then conducted the GCV system level Preliminary Design Review (PDR) (4QFY2013 for BAE and 1QFY2014 for GDLS). Conducted subsystem PDRs 2-4QFY2013. Following PDRs, initiated detailed design of subsystems focusing on size, weight, power, and cooling requirements. Performed program management using EVM and TPMs to report cost, schedule and technical status. Prepared and submitted all contract deliverables.</p> <p>FY 2014 Plans: Contractors will perform program management using EVM and TPMs to report cost, schedule and technical status. All required contract deliverables will be prepared and delivered. Each of the current contractors will continue and complete the Technology Development phase. This includes: conducting system level Preliminary Design Reviews by 1QFY2014, conducting and completing component/subsystem maturation testing by 3QFY2014, conducting hot-bench integration 1-3QFY2014, and conducting and performing assessments of initial component/subsystem reliability growth tests.</p> <p>FY 2015 Plans: Contractors will conduct concept development work and subsystem risk reduction, in collaboration with planned S&T efforts. Concept development effort will initially evolve from the design concepts developed under the GCV TD phase and will result in development and delivery of concept data packages that include: 3 dimensional/Computer Aided Design (CAD) model representations, bill of materials, product structure / weight tape / power and energy balance, and cost estimate. In addition, a variety of technical and operational analyses and trades are expected to be completed.</p>				
<p>Title: Contractor Prototypes</p> <p>Articles:</p> <p>Description: Provides for procurement and fabrication of subsystem test assets required by the Technology Development (TD) contract and for system level prototypes planned in the EMD phase. Does not include material consumed in support of component level engineering efforts.</p> <p>FY 2013 Accomplishments: Completed fabrication, integration, and delivery of the subsystem test assets required of each contractor (Rocket Propelled Grenade (RPG) Protection Subsystem Prototype and Mine Blast Subsystem Prototype Test Article). Following modification of the current TD contracts, hardware procurements were initiated for additional risk mitigation assets that will be fabricated and delivered 2-3QFY2014. The risk mitigation assets include automotive test rigs, selected turret/lethality subsystems, battery test assets, and selected electronic components. For the purposes of this Budget Item Justification, only the defined subsystem test assets and the automotive test rigs are included within Contractor Prototypes.</p>		58.779 -	- -	- -
<p>Title: Government Tests</p> <p>Articles:</p>		15.527 -	1.800 -	- -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
<p>Description: Provides for costs incurred by the government to perform and validate system-related test activities. This element also includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. The actual test articles (i.e., functionally configured systems) are excluded from this element as they are included in the prototype manufacturing section.</p> <p>FY 2013 Accomplishments: Subsystem Prototype testing was conducted at Government test facilities during 2-3QFY2013. The subsystem test assets were tested, as required. This included testing of the Rocket Propelled Grenade (RPG) Protection Subsystem Prototypes and Mine Blast Subsystem Prototype Test Articles against relevant threats. A draft of the TEMP was completed to support a pre-Milestone B review that had been planned for 1QFY2014. PM GCV procured test threats to support Survivability/Force Protection testing, and test ammunition to support integration testing and Lethality testing. Detailed test planning was initiated for the Engineering and Manufacturing Development (EMD) phase. Army Test and Evaluation Command was funded to develop the System Evaluation Plan.</p> <p>FY 2014 Plans: The additional TD phase risk mitigation assets will be tested at Government test facilities 1-3QFY2014. In addition, re-test of the existing subsystem test assets will be performed after updates that reflect the revised performance specification. The TEMP will be finalized.</p>					
<p>Title: Contractor Software</p> <p align="right">Articles:</p> <p>Description: Provides for contractor software development efforts for the GCV prime contracts. This includes all software related to the various subsystems, training, logistics, vehicle management, and battle command integration.</p> <p>FY 2013 Accomplishments: All software requirements and interfaces for the early software build were baselined to allow software development to complete in support of iterative software integration. Conducted early software integration using emulators and surrogates to verify correct subsystem behaviors and interfaces. Conducted qualification and regression testing and delivery of the software build to support subsystem level integration. Initiated subsequent software build/development efforts to incrementally build up the functionalities in meeting vehicle delivery schedules. Updated software architecture with specific implementation features for all Government furnished software subsystems.</p> <p>FY 2014 Plans:</p>			19.480 -	18.396 -	- -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
TD contractors will refine Software Architecture Design Documents (SADDs) and all architectural significant use case and software requirement specifications.					
Accomplishments/Planned Programs Subtotals			570.121	100.147	49.160
C. Other Program Funding Summary (\$ in Millions)					
N/A					
Remarks					
D. Acquisition Strategy					
An Acquisition Decision Memorandum (ADM) was signed 17 August 2011. It granted the Project Management Office approval to enter a 24 month Technology Development (TD) phase. Two contracts were awarded on 18 August 2011. One contract was awarded to BAE Systems Land & Armaments, L.P. and one was awarded to General Dynamics Land Systems Inc. Due to a protest, stop work orders were issued on 29 August 2011. The Government Accountability Office denied the protest on 5 December 2011, and work resumed 6 December 2011.					
For the ongoing TD phase, the Army has been maturing its requirements by using key program imperatives to shape trade space and to ensure convergence on an affordable and achievable set of requirements. The TD phase contracts have allowed contractors to trade selected capability to support the path to an affordable set of requirements and to reduce program cost and risk. In addition to the effort related to the TD contracts, PM GCV has conducted assessments of selected non-developmental vehicles and supported a dynamic update to the Analysis of Alternatives (AoA). This "three pronged effort" (TD contracts, vehicle assessments, and dynamic AoA update) generated data necessary to ensure a well informed Milestone B.					
Revisions to the GCV strategy were approved via an Acquisition Decision Memorandum signed on 16 January 2013. It recognized that the Army's exploration of the capabilities trade-space and full range of alternatives prior to finalizing requirements has led to a modified set of requirements that require additional preliminary design effort. It likewise acknowledged that the results of the three pronged development effort were considered in revising the GCV strategy. Decisions included in the ADM were: 1) The TD phase is to be extended by six months, 2) A full and open competition for the Engineering and Manufacturing Development (EMD) phase will be conducted and contract award will be to a single vendor, 3) Planned procurement of long lead items for EMD prototypes is not authorized, 4) The Milestone C decision shall be planned for FY2019, and 5) Milestone B will be conducted in late FY2014, following a pre-EMD Defense Acquisition Board first quarter FY2014 (which must occur prior to releasing the EMD Request for Proposal). The GCV Project Manager is took steps to incorporate these decisions into the program.					
Fiscal constraints and competing demands during budget uncertainty forced the Army to make hard choices between near-term readiness and modernizing current systems to meet near term capability gaps and developing the GCV. Given fiscal constraints and where we are in current technology, the Army concludes this is not the right time to develop the GCV and will end the program following the Technology Development phase. We have benefitted from our investment in GCV and will use the insights gained to inform technology maturation efforts in support of a strategy for the Army's future Infantry Fighting Vehicle (IFV) modernization program.					

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<p>For the FY2015 Budget, the Army will complete the ongoing Technology Development (TD) phase and not transition into EMD. Continuing combat vehicle concept development and synchronization with planned Government S&T investments will eventually form the foundation for a future fighting vehicle program. The Project Management Office is assessing the full impact of this decision and has not yet formalized a revised acquisition strategy.</p> <p><u>E. Performance Metrics</u> N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army												Date: March 2014			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle				Project (Number/Name) FC8 / BCT Ground Combat Vehicle					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
Contractor System Engineering and Prog. Mgt	PO	TD Phase - BAE / GDLS, Sterling Heights, MI : EMD Phase TBD	560.724	424.819	Nov 2012	67.226	Dec 2013	40.000	Oct 2014	-		40.000	Continuing	Continuing	Continuing
Contractor Prototypes	PO	TD Phase - BAE / GDLS, Sterling Heights, MI : EMD Phase TBD	6.880	58.779	Nov 2012	-		-		-		-	Continuing	Continuing	Continuing
Contractor Software	PO	TD Phase - BAE / GDLS, Sterling Heights, MI : EMD Phase TBD	44.602	19.480	Nov 2012	18.396	Dec 2013	-		-		-	Continuing	Continuing	Continuing
Subtotal			612.206	503.078		85.622		40.000		-		40.000	-	-	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
Government System Engineering and Prog. Mgt	Various	PM Ground Combat Vehicle : Warren, MI	160.958	51.516	Mar 2013	12.725	Nov 2013	9.160	Oct 2014	-		9.160	Continuing	Continuing	Continuing
Assessment of Selected Non-developmental Vehicles (ASNV)	Various	Various Locations : Various Locations	38.304	-		-		-		-		-	-	38.304	-
Subtotal			199.262	51.516		12.725		9.160		-		9.160	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
Government Tests & Modeling & Simulation	Various	PM Ground Combat Vehicle : Warren, MI	13.783	15.527	Mar 2013	1.800	Jan 2014	-		-		-	Continuing	Continuing	Continuing
Subtotal			13.783	15.527		1.800		-		-		-	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army											Date: March 2014			
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	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	825.251	570.121		100.147		49.160		-		49.160	-	-	-	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army	Date: March 2014
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	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Technology Development Phase																												
Prototype Subsystem Testing																												
Preliminary Design Review																												
TD Contract Completion																												
Advanced Concept Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army			Date: March 2014
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Technology Development Phase	4	2011	3	2014
Prototype Subsystem Testing	2	2013	4	2013
Preliminary Design Review	1	2014	1	2014
TD Contract Completion	3	2014	3	2014
Advanced Concept Development	1	2015	4	2016