

**UNCLASSIFIED**

**CLASSIFICATION:**

EXHIBIT R-2a, RDT&E Project Justification								DATE: <b>February 2002</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /BA-4 Demonstration/Validation</b>		PROGRAM ELEMENT NUMBER AND NAME <b>0603611M Marine Corps Assault Vehicles</b>				PROJECT NUMBER AND NAME <b>B0020 Advanced Amphibious Assault Vehicle (AAAV)</b>					
COST (\$ in Millions)		Prior Yrs Cost	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
B0020 ADVANCED AMPHIBIOUS ASSAULT VEHICLE		<b>390.137</b>	<b>142.520</b>	<b>260.627</b>	<b>272.092</b>	<b>246.698</b>	<b>126.083</b>	<b>110.160</b>	<b>71.329</b>	<b>0.000</b>	<b>1,619.646</b>
Quantity of RDT&E Articles		3			5	4					

**(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

(U) The Advanced Amphibious Assault Vehicle (AAAV) Program will field a successor to the Marine Corps' current amphibious vehicle, the Assault Amphibious Vehicle Model 7A1 (AAV7A1). The AAAV will provide the principal means of tactical surface mobility for the Marine Air Group Task Force (MAGTF) during both ship-to-objective maneuvers and subsequent combat operations ashore as part of the Navy and Marine Corps concepts within the Expeditionary Maneuver Warfare capstone. The AAAV will provide the Marine Corps with the capability to execute the full spectrum of military missions from humanitarian operations to conventional combat operations. The AAAV replaces the AAV7A1 Vehicle, which was originally fielded in the early 1970's. The AAAV is a self-deploying, high-water speed, amphibious, armored, tracked vehicle capable of operating in all weather as well as Nuclear, Biological, and Chemical (NBC) environments.

The AAAV program is the only ACAT-1D program managed by the Marine Corps. The AAAV is the next generation of Marine Corps Assault Vehicles being developed to satisfy the requirements of the 21st Century Marine Warfighters. Along with the Landing Craft Air Cushion (LCAC) and the MV-22 Osprey, the AAAV will provide the Marine Corps with the tactical mobility assets required to spearhead the concepts within the Expeditionary Maneuver Warfare capstone. Acquisition of the AAAV is critical to the Marine Corps. The total AAAV requirement is for 1,013 weapon systems. The AAAV program remains the Marine Corps number one priority ground system acquisition.

The program received approval to enter the Systems Development and Demonstration (SDD) Phase (formerly Engineering and Manufacturing Development) of the acquisition process during the Milestone II Defense Acquisition Board Readiness Meeting held on 26 November 2000. All program exit criteria were successfully met or exceeded. The SDD Phase (2001 through 2007) will include validation of manufacturing and production processes, fabrication and testing of SDD vehicles, and finalizing and implementing the Life Cycle Management for AAAV.

**PROGRAM ACCOMPLISHMENTS AND PLANS:**

**FY 2001 Accomplishments:**

- (U) \$ 92.934 Complete the PDRR phase. Continue the AAAV (C) system development, the survivability program, design maturation and developmental testing of the prototypes.
- (U) \$ 26.856 Initiate material procurement for the System Development and Demonstration (SDD) phase prototypes. Definitize and award the SDD contract. Initiate work under the SDD contract.
- (U) \$ 12.641 Continue to provide in-house technical support.
- (U) \$ 6.600 Continue to provide program support to coordinate and update program planning, program analysis, and program execution.
- (U) \$ 3.489 Commence Early Operational Assessment (EOA) testing on PDRR prototype. Conduct EOA assessment on AAAV(C) mock-up. Complete Ballistic Hull and Turret testing.

(U) Total \$ 142.520

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2002</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDTE&amp;E, N /BA-4 Demonstration/Validation</b>	PROGRAM ELEMENT NUMBER AND NAME <b>0603611M Marine Corps Assault Vehicles</b>	PROJECT NUMBER AND NAME <b>B0020 Advanced Amphibious Assault Vehicle (AAAV)</b>	
<b>FY 2002 Planned Program:</b>			
· (U) \$ 237.872 Initiate fabrication of the SDD phase prototypes. Continue design development of the AAAV (P) and AAAV (C). Continue developmental testing of PDRR prototypes. Continue AAAV survivability program. Initiate contractor/government shakedown testing of SDD prototypes.			
· (U) \$ 10.184 Continue to provide in-house technical support.			
· (U) \$ 7.576 Continue to provide program support to coordinate and update program planning, program analysis, and program execution.			
· (U) \$ 0.800 Initiate development of AAAV training courseware.			
· (U) \$ 4.195 Initiate Ballistic Vulnerability testing of one PDRR prototype. Conduct RAM-D testing of PDRR prototypes. Complete EOA.			
(U) Total \$ 260.627			
<b>FY 2003 Planned Program:</b>			
· (U) \$ 244.922 Continue design development, manufacturing planning, and producibility design enhancements of the AAAV(P) and AAAV(C) designs. Continue the AAAV survivability program. Continue fabrication and start delivery of E&MD prototypes.			
· (U) \$ 2.184 Continue to provide in-house technical support.			
· (U) \$ 7.172 Continue to provide program support to coordinate and update program planning, program analysis, and program execution.			
· (U) \$ 8.361 Initiate development of AAAV training devices/simulators. Continue development of AAAV training courseware.			
· (U) \$ 9.453 Complete Ballistic Vulnerability Testing of PDRR prototype. Initiate DT of SDD prototypes. Initiate Joint Live Fire Testing of MK-46 weapon station.			
(U) Total \$ 272.092			
<b>B. (U) PROJECT CHANGE SUMMARY</b>			
	FY2001	FY2002	FY 2003
<b>(U) FY 2002 President's Budget:</b>	147.100	263.066	
(U) Adjustments from the President's Budget:			
(U) SBIR/STTR Transfer	-3.837		
(U) Execution Adjustment			
(U) Minor Affordability Adjustment			
(U) Program Adjustment	-0.743	-2.439	
<b>(U) FY 2003 President's Budget:</b>	142.520	260.627	272.092
CHANGE SUMMARY EXPLANATION:			
(U) Funding:	FY 2001 reflects a decrease of \$3,837M for SBIR and \$.743M for program adjustments. FY 2002 reflects Congressional pro-rata reductions of \$2.324M and \$.115M.		
(U) Schedule:	Not Applicable.		
(U) Technical:	Not Applicable.		

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2002</b>
---	-------------------------------

APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /BA-4 Demonstration/Validation</b>	PROGRAM ELEMENT NUMBER AND NAME <b>0603611M Marine Corps Assault Vehicles</b>	PROJECT NUMBER AND NAME <b>B0020 Advanced Amphibious Assault Vehicle (AAAV)</b>
---	--	--

**(U) B. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007 To Compl	Total Cost
(U) PANMC, BLI #147500, AAAV				2.575	6.816	13.500	39.016	
(U) PMC BA2, BLI #202200, AAAV			14.718	112.444	256.111	245.527	492.503	6633.889
(U) PMC BA7 (Spares), BLI (NA), AAAV			0.506		11.714	10.133	20.770	287.061
(U) PMC, AAAV Totals			15.224	112.444	267.825	255.660	513.273	6920.950

**(U) Related RDT&E:** Not Applicable.

(U) PE 0206623M (Marine Corps Ground Combat/Supporting Arms Systems), Project C0021, AAV7A1.

(U) PE 0206623M (Marine Corps Ground Combat/Supporting Arms Systems), Project C2237, AVTB.

**(U) C. ACQUISITION STRATEGY:**

The AAAV Program acquisition strategy includes the extensive use of test assets, models, simulation, and advanced technology research to optimize vehicle design, reduce Total Ownership Cost (TOC), vehicle unit cost, and add flexibility to the program schedule. Three mature PDRR prototypes were developed and are currently undergoing developmental testing to further vehicle maturity. During the SDD phase of the program, nine vehicles will be manufactured. A tenth vehicle will be manufactured for use during Full Up System Level Live Fire testing planned to begin in FY05. LRIP vehicles will be developed following the LRIP decision review in FY05 for use during Initial Operational Test and Evaluation (IOT&E). Initial Operational Capability (IOC) and Full Operational Capability (FOC) will occur in FY07 and FY17, respectively.

The AAAV management strategy is event driven, designed to ensure a logical progression through the AAAV acquisition to reduce risk, ensure affordability, and provide adequate information to decision makers regarding acquisition progress. The AAAV Program team is a partnership of government and industry experts, committed to developing the most versatile combat vehicle, providing the optimum balance of combat effectiveness, affordability, innovation, and technology. The program Integrated Product Teams (IPTs), composed of contractors, sub-contractors, Marines, and government civilians, are the foundation of the AAAV acquisition management process. The government, prime contractor, and major subcontractors are co-located in a highly integrated communication environment that facilitates proactive decision-making processes and flexible execution of plans to support these teams and product development. CAIV has been institutionalized throughout the program and as such is an integral consideration in all trade studies and decisions. The program has had a highly integrated and extensive test approach since its inception which has included a very strong engineering-model and prototype testing program supported by extensive modeling strategy includes planning for life cycle support once the system is fielded to more efficiently manage and optimize operating and support requirements and reduce overall program cost.

The program's contracting approach for the AAAV is to award the vast majority of the work to one prime contractor, competitively selected in 1996. GDLS operating through its division GDAMS will be responsible for designing and producing the vehicle and providing support for testing from PDRR through LRIP. The contracting strategy for full rate production and subsequent operation and support is to encourage competition during the SDD phase. Contracts for Government Furnished Property will be kept to a minimum and will include only property which could not otherwise be available to the contractor. Local Area Network support contract is currently provided by an 8(a) firm. Contract support for programmatic and technical support is currently provided by a competitively awarded firm-fixed price, level of effort contract and will be re-competed during FY03. The Life Cycle Support Contract is scheduled for award during FY06 for a portion of the initial operations and maintenance support for the fielded AAAVs.



**UNCLASSIFIED**

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis								DATE: <b>February 2002</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDTE, N /BA-4 Demonstration/Validation</b>			<b>0603611M Marine Corps Assault Vehicles</b>			<b>B0020 Advanced Amphibious Assault Veh.(AAV)</b>						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Target Value of Contract	
PDRR Contract	CPAF	GDLS - PDRR Award	306.769		92.934	1/					\$400M	
SDD Contract	CPAF	GDLS - SDD Award	0.000		26.856	2/	237.872	2/	244.922	2/	\$712M	
Subtotal Program Dev Spt			306.769		119.790		237.872		244.922			
Remarks:												
1/ The PDRR contract was awarded June 1996. The contract award is for the entire PDRR effort and is incrementally funded.												
2/ The SDD contract was definitized in July 2001. The SDD contract is for the entire SDD effort and is incrementally funded.												
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Target Value of Contract	
Program Support		EG&G, Manassas, VA	8.040		5.820	3/	4.497	3/	4.471	3/	\$23M	
Program Support		Misc. Government Contracts	8.762		0.780	4/	3.079	4/	2.701	4/		
Training devices/simulators		Misc. Government Contracts	0.000		0.000		0.800	4/	8.361	4/		
Subtotal Program Support			16.802		6.600		8.376		15.533			
3/ EG&G contract (FFP with options) was awarded August 1998 for contract performance thru 2003.												
4/ Various contract award dates.												
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Target Value of Contract	
Testing		Miscellaneous	7.747		3.489	4/	4.195	4/	9.453	4/		
Subtotal T&E			7.747		3.489		4.195		9.453			
Remarks:												
4/ Various contract award dates.												

**UNCLASSIFIED**

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis							DATE: <b>February 2002</b>					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
<b>RDT&amp;E, N /BA-4 Demonstration/Validation</b>			<b>0603611M Marine Corps Assault Vehicles</b>				<b>B0020 Advanced Amphibious Assault Veh.(AAV)</b>					
Cost Categories (Tailor to WBS, or System/Iter Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Target Value of Contract	
In-house technical support		Various Government Labs	58.819		12.641		10.184		2.184			
<b>Subtotal Management</b>			<b>58.819</b>		<b>12.641</b>		<b>10.184</b>		<b>2.184</b>			
Remarks:												
<b>Total Cost</b>					<b>142.520</b>		<b>260.627</b>		<b>272.092</b>			