CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-4 Advanced Component Dev. and Prototypes**	PROGRAM ELEMENT NUMBER AND NAME **0603611M Marine Corps Assault Vehicles**	PROJECT NUMBER AND NAME: **B0020 Expeditionary Fighting Vehicle (EFV)**	

COST ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
B0020 EXPEDITIONARY FIGHTING VEHICLE (EFV)	**231.948**	**243.058**	**253.675**	**187.456**	**170.978**	**93.603**	**52.191**	**14.867**	**Cont**	**Cont**
Quantity of RDT&E Articles	4									

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

The Expeditionary Fighting Vehicle (EFV) Program will field a successor to the Marine Corps' current amphibious vehicle, the Assault Amphibious Vehicle Model 7A1 (AAV7A1). The EFV will provide the principal means of tactical surface mobility for the Marine Air Group Task Force (MAGTF) during both ship-to-objective maneuvers and sustained combat operations ashore as part of the Navy and Marine Corps concepts within the Expeditionary Maneuver Warfare capstone. The EFV will provide the Marine Corps with the capability to execute the full spectrum of military missions from humanitarian operations to conventional combat operations. The EFV replaces the AAV7A1 Vehicle, which was originally fielded in the early 1970s. The EFV 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 EFV program is a ACAT-1D program managed by the Marine Corps. The EFV is the next generation of Marine Corps Assault Vehicles being developed to satisfy the requirements of the 21st Century Marine War fighters. Along with the Landing Craft Air Cushion (LCAC) and the MV-22 Osprey, the EFV will provide the Marine Corps with the tactical mobility assets required to spearhead the concepts within the Expeditionary Maneuver Warfare capstone. Acquisition of the EFV is critical to the Marine Corps. The total EFV requirement is for 1,013 weapon systems. The EFV 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 EFV.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST ($ in Millions)	FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost	**192.345**	**192.595**	**206.109**	**155.889**
RDT&E Articles Qty	**4**			

(U) Fabrication of SDD phase prototypes. Design development. Developmental Testing. Survivability Program. SDD prototype shakedown testing. Regenerative Filtration Technology, FLIR Thermal Imager, and MK46/FLIR Upgrade Congressional Adds.

FY04: Continue design development, manufacturing planning, and producibility design enhancements of the EFV(Personnell variant) and EFV(Communications variant) designs. Continue the EFV survivability program. Continue fabrication and delivery of SDD prototypes.

FY05: Continue design development, manufacturing planning, and producibility design enhancements of the EFV(P) and EFV(C) designs. Continue the EFV survivability program. Complete fabrication and delivery of SDD prototypes. Perform tasks for FLIR Thermal Imager, Regenerative Filtration Technology, and the MK 46 Weapons Systems/FLIR upgrade.

FY06: Continue design development, manufacturing planning, and producibility design enhancements of the EFV(P) and EFV(C) designs. Continue the EFV survivability program. Support Development Testing (DT) and Reliability/Availability/Maintainability (RAM) testing, support MS C Operational Assessment (OA); review and analyze OA results; process, design, and incorporate modifications identified. Procurement of test spares. Refurbishment of SDD vehicles. Development of Integrated Electronic Technical Manuals (IETMs).

FY07: Continue design development, manufacturing planning, and producibility design enhancements of the EFV(P) and EFV(C) designs. Continue the EFV survivability program. Continue test support and design, integration and testing of MS C OA identified modifications. Continue development of Integrated Electronic Technical Manuals (IETMs).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-4 Advanced Component Dev. and Prototypes**	PROGRAM ELEMENT NUMBER AND NAME **0603611M Marine Corps Assault Vehicles**	PROJECT NUMBER AND NAME: **B0020 Expeditionary Fighting Vehicle (EFV)**	

COST ($ in Millions)	FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost	**4.930**	**6.527**	**7.578**	**8.007**
RDT&E Articles Qty				

(U) Continue to provide in-house technical support.

COST ($ in Millions)	FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost	**6.188**	**5.632**	**6.090**	**5.952**
RDT&E Articles Qty				

(U) Continue to provide program support to coordinate and update program planning, program analysis, and program execution.

COST ($ in Millions)	FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost	**11.070**	**20.611**	**14.895**	**0.000**
RDT&E Articles Qty				

(U) Develop training courseware, devices and simulators.

FY04: Initiate development of EFV training devices/simulators. Continue development of EFV training courseware.

FY05: Continue development of EFV training devices/simulators. Continue development of EFV training courseware.

FY06: Complete development of EFV training devices/simulators and EFV training courseware.

COST ($ in Millions)	FY2004	FY2005	FY2006	FY2007
Accomplishment/Effort Subtotal Cost	**17.415**	**17.693**	**19.003**	**17.608**
RDT&E Articles Qty				

(U) Ballistic Testing. DT/OT. RAM-D Testing. EOA

FY04: Continue DT of SDD prototypes. Continue Lethality Testing of MK-46 weapon station.

FY05: Conduct Component Ballistic Testing. Continue DT of SDD prototypes. Complete Lethality Testing of MK-46 weapon station.

FY06: Conduct P Variant Controlled Damaged Testing. Continue DT of SDD prototypes. Conduct Operational Testing.

FY07: Conduct C Variant Controlled Damaged Testing. Continue DT of SDD prototypes. Conduct Operational Testing. Conduct full up system Level Live Fire Testing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-4 Advanced Component Dev. and Prototypes**	PROGRAM ELEMENT NUMBER AND NAME **0603611M Marine Corps Assault Vehicles**	PROJECT NUMBER AND NAME: **B0020 Expeditionary Fighting Vehicle (EFV)**

	FY2004	FY2005	FY2006	FY2007
(U) Total $	**231.948**	**243.058**	**253.675**	**187.456**

(U) PROJECT CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) FY 2005 President's Budget:	237.893	236.969	181.755	161.571
(U) Adjustments from the President's Budget:				
(U) Congressional Undistributed Reductions		-2.611		
(U) Congressional Rescissions				
(U) Congressional Program Adjustments		8.700		
(U) Inflation/Pricing Adjustments	-0.221		1.798	2.055
(U) SBIR/STTR Transfer	-5.605			
(U) Sponsor/FMB/BSO Program Adjustments			70.122	23.830
(U) Execution Adjustments	-0.119			
(U) FY 2006 President's Budget:	231.948	243.058	253.675	187.456

CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 2004 net decrease of $5.945M reflects decreases for inflation adjustments of $.221M; SBIR transfer of $5.605M; and an execution decrease of $.119M

FY 2005 net increase of $6.089M reflects increases from Congressional Adds for FLIR Thermal Imager, $4.200M; Regenerative Filtration Technology; $3.500M; and MK46/FLIR Upgrade $1.000M; and a decrease for Congressional Undistributed Reductions of $2.611M.

FY 2006 net increase of $71.920M reflects and increase of $1.798m for inflation; an increase of $73.277M in program adjustments to support continued testing and design development associated with a change in budget procurement profile which delayed MS C/LRIP by one year; and a program decrease of $3.155M for miscellaneous pricing and technical adjustments.

FY 2007 net increase of $25.885 reflects an increase of $2.055M for inflation; an increase of $26.412M in program adjustments to support continued testing and design development associated with a change in budget procurement profile which delayed MS S/LRIP by one year; and a program decrease of $3.155M for miscellaneous pricing and technical adjustments.

(U) Schedule: The EFV program schedule is adjusted to reflect the rephasing of procurement funding which involved a one year MS C delay and a two year IOC delay. During the additional time prior to MS C, prototype testing, LRIP vehicle design and Life Cycle Management efforts will continue. MS C is scheduled for Sep 06, LRIP contract award for early FY 07, and IOC in FY 10.

(U) Technical: Not Applicable

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY2004	FY2005	FY2006	FY2007	FY2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
(U) PANMC, BLI #147500, EFV	-	2.464	5.738	9.504	28.730	14.875	15.631	16.030	541.770	634.742
(U) PMC BA2, BLI #202200, EFV	97.195	52.497	30.359	255.983	267.587	410.452	624.815	1,133.207	6,610.729	9,482.824
(U) PMC BA7 (Spares), BLI 700000, EFV	-	-	0.000	9.708	8.456	12.404	17.359	47.048	362.718	457.693
(U) PMC, EFV Totals	97.195	52.497	30.359	265.691	276.043	422.856	642.174	1,180.255	7,515.217	10,482.287
(U) MILCON P-038	-	-	-	-	-	-	-	-	-	0.000
(U) MILCON P-042	-	-	-	-	22.610	-	-	-	-	22.610
(U) MILCON P-041	-	-	-	2.020	-	-	-	-	-	2.020
(U) MILCON P-1010	-	-	-	-	-	-	7.182	-	0.000	7.182
(U) REMAINING EFV MCON	-	-	-	-	-	-	-	-	31.807	31.807
(U) MILCON, EFV Totals	0.000	0.000	0.000	2.020	22.610	0.000	7.182	0.000	31.807	63.619

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-4 Advanced Component Dev. and Prototypes**	PROGRAM ELEMENT NUMBER AND NAME **0603611M Marine Corps Assault Vehicles**	PROJECT NUMBER AND NAME: **B0020 Expeditionary Fighting Vehicle (EFV)**

(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 B2237, AVTD.

(U) D. ACQUISITION STRATEGY:

The EFV 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), and control vehicle unit cost. Three fully functional PDRR prototypes were developed and have undergone extensive developmental testing to further vehicle maturity. During the SDD phase of the program, nine prototype vehicles will be manufactured and tested extensively in developmental and operational tests. A tenth vehicle will be manufactured for use during Full Up System Level Lethality testing planned to begin in FY07. Following the LRIP decision review, LRIP vehicles will be delivered in FY08 and FY09 for use during Initial Operational Test and Evaluation (IOT&E). Initial Operational Capability (IOC) and Full Operational Capability (FOC) will occur in FY10 and FY20, respectively.

The EFV management strategy is event driven, designed to ensure a logical progression through the EFV acquisition to reduce risk, ensure affordability, and provide adequate information to decision makers regarding acquisition progress. The EFV 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 EFV 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 and simulation techniques which is intended to continue throughout SDD. As a Program Management Oversight for Life Cycle Support pilot program, the program office management 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 EFV 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. 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 was competitively awarded in September 2003 as a cost plus fixed-fee contract and will continue through FY08. The Life Cycle Support Contract is scheduled for award during FY07 for a portion of the initial operations and maintenance support for the fielded EFVs.

(U) E. MAJOR PERFORMERS:
FY 03-07 - General Dynamics, Woodbridge, VA. Validation of manufacturing and production processes, fabrication and testing of SDD vehicles, and finalizing and implementing Life Cycle Management. Awarded Feb 01.

CLASSIFICATION:

Exhibit R-3 Cost Analysis								DATE: FEBRUARY 2005						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-4 Advanced Component Development and Prototypes			PROGRAM ELEMENT NUMBER AND NAME 0603611M Marine Corps Assault Vehicles					PROJECT NUMBER AND NAME B0020 Expeditionary Fighting Vehicle (EFV)						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PDRR Contract	CPAF	GDLS - PDRR Award	399.703									Cont	Cont	400.000
SDD Contract	CPAF	GDLS - SDD Award	502.903	192.345	1/	192.595	1/	206.109	1/	155.889	1/	Cont	Cont	910.195
Subtotal Program Dev Spt			902.606	192.345		192.595		206.109		155.889		Cont	Cont	

Remarks:

1/ The SDD contract was definitized in July 2001. The SDD contract is for the entire SDD effort and is incrementally funded. Target value does not include the program restructure.

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Program Support		EG&G, Manassas, VA	23.256									Cont	Cont	24.000
Program Support	CPFF	EG&G, Manassas, VA		4.173		4.212	2/	4.296	2/	4.382	2/	Cont	Cont	18.226
Program Support		Various Government Contracts	15.587	2.015	3/	1.420	3/	1.794	3/	1.570	3/	Cont	Cont	17.063
Training devices/simulators	CPAF	GDLS	1.428	11.070	3Q	20.611	2Q	14.895	1Q			Cont	Cont	
Subtotal Program Support			40.271	17.258		26.243		20.985		5.952		Cont	Cont	

2/ EG&G contract type (CPFF) was awarded in September 2003 for contract performance through FY08.
3/ Various contract award dates.

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Testing	N/A	Various Locations	22.531	17.415	3/	17.693	3/	19.003	3/	17.608	3/	Cont	Cont	
Subtotal T&E			22.531	17.415		17.693		19.003		17.608		Cont	Cont	

Remarks:

3/ Various contract award dates.

CLASSIFICATION:

Exhibit R-3 Cost Analysis								DATE: FEBRUARY 2005						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-4 Advanced Component Development and Prototypes			PROGRAM ELEMENT NUMBER AND NAME 0603611M Marine Corps Assault Vehicles					PROJECT NUMBER AND NAME B0020 Expeditionary Fighting Vehicle (EFV)						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
In-house technical support		Various Government Labs	74.504	3.104	3/	4.557	3/	5.570	3/	5.956	3/	Cont	Cont	
Mgmt & Prof Support		MITRE CORP, McClean, VA	9.700	1.826	1Q	1.970	1Q	2.008	1Q	2.051	1Q	Cont	Cont	
Subtotal Management			84.204	4.930		6.527		7.578		8.007		Cont	Cont	
Remarks: **4/ Various contract award dates.**														
Total Cost			1,049.612	231.948		243.058		253.675		187.456		Cont	Cont	

Exhibit R-4/4a Schedule Profile/Detail		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-4 Advanced Component Development and Prototypes	PROGRAM ELEMENT NUMBER AND NAME 0603611M Marine Corps Assault Vehicles	PROJECT NUMBER AND NAME B0020 Expeditionary Fighting Vehicle (EFV)

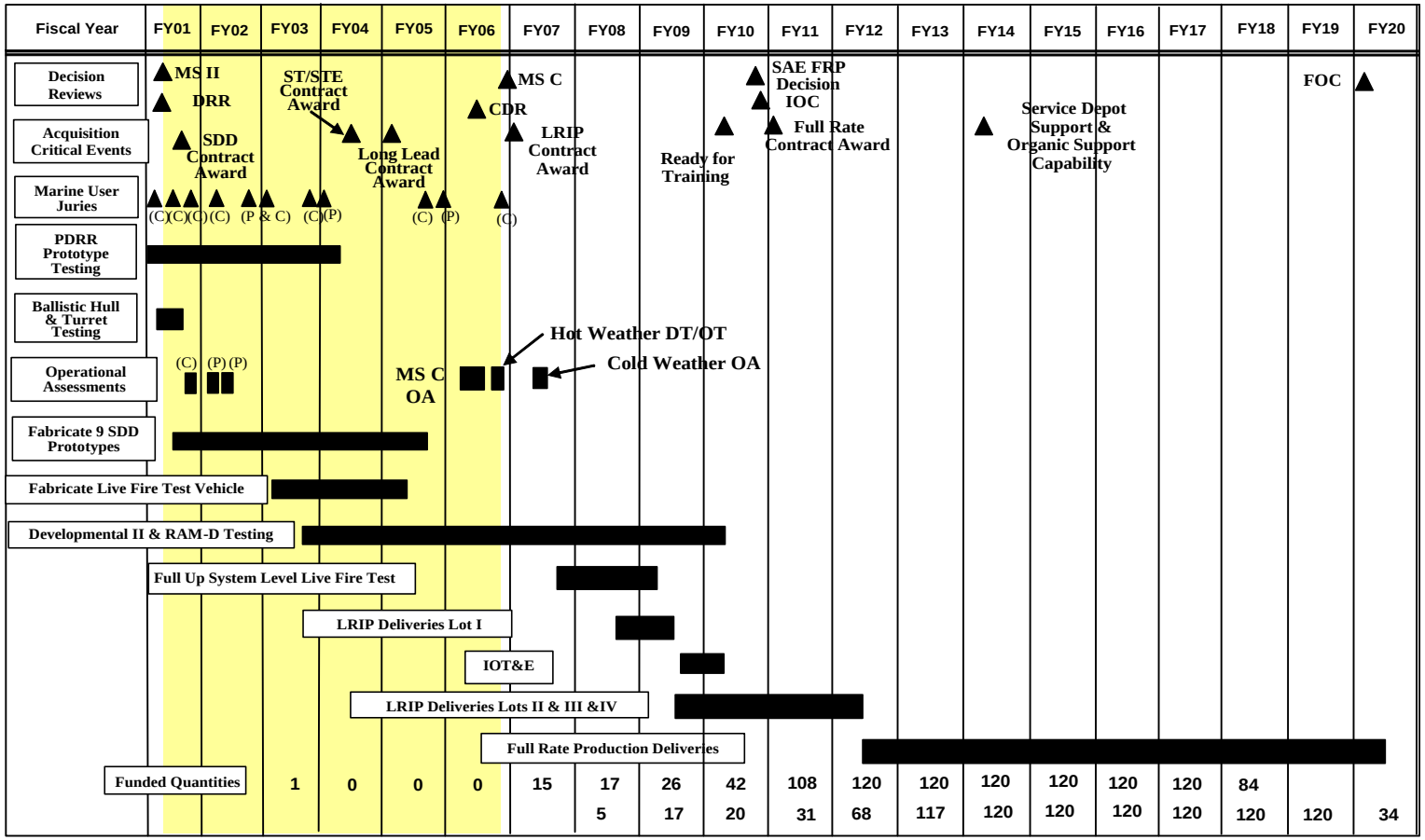

Exhibit R-4/4a Schedule Profile/Detail							DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N /BA-4 Advanced Component Development and Prototypes**	PROGRAM ELEMENT NUMBER AND NAME **0603611M Marine Corps Assault Vehicles**				PROJECT NUMBER AND NAME **B0020 Expeditionary Fighting Vehicle (EFV)**				
SCHEDULE DETAIL		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MS C				4Q					
SAE FRP Decision								4Q	
IOC								4Q	
PDRR Prototype Testing		1-2Q							
Operational Assessments				2-3Q	2Q				
Fabrication of 9 Prototypes		1-4Q	1-3Q						
Fabricate Live Fire Test Vehicle		1-4Q	1-2Q						
Developmental II & RAM-D Testing		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1Q	
CDR				2Q					
LRIP Contract Award					1Q				
Full Up System Level Live Fire Test					1-4Q	1-4Q			
LRIP Deliveries Lot I						3-4Q	1-2Q		
IOT&E							3-4Q	1-2Q	
Ready for Training								2Q	
LRIP Deliveries Lots II & III & IV							3-4Q	1-4Q	1-4Q
Full Rate Contract Award									1Q