CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: **June 2001**			
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5**						R-1 ITEM NOMENCLATURE 0604262N / V-22					
COST ($ in Millions)	Prior Years Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost	**6,413.186**	**175.919**	**146.589***	**546.735**							
H1425 V-22	**6,413.186**	**175.919**	**146.589***	**546.735**							
Quantity of RDT&E Articles	**4**										

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

The V-22 Osprey is a Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and United States Special Operations Command (USSOCOM). The V-22 will replace the CH-46E and CH53A/D in the Marine Corps (MV-22); supplement the H-60 in the Navy (HV-22); and replace the H-53 and H-60; and augment the C-130 in the Air Force and USSOCOM (CV-22). The V-22 will be capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off, and Landing (VSTOL) aircraft that can rapidly self-deploy to any location in the world.

As a result of the December 11, 2000 mishap we have conducted comprehensive external and internal review of the program. An independent review panel was appointed to conduct this review. This budget reflects the recommended funding changes to correct deficiencies and move forward.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under ENGINEERING & MANUFACTURING DEVELOPMENT (EMD) because it encompasses engineering and manufacturing development of new end-items prior to production approval decision. The four RDT&E test aircraft are production representative.

*Note: FY-01 does not reflect supplemental adjustments.

R-1 SHOPPING LIST - Item No. 107

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: June 2001			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**	PROGRAM ELEMENT NUMBER AND NAME 0604262N / V-22					PROJECT NUMBER AND NAME H1425 / V-22					
COST ($ in Millions)	Prior Years Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost	**6,413.186**	**175.919**	**146.589***	**546.735**							
RDT&E Articles Qty	4										

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

The V-22 Osprey is a Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and United States Special Operations Command (USSOCOM). The V-22 will replace the CH-46E and CH53A/D in the Marine Corps (MV-22); supplement the H-60 in the Navy (HV-22); and replace the H-53 and H-60; and augment the C-130 in the Air Force and USSOCOM (CV-22). The V-22 will be capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off, and Landing (VSTOL) aircraft that can rapidly self-deploy to any location in the world.

As a result of the December 11, 2000 mishap we have conducted comprehensive external and internal review of the program. An independent review panel was appointed to conduct this review. This budget reflects the recommended funding changes to correct deficiencies and move forward.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2000 ACCOMPLISHMENTS:

- (U) ($127.021) Completed CV-22 remanufacture and modification efforts. Began CV-22 flight tests (Mar 00). Continued CV-22 software development efforts. Began Terrain Following/Terrain Avoidance (TF/TA) radar development testing for the CV-22. Continued development of maintenance training equipment. Continued CV-22 Operational Flight Trainer / Full Fidelity Simulator (OFT/FFS) development. Continued CV-22 peculiar ILS supportability analysis, publications and spares support. Continued Weapons Replacement Assembly/Test Program Sets (WRA/TPS) development. Continued Fatigue Test Article (FTA) efforts (completed 1/2 lifetime testing Jan 00). Continued Power By The Hour (PBTH) support of the engine. Conducted natural icing tests. Conducted Blade Fold Wing Stow endurance testing. Completed Static Test Article (STA) test to failure. Continued R&D efforts on aircraft #8 & #10.

- (U) ($48.898) Continued in-house field activity support of Integrated Test Teams (ITT's) and Integrated Product Teams (IPT's), logistics and training activities, the manned flight simulator and numerous other efforts at over 12 activities. Participated in natural icing test. Conducted MV-22 OPEVAL and support (Nov 99-Jul 00). Continued CV-22 peculiar logistic support analysis and site activation planning. Continued R&D efforts on aircraft #8 & #10. Downsized hangar facility at Patuxent River. Prepared Edwards Air Force Base for arrival of CV-22 aircraft #7 and #9. Provided flight test support for CV-22 aircraft #7 and #9. Participated in CV-22 radar and development testing. Funded fuel costs for test aircraft and/or engines.

*Note: FY-01 does not reflect supplemental adjustments.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604262N / V-22	H1425 / V-22

2. FY 2001 PLANS:

- (U) ($95.264) Continue CV-22 development efforts by Bell-Boeing. Provide engine support and repair of repairables for CV-22 flight testing. Continue CV-22 software development efforts. Continue TF/TA radar development testing for the CV-22. Continue development of maintenance training equipment. Complete CV-22 Operational Flight Trainer / Full Fidelity Simulator (OFT/FFS) development. Conduct natural icing tests. Continue R&D efforts on aircraft #8 & #10.
- (U) ($51.325) Continued in-house field activity support of ITT's and IPT's, logistics and training activities, the manned flight simulator and numerous other efforts at over 12 activities. Continue R&D efforts on aircraft #8 & #10. Provide R&D support in the areas of R&M data analysis, loads and dynamics, electromagnetic environmental effects, CV-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, CV-22 avionics, facilities, computer support, structures, communications, Small Business Innovative Research, etc. Provide flight test support for CV-22 aircraft #7 and #9. Provide engineering and maintenance support for CV-22 flight testing. Fund fuel costs for test aircraft and/or engines.

*FY 01 does not reflect OSD Supplemental in the amount of $80.0M to continue MV development efforts and start development of two CV aircraft.

3. FY 2002 PLANS:

- (U) ($103.152) Contractor activities: Continue CV-22 development efforts by Bell-Boeing. Provide engine support and repair of repairables for CV-22 flight testing. Complete CV-22 software development efforts. Continue TF/TA radar development testing for the CV-22. Continue development of maintenance training equipment. Continue Defensive Weapon System development and integration efforts. Continue development efforts on aircraft #8. Continue WRA/TPS development. Conduct CV-22 IOT&E. Begin development of Environmental Control System.
- (U) ($21.606) Navy field activities: Continued in-house field activity support of ITT's and IPT's, logistics and training activities, the manned flight simulator and numerous other efforts at over 12 activities. Provide support for the Defensive Weapon System development and integration efforts. Provide support for the Environmental Control System development efforts. Continue development efforts on aircraft #8. Provide R&D support in the areas of R&M data analysis, loads and dynamics, electromagnetic environmental effects, CV-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, CV-22 avionics, facilities, computer support, structures, communications, Small Business Innovative Research, etc.
- (U) ($3.629) Non-Navy field activities: Provide flight test support for CV-22 aircraft #7 and #9. Provide engineering and maintenance support for CV-22 flight testing. Fund fuel costs for test aircraft and/or engines.
- (U) ($100.000) Continue the development of two CV aircraft for IOT&E.
- (U) ($318.326) Continue logistics, flight test, and flight test support, address correction of deficiencies, and provide funding for the MV and CV cost overruns.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604262N / V-22	H1425 / V-22

(U) B. PROGRAM CHANGE SUMMARY:

	FY2000	FY2001	FY2002
(U) FY 2001 President's Budget:	181.876	148.168	95.696
(U) Adjustments from the President's Budget:	-5.957	-1.579	451.039
(U) FY 2002/2003 OSD/OMB Budget Submit:	175.919	146.589	546.735

CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY 2000 decrease of $5.957 million reflects a decrease of $3.335 million for a Small Business Innovative Research assessment, a decrease of $1.897 million reprioritization of requirements within the Navy, a decrease of $.013 million for a Federal Technology Transfer and a decrease of $.712 million for a Congressional Reduction. The FY2001 decrease of $1.579 million reflects a decrease of $1.037 million for a Congressional Reduction, a decrease of $.322 million for the Government-wide Recission and a decrease of $.220 million for reprioritization of requirements within the Navy. The FY 2002 increase of $451.039 million consists of an increase of $410.0 million for the restructuring of the program, an increase of $6.950 million for a Logistics Shortfall, an increase of $18.000 million for an Environmental Control System, an increase of $8.000 million for Continued Development, a decrease of $.340 due to revised economic assumptions and an increase of $8.407 million for a reprioritization of requirements within the Navy.

(U) Schedule: MV-22 OPEVAL completion delayed due to an operational pause following the crash of aircraft #14 on 8 April 2000 and of Aircraft #18 on 11 December 2000. A revised Acquisition Program Baseline will be submitted in the 1st Quarter of FY 02 .

(U) Technical: Current temperatures for passengers on-board the V-22 can reach high levels. Development of an environmental control system will be initiated in FY02 with the goal to achieve a maximum temperature of 85 degrees.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2000	FY 2001	FY 2002
16400 / V-22			
V-22 APN-1	848.313	1,126.433*	1,009.881
V-22 Advance Procurement	70.344	70.927	48.428
V-22 APN-5	0.000	0.000*	35.000
V-22 APN-6 Spares	70.592	133.946	232.899
Related RDT&E:			
0401318F CV-22	0.000	0.000	10.008
1160404BB CV-22	33.522	43.773	52.661

*Note: FY01 does not reflect supplemental adjustments for APN-1 and APN-5..

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604262N / V-22	H1425 / V-22

(U) D. ACQUISITION STRATEGY: The V-22 program is designed to provide an aircraft to meet the medium lift amphibious/vertical assault needs of the USMC and the special operations needs of the USSOCOM. The aircraft will be capable of operations from aviation and air capable ships, as well as from unimproved landing sites throughout the world. The tiltrotor aircraft combines the speed, range and fuel efficiency normally associated with turboprop aircraft with the vertical take-off/landing and hover capabilities of helicopters. The special operations aircraft (CV-22) will consist of the baseline V-22 aircraft (MV-22) configuration plus a terrain following radar, additional fuel tanks, radios and flare/chaff dispensers, radar jammer and warning receiver, and infrared countermeasures. The CV-22 will be approximately 90% common with the MV-22.

(U) E. SCHEDULE PROFILE:

	FY 2000	FY 2001	FY 2002
(U) Program Milestones			TBD Program Reviews
(U) Engineering Milestones			
(U) T&E Milestones			1Q RESUME FLIGHT TEST
(U) Contract Milestones			

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: **June 2001**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604262N / V-22				PROJECT NUMBER AND NAME H1425 / V-22						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date			Cost to Complete	Total Cost	Target Value of Contract
Prime Contractor - Airframe	SS CPAF	BELL-BOEING, PaxRiver, MD	3,536.323	92.307	10/00	450.700	10/01				4,079.330	
Award Fee (NON ADD)	SS/CPAF	BELL-BOEING, PaxRiver, MD	165.347	6.884	10/00	6.826	10/01				179.057	
Prime Contractor - Engine	C/CPIF	ALLISON, INDIANAPOLIS, IN	178.506	2.957	10/00	2.500	10/01				183.963	
Field Activity	WX	NAWCAD PAX RIVER, MD		32.016	10/00	54.013	10/01				86.029	
Field Activity	MIPR	EDWARDS AFB, CA		5.451	10/00	7.900	10/01				13.351	
Field Activity	WX	NAWCAD LAKEHURST, NJ		5.238	10/00	12.500	10/01				17.738	
Field Activity	VARIOUS	VARIOUS	2,870.837	8.620	10/00	19.100	10/01				2,898.557	
Subtotal Product Development			6,585.666	146.589		546.713				0.000	7,278.968	

Remarks:
Award Fee is a NON-ADDITIVE number. Fees actually awarded range from 67% to 86%.
Target value of Bell-Boeing contract does not include anticipated overrun, ACO orders, or new efforts not already on contract (FY01-07), such as the gun and environmental control system.
Breakout of "Cost to Complete" between prime contractor and field activities is an estimate and actual split will depend on negotiated value of future contract modifications, such as the gun and environmental control system.
Prior year cost breakout is not available by specific field activity. Field activity prior year costs have been subtotaled and placed in the "various" category.

NOT												
SEPARATELY												
PRICED												
Subtotal Support												

Remarks:

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)							DATE: **June 2001**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-5**		PROGRAM ELEMENT 0604262N / V-22			PROJECT NUMBER AND NAME H1425 / V-22						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date			Cost to Complete	Total Cost	Target Value of Contract
NOT												
SEPARATELY												
PRICED												
Subtotal T&E												
Remarks:												
ASN or HQMC directed studies	various	various	3.467								3.467	
Subtotal Management			3.467								3.467	
Remarks:												
Total Cost			6,589.133	146.589		546.713				0.000	7,282.435	
Remarks:												

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