

**EXHIBIT R-2, FY 2001 PRESIDENT'S BUDGET  
RDT&E,N BUDGET ESTIMATE JUSTIFICATION SHEET**

DATE: February 2000

**BUDGET ACTIVITY: 5**

**PROGRAM ELEMENT: 0604262N  
PROGRAM ELEMENT TITLE: V-22**

**(U) COST: (Dollars in Thousands)**

<u>Project Number &amp; Title</u>	<u>FY 1999 Actual</u>	<u>FY 2000 Estimate</u>	<u>FY 2001 Estimate</u>	<u>FY 2002 Estimate</u>	<u>FY 2003 Estimate</u>	<u>FY 2004 Estimate</u>	<u>FY 2005 Estimate</u>	<u>To Complete</u>	<u>Total Program</u>
H1425 V-22	336,127	181,876	148,168	95,696	41,450	17,920	8,508	0	<b>6,906,804</b>
TOTAL RDT&E Articles	336,127	181,876	148,168	95,696	41,450	17,920	8,508	0	<b>6,906,804</b>

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element funds the development of a replacement aircraft to meet the medium lift needs of the United States Marine Corps (USMC) and the special operations needs of the United States Special Operations Command (USSOCOM).

(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.

**R-1 Item No. 92  
UNCLASSIFIED**

**EXHIBIT R-2a, FY 2001 PRESIDENT'S BUDGET  
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(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1999 ACCOMPLISHMENTS:

- (U) (\$266,908) Continued MV-22 and CV-22 contract development efforts, including flight test, Government Furnished Equipment integration, logistics efforts, Power By The Hour (PBTH) support of the engine, support equipment procurements, repair of repairables, and other EMD efforts. Continued training efforts including development of the Naval Air Maintenance Trainer Suite (NAMTS). Began CV-22 modifications for the flight simulator. Completed drop test article testing. Continued Fatigue Test Article (FTA) efforts. Started Static Test Article (STA) test to failure. Sent two EMD aircraft to Bell, Ft. Worth, Texas; one for incorporation of CV-22 modifications, and one for remanufacture of a full up CV-22 aircraft. Continued CV-22 software development efforts. Began Weapons Replaceable Assembly/Test Program Sets (WRA/TPS) development. Funded the EMD aircraft contract overrun to \$130M. Completed CV-22 Critical Design Review (CDR).
- (U) (\$49,219) Continued in-house flight test activities, support of Integrated Test Teams (ITT's) and Integrated Product Teams (IPT's), logistics and training activities, MV-22 and CV-22 site activation planning, the manned flight simulator and numerous other in-house development and test efforts at government activities. Completed Operational Test Assessment (OT-IID). Completed sea trials. Conducted flight test supportability assessment. Conducted EW systems integration efforts, planning for CV-22 flight test, and planning for MV-22 OPEVAL. Completed CV-22 CDR.
- (U) (\$20,000) Funding for natural icing testing was obligated in FY99, but execution will occur in FY00.

2. (U) FY 2000 PLAN:

- (U) (\$135,614) Complete CV-22 remanufacture and modification efforts. Begin CV-22 flight tests. Continue CV-22 software development efforts. Begin TF/TA radar development testing for the CV-22. Conduct MV-22 OPEVAL. Continue NAMTS and CV-22 training development efforts. Continue CV-22 peculiar ILS supportability analysis, publications and spares support. Continue WRA/TPS development. Continue FTA efforts (complete 1/2 lifetime testing). Continue PBTH support of the engine. Conduct natural icing tests. Conduct Blade Fold Wing Stow endurance testing. Complete STA test to failure. Continue R&D efforts on aircraft #8 & #10.
- (U) (\$46,262) Continue in-house activity's support of ITT's and IPT's, logistics and training activities, the manned flight simulator and numerous other efforts performed at over 12 activities. Participate in CV-22 radar and development testing. Participate in natural icing test. Conduct MV-22 OPEVAL and support. Continue CV-22 peculiar logistic support analysis and site activation planning. Continue R&D efforts on aircraft #8 & #10.

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3. (U) FY 2001 PLAN:

- (U) (\$123,311) 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, including re-host of V-22 Dynamic Display Simulator (VDDS). Begin Defensive Weapon System integration efforts. Continue R&D efforts on aircraft #8 & #10. Suspend WRA/TPS development, Aircraft Battle Damage Repair efforts, and Dynamic Component Repair Development efforts (currently unfunded) in FY01.
- (U) (\$24,857) Provide engineering and maintenance support for CV-22 flight testing. Provide ongoing R&D support in the areas of R&M data analysis, electromagnetic environmental effects, CV-22 flight controls, survivability, subsystems, CV-22 avionics, facilities, computer support, structures, communications, Small Business Innovative Research, etc. Continue R&D efforts on aircraft #8 & #10.

(U) B. PROGRAM CHANGE SUMMARY

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) FY 2000 President's Budget:	345,782	182,885	151,275
(U) Appropriated Value:	355,142	182,885	
(U) Adjustments from President's Budget:	-9,655	-1,009	-3,107
(U) FY 2001 OSD/OMB Budget:	336,127	181,876	148,168

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**CHANGE SUMMARY EXPLANATION:**

- (U) Funding: The FY 99 decrease is due to minor pricing, inflation, and programmatic adjustments. The FY 2000 decrease is due to a reduction for an Across-the-Board Congressional rescission. The FY2001 decrease is due to minor pricing and inflation adjustments.
- (U) Schedule: CV-22 flight test start delayed from 1Qtr to 2Qtr FY00 as a result of delays in completion of MV-22 flight test program.
- (U) Technical: Not applicable.

**(U) C. OTHER PROGRAM FUNDING SUMMARY**

<u>APPN</u>	<u>FY 1999 BUDGET</u>	<u>FY 2000 ESTIMATE</u>	<u>FY 2001 ESTIMATE</u>	<u>FY 2002 ESTIMATE</u>	<u>FY 2003 ESTIMATE</u>	<u>FY 2004 ESTIMATE</u>	<u>FY 2005 ESTIMATE</u>	<u>TO COMPLETE</u>
APN V-22	657,408	921,885	1,208,450	1,344,884	1,746,027	1,698,113	1,636,820	15,092,534
APN SPARES	29,193	61,785	106,460	209,271	40,219	49,605	41,644	336,151

Related RDT&E

(U) PE 116404BB CV-22

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(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

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>To Complete</u>
(U) Program Milestones			1Q/01 MSIII(FRP) 2Q/01 MV-22 IOC	1Q/06 CV-22 IOC
(U) Engineering Milestones	1Q/99 CV CDR			
(U) T&E Milestones	2Q/99 SEA TRIALS	1Q/00-3Q/00 OPEVAL		2Q/02-4Q/02 CV-22 IOT&E
		2Q/00 START CV-22 FLIGHT TEST		
(U) Contract Milestones			1Q/01 Gun Dev.	

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**EXHIBIT R-3, FY 2001 PRESIDENT'S BUDGET RDT&E,N COST ANALYSIS**

DATE: February 2000

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PROJECT NUMBER: H1425

<u>Cost Categories:</u>	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior Yrs Cost</u>	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>FY 2001 Cost</u>	<u>FY 2001 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<b><u>PRODUCT DEVELOPMENT</u></b>												
AWARD FEE	CPAF	Bell-Boeing, Arlington, VA	3,170,526	257,972	10/99	112,124	10/00	110,588	10/01	136,182	3,787,392	3,418,827
		Bell-Boeing	125,319	25,728		13,942		5,617		4,326	174,932	
	CPIF	Allison Indianapolis, IN	169,368	5,388	10/99	2,969	10/00	823	10/01	CONT	CONT	
	T & M	STI Rockville, MD	17,914									
	T & M	VSS Alexandria, VA	4,651									
	CPIF	Hughes Indianapolis, IN	5,337									
	WX	NAWCADPAX	*	54,544	10/99	48,934	10/00	25,358	10/01	CONT	CONT	
	WX	NAD CH PT	*	9,558	10/99	4,325	10/00	2,229	10/01	CONT	CONT	
	WX	NAWCADLKE	*	5,426	10/99	6,165	10/00	2,863	10/01	CONT	CONT	
	WX	NAWCWDCHL	*	6	10/99	1,429	10/00	249	10/01	CONT	CONT	
	MIPR	Edwards AFB	0	0		2,250	10/00	5,000	10/01	CONT	CONT	
	Various	Various Gov't	*	3,059	10/99	3,480	10/00	1,058	10/01	CONT	CONT	
<b>Subtotal Product Development</b>			<b>6,073,966</b>	<b>335,953</b>		<b>181,676</b>		<b>148,168</b>		<b>163,574</b>	<b>6,903,337</b>	

**Remarks:**

AWARD FEE IS A NON-ADDITIVE NUMBER. Fees actually awarded range from 67% to 86%. Target value of Bell-Boeing contract doesn't include anticipated overrun, ACO orders, or new efforts not already on contract (FY 00-05) such as the gun.  
 \* Prior year cost breakout is not available for In-House activities.

**SUPPORT**

Subtotal Support	0	0	0	0	0	0	0
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<u>Test and Evaluation</u>												
Subtotal Test & Evaluation			0	0		0				0	0	
Remarks:												
<u>Management</u>												
Subtotal Management			3,093	174	1/00	200	1/00			0	3,467	
Remarks: ASN or HQMC directed studies												
<b>Total Cost</b>			<b>6,077,059</b>	<b>336,127</b>		<b>181,876</b>		<b>148,168</b>		<b>163,574</b>	<b>6,906,804</b>	

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