

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

June 2001

BUDGET ACTIVITY

05 - Engineering and Manufacturing Development

PE NUMBER AND TITLE

0604800F Joint Strike Fighter EMD

PROJECT

3831

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
3831 Joint Strike Fighter	0	0	769,511	1,747,738	1,953,957	2,124,460	2,115,394	1,508,255	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	TBD

THIS PROGRAM ELEMENT (PE) CONTINUES DEVELOPMENT EFFORTS BUDGETED IN PE 0603800F PRIOR TO FISCAL YEAR 2002.

'FY03-FY07 USAF BUDGET NUMBERS DO NOT REFLECT THE DOD STRATEGIC REVIEW RESULTS.'

(U) **A. Mission Description**

The Joint Strike Fighter (JSF) program will develop and field a family of aircraft that meets the needs of the USN, USAF, and USMC and allies, with optimum commonality among the variants to minimize life cycle costs. This is a joint program with no executive service. The Navy and Air Force each provide equal shares of annual funding to the program. The United Kingdom (UK) is a partner in this phase, and agreements with several other countries are in negotiation.

PROGRAM EMD FUNDING BREAKOUT REFLECTS NAVY, AIR FORCE AND UK FUNDING ONLY. EXCLUDES TBD ANTICIPATED OTHER INTERNATIONAL FUNDING.

QUANTITY OF RDT&E ARTICLES ARE PENDING SOURCE SELECTION.

(U) **FY 2000 (\$ in Thousands)**

(U) \$0 Non applicable

(U) \$0 Total

(U) **FY 2001 (\$ in Thousands)**

(U) \$0 FY 2001 appropriated funding was reprogrammed to PE 0603800F.

(U) \$0 Total

Project 3831

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Exhibit R-2 (PE 0604800F)

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BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD	PROJECT 3831																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$1,631,749 Prepare for and commence execution of EMD for a tri-service family of aircraft, continue development of an alternate engine for production (previously begun in associated Program Element 0603800F and 0603800N) and provide mission support, including program office functions. Further EMD funding breakout is TBD pending completion of source selection.</p> <p>(U) \$1,631,749 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is funded under ENGINEERING & MANUFACTURING DEVELOPMENT (EMD) because it encompasses new engineering and manufacturing development end items prior to production approval decision.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 55%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2000</u></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 15%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY 2001 PBR)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">299,540</td> <td style="text-align: center;">1,297,012</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">0</td> <td style="text-align: center;">101,275</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td></td> <td style="text-align: center;">-929</td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td style="text-align: center;">-100,346</td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2001 PBR</td> <td></td> <td></td> <td style="text-align: center;">-527,501</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2002 PBR</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">769,511</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <p>Funding: The FY 2001 \$299.540 million decrease reflects a Congressional reduction for a projected schedule delay (-\$198.265M), a Congressional reprogramming reduction (-\$100.346M) to PE 0603800F and a Congression General Reduction (-\$.929M). FY2002 \$527.501 million decrease reflects a Service reduction due to the delay in EMD start.</p> <p>Schedule: Milestone II and EMD starts were delayed from Spring 2001 to Fall 2001 due to the delayed start of contractors' Concept Demonstration Phase (CDP) flight demonstrations.</p>				<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 2001 PBR)	0	299,540	1,297,012	TBD	(U) Appropriated Value	0	101,275			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions		-929			b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram		-100,346			d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2001 PBR			-527,501		(U) Current Budget Submit/FY 2002 PBR	0	0	769,511	TBD
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<div style="display: flex; justify-content: space-between;"> Project 3831 Page 2 of 6 Pages Exhibit R-2 (PE 0604800F) </div>																																																									

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BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD			PROJECT 3831		
(U) D. Other Program Funding Summary (\$ in Thousands)										
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) RDT&E 0603800F	249,088	341,167	0	0	0	0	0	0	0	1,907,352
(U) RDT&E 0603800N	238,420	341,164	0	0	0	0	0	0	0	1,950,617
(U) RDT&E 0603800E	0	0	0	0	0	0	0	0	0	118,006
(U) UNITED KINGDOM	26,101	800								200,291
(U) MULTI-LATERAL	5,100	1,700								32,100
(U) CANADA	3,300	0								10,600
(U) ITALY	0	0								10,000
(U) RDT&E 0604800N	0		767,238							TBD
(U) United Kingdom (EMD)			95,000							TBD
(U) Other APPN										
(U) USAF 0207142F										TBD
(U) APN-1 0204146N										TBD
<p>'FY03-FY07 USAF BUDGET NUMBERS DO NOT REFLECT THE DOD STRATEGIC REVIEW RESULTS.'</p> <p>'FY03-FY07 NAVY AND UK BUDGET NUMBERS ARE PENDING DOD STRATEGIC REVIEW RESULTS.'</p> <p>Note 1: Multi-Lateral countries include Netherlands, Norway and Denmark.</p> <p>Note 2: The JSF is a joint program with no executive service.</p>										
(U) E. Acquisition Strategy										
<p>Program activities in the CDP phase center around three distinct objectives that provide a sound foundation for the start of Engineering and Manufacturing Development (EMD) in Fall 2001:</p> <ol style="list-style-type: none"> (1) facilitating the Services' development of fully validated, affordable operational requirements; (2) lowering risk by investing in and demonstrating key leveraging technologies that lower the cost of development, production and ownership; and (3) demonstrating operational concepts. <p>Early warfighter and technologist interaction was an essential aspect of the requirements definition process, and key to achieving JSF affordability goals. To an unprecedented degree, the JSF program used cost-performance trades early, as an integral part of the weapon system development process. The Services defined requirements through an iterative process, balancing weapon system capability against life cycle cost at every stage. Each iteration of the requirements was provided to</p>										
<div style="display: flex; justify-content: space-between;"> Project 3831 Page 3 of 6 Pages Exhibit R-2 (PE 0604800F) </div>										

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BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD	PROJECT 3831

(U) **E. Acquisition Strategy Continued**

industry. They evolved their designs and provided cost data back to the warfighters. The warfighters evaluated trades and made decisions for the next iteration. This iterative process produced the Services' Joint Interim Requirements Documents in 1995, 1997, 1998 and culminated in the approved JSF Operational Requirements Document (ORD) in FY2000.

A sizable technology maturation effort was conducted to reduce risk and life cycle cost (LCC) through technology maturation and demonstration. The primary emphasis was on technologies identified as high payoff contributors to affordability, supportability, survivability and lethality. Numerous demonstrations were accomplished to validate performance and life cycle cost impact to component, subsystem and the total system.

In November 1996, contracts were competitively awarded to Boeing and Lockheed Martin for Concept Demonstration Programs. These competing contractors built and are flying concept demonstrator aircraft, conducted concept unique ground demonstrations, and refined their respective weapon system concepts. Specifically, Boeing and Lockheed Martin are demonstrating commonality and modularity, Short Take Off/ Vertical Land (STOVL) hover and transition, and low speed handling qualities of their respective weapon system concepts. Pratt and Whitney is providing propulsion hardware and engineering support.

General Electric continues the development of a second, interchangeable, engine for competition in production.

Downselect to a single prime weapon system contractor for EMD and Milestone II are planned in Fall 2001.

(U) **F. Schedule Profile**

	<u>FY 2000</u>				<u>FY 2001</u>			<u>FY 2002</u>	
	1	2	3	4	1	2	3	4	1
(U) Milestone II and Award of EMD Contract: Fall 2001									X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001																							
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD		PROJECT 3831																							
<p>(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>FY 2002</u></th> </tr> </thead> <tbody> <tr> <td>(U) Engineering and Manufacturing Development (EMD) (Note 1)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1,631,749</td> </tr> <tr> <td>(U) Total</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1,631,749</td> </tr> </tbody> </table> <p>Note 1:</p> <ul style="list-style-type: none"> - Further FY2002 EMD funding breakout is TBD pending completion of source selection. - Excludes TBD anticipated other international funding. 										<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	(U) Engineering and Manufacturing Development (EMD) (Note 1)	0	0	1,631,749	(U) Total	0	0	1,631,749										
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(U) Total	0	0	1,631,749																											
<p>(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u></p>																														
<p>(U) <u>Performing Organizations:</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Contractor or Government</u></th> <th style="text-align: left;"><u>Contract Method/Type or Funding</u></th> <th style="text-align: left;"><u>Award or Obligation</u></th> <th style="text-align: left;"><u>Performing Activity</u></th> <th style="text-align: left;"><u>Project Office</u></th> <th style="text-align: center;"><u>Total Prior to FY 2000</u></th> <th style="text-align: center;"><u>Budget FY 2000</u></th> <th style="text-align: center;"><u>Budget FY 2001</u></th> <th style="text-align: center;"><u>Budget FY 2002</u></th> <th style="text-align: center;"><u>Budget to Complete</u></th> <th style="text-align: center;"><u>Total Program</u></th> </tr> </thead> <tbody> <tr> <td>EMD (Note 1)</td> <td>TBD</td> <td>TBD</td> <td></td> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1,631,749</td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p><u>Product Development Organizations</u></p> <p><u>Support and Management Organizations</u></p> <p><u>Test and Evaluation Organizations</u></p> <p>Note 1:</p> <ul style="list-style-type: none"> - Further FY2002 EMD funding breakout is TBD pending completion of source selection. - Total program funding is TBD pending source selection and DoD Strategic Review results. 									<u>Contractor or Government</u>	<u>Contract Method/Type or Funding</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>	EMD (Note 1)	TBD	TBD			0	0	0	1,631,749	Continuing	TBD
<u>Contractor or Government</u>	<u>Contract Method/Type or Funding</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>																				
EMD (Note 1)	TBD	TBD			0	0	0	1,631,749	Continuing	TBD																				
<p>(U) <u>Government Furnished Property:</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Item</u></th> <th style="text-align: left;"><u>Contract Method/Type or Funding</u></th> <th style="text-align: left;"><u>Award or Obligation</u></th> <th style="text-align: left;"><u>Delivery</u></th> <th style="text-align: center;"><u>Total Prior to FY 2000</u></th> <th style="text-align: center;"><u>Budget FY 2000</u></th> <th style="text-align: center;"><u>Budget FY 2001</u></th> <th style="text-align: center;"><u>Budget FY 2002</u></th> <th style="text-align: center;"><u>Budget to Complete</u></th> <th style="text-align: center;"><u>Total Program</u></th> </tr> </thead> <tbody> <tr> <td><u>Description</u></td> <td><u>Vehicle</u></td> <td><u>Date</u></td> <td><u>Date</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><u>Product Development Property</u></p> <p><u>Support and Management Property</u></p> <p><u>Test and Evaluation Property</u></p>									<u>Item</u>	<u>Contract Method/Type or Funding</u>	<u>Award or Obligation</u>	<u>Delivery</u>	<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>								
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BUDGET ACTIVITY			PE NUMBER AND TITLE				PROJECT
05 - Engineering and Manufacturing Development			0604800F Joint Strike Fighter EMD				3831
			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
			<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>
<u>Subtotals</u>			0	0	0	1,631,749	TBD
Subtotal Product Development							
Subtotal Support and Management							
Subtotal Test and Evaluation							
Total Project			0	0	0	1,631,749	TBD
FY03-FY07 USAF, NAVY AND UK BUDGET NUMBERS ARE PENDING DOD STRATEGIC REVIEW RESULTS.'							
Notes:							
- Excludes TBD anticipated other international funding.							
- Total program funding is TBD pending completion of source selection and DoD Strategic Review results..							

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Exhibit R-3 (PE 0604800F)