

## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE <b>June 2001</b>	
BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604618F Joint Direct Attack Munition</b>					PROJECT <b>3890</b>	
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
3890     Joint Direct Attack Munitions	11,304	11,055	27,956	0	0	0	0	0	0	355,515
Quantity of RDT&E Articles	8	0	88	0	0	0	0	0	0	605
<p>*Quantity of RDT&amp;E Articles reflect assets by delivery year and cannot be reconciled to the dollar amounts (incremental funding) shown in any one year.</p> <p>(U) <b><u>A. Mission Description</u></b>            Operation DESERT STORM confirmed the need for, and Operation ALLIED FORCE confirmed the utility of a more accurate weapon delivery capability in adverse weather conditions from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent US air power from prosecuting a conflict on its terms. The Joint Direct Attack Munition (JDAM) is a joint Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the executive service. JDAM will upgrade the existing inventory of general purpose bombs (Mk-84, BLU-109, Mk-83/BLU-110 and Mk-82/BLU-111) by integrating them with a guidance kit consisting of a Global Position System aided Inertial Navigation System (INS/GPS). JDAM will provide an accurate (13 meters) adverse weather capability. JDAM threshold aircraft are B-52H, F-22, AV-8B and F/A-18C/D. JDAM objective aircraft are B-2, B-1B, F-16, F-15E, and other aircraft. JDAM development was a two-phased Engineering and Manufacturing Development (EMD) effort. EMD Phase I emphasized competitive design and manufacturing processes. This phase completed 10 Oct 95. EMD Phase II emphasized full scale hardware build and flight test to verify system performance and supported OT&amp;E. EMD Phase II ended Dec 00. A development effort to integrate the JDAM guidance kits on the Mk-82 began in September 2000. JDAM Low Rate Initial Production (LRIP) began in FY97 and Full Rate Production (Mk-84 and BLU-109) began in FY01. A redesign effort for the Joint Programmable Fuze (JPF) began Mar 01 to improve high altitude bomber capability. This fuze is a multi-function unitary fuze developed for JDAM and other conventional inventory weapons. JDAM is an Air Force Acquisition Category (ACAT) 1D program.</p> <p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b></p> <p>(U)    \$6,119     Completed development and restriction-free tail assembly for Mk-84 and BLU-109. Completed Mk-83 development activities. Fabricated hardware for F-22 Integration. Performed consolidation of multiple flight software packages as a result of parallel integration on F/A-18 C/D, B-52, B-1, F-16 and B-2. Continued development effort to integrate JDAM guidance kits on the MK-82, including any support equipment or fuze modifications.</p> <p>(U)    \$4,994     Provided test support for completion of operational test activities, flight software consolidation and conducted JPF wind tunnel testing. Conducted risk definition study to integrate Mk-82 JDAM on the B-1 and B-2.</p> <p>(U)    \$191       Provided support and management tasks to coordinate the program activities of the prime contractor and various test and aircraft organizations.</p> <p>(U)    \$11,304     Total</p>										
<div style="display: flex; justify-content: space-between;"> <span>Project 3890</span> <span>Page 1 of 6 Pages</span> <span>Exhibit R-2 (PE 0604618F)</span> </div>										

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<p>(U) <b><u>A. Mission Description Continued</u></b></p> <p>(U) <b><u>FY 2000 (\$ in Thousands) Continued</u></b>  Note: Does not reflect \$4.0M reprogrammed for JPF redesign effort.</p> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b></p> <p>(U) \$3,751                      Continued development effort for Mk-82 JDAM. Completed consolidation and test of flight software. Supported F-22 integration analysis and testing.</p> <p>(U) \$6,459                      Provided flight test support for Mk-82 flight software consolidation. Supported F-22 integration testing.</p> <p>(U) \$845                        Provided support and management tasks to coordinate the program activities of the prime contractor and various test and aircraft organizations.</p> <p>(U) \$11,055                    Total</p> <p>(U) <b><u>FY 2002 (\$ in Thousands)</u></b></p> <p>(U) \$10,552                   Complete development effort for Mk-82 JDAM and JPF redesign.</p> <p>(U) \$11,960                   Perform captive carry and DT flight testing on Mk-82 JDAM and perform JPF testing.</p> <p>(U) \$1,744                    Provide support and management tasks to coordinate the program activities of the prime contractor and various test and aircraft organizations.</p> <p>(U) \$3,700                    Continued development of fuzing hardware for high altitude bomber operations.</p> <p>(U) \$27,956                   Total</p> <p>(U) <b><u>B. Budget Activity Justification</u></b>  This program is funded in Budget Activity 5, EMD, due to its focus on devising an affordable design and manufacturing process.</p> <p>(U) <b><u>C. Program Change Summary (\$ in Thousands)</u></b></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;">6,299</td> <td style="text-align: center;">1,157</td> <td style="text-align: center;">1,564</td> <td style="text-align: center;">314,220</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">6,299</td> <td style="text-align: center;">1,157</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;">-78</td> <td></td> <td style="text-align: center;">-78</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></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 style="text-align: center;">-27</td> <td style="text-align: center;">-24</td> <td></td> <td style="text-align: center;">-51</td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2001 PBR</td> <td style="text-align: center;">5,032</td> <td style="text-align: center;">10,000</td> <td style="text-align: center;">26,392</td> <td style="text-align: center;">41,424</td> </tr> </tbody> </table>				<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 2001 PBR)	6,299	1,157	1,564	314,220	(U) Appropriated Value	6,299	1,157			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions		-78		-78	b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions	-27	-24		-51	(U) Adjustments to Budget Years Since FY 2001 PBR	5,032	10,000	26,392	41,424
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BUDGET ACTIVITY <b>05 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604618F Joint Direct Attack Munition</b>			PROJECT <b>3890</b>						
(U) <b><u>C. Program Change Summary (\$ in Thousands) Continued</u></b>													
		<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>								
(U)	Current Budget Submit/FY 2002 PBR	11,304	11,055	27,956	355,515								
(U) <b><u>Significant Program Changes:</u></b>													
FY00: Numbers do not reflect \$4M reprogrammed for the redesign JPF effort.													
FY01: \$10M Congressional add to begin JDAM Mk-82 development effort													
FY02: \$14M AF Budget request to complete JDAM Mk-82 development effort; \$8.6M to redesign Joint Programmable Fuze (JPF); \$3.7M for continued development of fuzing hardware.													
(U) <b><u>D. Other Program Funding Summary (\$ in Thousands)</u></b>													
		<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)	(U) Procurement of Ammunition, Air Force, P-1 Line Item JDAM (PE 27583F)	189,222	214,870	187,110	187,836	192,460	192,868	100,622			1,406,735		
(U)	(U) Seek Eagle (PE 27590F)	0	0	147	302	145	0	0	105	0	699		
(U) <b><u>E. Acquisition Strategy</u></b>													
The contract for the JDAM Mk-82 effort is Cost Plus Award Fee. The JPF effort is a fixed price incentive fee (FPI) contract. Procurement Lots 1-5 have been awarded and Lots 6-11 have a Production Price Commitment Curve agreement.													
(U) <b><u>F. Schedule Profile</u></b>													
		<u>FY 2000</u>			<u>FY 2001</u>			<u>FY 2002</u>					
		1	2	3	4	1	2	3	4	1	2	3	4
(U)	Milestone III (2000 lb)						*						
(U)	Milestone III (1000 lb)											X	
(U)	MK-84 Development and Operational Test (DT/OT) Finish						*						
(U)	MK-84 Initial Operational Test & Eval (IOT&E) Finish						*						
(U)	BLU-109 IOT&E Finish						*						
(U)	MK-83 DT Flight Tests Finish						*						
Project 3890		Page 3 of 6 Pages					Exhibit R-2 (PE 0604618F)						

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

DATE

June 2001

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

05 - Engineering and Manufacturing Development

0604618F Joint Direct Attack Munition

3890

(U) F. Schedule Profile Continued

	<u>FY 2000</u>					<u>FY 2001</u>					<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4		
(U) MK-82 Design/Development Start/Finish				*								X		
(U) MK-82 DT Flight Test Start										X				
(U) MK-82 CDR									X					
(U) JPF Redesign Start						*								
(U) JPF Testing Start								X						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE June 2001		
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
05 - Engineering and Manufacturing Development					0604618F Joint Direct Attack Munition				3890	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>	
(U) Primary Hardware Development					6,119		3,751		14,252	
(U) Test & Evaluation					4,994		6,459		11,960	
(U) Engineering & Prog Mgt Support					191		845		1,744	
(U) Total					11,304		11,055		27,956	
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>		<u>Contract</u>								
<u>Government</u>		<u>Method/Type</u>		<u>Award or</u>		<u>Performing</u>		<u>Project</u>		
<u>Performing</u>		<u>or Funding</u>		<u>Obligation</u>		<u>Activity</u>		<u>Office</u>		
<u>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		
								<u>Total Prior</u>		
								<u>to FY 2000</u>		
								<u>Budget</u>		
								<u>FY 2000</u>		
								<u>Budget</u>		
								<u>FY 2001</u>		
								<u>Budget</u>		
								<u>FY 2002</u>		
								<u>Budget to</u>		
								<u>Complete</u>		
								<u>Total</u>		
								<u>Program</u>		
<u>Product Development Organizations</u>										
Prime Contractors Boeing (St Louis, MO) Lockheed Martin		C/CPAF		Oct-95		201,575		201,575		184,603
FY94/95 Only								6,119		3,751
Dayron (JPF)		FPIF		Dec-01		3,450		3,450		
Conceptual Studies		Various		Various		N/A		N/A		22,428
Fuze Development		TBD		TBD		3,700		3,700		
										22,428
										3,700
<u>Support and Management Organizations</u>										
Engineering Spt.		CPAF		Oct 96		13,698		13,168		12,558
TAMS Contractor		CPAF		Oct 96		5,216		5,046		4,502
Program Office		Various		Various		N/A		N/A		17,231
										0
										310
										830
										0
										13,698
										0
										5,216
										18,157
<u>Test and Evaluation Organizations</u>										
Aircraft SPO/PMA Supt.		Various		Various		N/A		N/A		12,811
Flight Testing		Various		Various		N/A		N/A		35,408
Ground Testing		Various		Various		N/A		N/A		11,324
JPF Wind Tunnel Testing		TBD		TBD		N/A		N/A		1,486
GFE		Various		Various		N/A		N/A		4,335
										808
										0
										0
										11,283
										677
										0
										0
										4,335
Project 3890					Page 5 of 6 Pages			Exhibit R-3 (PE 0604618F)		

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							June 2001	
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT	
05 - Engineering and Manufacturing Development				0604618F Joint Direct Attack Munition			3890	
(U) <b><u>Performing Organizations Continued:</u></b>								
Note: FY00 funding does not reflect \$4.0M for JPF redesign								
(U) <b><u>Government Furnished Property:</u></b>								
	<u>Contract</u>							
	<u>Method/Type</u>	<u>Award or</u>						
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>
<u>Product Development Property</u>								
Not Applicable								
<u>Support and Management Property</u>								
<u>Test and Evaluation Property</u>								
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>				<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>
Subtotal Product Development				207,031	6,119	3,751	14,252	0
Subtotal Support and Management				34,291	191	845	1,744	0
Subtotal Test and Evaluation				63,878	4,994	6,459	11,960	0
Total Project				305,200	11,304	11,055	27,956	0
								<u>Total</u>
								<u>Program</u>

Project 3890

Page 6 of 6 Pages

Exhibit R-3 (PE 0604618F)