	RDT&E BUDGET ITEM J	DATE	DATE February 2002								
					PE NUMBER AND TITLE  0604735F Combat Training Ranges						
	COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
2286	Combat Training Range Equipment	9,568	25,686	13,524	20,940	20,996	19,839	20,354	Continuing	TBD	
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	

In FY 2003, 652286, Combat Training Ranges includes new start efforts.

## (U) A. Mission Description

Air Combat Training Systems (ACTS) provide equipment for Air Force combat training ranges to support mission training and evaluation of aircrews, as well as the operational testing of weapons systems and tactics under simulated combat conditions. This program develops the electronic, telecommunications, and instrumentation equipment/systems for the training ranges. ACTS are interoperable with Navy combat training ranges, and provide the capabilities to train aircrews in air-to-air combat, air-to-ground combat, and electronic warfare, while providing real-time monitoring and control of aircraft during large force exercises and recording events for post-mission debrief and analysis. This program element also funds aircraft/pod interfaces, software interoperability among service ranges and development and integration of the Range Security Initiative (RSI) for range/aircraft data links-specifically for the Nellis Air Combat Training System (NACTS) which supports Red Flag, Green Flag and USAF Fighter Weapons School training as well as funds a study to incorporate security initiatives into the Tyndall Range. Beginning in FY03 this program element will continue to evolve the Air Force acquisition program for rangeless training systems/capabilities which will be interoperable with the P4 Refurbishment Contract (P4RC) program. This next phase in the program will be known as P4RC Plus. This will fund the development of improved capabilities such as real time monitoring, kill notification, and no-drop weapon scoring for incorporation in future procurements. This program element develops advanced threat emitters. The Mini-Multiple Threat Emitter System (Mini-MUTES) Modernization program (M3P) upgrades existing equipment to satisfy Air Force electronic warfare training requirements. The required M3P upgrades will enable Mini-MUTES to simulate the latest, most lethal advanced surface-to-air threats. In FY03 the Advanced Threat Emitter System (ATES) will incorporate joint requirements and evolve into the Joint Threat Emitter (JTE) system. The JTE will continue the development program to provide a comprehensive suite of threat signals during simulated penetrations of hostile airspace for surveillance and bombing runs, for aircrew tactics and electronic combat training. JTE will complement existing threat simulators deployed on test and training ranges by emulating signals which simulate the most advanced air defense and threat radars.

Target System Development PE 64258F was consolidated into this PE starting in FY02. Aerial Targets are used to determine air-to-air weapons systems accuracy and reliability by developing improved aerial target systems for Air Force weapons system test and evaluation. It develops full-scale and subscale aerial targets, and target control systems. Specialized target payload subsystems are developed for requirements such as: missile scoring, electronic and infrared (IR) countermeasures, radar,

Project 2286 Page 1 of 7 Pages Exhibit R-2 (PE 0604735F)

	RDT&	DATE February 2002		
	GET ACTIVITY - Engineering an	d Manufacturing Development	PE NUMBER AND TITLE  0604735F Combat Training Ranges	PROJECT <b>2286</b>
(U)	A. Mission Description and IR signature augr	on Continued nentation, and chaff and flare dispensing.		
(U) (U) (U) (U)	FY 2001 (\$ in Thousa \$551 \$903 \$292	Continued development of the RSI for NACTS/Ty Continued Combat Training Range (CTR) basic o Continued interoperability improvements with exi	endall Range perating support, and system acquisition and engineering s sting Air Force and Navy ranges to include software, upgr	• •
(U) (U) (U) (U) (U)	\$778 \$6,749 \$145 \$150 \$9,568	development Continued development of aircraft interfaces with Continued Mini-(MUTES) Multiple Threat Emitte Continued Range Instrumentation Technical Supp Continue Aerial Target basic operating support an Total	ort efforts	t program office
(U) (U)	FY 2002 (\$ in Thousa \$3,938		ircraft/Pod integration for range applications with aircraft	program office and SECDEF F-22
(U) (U)	\$10,830 \$3,700	Begin Advanced Threat Emitter System (ATES) d Continue interoperability improvements with exist development	evelopment ing Air Force and Navy ranges to include software, upgrades	des, and weapons simulation
(U) (U) (U) (U) (U)	\$3,382 \$190 \$145 \$3,501 \$25,686	Complete development of RSI effort for NACTS/Continue Aerial Target basic operating support an Continue Range Instrumentation Technical Suppo Continue CTR basic operating support, and system Total	d system acquisition and engineering support.	systems
(U) (U) (U) (U)	FY 2003 (\$ in Thousa \$395 \$1,768 \$2,543	Begin P4RC Plus system development efforts Continue development of aircraft interfaces with a	ircraft/Pod integration for range applications with aircraft ing Air Force and Navy ranges to include software, upgrades	
P	roject 2286	]	Page 2 of 7 Pages	Exhibit R-2 (PE 0604735F)

	RDT&E BUDGET ITEM JUSTIFICA	TION SHEET (R-2 Exhib	it)	DATE <b>Febru</b>	ary 2002
	SET ACTIVITY  • Engineering and Manufacturing Development	PE NUMBER AND TITLE  0604735F Combat 1	raining Rang	es	PROJECT <b>2286</b>
( <b>U</b> )	A. Mission Description Continued				
(U) (U) (U) (U) (U) (U)	FY 2003 (\$ in Thousands) Continued  \$145	stem acquisition and engineering suppoint requirements and evolve to a Joint	Threat Emitter (JT	•	
(U)	B. Budget Activity Justification This program is in budget activity 5 - Engineering and Manufacturin effectiveness and survivability of US combat forces by developing refrom individual aircrew skill training to large-scale exercises.				
( <b>U</b> )	C. Program Change Summary (\$ in Thousands)				
(U)	Previous President's Budget	<u>FY 2001</u> 16,407	<u>FY 2002</u> 25,943	<u>FY 2003</u> 19,000	<u>Total Cost</u> TBD
(U)	Appropriated Value	16,559	25,943	17,000	155
(U)	Adjustments to Appropriated Value	,	,		
	a. Congressional/General Reductions	-152	-257		
	b. Small Business Innovative Research	-561			
	c. Omnibus or Other Above Threshold Reprogram				
	d. Below Threshold Reprogram	-78			
	e. Rescissions	-6,200			
(U)	Adjustments to Budget Years Since FY 2002 PBR			-5,476	
(U)	Current Budget Submit/FY 2003 PBR	9,568	25,686	13,524	TBD
(U)	Significant Program Changes: FY01 includes \$4.0M Congressional Plus-Up to continue development FY01 reduced \$0.078M reprogrammed to purchase AF Wide Oracl FY01 reduced \$6.2M by FY02 Congressional Rescission of Joint TFY01.	e Enterprise License.		CTS funds were not app	propriated in
Ρ	roject 2286	Page 3 of 7 Pages		Exhibit R-2	(PE 0604735F)

	RDT&E BUD	GET ITEN	/I JUSTIF	ICATION	SHEET (	R-2 Exh	ibit)	[	Februar	y 2002
	GET ACTIVITY		_		PE NUMBER					PROJECT
05 -	<b>Engineering and Manu</b>	facturing D	evelopme	nt	0604735	Combat	Training	Ranges		2286
( <b>U</b> )	C. Program Change Summar	y (\$ in Thousaı	nds) Continue	<u>ed</u>						
(U)	Significant Program Changes C FY03 reduced \$5.280M transfer FY03 reduced \$0.163M for Adv FY03 reduced \$0.033 for Inflati	rred to Combat visory & Assista		•	OPAF accounts	s for P4RC P	lus.			
(U)	D. Other Program Funding Su	ımmary (\$ in T	(housands)							
		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to	Total Cost
		<u>Actual</u>	<b>Estimate</b>	<b>Estimate</b>	<b>Estimate</b>	<b>Estimate</b>	<b>Estimate</b>	<b>Estimate</b>	Complete	
(U)	PE27429F: Appn: Other	44,774	62,530	17,242	21,658	19,681	20,263	20,392	Continuing	TBD
	Procurement, AF (OPAF)									
	Program Title: Combat Training Ranges									
(U)	Initial Spares	2,731	785	781	799	814	830	846	Continuing	TBD
(U)	Total OPAF	47,505	63,315	18,023	22,457	20,495	21,093	21,238	Continuing	TBD
(U)	PE27429F: Appn: Aircraft	6,744	15,890	14,430	12,625	13,076	14,739	15,210	Continuing	TBD
(0)	Procurement, AF(APAF),	o,,	10,000	1 1,100	12,020	10,070	1.,,,,,,	10,210	communing	122
	Program Title: Combat									
	Training Ranges									
(U)	Initial Spares	1,256	1,379	1,385	1,415	1,446	1,475	1,504	Continuing	TBD
(U)	Total APAF	8,000	17,269	15,815	14,040	14,522	16,214	16,714	Continuing	TBD
(U)	PE35116F: Appn: Aircraft	22,884	34,784	30,586	51,180	38,574	39,319	40,067	Continuing	TBD
	Procurement, AF (APAF),									
	Program title: Aerial Targets									
(U)	Initial Spares	610	101	820	991	494	494	494	Continuing	TBD
(U)	Total APAF	23,494	35,585	31,406	52,171	39,068	39,813	40,561	Continuing	TBD
( <b>U</b> )	<b>E.</b> Acquisition Strategy The acquisition strategy is comp	etitive, with cos	st plus and fixe	ed price contra	cts.					
P	roject 2286			Pag	ge 4 of 7 Pages				Exhibit R-2 (F	PE 0604735F)

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									February 2002				
BUDO	BUDGET ACTIVITY PE NUMBER AND TITLE											PRO	JECT	
05 -	- Engineering and Manufacturing Development		06047	35F (	Comba	t Trai	ning F	Ranges	5			228	6	
(U)	F. Schedule Profile													
			<u>FY 2</u>	2001			FY 2	2002			FY:	2003		
		1	2	3	4	1	2	3	4	1	2	3	4	
(U)	Nellis Air Combat Training System (NACTS)													
(U)	NACTS Range Security Initiative (RSI) Contract Award			*										
(U)	Mini-Mutes Multiple Threat Emitter (M3P) Development													
(U)	Field Testing						X							
(U)	Production Decision						X							
(U)	IOC							X						
(U)	ATES/JTE Development													
(U)	Development Contract Award							X						
(U)	Joint Service Range Software Interoperability													
(U)	Surface Instrumentation Subsystem Software Support Activities					*								
(U)	Tactical Airborne Subsystem Software Support Activities (On-going)					*								
(U)	Weapon Sims Integration into Cntrl & Computation Sys (CCS)					*								
	Baseline													
(U)	P4RC Plus Development													
(U)	Contract Award									X				
(U)	AIRCRAFT INTEGRATION EFFORT													
(U)	F-15 C/D Suite 4 Software Upgrade							X						
(U)	F-15E Suite 4+ Software Upgrade									X				
(U)	F-15 C/D Suite 5 Software Upgrade									X				
(U)	Begin F-16 M2.3+, M3.3+ Software Upgrade (On-going Process thru						X							
	FY03													
(U)	Begin Pod to Aircraft Software Development (On-going Process)					*								
(U)	* = Completed event													
(U)	X = Planned event													
Р	Project 2286	Pag	e 5 of 7 Pa	iges						Exhibit	R-2 (PI	E 06047	35F)_	

	RDT&E PROGRA	AM ELEI	MENT/PF	ROJECT CO	OST BF	REAKDOV	WN (R-3)		DATE <b>F</b>	ebruary 2	002
	ET ACTIVITY  Engineering and Manu		ER AND TITLE	at Training	g Ranges	•		PROJECT <b>2286</b>			
(U)	A. Project Cost Breakdown (\$	in Thousand	(s)								
(0)	THE TOJECT COST BICARROWN (\$\pi\$	III I II O G G G II G	<u>)</u>				FY 2	<u> 2001</u>	FY 20	002	FY 2003
(U)	Aircraft Interface Development							778	3,7	38	1,768
(U)	Mini-Mutes Modification Progra	am (M3P)					6,	749		0	0
(U)	ATES/JTE System Developmen	nt						0	10,5	56	4,757
(U)	Joint Service Interoperability Im-	nprovements						292	3,7	00	2,543
(U)	Range Instrumentation Technica	al Support (RI	TS)					145	14	45	145
(U)	Combat Training Ranges Progra	ım Office Sup	port					903	3,9	75	3,725
(U)	Aerial Target Program Office Su	upport						150	19	90	191
(U)	NACTS Range Security Initiativ	ve (RSI) Deve	elopment					551	3,3	82	0
(U)	P4RC Plus Development							0		0	395
(U)	Total						9,	568	25,6	86	13,524
( <b>U</b> )	B. Budget Acquisition History	and Planning	g Information	ı (\$ in Thousand	<u>s)</u>						
( <b>U</b> )	Performing Organizations:										
	Contractor or C	Contract									
	Government <u>M</u>	Method/Type	Award or	Performing	<b>Project</b>						
	<u>Performing</u> o	r Funding	<b>Obligation</b>	<u>Activity</u>	Office Property of the Contract of the Contrac	<b>Total Prior</b>	<b>Budget</b>	<b>Budget</b>	<u>Budget</u>	Budget to	<u>Total</u>
	<u>Activity</u> <u>V</u>	<u>ehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	to FY 2001	FY 2001	FY 2002	FY 2003	Complete	<u>Progran</u>
	Product Development Organizat	<u>ions</u>									
	,	C/CPAF/FFP	Mar 95			31,149	551	3,382	0	0	35,082
	•	Navy Contr	Mar 95			2,500	0	0	0	0	2,500
	1 ' '	CPAF	Oct 00			2,385	145	145	145	Continuing	TBD
	,	BD	2nd Qtr 03			0	0	0	395	Continuing	TBD
	1 \ /	CPFF	May 98			380	6,649	0	0	0	7,029
	• • • • • • • • • • • • • • • • • • • •	CPAF	2nd Qtr 02			0	0	10,346	4,757	Continuing	TBD
	- ·	Navy Contract				3,429	292	3,700	2,543	Continuing	TBD
		Through MOAs with	Jun 96			1,035	778	3,738	1,768	Continuing	TBD
P	roject 2286			Pag	e 6 of 7 Pag	es			Exhil	oit R-3 (PE 0	604735F)

	RDT&E PROG	RAM ELE	MENT/P	ROJEC	COST BRE	AKDO\	WN (R-3)		DATE <b>F</b>	ebruary 20	002
BUDGET ACTIVITY  05 - Engineering and Manufacturing Development					PE NUMBER A		at Training	g Ranges			PROJECT <b>2286</b>
(U)	Performing Organizations Organizations Organizations Organizations Organizations Organizations Organizations Organizations Organization Organizations Organizations Organizations Organizations Organizations Organizations Organization Organi	ALCs & Aircraft SPO Contractors canizations Various Various Various Various Various Various Various Various Various				0 8,576 0 113 1,405 640	100 903 150 0	210 3,975 190 0	286 3,439 191 0	Continuing Continuing Continuing 0 Continuing Continuing	TBD TBD TBD 113 TBD TBD
(U)	Item Description Product Development Properts Support and Management Pro Test and Evaluation Property Subtotals Subtotal Product Development Subtotal Support and Manage Subtotal Test and Evaluation Total Project	Contract Method/Type or Funding Vehicle y perty	Award or Obligation Date	Delivery Date	to T	otal Prior FY 2001 otal Prior FY 2001 40,878 8,689 2,045 51,612	Budget FY 2001 Budget FY 2001 8,415 1,153 0 9,568	Budget FY 2002 Budget FY 2002 21,311 4,375 0 25,686	Budget FY 2003 Budget FY 2003 9,608 3,916 0 13,524	Budget to Complete  Budget to Complete TBD TBD TBD TBD	Total Program  Total Program TBD TBD TBD TBD
F	Project 2286				Page 7 of 7 Pages				Exhib	oit R-3 (PE 06	604735F)