DEPARTMENT OF THE AIR FORCE

JUSTIFICATION OF AMENDED FISCAL YEARS 1988/1989 BIENNIAL BUDGET ESTIMATES SUBMITTED TO CONGRESS FEBRUARY 1988

Aircraft Procurement, Air Force

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AIRCRAFT PROCUREMENT, AIR FORCE

For construction, procurement, and modification of aircraft and equipment, including armor and armament, specialized ground handling equipment and training devices, spares parts, and accessories therfor; specialized equipment; expansion of public and private plants, Government-owned equipment and installation therefor in such plants, erection of structures, and acquisition of land, for the foregoing purposes, and such lands and interests therein, may be acquired and construction prosecuted thereon prior to the approval of title; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the purposes including rents and transportation of things, $16,630,000,000, to remain available for obligation (JO U.S.C. 2271-79, 2353, 2386, 2663, 2672, 2672a, 8013, 8062, 9501-02, 9532, 9741-42; 500 U.S.C. 451, 453, 455; Department of Defense Appropriation Act, 1988; additional authorizing legislation to be proposed).

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Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) SUMMARY

Identification code 57-3010-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
	1987 actual	1988 est.	1989 est.	1987 actual	1988 est.	1989 est.
Program by activities:						
Direct program:						
00.0101 Combat aircraft	5,037,343	4,450,968	8,649,152	6,052,960	5,454,894	7,409,868
00.0201 Airlift aircraft	1,659,891	655,300	1,003,978	1,715,963	555,319	825,954
00.0301 Trainer aircraft			9,563	5,866		7,048
00.0401 Other aircraft	90,135	12,200	63,897	180,249	152,387	83,253
00.0501 Modification of inservice aircraft	3,052,053	1,942,127	2,078,401	2,967,139	2,462,450	2,562,391
00.0601 Aircraft spares and repair parts	2,902,566	2,375,687	3,138,491	3,858,425	2,198,047	2,920,497
00.0701 Aircraft support equipment and facilities	3,908,402	3,492,777	1,686,518	2,960,368	3,654,721	2,848,632
00.9101 Total direct program	16,650,390	12,929,059	16,630,000	17,740,962	14,497,628	16,657,643
01.0101 Reimbursable program	198,328	181,000	181,000	140,200	438,059	181,000
10.0001 Total	16,848,718	13,110,059	16,811,000	17,881,162	14,935,687	16,838,643
Financing:						
Offsetting collections from:						
11.0001 Federal funds(-)	-64,226	-57,920	-57,920	-54,226	-57,920	-57,920
13.0001 Trust funds(-)	-134,068	-121,270	-121,270	-121,762	-121,270	-121,270
14.0001 Non-Federal sources(-)	-34	-1,810	-1,810	-39	-1,810	-1,810
17.0001 Recovery of prior year obligations				-1,258,566		
Unobligated balance available, start of year:						
21.4002 For completion of prior year budget plans				-8,997,935	-7,857,629	-6,102,810
21.4003 Available to finance new budget plans	-1,356,242	-989,422		-1,356,242	-989,422	
21.4007 Reprogramming from/to prior year budget pla	-1,344,126	71,109				
22.4001 Unobligated balance transferred to other acc	908,078	-19,808		908,078	-19,808	
Unobligated balance available, end of year:						
24.4002 For completion of prior year budget plans				7,857,629	6,102,810	6,075,167
24.4003 Available to finance subsequent year budge	989,422			989,422		
25.0001 Unobligated balance lapsing	275,559			275,559		
39.0001 Budget authority	16,123,081	11,990,938	16,630,000	16,123,081	11,990,938	16,630,000
Budget authority						
40.0001 Appropriation	17,253,281	12,956,827	16,630,000	17,253,281	12,956,827	16,630,000
40.0017 Appropriation rescinded	-1,132,800	-938,121		-1,132,800	-938,121	
41.0001 Transferred to other accounts(-)	-1,400	-29,180		-1,400	-29,180	
42.0001 Transferred from other accounts	4,000	1,412		4,000	1,412	
43.0001 Appropriation (adjusted)	16,123,081	11,990,938	16,630,000	16,123,081	11,990,938	16,630,000

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) SUMMARY

Identification code 57-3010-0-1-051

		1987 actual	1988 est.	1989 est
	Relation of obligations to outlays:			
71.0001	Obligations incurred, net	17,705,136	14,754,987	16,657,643
72.4001	Obligated balance, start of year	32,556,879	29,031,477	26,609,964
74.4001	Obligated balance, end of year	-29,031,477	-26,609,964	-27,177,507
77.0001	Adjustments in expired accounts	64,164		
78.0001	Adjustments in unexpired accounts	-1,258,566		
90.0001	Outlays	20,036,136	[illegible],176,500	16,090,100

Aircraft Procurement, Air Force
Object Classification (in Thousands of dollars) SUMMARY

Identification code 57-3010-0-1-051

		1987 actual	1988 est.	1989 est.
	Direct obligations:			
131.001	Equipment	17,740,962	14,497,623	16,657,643
199.001	Total Direct obligations	17,740,962	14,497,623	16,657,643
	Reimbursable obligations:			
231.001	Equipment	140,200	438,364	181,000
299.001	Total Reimbursable obligations	140,200	438,364	181,000
999.901	Total obligations	17,881,162	14,935,987	16,838,643

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1983

Identification code 57-3010-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
	1987 actual	1988 est.	1989 est.	1987 actual	1988 est.	1989 est.
Financing:						
17.0001 Recovery of prior year obligations				-306,765		
Unobligated balance available, start of year:						
21.4007 Reprograming from/to prior year budget pla	-306,765					
22.4001 Unobligated balance transferred to other acc	306,765			306,765		
39.0001 Budget authority						

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1989

Identification code 57-3010-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
	1987 actual	1988 est.	1989 est.	1987 actual	1988 est.	1989 est.
Program by activities:						
Direct program:						
00.0101 Combat aircraft				1,358,413		
00.0201 Airlift aircraft				54,910		
00.0301 Trainer aircraft				5,747		
00.0401 Other aircraft				25,100		
00.0501 Modification of inservice aircraft				694,087		
00.0601 Aircraft spares and repair parts				729,627		
00.0701 Aircraft support equipment and facilities				495,025		
00.9101 Total direct program				3,362,909		
01.0101 Reimbursable program				41,193		
10.0001 Total				3,404,102		
Financing:						
Offsetting collections from:						
11.0001 Federal funds(-)				-978		
13.0001 Trust funds(-)				-13,610		
14.0001 Non-Federal sources(-)				-4		
17.0001 Recovery of prior year obligations				-597,319		
Unobligated balance available, start of year:						
21.4002 For completion of prior year budget plans				-3,474,798		
21.4003 Available to finance new budget plans	-657,485			-657,485		
21.4007 Reprograming from/to prior year budget pla	-653,430					
22.4001 Unobligated balance transferred to other acc	522,056			522,056		
25.0001 Unobligated balance lapsing	275,559			275,559		
40.0017 Budget authority (Appropriation rescinded)	-513,300			-513,300		

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1988

Identification code 57-3010-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
	1987 actual	1988 est.	1989 est.	1987 actual	1988 est.	1989 est.
Program by activities:						
Direct program:						
00.0101 Combat aircraft				1,388,971	692,837	
00.0201 Airlift aircraft				4,311	69,627	
00.0301 Trainer aircraft				[illegible]		
00.0401 Other aircraft				118,639	124,331	
00.0501 Modification of inservice aircraft				528,240	519,233	
00.0601 Aircraft spares and repair parts				635,754	[illegible]	
00.0701 Aircraft support equipment and facilities				427,[illegible]	[illegible]	
00.9101 Total direct program				3,103,667	2,295,370	
01.0101 Reimbursable program				72,079	85,967	
10.0001 Total				3,175,746	2,381,337	
Financing:						
Offsetting collections from:						
11.0001 Federal funds(-)				9,023		
13.0001 Trust funds(-)				-1,304		
14.0001 Non-Federal sources(-)				-1		
17.0001 Recovery of prior year obligations				-354,482		
Unobligated balance available, start of year:						
21.4002 For completion of prior year budget plans				-5,523,137	-2,381,337	
21.4003 Available to finance new budget plans	-698,757	-312,822		-698,757	-312,822	
21.4007 Reprograming from/to prior year budget pla	-312,822					
22.4001 Unobligated balance transferred to other acc	79,257	34,301		79,257	34,301	
Unobligated balance available, end of year:						
24.4002 For completion of prior year budget plans				2,381,337		
24.4003 Available to finance subsequent year budge	312,822			312,822		
40.0017 Budget authority (Appropriation rescinded)	-619,500	-278,521		-619,500	-278,521	

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1987

Identification code 57-3010-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed) 1987 actual	1988 est.	1989 est.	UL Nations 1987 actua	1988 est.	1989 est.
Program by activities:						
Direct program:						
00.0101 Combat aircraft	5,037,343			3,305,576	1,264,498	447,269
00.0201 Airlift aircraft	1,659,891			1,656,741	3,149	
00.0401 Other aircraft	90,135			36,510	19,172	34,553
00.0501 Modification of inservice aircraft	3,052,053			1,744,812	531,944	774,297
00.0601 Aircraft spares and repair parts	2,907,566			2,493,044	116,757	292,765
00.0701 Aircraft support equipment and facilities	3,908,402			2,037,701	720,389	1,145,311
00.9101 Total direct program	16,650,390			11,274,386	2,654,269	2,694,195
01.0101 Reimbursable program	198,328			26,931	171,397	
10.0001 Total	16,848,718			11,301,317	2,654,266	2,694,195
Financing:						
Offsetting collections from:						
11.0001 Federal funds(-)	-64,226			-64,226		
13.0001 Trust funds(-)	-134,068			-134,068		
14.0001 Non-Federal sources(-)	-34			-34		
Unobligated balance available, start of year:						
21.4002 For completion of prior year budget plans					-5,476,292	-2,694,195
21.4003 Available to finance new budget plans		-676,600			-676,600	
21.4007 Reprograming from/to prior year budget pla	-71,109	71,109				
22.4001 Unobligated balance transferred to other acc		-54,109			-54,109	
Unobligated balance available, end of year:						
24.4002 For completion of prior year budget plans				5,476,292	2,694,195	
24.4003 Available to finance subsequent year budge	676,600			676,600		
39.0001 Budget authority	17,255,881	-659,600		17,255,881	-659,600	
Budget authority:						
40.0001 Appropriation	17,253,281			17,253,281		
40.0017 Appropriation rescinded		-659,600			-659,600	
41.0001 Transferred to other accounts(-)	-1,400			-1,400		
42.0001 Transferred from other accounts	4,000			4,000		
43.0001 Appropriation (adjusted)	17,255,881	-659,600		17,255,881	-659,600	

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1988

Identification code 57-3010-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
	1987 actual	1988 est.	1989 est.	1987 actua	1988 est.	1989 est.
Program by activities:						
Direct program:						
00.0101 Combat aircraft		4,450,968			3,277,559	586,727
00.0201 Airlift aircraft		655,300			482,543	86,382
00.0401 Other aircraft		12,200			8,984	1,608
00.0501 Modification of inservice aircraft		1,942,127			1,430,073	256,037
00.0601 Aircraft spares and repair parts		2,375,687			1,749,308	313,163
00.0701 Aircraft support equipment and facilities		3,492,777			2,571,977	460,391
00.9101 Total direct program		12,929,059			9,520,444	1,704,308
01.0101 Reimbursable program		181,000			181,000	
10.0001 Total		13,110,059			9,701,444	1,704,308
Financing:						
Offsetting collections from:						
11.0001 Federal funds(-)		-57,928			-57,928	
13.0001 Trust funds(-)		-121,270			-121,270	
14.0001 Non-Federal sources(-)		-1,810			-1,810	
Unobligated balance available, start of year:						
21.4002 For completion of prior year budget plans						-3,408,615
Unobligated balance available, end of year:						
24.4002 For completion of prior year budget plans					3,408,615	1,704,307
39.0001 Budget authority		12,929,059			12,929,059	
Budget authority:						
40.0001 Appropriation		12,956,827			12,956,827	
41.0001 Transferred to other accounts(-)		-29,180			-29,180	
42.0001 Transferred from other accounts		1,412			1,412	
43.0001 Appropriation (adjusted)		12,929,059			12,929,059	

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1989

Identification code 57-3010-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed) 1987 actual	1988 est.	1989 est.	Obligations 1987 actual	1988 est.	1989 est.
Program by activities:						
Direct program:						
00.0101 Combat aircraft			8,649,152			6,375,872
00.0201 Airlift aircraft			1,003,978			739,572
00.0301 Trainer aircraft			9,563			7,048
00.0401 Other aircraft			63,897			47,092
00.0501 Modification of inservice aircraft			2,078,401			1,532,057
00.0601 Aircraft spares and repair parts			3,138,491			2,314,569
00.0701 Aircraft support equipment and facilities			1,666,518			1,242,930
00.9101 Total direct program			16,630,000			12,259,140
01.0101 Reimbursable program			181,000			181,000
10.0001 Total			16,811,000			12,440,140
Financing:						
Offsetting collections from:						
11.0001 Federal funds(-)			-57,920			-57,920
13.0001 Trust funds(-)			-121,270			-121,270
14.0001 Non-Federal sources(-)			-1,810			-1,810
Unobligated balance available, end of year:						
24.4002 For completion of prior year budget plans						4,370,860
40.0001 Budget authority (Appropriation)			16,630,000			16,630,000

(In Thousands of Dollars)		
Program Amended Estimate	- FY 89 ...	$ 8,649,152
Program Change	- FY 89	+3,422,275
Program Initial Estimate	- FY 89 ...	5,226,877
Program Estimate	- FY 88 ...	4,450,968
Program Actual	- FY 87 ...	5,037,343

ACTIVITY: Combat Aircraft

PART I PURPOSE AND SCOPE

This activity provides for the procurement of new aircraft, associated flight simulation devices, and other peculiar training and support equipment for modernization of the U.S. combat forces and to improve the efficiency of training programs.

Combat aircraft are required to attain and maintain air superiority, interdict enemy supply lines, provide reconnaissance of enemy forces, and furnish close air support to ground forces. The aircraft can be used to counter a variety of threats and offer options of response ranging from the use of diversified conventional weapons through, in the case of U.S. forces, a variety of nuclear weapons.

The FY 1988 and FY 1989 programs include funds for the procurement of B-2, F-15, F-16, MC-130H, and AC-130U Gunship. The programs also include funds for procurement of flight simulators for F-15 and F-16 aircraft. The F-16 request is a multiyear procurement.

PART II JUSTIFICATION OF FUNDS REQUESTED

The FY 1988 and FY 1989 funding requirements for procurement of combat aircraft, related support items, and advance procurement in support of the following year's program are: FY 1988 - $4,451.0 million; FY 1989 - $8,649.2 million. Details are as follow:

F-15C/D/E (FY 1988 - 42 aircraft, $1,463.4 million; FY 1989 - 36 aircraft, $1,392.3 million):

The F-15 is a twin engine, single crew, fixed swept wing aircraft designed specifically for high maneuverability in air-to-air combat. Its two Pratt & Whitney F-100 turbofan engines are each capable of thrust in the 25,000 lb. class. The F-15 is able to reach a dash speed of Mach 2.5. It is equipped with a balanced mix of medium and short range missiles and a rapid firing 20mm cannon. The avionics system includes an advanced radar, a visual head-up display, and an automatic built-in test system. The F-15 has the maneuverability, armament, and fire control needed to surpass the expected capability of enemy aircraft in the 1980s. Avionics updates being incorporated under a multi-staged improvement program assure aircraft viability well into the 1990s. The F-15E will be a high performance, highly maneuverable fighter equipped with a mix of air-to-air and air-to-surface weapons. The F-15E configuration is under development & test and will include a two man crew with redesigned cockpits, Low Altitude Navigation, Targeting, and Infrared for Night (LANTIRN) capability, automatic terrain following/terrain avoidance (auto TF/TA), and other air-to-ground improvements.

F-16C/D (FY 1988 - 180 aircraft, $2,624.6 million; FY 1989 - 180 aircraft, $3,441.8 million):

The F-16 Multimission Fighter is a single seat, fixed wing, high performance, single engine fighter aircraft. The design optimized for the .8 Mach to 1.6 Mach speed range, incorporates advanced technology features to enhance its combat capability while minimizing its acquisition, operating and support costs. The advanced technology features include a blended wing-body and a fly-by-wire flight control system. The design also includes a high visibility, high "g" cockpit. The F-16 armament consists of a 20mm cannon, AIM-9L heat seeking air-to-air missiles, and approximately 11,000 pounds of conventional and guided air-to-surface ordinance. The F-16 is replacing F-4s in the active inventory, as well as, modernizing the reserve forces. The FY 1989 request includes economic order quantity funding to commence the third multi-year procurement of F-16 aircraft.

MC-130 (FY 1988 - 7 aircraft, $344.8 million; FY 1989 - 4 aircraft, $209.5 million):

This aircraft is a medium size tactical transport powered by four T-56-A-15 turboprop engines. It has a ferry range of approximately 4,200NM; a service ceiling of 35,000 feet, and a cruise speed of 290 knots. Its cargo compartment length, width and height are 41, 10, and 9 feet, respectively, and can carry a payload of 25,000 pounds. The normal crew of seven consists of a pilot, a copilot, flight engineer, one navigator, electronic warfare officer, and two loadmasters. Aircraft features include an integral ramp and cargo door, a pressurized crew and cargo compartment, ground and in-flight air conditioning, thermal de-icing system, single-point refueling, and auto pilot. Additional features of this specially modified C-130 are precision navigation with an infrared detection system, terrain following/terrain aviodance radar, electronic counter measures (ECM) subsystems and in-flight refueling.

AC-130U (FY 1989 - 6 aircraft, $317.8 million):

The basic aircraft is a C-130H powered by four T-56-A-15 turboprop engines. The new AC-130U aircraft will have an enhanced capability, improved reliability, and maintainability, more survivability than the existing AC-130H aircraft and be more deployable than the older AC-130A gunships. The new aircraft subsystems will include precision navigation, target acquisition radar, fire control computers integrated on the 1553B data base, electronic countermeasures, infrared countermeasures, aerial refueling, covert lighting, trainable weapons, and secure communications systems. These subsystems will provide the Gunship the capability to strike targets with surgical accuracy, to loiter safely in the target area for extended time periods, and to perform these tasks in night adverse weather conditions. Where practical every effort will be made to adapt off-the-shelf equipment, and to the maximum extent, these subsystems will be common with systems on other Air Force SOF aircraft.

(In Thousands of Dollars)	
Program Amended Estimate - FY 89 ...	$1,003,978
Program Change - FY 89	-61,122
Program Initial Estimate - FY 89	1,065,100
Program Estimate - FY 88 ...	655,300
Program Actual - FY 87 ...	1,659,891

ACTIVITY: Airlift Aircraft

PART I PURPOSE AND SCOPE

This activity provides for the procurement of new aircraft and support items to continue improvement of the U.S. airlift forces. The FY 1988 and FY 1989 programs include funds for the procurement of C-17 aircraft.

PART II JUSTIFICATION OF FUNDS REQUESTED

The FY 1988 and FY 1989 fund requirements for procurement of airlift aircraft, related support items, and advance procurement funding in support of the following year's program are: FY 1988 - $655.3 million; FY 1989 - $1,004.0 million. Details are as follow:

C-17 (FY 1988 - 2 aircraft, $655.3 million; FY 1989 - 4 aircraft, $1,004.0 million):

The C-17A will be a multi-engine turbo fan wide body aircraft capable of airlifting a substantial payload over intercontinental ranges without refueling and will be specifically designed to move outsize combat equipment/cargo into and within an austere airfield environment The C-17 will be capable of performing the full spectrum of airlift missions and is specifically designed to effectively and efficiently operate in both the inter and intratheater environments. The aircraft will be equipped with receiver inflight refueling capability to increase its range/payload capability. Configuration variations will permit the aircraft to air deliver a variety of outsize/oversize combat/support equipment. An important aircraft characteristic is the flexibility to perform either the airland or airdrop/extraction mission. The C-17A design will employ existing technology, i.e., FAA certified commercial engines and current civil/military avionics, to the maximum extent possible.

(In Thousands of Dollars)		
Program Amended Estimate	- FY 89 ...	$ 9,563
Program Change	- FY 89	+9,563
Program Estimate	- FY 89 ...	0
Program Estimate	- FY 88 ...	0
Program Actual	- FY 87 ...	0

ACTIVITY: Trainer Aircraft

PART I PURPOSE AND SCOPE

This activity provides for the procurement of new aircraft, associated flight simulation devices, and support equipment required for flight training.

PART II JUSTIFICATION OF FUNDS REQUESTED

TTTS (FY 1989 - 1 Aircraft, $9.6 million):

The Tanker Transport Training System (TTTS) is required to implement Specialized Undergraduate Pilot Training (SUPT) in Air Training Command. The TTTS will include commercially available jet aircraft which will accommodate an instructor and two students. Under SUPT, students will enter the Tanker-Transport (TT) track or the Bomber-Fighter (BF) track after 85 hours in the T-37 aircraft. The T-38 will be used in the BF track. The TT syllabus will include training in high and low altitude instrument approaches, crew coordination, asymmetric thrust situations, low-level navigation, airdrop fundamentals, airborne rendezvous, and cell formation. This program also provides procurement of Operation Flight Trainers (OFT) and other required training devices.

(In Thousands of Dollars)		
Program Amended Estimate	- FY 89	$63 897
Program Change	- FY 89	+50,797
Program Initial Estimate	- FY 89	13,100
Program Estimate	- FY 88	12,200
Program Actual	- FY 87	90,135

ACTIVITY: Other Aircraft

PART I PURPOSE AND SCOPE

This activity provides for the procurement of TR-1/U-2R sensors and BW equipment and Civil Air Patrol aircraft in FY 1988 and FY 1989.

PART II JUSTIFICATION OF FUNDS REQUESTED

The FY 1988 and FY 1989 fund requirements for procurement of other aircraft equipment, related support equipment, and advance procurement funding in support of the following year's program are: FY 1988 - $12.2 million; FY 1989 - $63.9 million. Details are as follows:

TR-1/U-2R (FY 1988 - $10.7 million; FY 1989 - $12.7 million):

The TR-1/U-2 is a single engine, single crew, fixed wing aircraft specifically designed for high altitude, standoff surveillance missions. Except for three dual-seat training aircraft, all TR-1 aircraft can be equipped with a reconnaissance sensor package. The TR-1 is the tactical variant of the highly reliable, versatile U-2R aircraft currently in the strategic reconnaissance inventory. The tactical reconnaissance TR-1, equipped with the latest sensors, will provide a battlefield surveillance system available to the theater/tactical commander into the 1990s. The U-2R is a national reconnaissance asset used in direct support of national command authorities and/or in direct support of theater commanders. Pratt & Whitney modified J75 engines, available from within the Air Force inventory, provide high maneuverability, and sufficient power for accessory/sensor operations. The FY 1988 and FY 1989 programs will fund the procurement of sensors and BW equipment.

Civil Air Patrol Aircraft (FY 1988 - 38 aircraft, $1.5 million; FY 1989 - 38 aircraft, $.5 million):

These funds will be used to procure commercial new or used propeller driven aircraft used by the Civil Air Patrol (CAP). CAP is a private, nonprofit corporation which also functions as an official civilian auxiliary of the Air Force. CAP's best known Air Force mission is search & rescue.

MH-60G (FY 1989 - 6 Aircraft, $50.7 million):

The MH-60G is a substantially upgraded UH-60A designed to meet a variety of Air Force mission requirements. To upgrade combat mission capability, flexibility, and survivability, the MH-60G will receive extended range, precision low-level tactical navigation, and improved communication and weapon systems. The MH-60G is capable of a wide range of mission tasking in day and night Visual Meteorological Conditions (VMC) including marginal weather operations. The MH-60G is not capable of operations in adverse weather conditions.

PROGRAM: Modification of In-Service Aircraft

	($ in Thousands)
FY 1989 Amended Estimate:	$2,078,401
FY 1989 Change :	-392,210
FY 1989 Initial Estimate:	$2,470,611
FY 1988 Estimate :	$1,942,127
FY 1987 Actual :	$3,052,053

PART I: PURPOSE AND SCOPE

This budget activity provides for modification and modernization of in-service aircraft, training devices and support equipment necessary for safety, extension of service life, and to incorporate operational improvements after an aircraft has entered service. The program is designed to maintain the Air Force aircraft inventory at the most modern configuration level at the minimum cost.

PART II: JUSTIFICATION OF FUNDS REQUEST

Modifications are necessary to enable the strategic offense, defense, tactical, and support forces to maintain superiority over hostile forces, to extend the active service life of aircraft, and to keep abreast of changing mission requirements. To ensure maximum safety for the aircraft and crews and to enhance capabilities of aircraft in a combat environment, priority modifications are necessary. Modifications are closely examined and priorities established so that only those most essential are accomplished with the limited funds available.

The FY 1989 program, to a large extent, consists of follow-on requirements for previously initiated modifications. There is also a significant effort included to improve aircraft survivability in a hostile environment by upgrading the electronic defensive capabilities on various aircraft. Funding is also requested to continue enhancement of peacetime readiness of an aging aircraft inventory. Significant efforts include:

(1) Modifications to provide NAVSTAR Global Positioning System (GPS) capability will begin on the F-16 and C-130.

(2) Autopilot and radar improvements to the C-130 and C-141 include Ground Collision Avoidance capabilities.

(3) Enhancements to Special Operations Forces (SOF) aircraft.

(4) Avionics Modernization Program for F/FB-111 aircraft to upgrade the bomb navigation system to improve operational readiness by replacing high failure, high cost, and technologically outdated components.

(5) Re-engining additional KC-135 tankers to reduce the airborne refueling shortfall.

Aircraft modification kits are procured on a phased basis, lead time away from installation which is scheduled concurrently with normal depot maintenance programs to the maximum extent possible. Complex modifications are installed at Air Force depots or contractor facilities. Where the installation tasks are less complex or require a relatively small number of man-hours, they are accomplished in the field by assigned personnel or specialized teams dispatched from the depot or provided by contractors.

All known Engineering Change Proposals (ECPs) not yet on contract are reflected on the ECO line on all modifications. Changes already on contract are included in the applicable line items (Group A, Group B, support equipment, etc).

The Air Force has aggressively pursued the use of existing modern hardware to upgrade aging aircraft components and competitive procurement for modification hardware to control costs and maximize the benefits from the resources provided for modifications. While much of this effort has resulted in slower obligations than expected, it has provided firm priced contracts at more attractive prices. The Air Force remains committed to using the pressure of the competitive marketplace to control costs.

B-1B (FY 1988 - $14.5 million; FY 1989 - $26.5 million). The FY 1988 program continues funding to incorporate modifications to make early aircraft common with later production aircraft, as well as funding to incorporate protection for vital systems based on lessons learned from the crash attributed to birdstrike.

The FY 1989 program continues the VLF/LF Miniature Receive Terminals and modifications to bring all aircraft to a common configuration.

B-52 (FY 1988 - $240.0 million; FY 1989 - $215.9 million). The FY 1989 program includes continuation of modifications for the ALQ-172 electronic countermeasures equipment for the B-52H, integration of internal Air Launched Cruise Missile Carriage capability and NAVSTAR Global Positioning System. FY 1989 also starts the Very Low Frequency/Low Frequency (VLF/LF) Miniature Receive Terminals and Have Nap modifications. Have Nap is a strategic conventional standoff precision guided weapon system against point targets.

FB-111 (FY 1988 - $2.1 million; FY 1989 - 0). The FY 1988 program continues modifications to electronic countermeasures dispenser systems.

A-7 (FY 1988 - $10.7 million; FY 1989 - $25.2 million). FY 1988 funding provides funding for the VINSON capability for the A-7. It also includes $10.0 million of congressionally added funds for procurement of data for the A-7 Plus program. FY 1989 funding continues the Inertial Navigation System (INS) program and starts a safety modification for the bird resistant windscreen.

A-10 (FY 1988 - $12.2 million; FY 1989 - $22.9 million). The FY 1988 program includes a safety modification for Fuel Foam to reduce electrostatic arcing and possible fuel fire and finishes the AIM-9L modification started in FY 1985. FY 1989 resumes the Low Altitude Safety and Targeting Enhancement modification which is a combination of the ground collision avoidance system and two target enhancement capabilities.

F/RF-4 (FY 1988 - $10.4 million; FY 1989 - $18.0 million). The FY 1988 program continues funding for various safety, reliability and supportability improvements. The FY 1989 program continues existing safety and reliability modifications and initiates the ALE-40 countermeasures dispenser modification on the RF-4C.

F-5 (FY 1988 - $4.0 million; FY 1989 - $.2 million). The FY 1988 program adds a new modification to equip the F-5E with airborne radar electronic counter countermeasures. The FY 1989 program provides for safety improvements.

F-15 (FY 1988 - $123.5 million; FY 1989 - $191.6 million). The FY 1988 program continues the Multi-Stage Improvement Program to the F-15C/Ds to provide continued combat effectiveness; the Joint Tactical Information Distribution System (JTIDS); and various safety, reliability and maintainability improvements. The latter includes improvements to the Radar Receiver System, Electric Lighting and Circuitry Safety, Wing Fuel Transfer Pump and various modifications that are also being incorporated into the production line F-15E aircraft. An AN/ALE-45 Chaff and Flare mod to the F-15A/Bs is included in the FY 1988 program.

The FY 1989 program continues the Multi-Stage Improvement Program and the various reliability improvement modifications. Funds also are provided for Class IV new start modifications for the High Pressure Water Separator, Radar Antenna improvements and Landing Gear system improvements.

F-16 (FY 1988 - $76.3 million; FY 1989 - $84.6 million). FY 1988 continues the modification for the Operational Capability Upgrade of the aircraft to be assigned to the Air Defense role and continues several reliability, maintainability and update modifications to both the aircraft and engine. The NAVSTAR Global Positioning System modification will be initiated which will significantly enhance F-16 weapons delivery and navigation accuracy while providing a second navigation source. One safety modification will also be initiated.

The FY 1989 program completes the Operational Capability Upgrade (OCU) modification, continues the GPS modification, initiates the Airborne Self-Protection Jammer (ASPJ) to provide the F-16 an electronic countermeasures capability and initiates the retrofit of the present F-16 Radar Threat Warning Receiver set. FY 1989 also initiates five reliability/supportability modifications.

F-111 (FY 1988 - $253.1 million; FY 1989 - $124.3 million). The FY 1988 program includes follow-on modifications for the Avionics Modernization Program (AMP), continuation of a simulator upgrade program for the currently nonsupportable F/FB-111 system. The program continues two modifications, Countermeasures Dispenser and NAVSTAR started in FY 1986. The FY 1989 program initiates reliability/supportability improvements, as well as continuing the modification for AMP and transfer of the FB-111 to a tactical role.

TR-1 (FY 1988 - $9.9 million; FY 1989 - $20.3 million). The FY 1988 program continues the modification for aircraft weight reduction, the NAVSTAR Global Positioning System improved sensor system called Senior Glass, airborne recorders and avionics update.

The FY 1989 program continues all on-going modification programs and provides funds to start a new Defensive System modification.

C-5 (FY 1988 - $16.9 million; FY 1989 - $105.8 million). The FY 1988 funding continues efforts on reliability improvements for the C-5A Main Landing Gear (MLG) Door Actuation System and the Malfunction Detection, Analysis and Recording System (MADARS).

FY 1989 continues funding for the MLG Door, MADARS and the Expanded Fan Speed Indicator for the engine and completes the C-5 Military Airlift Command (MAC) "C" cubed SATCOM Antenna modification. The FY 1989 program initiates reliability and maintainability modifications for both the engine and aircraft and modifications to provide commonality with the C-5B. The Automatic Communications Processor improvement also will be started.

C-141 (FY 1988 - $.9 million; FY 1989 - $26.8 million). In the FY 1988 program, three enhanced reliability/maintainability modifications are continued.

FY 1989 program initiates the Auto Comm Processor modification and a reliability/maintainability improvement to the All Weather Landing System/Auto Pilot. This mod will update the C-141 Ground Collision Avoidance System (GCAS).

SOF C-141 (FY 1988 - $16.2 million; FY 1989 - $20.7 million). This new funding line provides funds required to support C-141 Special Operation low level modification.

T-38 (FY 1988 - $16.6 million; FY 1989 - $19.8 million). In FY 1988 funding will continue for the Aluminum Flight Control System, Dorsal Longeron Replacement and begin an improvement on the flight simulator.

The FY 1989 funding continues a series of structural modifications to ensure the service life of the T-38 beyond the 1990s. These include modifications for a Very High Frequency Omni-directional Range/Instrument Landing System Replacement, Improved Brakes, Dorsal Longeron and Aluminum Flight Controls.

C-130 (FY 1988 - $96.5 million; Y 1989 - $123.1 million). The FY 1988 program continues a Self-Contained Navigation System (SCNS) to allow the C-130 to operate without external navigation aids in battle zones where navigation aids may be shut down or jammed and the conversion of the T56-A9 Engine Torquemeter to reduce vibration and wear. FY 1988 new start modifications include the replacement of Airborne Battlefield Command. Control and Communications (ABCCC) Capsules because the existing ones are beyond economical repair and behind state of the art and APQ-150 Radar Replacement.

FY 1989 funds continue existing modifications and initiate programs to provide NAVSTAR Global Positioning System; Microwave Landing System; New Airborne Command, Control and Communications Capsules; New Life History Recorder; a replacement for the APQ-122 Radar; and starts Auto Comm Processor and a reliability improvement on the Circuit Temperature Datum Control. FY 1989 also starts four needed engine and fuel system improvements as well as beginning a modification to replace the autopilot system and incorporate a Ground Collision Avoidance System capability on all C-130s.

SOF C-130 (FY 1988 - $121.0 million; FY 1989 - $106.8 million). This new funding line provides funds required to support eight C-130 Special Operation Forces modifications.

C-135 (FY 1988 - $749.4 million; FY 1989 - $604.3 million). Funding in FY 1988 is for continuation of the re-engining of the KC-135 tanker aircraft with CFM-56 engines. This program includes modification to over 25 subsystems necessary to incorporate the new engine. It provides an increase of off-load capability equivalent of one and one-half times the current KC-135A configuration. Other modification programs being continued are: Nuclear Hardening/UHF Radio Replacement for EC-135 series, replacement of the lower wing skin to extend service life, incorporation of ICBM Airborne Launch Control Capability into EC-135 A/C/B aircraft, and the Worldwide Airborne Command Post (WWABNCP) Interim Minimum Essential Emergency Communication Network Message Processing Mode capability.

The FY 1989 program continues existing modifications.

C-137 (FY 1988 - $1.8 million; FY 1989 - $2.0 million). The FY 1988 funds Federal Aviation Administration (FAA) directed service bulletins that are issued against all C-137 type commercial and military aircraft, as well as a safety modification to update the Flight Data Recorders.

FY 1989 funds service bulletins and miscellaneous reliability and maintainability modifications.

C-9 (FY 1988 - $.2 million; FY 1989 - $8.4 million). FY 1988 program funds Federal Aviation Administration directed service bulletins. FY 1989 program initiates funding for number of communication/avionics upgrades which replace old unsupportable technology and improve reliability/maintainability. It also includes funds for Federal Aviation Administration directed changes.

E-3 (FY 1988 - $27.7 million; FY 1989 - $16.4 million). The FY 1988 program includes HAVE QUICK A-NETS for an improved Anti-Jam communications capability, provides the E-3 surveillance operators a real time indication of radar range, and several reliability modifications.

The FY 1989 program continues modifications initiated in previous fiscal years.

E-4 (FY 1988 - 0; FY 1989 - $49.9 million). The FY 1989 program funds the MILSTAR UHF transition equipment, WWABNCP ADP, Nuclear Detection System and the Auto Comm Processor.

H-1 (FY 1988 - $1.7 million; FY 1989 - $.4 million). The FY 1988 program includes fuel system improvements, a real time indication of radar range and several reliability improvements.

The FY 1989 program continues modifications initiated in previous fiscal years.

H-53 (FY 1988 - $.4 million; FY 1989 - $30.3 million). FY 1988 program is for miscellaneous reliability/maintainability improvements. FY 1989 program continues Service Life Extension Program (SLEP) and begins three reliability/maintainability improvements.

SOF H-53 (FY 1988 - 0; FY 1989 - $8.5 million). This new funding line funds data required to support MH-53 Pave Low III Special Operation Forces modification added in the FY 1986 and FY 1987 budgets.

Other Aircraft (FY 1988 - $52.1 million, FY 1989 - $80.4 million). In FY 1988 funds are required for follow-on costs of previously initiated modifications as follows: HAVE Quick New Control Head; improvement of the reliability of the TTU-205 Field Test Set for pressure and temperature, used for testing all first line aircraft prior to take-off; reliability improvement to the AAQ-10 system to enhance reliability on this Special Operations Forces system; and replacement of HF radios with highly reliable state-of-the-art radios.

The FY 1989 program continues modifications started in previous fiscal years and initiates ten new efforts which include: MILSTAR EHF Force Element Upgrade; HAVE QUICK II Faster Hopping and Increased Power; ALQ-155 Reliability/Maintainability deficiency corrections; ALE-40 deficiencies; and support equipment upgrades.

A/T-37 (FY 1988 - $12.4 million; FY 1989 - $12.9 million). FY 1988 initiates the structural life extension program to ensure the service life of the T-37 and preclude flight safety structural problems after 1991. FY 1989 initiates a critical simulator computer replacement for reliability and supportability improvements.

T-43 (FY 1988 - $.4 million; FY 1989 - $4.9 million). FY 1988 funds Federal Aviation Administration (FAA) directed service bulletins that are issued against all B-737 commercial and military (T-43) aircraft.

FY 1989 funds FAA directed service bulletins and replaces the computer in the Navigation Trainer.

Classified Projects (FY 1988 - $46.3 million; FY 1989 - $83.3 million). These funds are required for the modification of a variety of aircraft and airborne systems used in classified missions which, because of their sensitivity, require the application of special management and security safeguards.

SOF CLASS (FY 1988 - $11.5 million; FY 1989 - $18.0 million). This new funding line provides funds required to support Classified Special Operation Forces modifications.

The following table summarizes funds requirements for Fiscal Years 1986, 1987, 1988 and 1989 by aircraft/category:

MODIFICATION OF IN-SERVICE AIRCRAFT
($ IN MILLIONS)

Aircraft/Category	FY 1986	FY 1987	FY 1988	FY 1989
B-1	$ 29.1	$ 88.0	$ 14.5	$ 26.5
B-52	395.3	390.7	240.0	215.9
FB-111	7.6	3.9	2.1	0
A-7	58.0	14.1	10.7	25.2
A-10	54.3	65.5	12.2	22.9
F/RF-4	168.1	117.9	10.4	18.0
F-5	24.5	2.2	4.0	.2
F-15	125.9	221.7	123.5	191.6
F-16	42.8	87.1	76.3	84.6
F-111	289.6	275.2	253.1	124.3

C-5	8.9	48.4	16.9	105.8
C-141	1.4	9.5	.9	26.8
SOF141	0	0	16.2	20.7
T-38	16.7	27.7	16.6	19.8
C-130	156.9	176.1	96.5	123.1
SOF130	0	0	121.0	106.8
C-135	805.4	956.6	749.4	604.3
C-137	0	3.9	1.8	2.0
C-9	0	.2	.2	8.4
C-12	2.5	0	0	0
E-3	11.6	33.9	27.7	16.4
E-4	16.6	.3	0	49.9
H-1	0	5.2	1.7	.4
H-3	0	0	.2	0
H-53	74.5	248.6	.1	30.3
SOFH53	0	0	0	8.5
KC-10	2.0	5.5	13.2	26.2
A/T-37	0	0	12.4	12.9
T-43	0	.4	.4	4.9

TR-1	8.7	12.6	9.9	20.3
OTHER	97.5	159.8	52.1	80.4
SOFOTH	0	6.9	0	0
CLASSIFIED	112.3	89.9	46.3	83.3
SOFCLASS	0	.2	11.5	18.0
CRAF	143.6	0	0	0
TOTAL	$2653.6	$3052.1	$1942.1	$2078.4

STATUS OF AIRCRAFT MODIFICATION PROGRAMS
FY 1987 Modification of Aircraft
Programs as of 31 December 1987
($ in millions)

Program	Total Program Appropriated	Total Reprogramming	Total Value	Obligations	Expenditures
Budget Activity 5					
P-1 No 24-58	$3190.1	-138.0	$3052.1	$1857.3	$94.9

1/ Adjustments result from the following actions:

-$66.2: Inflation reductions

- 71.8: FY 1988 Appropriation rescissions

STATUS OF AIRCRAFT MODIFICATIONS PROGRAMS
FY 1988 Modification of Aircraft
Programs as of 31 December 1987
($ in millions)

Program	Total Program Appropriated	1/ Total Reprogramming	Total Value	Obligations	Expenditures
Budget Activity 5					
P-1 No 24-58	$1971.3	-29.2	$1942.1	$147.1	$9.1

1/ Adjustments have been made for the following reasons:

-$14.1: Reprogramming to SOF requirements

- 15.1: Reprogramming for Space Boosters

(In Thousands of Dollars)

FY1989 Amended Estimate	-	$3,138,491
FY1989 Change	-	$ -154,668
FY1989 Initial Estimate	-	$3,293,159
FY1988 Estimate	-	$2,375,687
FY1987 Actual	-	$2,902,566

ACTIVITY: Aircraft Spares and Repair Parts

PURPOSE AND SCOPE: This activity provides funds to buy spare engines and other investment items used to repair aircraft and aircraft support equipment. Investment items are defined as reparable assemblies that are centrally procured and managed. The account has two categories: initial and replenishment spares. The initial spares category funds whole spare engines and engine modules to support initial operations of new aircraft; and new spare parts introduced to the inventory for the first time as a result of new aircraft, modifications, new support equipment, and other production charges (e.g., electronic countermeasure pods and special "black" systems). Additionally, initial spares fund inventory level increases referred to as "new acceptance spares" for additional end items (e.g., more F-15s). The second category, replenishment spares, provides follow-on spares support for all aircraft and aircraft support equipment. The replenishment spares account finances the peacetime spares and wartime spares requirements.

JUSTIFICATION OF FUNDS REQUESTED: The initial spares segment of the account has four parts. Part one, "Initial Weapon System Spares", funds engine spares and modules, aircraft spares, and peculiar ground support equipment spares required to support initial operations of new aircraft and inventory increases for additional end items. The second part, "Modification Spares", funds spare parts needed during initial operation of modified airborne systems. "Common Ground Support Equipment (GSE) Spares" and "Other Production Spares" comprise parts three and four and also support initial operations and inventory increases. All initial spares represent supportability for initial operations after aircraft acquisition or modification. FY88 and FY89 mark the first time in recent years that initial spares are not funded at 100%. Shortfalls equate to lower initial levels of peacetime operating stock (POS) and will constrain weapon system availability, readiness, flying hour execution, and sortie production.

The replenishment spares segment of the account has three categories of spares. The first category, Peacetime Operating Stock (POS), supports the peacetime flying hour program; FY88 and FY89 funding supports 93% of FY90 and 99% of FY91 flying hours respectively. Of note, this is the first time since FY83 our POS account has been underfunded. This category of replenishment spares provides our readiness posture. The second category, War Readiness Spares Kits (WRSK) and Base Level Self-Sufficiency Spares (BLSS), support initial wartime operations. No funds are available for new FY90 and FY91 kit authorizations and updates. The last category, Other War Reserve Materiel (OWRM), provides spares and repair parts to continue wartime operations until the industrial base can meet wartime production spares. Due to fiscal constraints, no funds are requested for OWRM. The WRSK/BLSS and OWRM categories are the key to wartime sustainability.

The following table compares program funding/requests by fiscal year:

AIRCRAFT SPARES AND REPAIR PARTS
(In Millions of Dollars)

	FY87	FY88	FY89
Initial Aircraft Spares	741.5	466.0	972.4
Replenishment Aircraft Spares	2161.1	1909.7	2166.1
Total	2902.6	2375.7	3138.5

Initial Aircraft Spares: The initial spares funding requirements are presented in more detail in the following table:

INITIAL AIRCRAFT SPARES
(In Millions of Dollars)

	FY87	FY88	FY89
Initial Weapon System Spares	422.5	304.5	751.2
Initial Modification Spares	210.4	70.8	121.3
Initial Common GSE Spares	26.2	16.6	27.4
Initial Other Production Spares	82.4	74.1	72.5
Total Initial Spares	741.5	466.0	972.4

The largest segment of this request is for Initial Weapon Systems Spares. Requested funding of $751.2 million in FY89 will support initial operations of the in-production aircraft shown in the following table:

INITIAL AIRCRAFT SPARES REQUIREMENTS
(In Millions of Dollars)

Aircraft	FY87 Proc	FY87 Request	FY88 Proc	FY88 Request	FY89 Proc	FY89 Request
ADCA	--	36.4	--	--	--	--
C-17	--	--	2	12.0	4	103.7
F-15	42	116.3	42	97.3	36	113.6
F-16	180	240.9	180	164.1	180	263.4
AC-130U	--	--	--	--	6	8.9
MC-130H	5	11.1	7	31.1	4	17.6
C-5B	21	12.0	--	--	--	--
TR-1/U-2	3	5.8	--	--	--	--
Classified Projects	--	--	--	--	--	240.5
MH-60G	--	____	--	____	6	3.5
TOTAL		422.5		304.5		751.2

The second largest driver of initial spares requirements is the aircraft modification program. To support initial operations for over 200 modifications on various aircraft totaling $2,078.4 million in FY89, a minimum spares inventory valued at $121.3 million will be required. This amount represents only 72 percent of the total requirements. The modifications to special operations aircraft to enhance their effectiveness requires new spares valued at $ 21.0 million in FY89. Classified modifications to current systems will require $18.2 million in FY89 for new spares to insure support of these modified systems. Modification spares for SOF and classified modifications represent 32% of the total modification initial spares request.

A third segment of the request, "Initial Other Production Spares", continues providing spares support for the Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN). Spare parts inventory costing $36.5 million in FY89 is needed for LANTIRN early-on spares support. Spares requirements of $9.2 million for the NAVSTAR Global Positioning System and spares for various electronic warfare projects comprise the remainder of the total FY89 request of $72.5 million.

The fourth segment, "Initial Ground Support Equipment (GSE)", represents initial spares support for replacement and newly introduced GSE. $27.4 million is needed in FY89 for these spares.

Spares and Repair Parts for Air National Guard and Air Force Reserve:

Within the Initial Spares and Replenishment Spares accounts are dollars to support the Air National Guard (ANG) and Air Force Reserve (AFR). However, it's important to recognize that our item specific spares requirements are based upon worldwide need and not broken down by command or component. We buy spares to fill the inventories and provide assets to users based on their designated distribution priority. These priorities are established annually for every Active, Guard or Reserve unit based on the unit's assigned mission, alert status and wartime mission. Indeed, some Guard and Reserve units have distribution priorities higher than active units. The bottom line is that we compute requirements and buy items to provide balanced support to all Air Force units regardless of the user. In short, our computational system is "user-blind".

To calculate the ANG/AFR dollars that are displayed on the President's Budget P-1R Exhibit, therefore, we estimate using historical factors for initial modification spares and cost per flying hour for replenishment spares.

	FY88	FY89
Initial Spares	8.5	17.3
Replenishment Spares	363.6	342.1
Total	372.1	359.4

Replenishment Aircraft Spares: The Amended FY88/89 Biennial Budget reflects the cumulative effects of reduced appropriations in FY87 and FY88, and Service reductions based on fiscal guidance in FY89. Overall, the replenishment spares account is funded at 49% of the total FY88 requirement and 41% of the FY89 requirement. Funding allocations represent financing POS at 97% in FY87, 93% in FY88, and 99% in FY89. There are no dollars available for WRSK/BLSS or OWRM in FY88/89. The replenishment spares funding requirements are presented in more detail in the following table:

REPLENISHMENT AIRCRAFT SPARES

(In Millions of Dollars)

	FY87	FY88	FY89
POS	1844.7	1909.7	2166.1
WRSK/BLSS	316.4	0	0
OWRM	0	0	0

A complete breakout by weapon system of all requirements and funding follows the narrative discussion.

Peacetime Operating Stock (POS)

The FY88/89 replenishment spares program supports 93%/99% respectively of the Air Force's peacetime training requirement. The requirement is based on an item-specific, failure/demand driven computation that supports the flying hour program leadtime away. Assuming an average two year leadtime, the FY90 program of 3.5 million flying hours will be supported with FY88 funds, and the FY91 program of 3.5 million flying hours will be supported with FY89 funds. Failure to provide funds will result in inadequate spares levels to support critical combat training. Without these spares, available wartime stocks will be used excessively to support peacetime combat training, degrading both readiness and sustainability. The largest drivers of the POS spares request are the F-111, C-135, F-15, F-16 and their supporting engines. Even as the Air Force increases its inventory for these systems, however, continued investment is required to replenish and augment other existing inventory.

War Readiness Spares Kits/Base Level Self-Sufficiency Spares (WRSK/BLSS): WRSK/BLSS is the segment of war reserve materiel maintained at base level for units tasked with wartime missions.

a. War Readiness Spares Kits are air transportable packages of spares that will support specific units tasked to deploy for the first 30 days of a war. The basic configuration of a WRSK is determined by the maintenance concept of the spares, i.e., Remove and Replace (RR) as opposed to Remove, Repair and Replace (RRR). The WRSKs are configured and included both the RR and RRR maintenance concepts depending on the base level repair available at the deployed site. The using major commands and the Air Force Logistics Command determine those essential items to be included in the WRSK. These represent only a small portion of the total number of spares used on a day-to-day basis in peacetime. The quantity of items included in the WRSK are computed using factors such as item wartime failure rates, number of items per aircraft, the wartime flying hour program, base repair time, and item pipeline time. These factors are reviewed annually with the using commands and System Program Manager to insure that item mix and quantities support the wartime scenario.

b. Base Level Self-Sufficiency Spares (BLSS) are spares designed to augment peacetime assets to support the initial increased wartime activity for units that will fight the war in-place. BLSS requirements consider the same factors as those used in the WRSK computation, but also consider existing peacetime capability. Those units which are authorized a WRSK are not authorized a BLSS.

The Amended FY88/89 Biennial Budget provides no funding to support WRSK/BLSS requirements due to the FY88 Appropriations Conference mark and the stringent fiscal guidance in FY89. New WRSK/BLSS kits authorized for FY90/91 deliveries of F-15, F-16, KC-135R and MC-130 aircraft along with updates for strategic, mobility and tactical kits will not be procured.

Other War Reserve Materiel (OWRM)

OWRM is the prestocked segment of war reserve materiel stored in the AFLC depots. These spares are required to sustain forces at wartime levels after peacetime and prepositioned assets are used and until the production base can be expanded to satisfy and wartime consumption. Like WRSK/BLSS, OWRM requirements are also jointly reviewed by the using major command and Air Force Logistics Command to ensure only combat essential items are designated for OWRM. The resulting OWRM requirements are then reduced by assets available from production, peacetime levels and WRSK/BLSS levels. The Defense Guidance constrains the requirement objective based on mid-term and long range resource plans. For FY88/89, OWRM requirements reflect needs to satisfy the mid-term sustainability objectives although no funding is requested due to fiscal constraints.

(In Thousands of Dollars)		
Program Amended Estimate	- FY 89 ...	$1,686,518
Program Change	- FY 89	-3.466,061
Program Initial Estimate	- FY 89	5,152,579
Program Estimate	- FY 88 ...	3,492,777
Program Actual	FY 87 ...	3,908,402

ACTIVITY: Aircraft Support Equipment and Facilities

PART I PURPOSE AND SCOPE

This activity provides for common support equipment required to service and test aircraft and their components; for refurbishment and rehabilitation of industrial machinery, equipment and facilities required in the manufacture of items funded by this appropriation; for those war consumable items required to be on hand for immediate use in the event of war; and for other charges such as electronic countermeasure equipment. The activity also provides for procurement of flight simulation equipment for aircraft that are no longer in production except for the B-1B, and for programs not associated with one specific weapon system.

PART II JUSTIFICATION OF FUNDS REQUESTED

The estimate for this activity is comprised of the following items: (In Millions of Dollars)

LINE ITEM	FY 1986	FY 1987	FY 1988	FY 1989
Common Ground Equipment	$478.7	$299.3	$194.1	$249.2
Common Ground Equipment (SOF)	-	-	4.0	14.4
Industrial Responsiveness	57.7	45.3	41.4	23.4
War Consumables	75.3	50.2	50.0	40.5
Other Production Charges	1,902.2	3,513.6	2983.5	1,106.0
Other Production Charges (SOF)	-	-	2.3	2.6
Common EOM Equipment			217.5	250.4
ACTIVITY TOTALS	$2513.9	$3,908.4	$3,492.8	$1,686.5

Common Ground Equipment

This program is for the procurement of organizational and base level support equipment, both common and peculiar, for out-of production aircraft, as well as common support equipment for new aircraft entering the inventory. The equipment is used on the flight line and in maintenance shops. The program also provides for the procurement of the flight simulators and other training devices for the B-1B and out-of-production aircraft models. Support equipment includes items that are required to assist or provide a service or maintenance to a weapon system while on the ground. Aircraft support equipment is concentrated in the following National Stock Groups (NSG):

NSG 17 - Aircraft launching, landing, and ground handling equipment (trailers, platforms, slings).

NSG 41/43 - Compressors, pumps, and air conditioners.

NSG 49 - Maintenance and repair shop equipment (test stands, maintenance stands, fixtures, noise suppressors).

NSG 61/66 - Electrical generators and power distribution equipment, instrument and laboratory equipment, hardness testers and non-destructive inspection equipment.

Other NSGs - Gauges, nitrogen servicing units, and specialized tools.

The following table shows a comparison, by year and category, for support equipment:

(In Millions of Dollars)

NSG	DESCRIPTION	FY 1987	FY 1988	FY 1989
17	Ground Handling Equip	76.2	37.8	32.8
41/43	Air Cond, Compressors	26.3	20.0	16.8
49	Maint & Rep Shop Equip	85.0	43.4	73.1
61/66	Power & Distrib Equip	82.1	22.5	31.2
Other	Other Natl Stock Gps	23.5	64.8	103.0
Com Train Equip*	Simulators	6.2	9.8	6.6
TOTAL COMMON GROUND EQUIPMENT**		299.3	198.2	263.5

*FY 88 and 89 Common Training Equipment includes B-1, KC-135, F-4, EF-111 and C-130 simulators.

**May not add due to rounding.

Industrial Responsiveness

The Industrial Responsiveness program is part of the Air Force Industrial Base Program. The program goal is to ensure an industrial ability capable of supplying needed quantities of reliable systems and components to operational commanders in peacetime and during times of national emergencies. The program acknowledges the industrial base to be a vital element in national deterrence. Industrial Responsiveness activities provide manufacturing technology, preparedness and productivity analysis to individual weapon system program managers and offer an affordable alternative to procuring prohibitively expensive quantities of fullup war reserves and materials. The program is centralized to give equal consideration to defense acquisition goals that include emphasis on cost reduction, quality, productivity, producibility and preparedness. The Air Force Industrial Base Program attacks these goals cohesively and in an integrated manner to prevent resource duplication. Integrated planning provides the Air Force with an industrial sector snapshot that is not possible from looking at single acquisitions.

The Air Force industrial base strategy involves characterizing segments of the industrial base that are vital to sustainability and have been determined by the Joint Chiefs of Staff and operational commanders to be critical. The resulting data is analyzed and compared with other Service requirements to form hypotheses about weapon system and industrial bottlenecks, deficiencies, strengths, weaknesses, and productivity improvements needs. The analysis is done annually and reported in the Air Force Production Base Analysis to OSD. An investment strategy and recommendations to correct identified industrial deficiencies are part of the analysis. When specific weapon systems are involved, they make the necessary improvements. Generic industrial base improvements, that are beyond the scope of a single program responsibility, are considered for funding through Industrial Responsiveness lines in each procurement appropriation.

The core program includes five critical acquisition initiatives and responsibilities. They are Industrial Base Planning, Government-Owned Industrial Facilities, Manufacturing Technology, Technology Modernization, and Production Surge. Three receive aircraft procurement appropriations. The Manufacturing Technology program is wholly funded with Research, Development, Test and Evaluation appropriations, and the Industrial Surge program has no FY 89 request. Each program has individual objectives and benefits; however, they are managed together to achieve a synergistic effect on the industrial base and the Air Force's ability to procure weapon systems cost-effectively.

The following table of subtasks and narrative summarize the Industrial Responsiveness aircraft procurement request:

	FY 86	FY 87	FY 88	FY 89
GOVERNMENT OWNED INDUSTRIAL FACILITIES				
MPC 1000 Expansions	8.6	0	0	.5
MPC 2000 Packing, Crating & Handling	.2	.1	0	0
MPC 3000 Capital Type Rehabilitation	21.5	8.8	1.4	5.0
MPC 4000 Modernization & Replacement	.1	0	0	0
MPC 7000 Environmental Protection	10.5	24.4	25.4	7.0
MPC 9000 Energy Conservation	0	0	0	.0
SUBTOTAL	40.9	33.3	26.8	12.5
MANUFACTURING TECHNOLOGY				
MPC 5000	0	0	0	0
INDUSTRIAL BASE PLANNING				
MPC 6000	2.9	1.9	2.0	1.0
INDUSTRIAL PRODUCTIVITY AND RESPONSIVENESS (Technology Modernization)				
MPC 8000	13.9	10.1	12.6	9.9
TOTALS	57.7	45.3	41.4	23.4

Industrial Base Planning: Planning is the unifying force in industrial responsiveness. It allows the Air Force to understand industrial base activities going on in the Federal Emergency Management Agency, the Department of Commerce, the General Services Administration, the national security and intelligence agencies, and in the other Services so that Air Force actions complement national objectives. Planning involves identifying critical systems and components and then determining the long, lead pacing items that would hinder rapid production acceleration during times of national emergency. The 400-500 companies and components identified to be critical to sustainability are targeted for study in an annual Production Base Analysis. The industrial characterization that results is used to make program and budget decisions designed to correct deficiencies or allow for emergency budgeting in times of national emergencies.

Planning ensures that industrial base investments are considered as a viable alternative in determining the best mix of war reserves and hardware to achieve affordable defense. Planning gives the Air Force confidence that various threats can be met and air forces sustained by using the industrial base as a major part of the deterrent strategy. FY 1989 efforts will include a Production Base Analysis for most items on the Air Force and Joint Chiefs of Staff Critical Items List. This entails integrating industrial sector and critical item studies, surveys, analyses, and forecasts for thousands of DOD suppliers into a cohesive industrial preparedness plan that can be used in decision making and resource allocation. This is a continuing activity.

Facilities: A second element of the Industrial Base Program funds critical activities at the 13 government-owned, contractor-operated industrial plants that the Air Force manages. These plants are the backbone of Air Force weapon system assembly. They are AFP #PJKS (Martin Marietta) in Waterton, CO; AFP #3 (McDonnell Douglas and Rockwell) in Tulsa, OK; AFP #4 (General Dynamics) in Fort Worth, TX; AFP #6 (Lockheed) in Marietta, GA; AFP #19 (General Dynamics) in San Diego, CA; AFP #36 (General Electric) in Evendale, OH; AFP #42 (Rockwell, Lockheed, Northrop, McDonnell Douglas) in Palmdale, CA; AFP #44 (Hughes Aircraft) in Tucson, AZ; AFP #59 (General Electric) in Johnson City, NY; AFP #70 (Aerojet) in Sacramento, CA; AFP #78 (Thiokol) in Lampo Junction, UT; and AFP #85 (Rockwell) in Columbus, OH. The following weapon systems are produced, stored or tested at these facilities: Titan, Peacekeeper, shuttle components, NASA expendable launch vehicles, B1-B, F-15, Harpoon, F-18 components, F-16, F-111, C-130, C-5B, cruise missiles, jet aircraft engines, Minuteman, hydrazine systems, support for U-2 and SR-71, Maverick, WASP, Phoenix, AMRAAM, and TOW.

Ownership of these facilities involves legal and environmental responsibilities for the Air Force even though the burden of maintenance falls on the using contractor. The Air Force facilities policy is to minimize a contractor's reliance on government-owned facilities and to encourage them to replace old, inefficient Air Force owned equipment with privately-owned. The Air Force divested itself of most plants and retains only those that are essential to fulfill production and mobilization requirements. Activities that remain Air Force responsibilities fall into these categories:

- Expansions. These are requirements for real property modifications, brick and mortar-type changes, at the existing Air Force Plants that by Congressional direction may not be done without notification. They include expansions such as an addition of security lighting and electric capacity to increase detection of unauthorized personnel or the construction of a road to improve the traffic flow entering and exiting a major plant. They may also include construction of new buildings to meet the changing manufacturing environment. FY 1989 funding is requested to construct an enclosed parking facility to house fire and crash vechicles (See DD Form 1391).

- Packing, Crating, & Handling. Required to prepare and transfer idle government-owned equipment to other locations. Unneeded equipment must be removed to make room for new equipment being funded by the contractor. Cost of this activity is about $30,000 per year.

- Capital Type Rehabilitation. These requirements satisfy periodic rehabilitation necessary to maintain the government-owned plants. These projects equate to major repair activities that are beyond the scope of maintenance required for the contractor to do as the tenant. They are landlord magnitude projects. FY 88 projects were reduced from past years because of a temporary higher priority that is being placed on environmental protection projects that have legal and safety considerations and consequences. Projects include the rehabilitation of the overhead crane system at AF Plant #6, Lockheed, GA. The old system was installed during World War II and replacement parts are non-existent unless specially designed at prohibitive costs. AF Plant #42, Palmdale, CA, where SR-71, TR-1, U-2 and classified programs are built and stored, requires installation of a new fire sprinkler system to meet National Fire Code standards. The fire suppression system is needed to protect building, contents, and critical government assets. Funds will also upgrade the Palmdale perimeter road to allow better security patrol and to help reduce foreign object damage caused by windblown, loose pavement. Palmdale is used by multiple contractors.

- Modernization and Replacement. This area allows for modernization and replacement of production equipment at Air Force Plants. Air Force policy encourages the contractor to make these investments and no FY 1989 funds are requested.

- Environmental Protection/Environmental Restoration. Protection calls for the compliance to current federal, state, and local laws that regulate environmental control. Restoration calls for correction of past ground, water, and air pollution. Considerable protection funds are required in FY 1989. Restoration funds are part of a separate, Congressional-mandated line item under Department of Defense management. Six plants require environmental protection funds. Air Force Plant 42, Palmdale, CA, will replace Polychlorinated Biphenlyl (PCB) transformers, install an environmental-temperature control system, install 10,000 gallon hazardous waste tanks, install a fuel drainage system, and upgrade the material storage area. These projects will allow compliance to Environmental Protection Agency rules, Federal Regulations, Toxic Substance Control Act provisions, and Occupational, Safety and Health Act provisions. An AF Plant #6 project at Marietta, GA (Lockheed), will provide for the construction of a series of 19 chemical storage tank systems, removal of asbestos materials from several buildings, rehabilitation of a sewer filter system, installation of backflow preventers in the fire protection system (Compliance to Georgia Safe Drinking Water Act), and Phase I installation of a water incineration system required to comply with the Resource Conservation and Recovery Act of 1984 (RCRA). At AF Plant #4, Fort Worth, TX (General Dynamics), 10 waste minimization projects are planned all also in response to the RCRA. An asbestos hazard program will also begin at Fort Worth and at AF Plant 85, Columbus, OH (Rockwell). Retrofillings oil in PCB transformers at AF Plant #59, Binghamton, NY (General Electric), will reduce current PCB contamination to below liability and safety levels. A National Pollution Discharge System Flow Metering Station will be constructed as well as an overflow storm waste protection system. At AF Plant #3, Tulsa, OK (McDonnell Douglas), projects will replace underground fuel tanks. Two environment-related construction projects are explained in attached DD Form 1391s.

- Energy Conservation. Funds cost reducing opportunities to dramatically improve the energy use at the plants. These projects must be well beyond contractual requirements and must offer substantial benefit/return to the government if accomplished. Returns accrue to programs using facility who will see reduced overhead costs that will result from these projects. No projects to be funded during FY 1989.

Industrial Modernization Incentives Program (IMIP). IMIP is a venture between government and industry to accelerate the implementation of modern equipment and management techniques. IMIP is an acquisition tool that contractually encourages aggressive industrial base investments. The program gives contractors financial incentive to achieve cost reduction through investment in productivity-enhancing equipment. IMIP encourages contractors to make capital investment decisions that they are otherwise not financially incentivized to do. Defense contractors' profits are to a large extent a function of their costs. This is a disincentive to invest in cost-reducing and expensive capital equipment. Industry also has to cope with uncertainties in forecasting its DOD business base. The purpose of IMIP is to mitigate or eliminate the effects of negative incentives by offsetting lost profit. This offset is a share of the savings in the form of a productivity savings reward. Its amount is determined in negotiations focused on return on investment calculations. It is paid only if the government is assured that the projected benefits will be achieved.

IMIP's are initiated where competitive market forces are insufficient to bolster independent contractor investment or where significant benefits will accrue to the government such as cost reduction, elimination of production bottlenecks, and improved quality or reliability. The short term goal of IMIP is to reduce cost and lead times of weapon systems. The long term goal is to promote a strong industrial base that can meet surge and mobilization requirements in national emergencies.

Seed funds are often the key to getting IMIP efforts started and to getting contractors and system program offices to take long term looks at production programs and opportunities to do things more efficiently; to think beyond the current contract and to future DOD procurement and industrial capabilities. IMIP funds are programmed to impact present and upcoming production programs. IMIP delivers transferable manufacturing processes and management systems to factories through the development of enabling technologies that remove some of the risk involved in implementing promising new technologies onto a factory floor. This motiviates contractors to make capital investments beyond those normally made. Instant contracts receive some benefits from IMIP; however, by the time capital equipment is brought on line and savings begin to accrue, it is normally future contracts that reap the benefits of IMIP's executed today. Once an IMIP project is complete, learning curves and all future cost estimates are revised and must show the reduced manufacturing hours that are the result of the IMIP-related project. Without IMIP, industry has been reluctant to make the investments needed to remain competitive with foreign producers. Without IMIP, production programs do not show the dramatic, continued productivity learning that is possible. For example, learning curves on the F-16, which has an IMIP, are still an impressive 86% even after producing over 1000 units. IMIP ensures the most efficient manufacturing techniques are used.

IMIP opportunities exceed the funding available to target the entire defense industrial base. However, resources have a multiplier effect in convincing Air Force program managers, where it makes sense and the business base is stable, to include IMIP activities in their own program lines. Industrial Responsiveness funds are targeted for more generic IMIP's and for improving the subcontractor base that supports tri-Service weapon systems. IMIP's planned for FY 1989 include work with General Electric, Pratt and Whitney and other engine contractors, the bearing and forging industries, F-16 subcontractors, C-17 contractors, the RF microwave and traveling wave tube industries, Joint Stars contractors, the infrared detector industry, and logistics repair and maintenance contractors.

The F-16 IMIP will continue to develop incentive systems for subcontractors to invest in capital equipment, new technology, and cost-reducing manufacturing processes. Twenty-nine subcontractors are currently participating in the F-16 subcontractor effort with benefits going to all DOD business using these facilities: Aerospace Avionics, Bohemia, NY; Airesearch, Torrance, CA; Amfuel, Magnolia, AR; Applied Technology, Sunnyvale, CA; Arkwin Industries, Long Island, NY; Delco Systems, Goleta, CA; Dynamic Controls, South Windsor, CT; Eldec, Lynnwood, WA; Goodyear, Akron, OH; Gull Airborne, Smithtown, NY; Honeywell, St Louis Park, MN; JC Carter, Costa Mesa, CA; Leach, Buena Park, CA; Lear Sieglar, Santa Monica, CA and Grand Rapids, MI; Menasco, Fort Worth, TX; National Water Lift, Kalamazoo, MI; OEA, Denver, CO; Parkin Hannifin, Irvine, CA; SCE Systems, Huntsville, AL; Sierracin, Sylmar, CA; Simmonds, Vergennes, VT; Sperry, Albuquerque, NM; Sundstrand, Rockford, IL; Teledyne, Newbury Park, CA; Texstar, Grand Prairie, TX; Tracor, Austin, TX; TRW, Cleveland, OH; and Westinghouse, Lima, OH. The RF/Microwave IMIP will expedite into the manufacturing environment emerging techniques, processes, and controls to improve yields and economically produce RF/Microwave components used on systems such as LANTIRN, F-111 electronic countermeasures and INEWS. In the propulsion bearing IMIP work will focus on fracture toughness, corrosion resistance and extending the life of liquid lubricated metallic rolling element bearings by using improved and automated manufacturing processes. The forging IMIP attacks the cost and lead time driver aspect of that industry and will work with several major forging houses to stimulate advances in the entire industry. Participants include Aluminum Forge, Santa Ana, CA; Arcturus Manufacturing, Oxnard, CA; Chen-Tech, Irvine, CA; Ladish, Los Angeles, CA; and Ontario Forge, Muncie, IN. Likewise, a propulsion IMIP includes modernization activities at Pratt & Whitney, General Electric and important subcontractors TRW, Schlosser Forge, King Fifth Wheel, Schultz Steel, Excello, Cytemp Specialty Steel, Duradyne Technologies, Precision Castparts, Fansteel Precision Metal, Howmet Turbine, Ladish, Walbar, Cameron Iron Works, Timet, Hitchcock Industries, American Welding, and Western Gear. A generic electronic IMIP program with emphasis on Joint Stars contractors Grumman, Norden, Boeing, Control Data, Cubic Defense Systems, Aydin Litton Guidance, Miltrope, and RF Products will be initiated. Logistics-related IMIP's with engine part, wheel and brake, avionics, and electrical suppliers are included in this request.

SUMMARY LIST OF PRODUCTION SUPPORT AND FACILITIES PROJECTS

($ Millions)

Appn: 3010, P-1 No 068, Title: Industrial Responsiveness February 12, 1988

Project Number	Name	Project Cost			
MPC		FY 1986	FY 1987	FY 1988	FY 1989
1000	Expansions	8.579	0	0	.450
2000	Packing, Crating, & Handling	.159	.100	0	0
3000	Capital Type Rehabilitation	21.525	8.832	1.400	5.035
4000	Replacement & Modernization	.117	0	0	0
6000	Industrial Preparedness Planning	2.900	1.891	2.000	1.000
7000	Environmental Protection & Restoration	10.446	24.368	25.412	7.000
8000	Industrial Modernization Incentives Program (IMIP)	13.930	10.100	12.600	9.928
9000	Energy Conservation	0	0	0	0
TOTALS		57.656	45.291	41.412	23.413

PROGRAM COST BREAKDOWN									DATE 12 FEB 88
APPROPRIATION/BUDGET ACTIVITY AIRCRAFT PROCURMENT, BPAC 1400				P-1 ITEM NOMENCLATURE INDUSTRIAL RESPONSIVENESS					
		(Total cost in thousands of dollars)							
ELEMENT OF COST	IDENT CODE	FY 1986		FY 1987		FY 1988		FY 1989	
		QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST
A. Expansions	1000		8,579		0		0		450
B. Packing, Crating & Handling	2000		159		100		0		0
C. Capital Type Rehabilitation	3000		21,525		8,832		1,400		5,035
D. Replacement & Modernization	4000		117		0		0		0
E. Industrial Base Planning	6000		2,900		1,891		2,000		1,000
F. Environmental	7000		10,446		24,368		25,412		7,000
G. Industrial Modernization (IMIP)	8000		13,930		10,100		12,600		9,928
H. Energy Conservation	9000		0		0		0		0
TOTALS			57,656		45,291		41,412		23,413

1 COMPONENT	FY 1989 FACILITY PROJECT DATA	2 DATE
USAF		31 July 87

3 INSTALLATION AND LOCATION	4 PROJECT TITLE
AFP 4, General Dynamics Ft Worth, TX	MPC 1000 Enclosed Facility for Emergency Response Vehicles

5 PROGRAM ELEMENT	6 CATEGORY CODE	7 PROJECT NUMBER	8 PROJECT COST ($000)
78011F	221-221		$450.0

9 COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
Enclosed Facility for Emergency Response Vehicles.		L/S		$450.0

10 DESCRIPTION OF PROPOSED CONSTRUCTION

Construct an enclosed parking facility containing approximately 6,000 square feet of floor space to house the emergency response fire and crash vehicles. The proposed site is outside of and adjacent to the south end of Building 8 (outside of Fire Station No. 1). Provide adequate lighting, heating, and ventilation for normal daily inspections and maintenance activities.

BASIS OF NEED: Most of the AFP 4 emergency response vehicles are parked on an open ramp area south of Building 8 (Fire Station No. 1). They are exposed to direct sunlight and extremely high temperatures during the summer. They are also exposed to potentially severe thunderstorms with high winds and large hail. During the winter, temperatures frequently drop well below freezing, and strong, gusting winds generate extreme chill factors. Occasional periods of freezing precipitation encase the vehicles and equipment in ice and snow. Engine runs and auxiliary heaters are used to prevent freezing of the emergency response systems and equipment. This exposure to the elements increases the response times and accelerates the deterioration of the vehicles and installed equipment. Providing enclosed parking would protect valuable Government-Owned equipment and ensure rapid response under all conditions.

IMPACT IF NOT PROVIDED: Failure to adequately protect these vehicles, represents an unacceptable risk of life and fire protection.

1 COMPONENT	FY 1989 FACILITY PROJECT DATA	2 DATE
USAF		31 JULY 1987

3 INSTALLATION AND LOCATION	4 PROJECT TITLE
AFP 85, ROCKWELL INT"L, COLUMBUS OH	REHABILITATE ELECTRICAL DISTRIBUTION SYSTEM (MPC 7000)

5 PROGRAM ELEMENT	6 CATEGORY CODE	7 PROJECT NUMBER	8 PROJECT COST ($000)
78011F	221-221		$3,136.0

9 COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
Rehabilitate Electrical Distribution System Phase III-B, Construction of New Master Substation (FY 89)		L/S		$3,136.0

10 DESCRIPTION OF PROPOSED CONSTRUCTION

Establish a new master substation to allow for a continued elimination of 4200 Kilowatt electrical gear which is made up of numerous polychlorinated biphenyl (PCB) filled transformers and switchgear. This is a continuation of work started in phases I, II, and III-A.

BASIS OF NEED: There is a significant risk with PCB contaminated electrical equipment especially transformers. Many of these transformers occupy areas that are indoors in close proximity to contractor and customer personnel as well as active production, manufacturing, and storage areas. Other transformers are outdoor and are located adjacent to storm and sanitary sewer systems.

IMPACT IF NOT PROVIDED: Failure of any of these 30 to 40 year old transformers could cause lengthy delays to production schedules, possible shut down of plant and expose the government to high cleanup costs, penalties, and potential lawsuits.

1 COMPONENT	FY 1989 FACILITY PROJECT DATA	2 DATE
USAF		20 Aug 87

3 INSTALLATION AND LOCATION	4 PROJECT TITLE MPC 7000
AFP 4, General Dynamics FORT WORTH TX 76101	REMOVAL AND REPLACEMENT OF UNDERGROUND STORAGE TANKS PH II

5 PROGRAM ELEMENT	6 CATEGORY CODE	7 PROJECT NUMBER	8 PROJECT COST ($000)
78011F	211-221		$336.0

9 COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
Replace and Removal of Six (6) Underground Storage Tanks.		L/S		$336.0

10 DESCRIPTION OF PROPOSED CONSTRUCTION

This project is the second phase of a three-year plan to replace all underground tanks that store petroleum or hazardous chemical products. Requirements during the second year are for replacement and closure of one third of the tanks and continued monitoring and testing of the remaining tanks. Tank replacement will be prioritized based on expected condition, age, contents, etc. Wherever possible, tanks will be replaced with above ground storage protected with secondary containment. If below surface storage is required, preference will be given to vaulted storage with secondary containment and inspection provisions to be provided by the vault. Six tanks will be replaced in FY89 and five tanks will be replaced in FY90.

BASIS OF NEED: The Hazardous and Solid Waste Amendments (HSWA) of 1984 require the Environmental Protection Agency (EPA) to publish regulations for underground tanks that store petroleum products or chemical products defined as hazardous by Comprehensive Environmental Response Compensation and Liability Act (CERCLA). The law is based on the concept that all underground tanks will eventually leak, causing release of a hazardous material to the environment. Regulations will require specific leak detection or tank testing for existing tanks. Releases from underground tanks will continue to require expensive remedial action. New underground tanks will be regulated with regard to design standards and leak detection requirements. This project will eliminate or minimize the risk of leaks from underground tanks.

War Consumables

The funds requested, along with prior funded assets, will provide additional wartime support needed, in the event of hostilities, to sustain operations. Included in this program are auxiliary fuel tanks, missile launchers, pylons, bomb ejection racks, and adaptors which alternate mission equipage for new inventory items.

The following is a breakout, by fiscal year, of the War Consumables program.

BP 1700 WAR CONSUMABLES
FY 1989 AMENDED BUDGET SUBMISSION
($ MILLIONS)

	FY 1986		FY 1987		FY 1988		FY 1989	
	QTY	$	QTY	$	QTY	$	QTY	$
FUEL TANKS								
370 GALLON TANK/PYLON (F-16)	2536	50.5	152	10.2	4404	40.3	744	7.2
300 GALLON BIPAC CONTAINER	1000	1.8	-	-	-	-	-	-
SLOTTED ANGLE TANK CONTAINER/CRATE	500	.4	-	-	-	-	-	-
600 GALLON TANK CONTAINER KIT	1000	.4	-	-	-	-	-	-
MISSILE LAUNCHERS								
LAUNCHER ELECTRONICS UNIT (LEU) FOR LAU-88	1175	14.4	1173	14.0	-	-	-	-
LAU-117 (F-4/A-10/F-16)	541	5.3	454	4.2	-	-	-	-
LAU-118 (F-4G)	96	2.5	-	-	-	-	-	-
LAU-128/129 (F-15/F-16)	-	-	296	17.7	174	9.7	192	33.3
TOTAL		75.3		46.1		50.0		40.5

Other Production Charges

This program provides for items, such as Classified Projects, Alternate Mission Equipment, and Range Improvement, that are not directly related to other procurement lines in this appropriation and cannot be reasonably allocated and charged thereto. It includes items such LANTIRN and NAVSTAR GPS that are used by more than one weapon system and managed as end items themselves. The following provides a comparison and brief description by fiscal year, of the items in this program:

(In Millions of Dollars)*

	FY 1986	FY 1987	FY 1988	FY 1989
Classified Projects	1295.8	2537.4	2097.2	320.4
ECM Pods	145.6	154.3	Separate P-1 Line Item	
Airborne Video Tape Recorder/ Cocknit TV Sensor		5.4	4.7	7.6
Alternate Mission Equipment	2.0	5.0	9.3	3.8
Range Improvement	15.0	7.7	20.8	16.9
LANTIRN	420.7	761.7	741.4	688.2
NAVSTAR Global Positioning System	23.2	41.7	70.0	64.3
Sailplanes		0.4		
TR-1			40.0	
Training (Offensive)				4.8
Total Other Prod Charges	1902.2	3513.6	2983.5	1106.0

*Dollars may not add due to rounding.

Classified Projects:

Includes the Air Force Tactical Improvement Program and national defense projects which are classified Special Access.

ECM Pods:

Includes the procurement of new pods, such as the ALQ-131 Block II and ALQ 184s to counter the latest Soviet threats. The pods are used on several tactical strike/reconnaissance aircraft.

Airborne Video Tape Recorder (AVTR)/Cocknit TV Sensor (CTVS):

The AVTR records all audio available at the aircrew headset and all video displays on their radar/Electro-Optical display and head-up display (HUD). Aircrews, maintenance crews, and combat and training units use the video tape recordings to

analyze mission and training results and for maintenance trouble shooting. The AVTR and CTVS will be common to the entire tactical force. The CTVS will replace the existing gun camera which employs film; the advantage is that no film processing is required, making the data available for use immediately after landing. The CTVS will provide imagery data to the AVTR for recording, including a splitscreen presentation for multiple video sources.

Alternate Mission Equipment:

The program procures electronic warfare and airborne photography/reconnaissance equipment to provide countermeasure capabilities against changing enemy electronic defenses or for other unpredicted and urgent operational requirements.

Range Improvement:

This is a joint Air Force/Navy program to procure pods which provide accurate kill/no kill data for assessment of tactics and aircrew training at the Air Combat Maneuvering Range. The pod is mounted on a standard launch rail and transmits attitude, airspeed, altitude, angle of attack, and weapons information to ground sites.

Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN):

Includes procurement of new pods to provide a night, under weather capability on the F-16, and F-15E aircraft to attack ground targets on low level mission in a single pass.

NAVSTAR Global Positioning System:

NAVSTAR GPS is a space-based radionavigation system providing users' position (accurate to 16 Meters), in all-weather, on a worldwide basis. The GPS satellite segment is in production and will provide an initial operational capability in FY 1987 and its full capability in FY 1988. The DoD policy is for GPS to replace all existing radionavigation systems on military aircraft by the mid 90's. This appropriation funds NAVSTAR GPS user avionics for all USAF aircraft plus the Air Force share of GPS production start-up costs.

Sailplanes:

This program provides funding to procure powered Sailplanes for the Air Force Academy in sufficient quantities to provide every cadet with the opportunity to solo. Soloing every cadet is essential to increasing career motivation.

TR-1:

This program provides FY88 funding for the modification of the existing TR-1 ASARS radar to give the system a moving target indicator ability, and for the TR-1 reengining.

Training (Offensive):

Funds are to support the Strategic Training Route Complex (STRC), and procurement of Seekscore and other training equipment. The STRC will be composed of a multitude of interconnecting low level routes which will be equipped to provide a multi-threat electronic warfare environment and radar bomb scoring capability.

Common ECM Equipment

Includes the procurement of new pods, such as the ALQ-131 Block II and ALQ-184 to counter the latest Soviet threats. The pods are used on several tactical strike/reconnaissance aircraft. The self protection suite program provides

(In Millions of Dollars)

	FY 1986	FY 1987	FY 1988	FY 1989
Common ECM Equipment	Separate P-1 Line Item		217.5	250.4

Other Production Charges - SOF

Funds are for nonrecurring engineering support, software development data and install effort for the gunship, and reliability and maintainability effort.

(In Millions of Dollars)

	FY 1986	FY 1987	FY 1988	FY 1989
Other Production Charges - SOF	New P-1 Line Item		2.3	2.6

COMPARISON OF FY 1987 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1988 BUDGET WITH FY 1987 PROGRAM REQUIREMENTS AS SHOWN IN FY 1989 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	Total Program Requirements Per 1988 Budget	Total Program Requirements Per 1989 Budget	Increase + or Decrease -
Combat Aircraft	$5,080,414	$5,037,343	-$43,071
Airlift Aircraft	1,932,891	1,659,891	-273,000
Trainer Aircraft	0	0	0
Other Aircraft	89,464	90,135	+671
Modification of In-Service Aircraft	3,046,753	3,052,053	+5,300
Aircraft Spares and Repair Parts	2,972,446	2,902,566	-69,880
Aircraft Support Equipment and Facilities	3,919,973	3,908,402	-11,571
Reimbursable Program	224,062	198,328	-25,734
Total Fiscal Year Program	$17,266,003	$16,848,718	-$417,285

EXPLANATION BY BUDGET ACTIVITY

1. Combat Aircraft - (-$43.1 million). The decrease to the FY 1987 program is the net result of rescissions (F-15, -$9.5 million; F-16, -$32.9 million; MC-130H, -$8.9 million) and prior approval and below threshold reprogrammings (+$8.2 million).

2. Airlift Aircraft - (-$273.0 million). The decrease to the FY 1987 program is a result of a rescission to the C-5 program (-$273.0 million).

3. Trainer Aircraft - ($0 million). No change.

4. Other Aircraft - (+$0.7 million). The increase to the FY 1987 program is a result of prior approval and below threshold reprogrammings (+$0.7 million).

5. Modification of In-Service Aircraft - (+$5.3 million). The increase to the FY 1987 program is a net result of rescissions (B-52, -$13.0 million; F-4, -$20.0 million; F-15, -$23.8 million; C-135, -$13.0 million), approval of FY 1987 supplemental for HH-53S (+$83.0 million), and prior approval and below threshold reprogrammings (-$5.9 million).

6. Aircraft Spares and Repair Parts - (-$69.9 million). The decrease to the FY 1987 program is the net result of rescissions (-$104.1 million), approval of FY 1987 supplemental for spares for the HH-53J (+$39.0 million), and prior approval and below threshold reprogrammings (-$4.8 million).

7. Aircraft Support Equipment and Facilities - (-$11.6 million). The decrease to the FY 1987 program is the result of prior approval and below threshold reprogrammings (-$11.6 million).

8. Reimbursable Program - (-$25.7 million). The decrease is a result of receipt of fewer customer orders than anticipated.

COMPARISON OF FY 1987 FINANCING AS REFLECTED IN FY 1988 BUDGET WITH FY 1987 FINANCING AS SHOWN IN FY 1989 BUDGET

(In Thousands of Dollars)

	Financing Per FY 1988 Budget	Financing Per FY 1989 Budget	Increase (+) or Decrease (-)
Program Requirements	17,266,003	16,848,718	-417,285
Program requirements (Service Account)	(17,041,941)	(16,650,390)	(-391,551)
Program requirements (Reimbursable)	(224,062)	(198,328)	(-25,734)
Less:			
Anticipated Reimbursements	224,062	198,328	-25,734
Transferred From Other Accounts	70,060	4,000	-66,060
Add:			
Transferred to other accounts	0	1,400	+1,400
Unobligated Balance to finance subsequent year budget plans	159,400	605,491	+446,091
Appropriation	17,131,281	17,253,281	+122,000

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1987 program has decreased $417,285 thousand since submission of the FY 1988 Budget. Adjustments by category of financing are explained below.

1. Anticipated Reimbursements. The decrease of $25,734 thousand is due to receipt of fewer more customer orders than anticipated.

2. Transfer from Other Accounts. The decrease of $66,060 thousand is due fewer than anticipated reprogrammings into the aircraft Procurement Appropriation.

3. Transfer to Other Accounts. The increase of $1,400 thousand is due to more than anticipated reprogrammings from the Aircraft Procurement Appropriation.

4. Unobligated Balance to Finance Subsequent Year Budget Plans. The increase of $446,091 thousand is due to Congressional recissions.

5. Appropriation. The increase of $122,000 thousand is the result of Congressional adjustments to the FY 1987 1Budget.

COMPARISON OF FY 1988 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1988 BUDGET WITH FY 1988 PROGRAM REQUIREMENTS AS SHOWN IN FY 1989 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	Total Program Requirements Per 1988 Budget	Total Program Requirements Per 1989 Budget	Increase + or Decrease -
Combat Aircraft	$4,887,268	$4,450,968	-$436,300
Airlift Aircraft	750,100	655,300	-94,800
Trainer Aircraft	0	0	0
Other Aircraft	11,300	12,200	+900
Modification of In-Service Aircraft	1,907,628	1,942,127	+34,499
Aircraft Spares and Repair Parts	2,965,967	2,375,687	-590,280
Aircraft Support Equipment and Facilities	3,669,108	3,492,777	-176,331
Reimbursable Program	215,086	181,000	-34,086
Total Fiscal Year Program	$14,406,457	$13,110,059	-$1,296,398

EXPLANATION BY BUDGET ACTIVITY

1. Combat Aircraft - (-$436.3 million). The decrease is a result of Congressional adjustments to the FY 1988 request (F-15, -$75.0 million; F-16, -$75.0 million; MC-130H, -$27.5 million; AC-130U, -$217.8 million; AC-130U advanced procurement, -$41.0 million).

2. Airlift Aircraft - (-$94.8 million). The decrease is a result of Congressional adjustments to the FY 1988 request (C-17 -$28.9 million; C-27, -$65.9 million).

3. Trainer Aircraft - ($0 million). No change.

4. Other Aircraft - (+$0.9 million). The increase is a result of a Congressional adjustment to the FY 1988 request (CAP, +$0.9 million).

5. Modification of In-Service Aircraft - (+$34.5 million). The increase is a net result of Congressional adjustments to the FY 1988 request (B-52, -$32.0 million; A-7, +$10.0 million; A-10, -$1.4 million; F-15, -$37.7 million; TR-1, -$1.0 million; C-135, +$136.6 million; classified projects, -$10.8 million) and prior approval and below threshold reprogrammings (-$29.2 million).

6. Aircraft Spares and Repair Parts - (-$590.3 million). The decrease is a result of Congressional adjustments to the FY 1988 request.

7. Aircraft Support Equipment and Facilities - (-$176.3 million). The decrease is a net result of Congressional adjustments to the FY 1988 request (Common Ground Equipment, -$23.1 million; Industrial Responsiveness, +1.4 million; Other Production Charges, -$150.2 million; Common ECM Equipment, -$4.4 million).

8. Reimbursable Program - (+$34.1 million). The decrease is a result of receipt of fewer customer orders than anticipated.

COMPARISON OF FY 1988 FINANCING AS REFLECTED IN FY 1988 BUDGET WITH FY 1988 FINANCING AS SHOWN IN FY 1989 BUDGET

(In Thousands of Dollars)

	Financing Per FY 1988 Budget	Financing Per FY 1989 Budget	Increase (+) or Decrease (-)
Program Requirements	14,406,457	13,110,059	-1,296,398
Program requirements (Service Account)	(14,191,371)	(12,929,059)	(-1,262,312)
Program requirements (Reimbursable	(215,086)	(181,000)	(-34,086)
Less:			
Anticipated Reimbursements	215,086	181,000	-34,086
Transferred from Other Accounts	-	1,412	+1,412
Add:			
Transferred to Other Accounts	-	29,180	-29,180
Appropriation	14,191,371	12,956,827	-1,234,544

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1988 program has decreased $1,234,544 thousand since submission of the FY 1988 budget. Adjustments by category of financing are explained below:

1. Reimbursements. The decrease of $34,086 thousand is due to receipt of fewer customer orders than anticipated.

2. Transferred from Other Accounts. The increase of $1,412 thousand is due to a reprogramming into the Aircraft Procurement Appropriation.

3. Transferred to Other Accounts. The increase of $29,180 thousand is due to anticipated reprogrammings out of the Aircraft Procurement Appropriation.

4. Appropriation. The decrease of $1,234,544 thousand is the result of Congressional Adjustments to the FY 1988 Budget.

FLIGHT SIMULATOR AND OTHER AIRCRAFT TRAINING EQUIPMENT
(Dollars in Millions)

APPROPRIATION Aircraft Procurement, Air Force — DATE 5 FEB 88

WEAPON SYSTEM	EQUIPMENT NOMENCLATURE	P-1 LINE ITEM	Prior Year 86 QTY	Prior Year 86 AMT	Prior Year 87 QTY	Prior Year 87 AMT	Current Year 88 QTY	Current Year 88 AMT	Budget Year 89 QTY	Budget Year 89 AMT
B-1B	WST	60	2.0	55.4		4.9		1.6		4.4
	MT	60	2.0	13.4						
	SPARES	59		2.2						
	TOTAL			71.0		4.9		1.6		4.4
F-15 A/C	OFT	9	1.0	17.0						
F-15E	WST	9	1.0	52.9	2.0	74.1	0.0	40.7	2.0	72.8
	CPT	9		1.7		1.0		1.5		1.5
	MTE		20.0	46.6	8.0	32.2		0.0	24.0	20.2
	TOTAL			118.2		107.3		42.2		94.5
F-16	WST	11	5.0	42.9	6.0	70.7	23.0	63.3	9.0	45.8
	MTE	11		32.4		10.4		11.2		21.4
	TOTAL			75.3		81.1		74.5		67.2
C-130	VIS	60	2.0	13.6						
	ATS	60				1.3		0.4		1.0
	TOTAL			13.6		1.3		0.4		1.0
F-4 (GBU-15)	PTT	60					2.0	2.5		
F-111 (GBU-'5)	PTT	60					1.0			
KC-135	AFLC	60						1.5		1.2
EF-111	AFLC	60						3.8		
	GRAND TOTAL			278.1		194.6		126.5		168.3

P-1 SHOPPING LIST
ITEM NO. PAGE NO.

EXHIBIT P-43

FLIGHT SIMULATOR DATA SHEET

BUDGET YEAR PROGRAM

Simulator Model: F-15E Weapon System Trainer

Aircraft System Supported: F-15E

Description of Simulator: The F-15E WST will train both pilot and weapon system officers and will include Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN) simulation. The trainers will be a modification to the design of the F-15 Operational Flight Trainer already being manufactured by Loral Corp. Six WSTs will be procured.

Development Status: In FY 1986, the Preliminary Design Review (PDR) and Critical Design Review were completed. Detailed design of the flight station, instructor station, computational system, and LANTIRN simulation continued. Fabrication of cabling assemblies began and the production contract was awarded. In FY 1987, contractors in plant tests will be completed and the production option for unit #3 will be exercised.

Funding Data: (In Millions)	FY 1986	FY 1987	FY 1988	FY 1989
Quantity	(1)	(2)	(0)	(2)
RDT&E	14.6	7.5	0.2	6.2
Procurement	52.9	74.1	40.7	72.8
MILCON	---	---	---	---
TOTAL	$65.5	$81.6	$40.9	$79.0

Basis for FY 1988/89 Request: In FY 1988 the prototype unit will be delivered and production option for unit 4 will be exercised. In FY 1989, production options for units 5 and 6 will be exercised.

Contract Data: FFP to Loral Corp.

Cost History Comparison: N/A

FLIGHT SIMULATOR DATA SHEET

BUDGET YEAR PROGRAM

Simulator Model: F-16 Weapon System Trainer (WST).

Aircraft System Supported: F-16 aircraft.

Description of Simulator: The F-16 WST is comprised of an Operational Flight Trainer (OFT), an Electronic Warfare Training Device (EWTD) and a Digital Radar Landmass Simulation (DRLMS) and a visual system. The EWTD will be used to train pilots in the electronic warfare aspects of their mission. The DRLMS will simulate the Air-To-Ground (A/G) modes and displays of the F-16 Fire Control Radar (FCR) using a Defense Mapping Agency (DMA) Digital Data Base (DDB). The visual system permits training in low visibility take-off landing and emergency conditions. The WSTs are developed using a "Building-Block" and phased approach in consonance with the Tactical Air Forces (TAF) F-16 aircraft deployment plan.

Development Status: N/A

Funding Data: (In Millions)	FY 1986	FY 1987	FY 1988	FY 1989
Quantity	(5)	(1)	(0)	(0)
RDT&E	---	---	---	---
Procurement	42.9	70.7	63.3	45.8
MILCON	---	---	---	---

Basis for FY 1988/89 Request: F-16 WST FY 1988/89 budget is based on the following requirements:

- F-16C Operational Flight Trainers (OFTs) to provide "safety-of-flight" trainers for active units.

- Improved Electronic Warfare Training Devices (IEWTDs) for F-16C EW training. Requirement for IEWTDs stressed by F-16 WST General Officer Review, Dec 85.

- LANTIRN simulators to be integrated with Block 40 OFTs to provide LANTIRN training.

- Block 40 Operational Flight Trainer (OFT) update for modification and production incorporation. Required to provide "safety-of-flight" OFTs for Block 40 aircraft.

Contract Data:

OFT Blk 10/15 and Blk 25/30	FFP	F33657-84-C-0173, Options
OFT Blk 30G	FFP	F33657-82-C-0138, Options
IEWTD	FFP	New Contract
LANTIRN	FPI	F33657-86-C-2141
VISUAL SYSTEM	TBD	

The contractor for the Operational Flight Trainer and LANTIRN simulator is the Singer Company Link Division, Binghamton, NY. The DRLMS is built by the General Electric Co, Simulation and Control Systems Department, Daytona Beach, FL. The EWTD is built by the AAI Corporation of Cockeysville, MD, and the visual system procurement is in source selection.

Cost History Comparison: The changes from FY 88 President's Budget to FY 89 request are done to match the aircraft beddown.