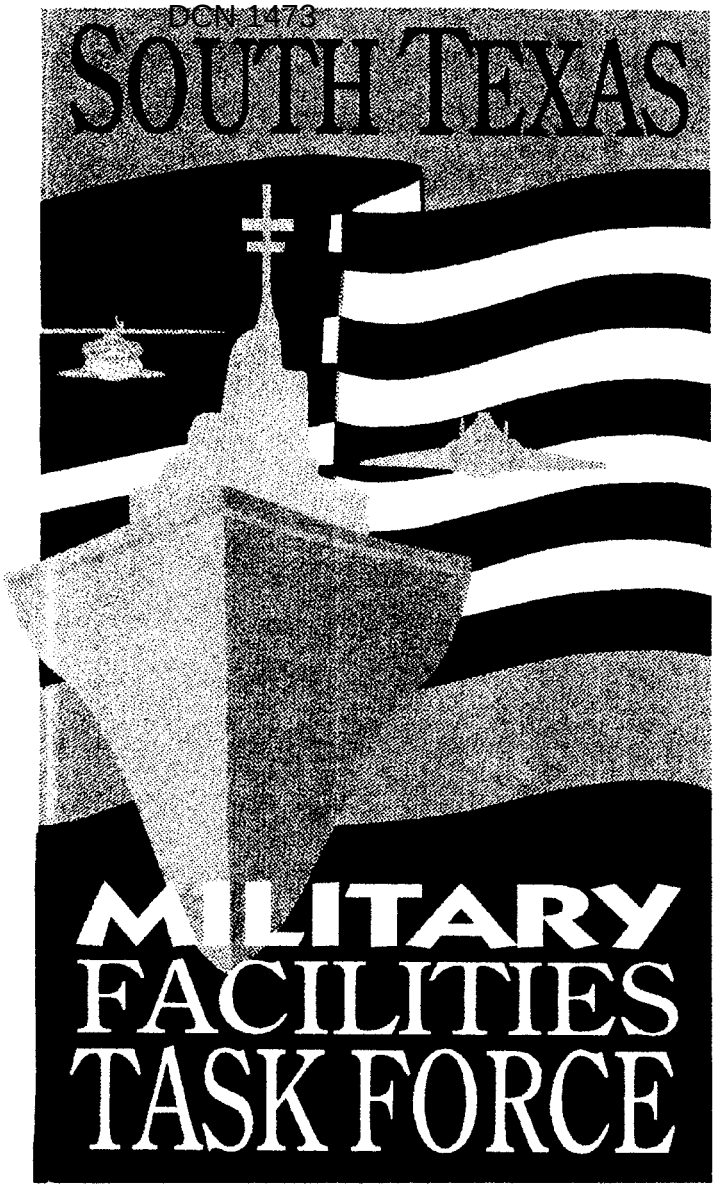
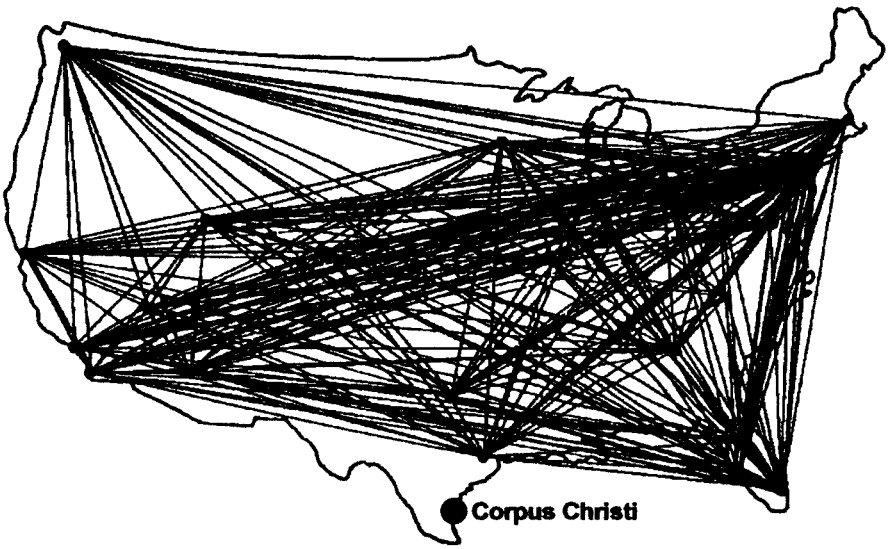
DCN 1473



Pilot A Training Capacity in South Texas

13 June 1995 Update



PILOT TRAINING CAPACITY IN SOUTH TEXAS

I. CAPSULATION:

The South Texas Military Facilities Task Force has consistently taken a conservative approach when dealing with pilot training capacity in South Texas. A recent change of circumstances, driven by the unprecedented release of a Navy letter six weeks prior to the final voting of the BRAC 95 Commission increasing pilot training requirements, dictates a "re-review" of South Texas capabilities. Surge capabilities in the range of 20 percent of requirement have also been mentioned as additional Department of the Navy concerns as final BRAC 95 decisions are being formulated.

An analysis of the impact of these changes on Naval pilot training indicates that while they require some changes in the organization of pilot training in South Texas, they confirm that the Navy's decision to single-site Strike training in South Texas is still a sound one. However, the analysis reveals a fatal flaw to the Navy's recommendation to realign T-44 training to NAS Pensacola.

Additionally, the proposal to redesignate NAS Corpus Christi to NAF status appears to have been made solely on the basis of future UPT utilization envisioned by the bases current major claimant. This proposal clearly ignores the nature of the present federal complex involving 46 tenant activities or proposed addition of Minewarfare helicopter squadrons. See **Attachment (1)**. The savings associated with the proposed redesignation are debatable and were taken without consideration of the impact on non-UPT missions. As a result of the growth in the Mine Warfare mission of the base, action has been initiated to change the claimancy of the base. The NAS vs NAF issue should be removed from the BRAC process. Language should be included in the final report returning this decision to the Navy as an internal Navy matter for resolution when the full impact of the 95 BRAC process on NAS Corpus Christi has been resolved and the request for a change in claimancy decided.

II. REALIGNMENT OF T-44 MULTI-ENGINE PILOT TRAINING:

The Navy reportedly has recommended the relocation of undergraduate pilot training (UPT) from NAS Corpus Christi in order to avoid MILCON costs of relocating the Mine Warfare aviation assets to NAS Corpus Christi.

While there is some merit to this position, the relocation of T-34 training out of NAS Corpus Christi achieves sufficient space for the HM squadrons. Review of NAVFAC P-80, Basic Facilities Requirements, indicates total facility requirements of less than 80,000 SF for a HM helicopter squadron of 12 aircraft. Approximately 52,000 SF of this requirement is for maintenance hangar space. NAS Corpus Christi has five (5) flight-line hangars of approximately 60,000 SF each. One of the five is used primarily for station flight line operations and station aircraft as well as for ceremonies. This leaves four (4) flight-line hangars of approximately 240,000 SF. This space is currently occupied by T-34 and T-44 squadrons and related activities. In addition to the flight-line hangars, NAS Corpus Christi has available a 100,000 SF hangar adjacent to the Corpus Christi Army Depot (the world's largest helicopter repair facility) that could prove ideal space for aircraft and equipment maintenance and storage for both HM squadrons. See **Attachment (2)** as to available capacity.

Therefore, there appears to be no justification to relocate the T-44 squadron based on MILCON cost avoidance. The only apparent savings for realignment of T-44 training to NAS Pensacola appears to be approximately $500,000 per year in permanent change of station (PCS) costs. However, there are several costs to move the T-44 that were omitted by the COBRA. There appears to be some question of the availability of Bachelor Officer Quarters to accommodate the increased student loading of T-44 training along with increased base loading of Air Force NFO training. The original certified data from NAS Pensacola indicated a requirement for BOQ MILCON for 65 officers at over $7 million that was deleted during a BSEC meeting. In addition, maintenance contract expenses associated with relocating the T-44 were not identified in the COBRA. We estimate those conservatively to be $4 million per year for the transition years of FY96, FY97 and FY98. However, these costs are overshadowed by the fact that NAS Pensacola lacks the operational capacity to accomplish the Multi-engine T-44 training.

A. Why it can't be done (THE FATAL FLAW):

NAS Pensacola / Choctaw Complex has a total operations capacity of between 341,355 (using the conservative BRAC 95 data) and 424,027 (using Joint Cross-Service Group/FAA data). Current base operations and a 200% (+) growth in joint NFO training by FY97, coupled with the BRAC 95 proposal to relocate the T-44 Multi-engine joint pilot training program to Pensacola puts the operations required of the complex at over 468,000 annually. This exceeds even the most optimistic capacity projections by 44,000 operations even before a 20% surge requirement of over 93,000 operations. See **Attachment 3**.

B. Why it shouldn't by done:

Measures were taken in the 1970s to ensure adequate safety margins in the Pensacola complex. The current proposal will erode those safety margins to a dangerous and unacceptable level by overloading Pensacola's main field, OLFs and airspace.

C. How it can be done:

- Redirect closure of OLF Goliad. BRAC 95 should retain OLF Goliad for T-45 Strike surge capability and the protection of the airspace in northern military operating areas. This has the additional effect of reducing the Strike training load on NAS Corpus Christi facilitating T-44 training at NAS Corpus Christi even under the excessively conservative capacity used in the 95 data. **OLF Goliad can be re-opened for daylight-only operations for approximately $3 million and operated for approximately $1 million annually as compared to a $30 (+) million annual operating cost for an additional UPT base.**

- Leave the T-44 where it is ideally suited - in Texas. If it ain't broke, don't spend lots of money and reduce safety margins to "fix it".

- Use the best airspace in CONUS (South Texas).

- Use two existing Outlying Fields - OLF Cabaniss and Aransas County (with movement of T-34's to the Pensacola area), both dedicated to T-44 ops and both in close proximity to mainfield.

- Retain the good fit with aircraft currently assigned at NAS Corpus Christi and BRAC 95 base utilization proposals. See **Attachment (4)**.

III. SINGLE-SITING OF T-45 / STRIKE PILOT TRAINING:

The T-45 is being procured by the Navy to replace both the retiring TA-4 and T-2 Strike trainers. It has become obvious that as the TA-4 inventory draws down in the FY 98/99 timeframe the new Strike Pilot Training rate (PTR) increase from 336 to 360 will have its full impact. The T-45, at its current one per month delivery rate, will now and in the foreseeable future be the limiting factor in strike pilot production in South Texas, not airspace, weather or concrete infrastructure (**Figure 1**). Since the limitation will be aircraft, it's all the more important that the T-45 be single-sited in South Texas where airspace, weather and concrete allow the greatest utilization of the aircraft available.

Under the Navy recommendation NAS Corpus Christi becomes an OLF to NAS Kingsville to support single-siting the T-45. Using FAA capacity at NAS Corpus Christi of 318,314 annual homefield operations and 883,036 annual complex operations, it is apparent that NAS Corpus Christi is of considerable value as a turbo-prop training and utility / support site and to a lesser extent, jet training spill-over site. The BRAC-proposed (2) 1000 foot runway extensions are necessary to meet increased jet requirements. However, once these runway extensions are completed, NAS Corpus Christi, when combined with the NAS Kingsville complex, can accomplish all its USCG, Customs, HM operations and the 350 Multi-engine T-44 PTR requirement and still produce the 385 (+) Strike PTR envisioned. See **Attachments (4) and (5)**.

Assuming ultra conservative T-45 Strike PTR capacity at NAS Kingsville in the 250 range, NAS Corpus Christi without T-44 multi-engine training and using only conservative total operations available of 229,416 at NAS Corpus Christi will produce a 375 strike T-2/T-45 PTR. Extended staggered parallel runways at NAS Corpus Christi increases VFR traffic capacity by one third. This along with FAA methodology (certified and used in the Joint Service Group on Undergraduate Pilot Training) indicates a 318,314 daylight field operations capacity for NAS Corpus Christi. <u>This will support a 387 T-2/T-45 Strike PTR with T-44 multi-engine training at NAS Corpus Christi and a 434 T-2/T-45 Strike PTR without T-44 multi-engine training impact at NAS Corpus Christi.</u> See **Attachment (6)**.

Surge capacity of 20% in Strike training has been suggested by the Department of the Navy. What is often overlooked, however, is a 20% surge in Strike training grows in impact as you move to earlier stages in training. <u>Primary training must surge to almost 30% to achieve this 20% objective.</u> This places additional capacity requirements on the primary training at Whiting Field as well as all aviation training at NAS Pensacola. <u>OLF Goliad, if redirected for retention by the Navy, will provide excellent surge capability for Strike training in South Texas at minimal cost, when and if UPT dictates.</u>

The option that uses Goliad as a Strike OLF with NAS Corpus Christi as a spill-over, touch-and-go and instrument approach site for T-2/T-45 while retaining T-44 Multi-engine training, is clearly the most effective utilization of the Navy's South Texas assets. The northern Military Operating Areas (MOAs) are preserved for the future while operating NAS Corpus Christi closer to capacity in its traditional utility mission. The costs and disruption to training of an unnecessary move of presently single-sited Navy / Air Force joint T-44 training is avoided. Spill-over TA-4/T-2 operations and limited C-5, C-9, T-1, T-39, T-37, T-38, Customs and USCG operations over the past 20 years are indicative of NAS Corpus Christi's versatility. The retention / redirect of Goliad as an outlying field avoids the potential AICUZ impact that concentrated jet touch-and-go operations could bring to NAS Corpus Christi while inexpensively covering a 20% surge requirement for both the T-45 and T-44. Finally, this option allows the <u>real closure</u> of a UPT base currently proposed by the Secretary of Defense BRAC recommendation. **The South Texas Complex including OLF Goliad can train more Strike pilots for the 21st century than the Navy will have planes for them to fly.**

NAS CORPUS CHRISTI vs NAF CORPUS CHRISTI

NAS Jacksonville

- Multiple tenants
  - Navy aviation depot
  - VP squadrons
  - Helo squadrons
  - Flag staff
  - Naval hospital
  - Supply center–complex support
- Multiple runways
- Large complex
- Over 500 buildings

NAF Mayport

- Few tenants
  - Helo squadrons
  - Helo wing
- Few buildings
- Single runway

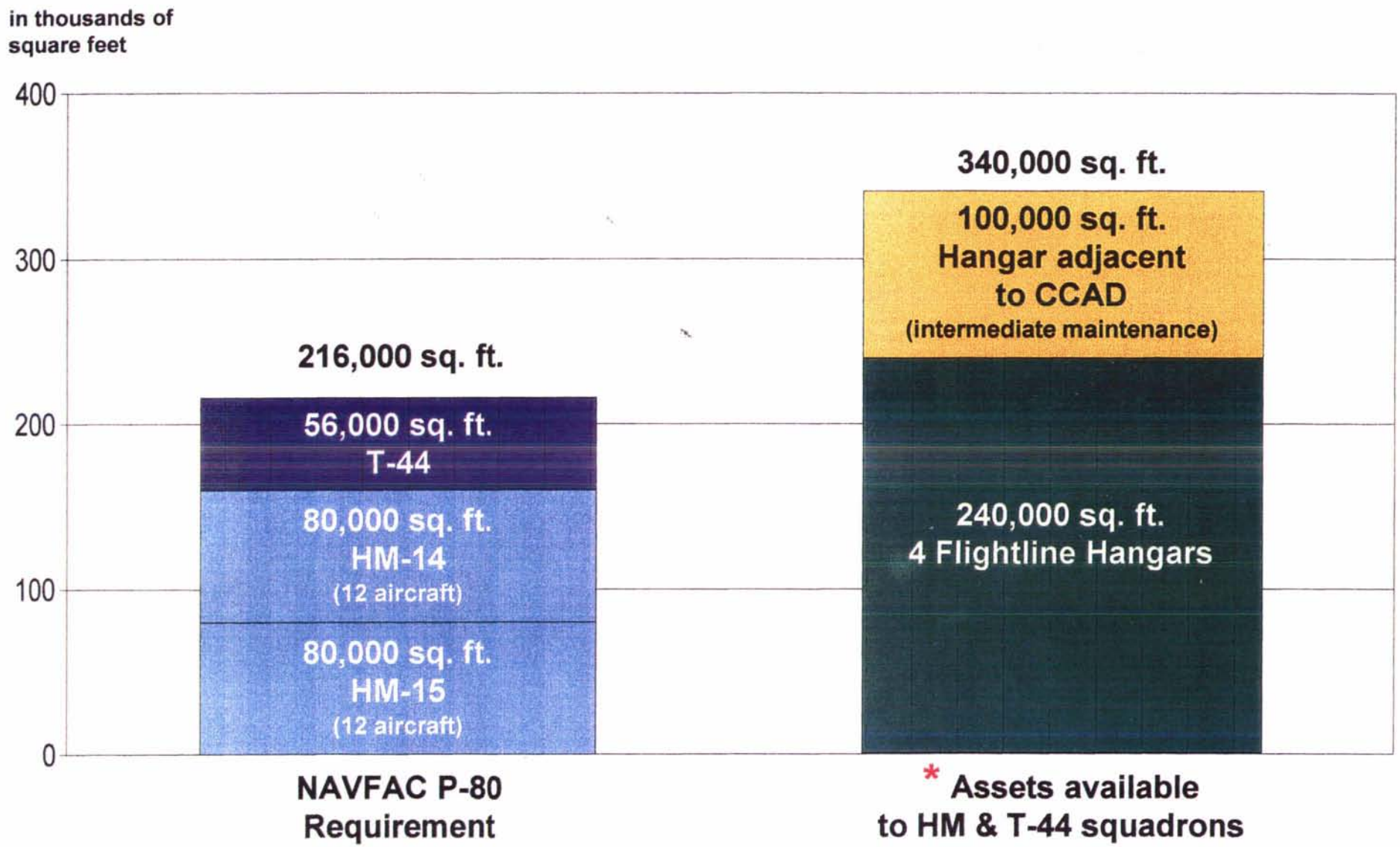
- Which one does Corpus Christi look like?
- Why does this have to be a BRAC issue?

NAS Corpus Christi

- Multiple tenants
  - Army aviation depot
  - Fixed wing units
  - Helo operations
  - Flag staff
  - Naval hospital
  - Supply support for bay area complex
- Multiple runways
- Large federal complex
- Over 700 buildings

Attachment (1)

HM & T-44 SQUADRON SPACE REQUIREMENTS



* Assumes one additional hangar & equipment for base ops ground support.

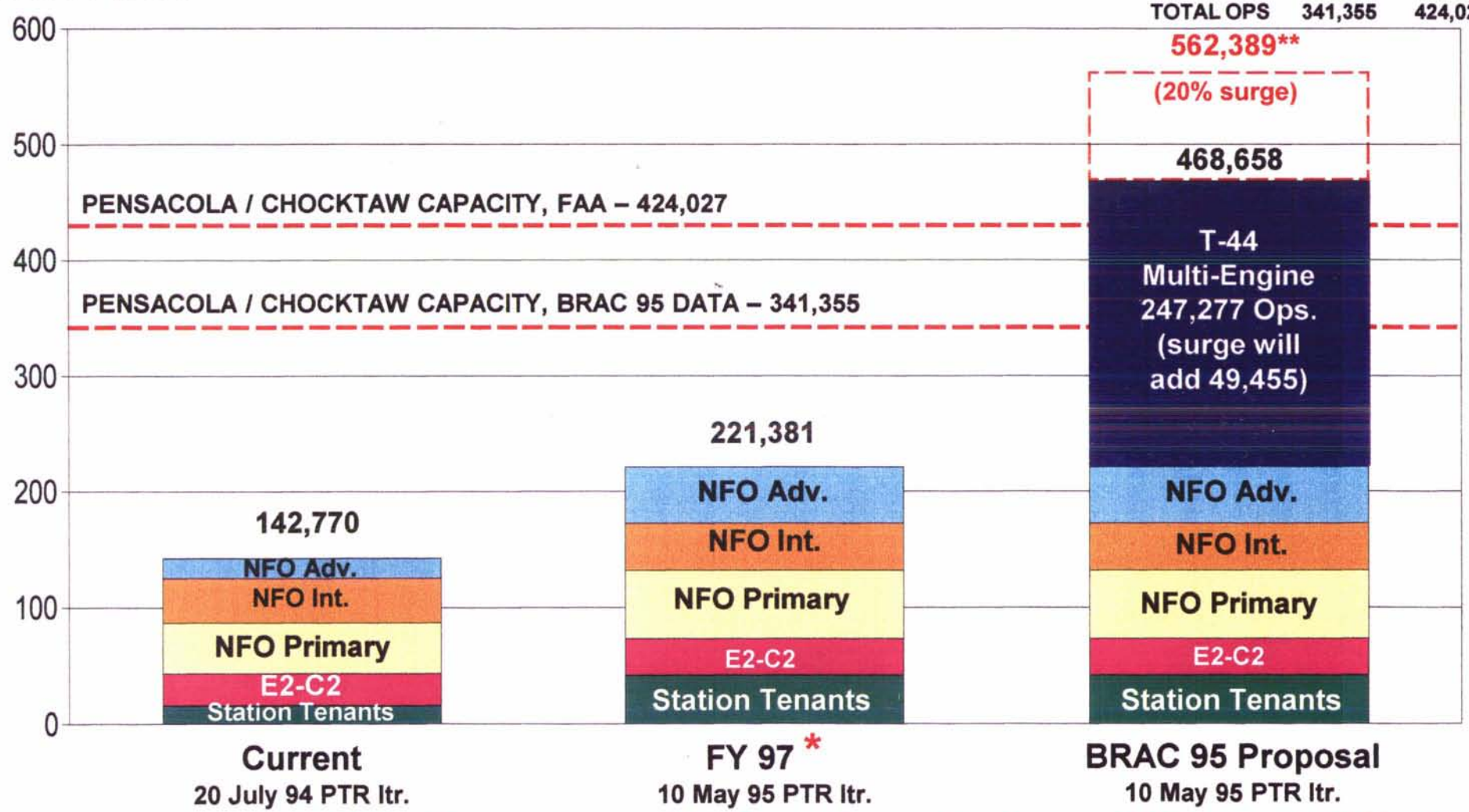
Attachment 2

NAS PENSACOLA COMPLEX

CURRENT AND PROPOSED OPERATIONS

Complex includes NAS Pensacola and OLF Chocktaw

NAS PNS.	187,400	270,072
OLF Chocktaw	153,955	153,955
TOTAL OPS	341,355	424,027



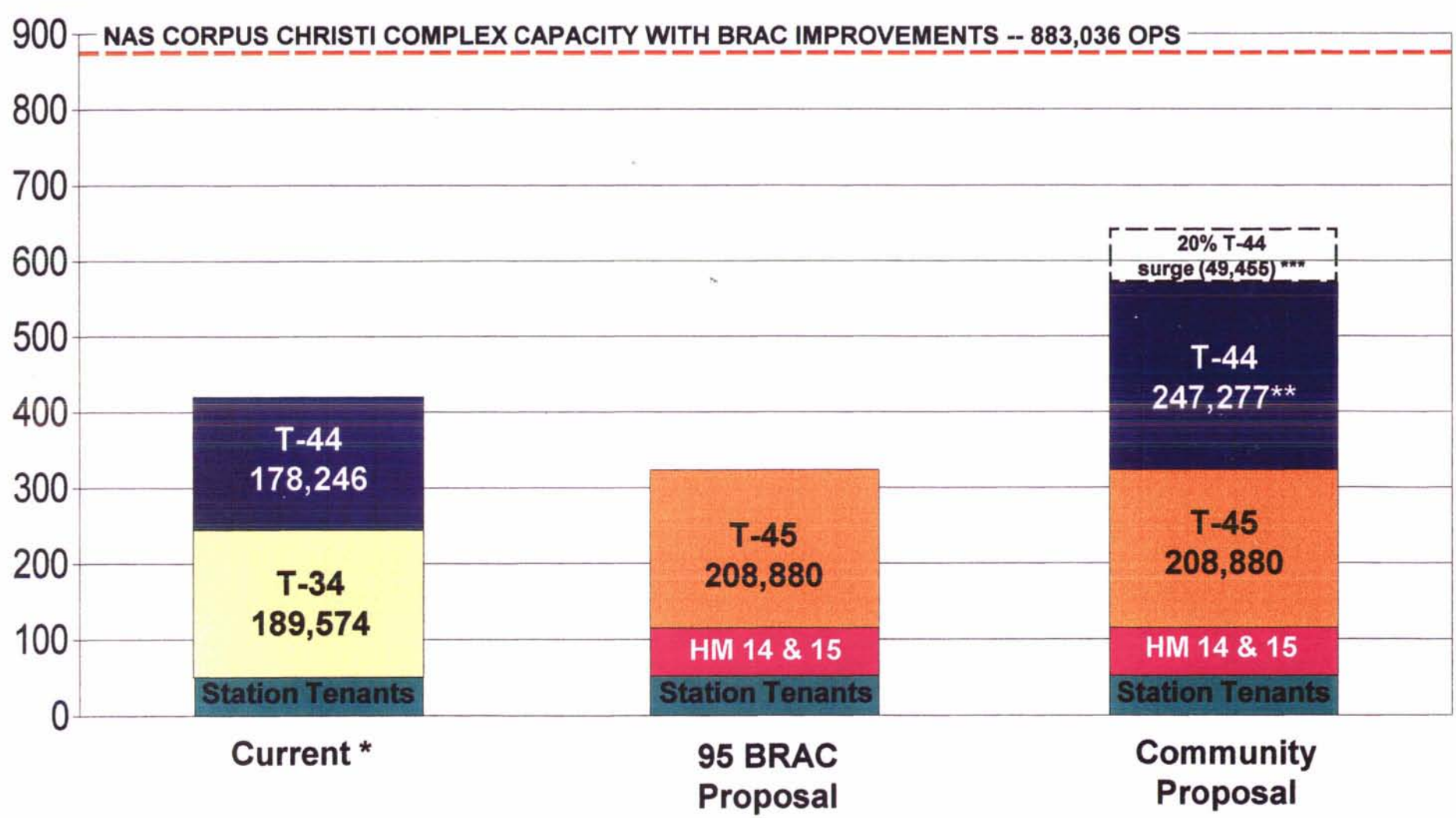
* Under new pilot and naval flight officer requirements letter, Pensacola must absorb an over 200% increase in NFO training. With this new requirement, there is inadequate capacity at the Pensacola complex to accommodate T-44 training. (NOTE: See backup data at conclusion of presentation)

** Includes 20% surge (468,658 – 487,618 without surge)

Attachment 3

NAS CORPUS CHRISTI COMPLEX

CURRENT AND PROJECTED OPERATIONS



Complex includes NAS Corpus Christi, OLF Cabaniss, OLF Waldron, and Aransas County (currently leased)

* 1993 Annual Operations

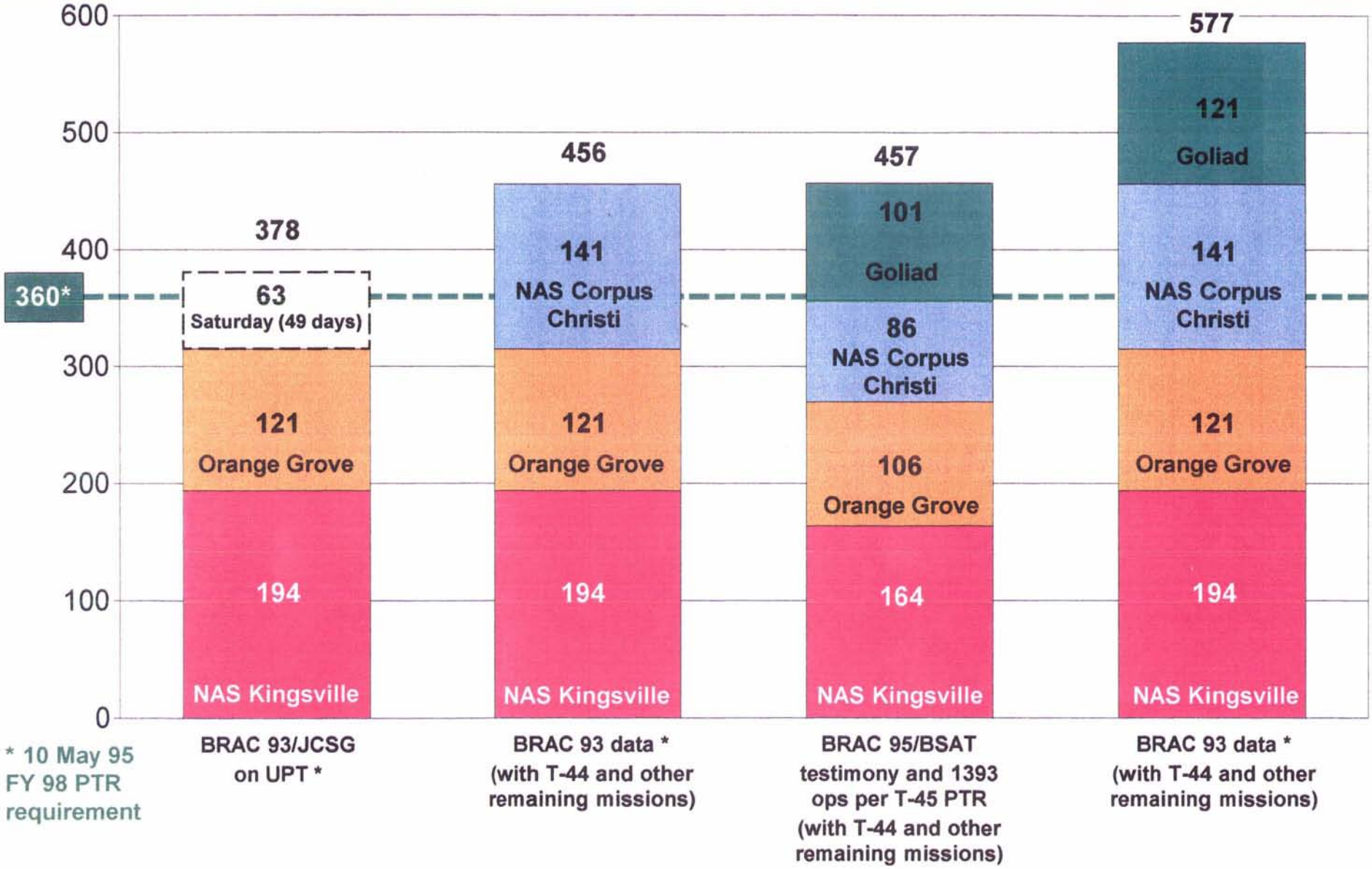
** Reflects increase due to U.S. Air Force C-130s and 5/10/95 CNO PTR letter

*** OLF Goliad provides T-45 surge capacity (see Attachment 5)

Attachment 4

COMMON SENSE T-45 PTR CAPACITY

SOUTH TEXAS COMPLEX – SINGLE SITE T-45 STRIKE PRODUCTION OPTIONS



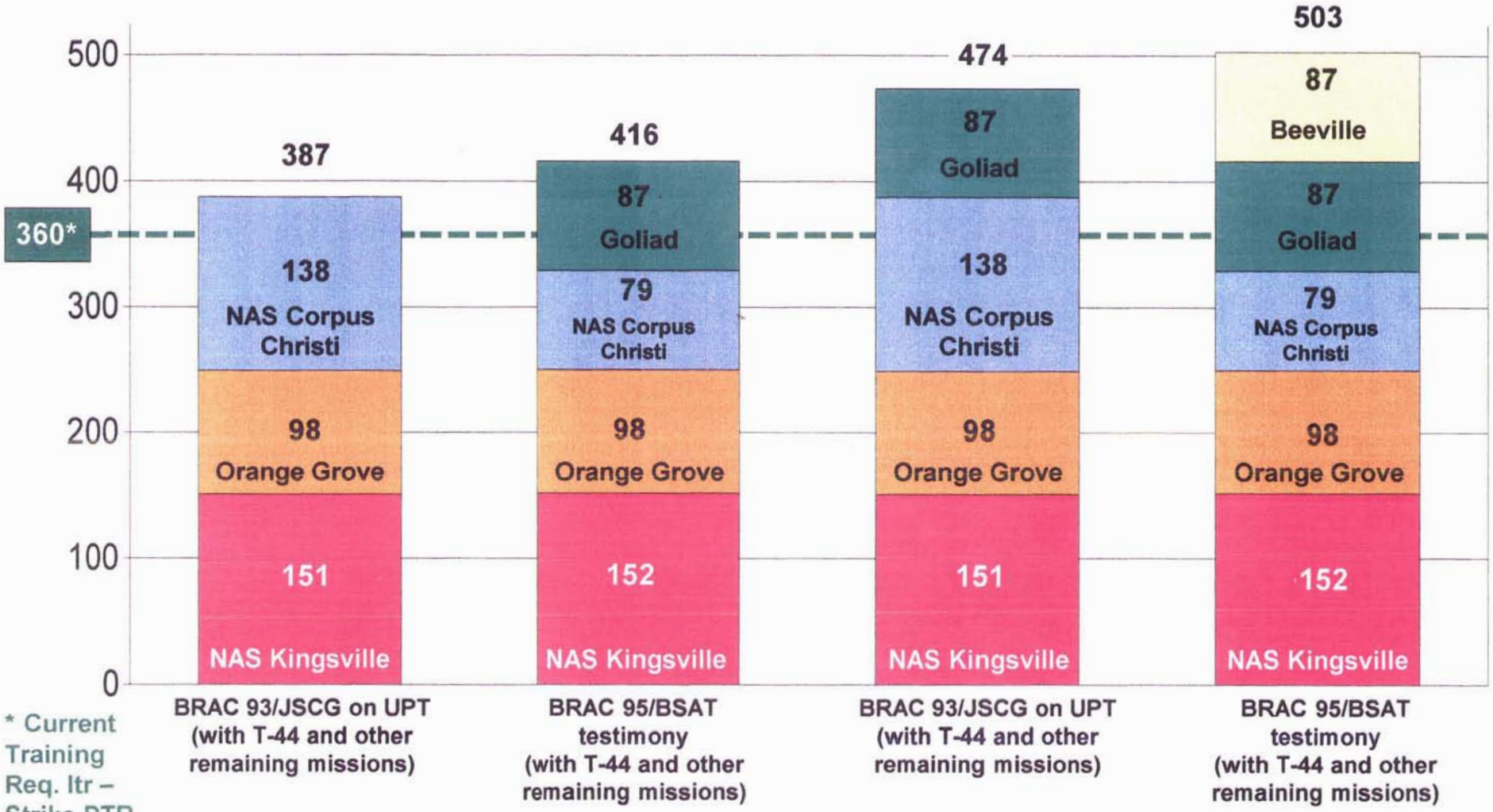
* Assumes 1473 ops/T-45 Strike/PTR

– Aircraft shortages, not airfield capacity, in '98/'99 will dictate Saturday flying to fill major share of surge requirements if and when they occur.

Attachment (5)

COMMON SENSE STRIKE PTR CAPACITY

SOUTH TEXAS COMPLEX – SINGLE SITE STRIKE T2/T-45 PRODUCTION OPTIONS



* Current Training Req. ltr – Strike PTR FY 98

- Assumes worst case T-2/T-45 and T-45 syllabi and 1511 daylight ops/PTR (BSAT estimate)
- Aircraft shortages, not airfield capacity, in '98/'99 will dictate Saturday flying to fill major share of surge requirements if and when they occur.

Attachment (6)

DERIVATION DATA:

(FIGURE 1) T-45 CURRENT DELIVERY RATE AND IMPACT

	FY96	FY97	FY98	FY99	FY00	FY01
T-45's on board	60	72	84	96	108	120
Max PTR (T-45 constrained) *	**187**	**224**	**262**	**299**	**336**	**374**
PTR Required (CNO ltr of 20 July '94)	319	336	336	336	336	336
PTR Required (CNO ltr of 10 May '95)	319	336	360	360	360	360

* 720 Flt hrs/T-45/YR and 231T-45 Flt hrs/PTR

(FIGURE 2) T-45 FIELD CAPACITIES

	'93 BRAC Certified	95 BRAC/BSAT CERT.
Kingsville	195	164
Orange Grove	121	106
Corpus Christi	121*	157
Total	**437**	**427**

* Using very conservative 65 OPS/Hr. for T-45 - (93 data indicated 65 ops/hr for Orange Grove with no parallel runway)

FIGURE 1

DERIVATION DATA (CONTINUED):

(FIGURE 3) SUMMARY OF FIELD OPERATIONS REQUIRED FOR STRIKE PTR:

Assumes T-2/T-45 Syllabus @ 1511 OPS/PTR.
And T-45 only Syllabus @ 1473 OPS/PTR

Strike PTR	OPS Required (5) T-2/T-45	OPS Required (6) T-45
336 (1)	507,896	494,928
360 (2)	543,960	530,280
379 (3)	572,669	558,267
451 (4)	681,461	664,323

Note (1) Reflects 20 July 94 CNO PTR LTR strike requirement for FY97.

Note (2) Reflects recent 10 May 95 FY 98 Strike PTR requirement for FY98.

Note (3) Includes E2/C2 Strike impact (19). Location of this training is currently in Pensacola and its future location and need with the introduction of full motion/visual trainers is the subject of occasional debate and future planning in a world of decreasing funding and aircraft assets. E2/C2 PTR requirement did not change with the 10 May 1995 PTR letter.

Note (4) Includes a 20% surge. USAF uses a 12% surge and Navy's reluctance to address the retention of OLF Goliad as an additional NAS Kingsville OLF to be used and funded when and if required in the out years is baffling. Aircraft shortages in '98/'99 will necessitate Saturday flying. In South Texas it's apparent that we will run out of air planes long before there is a shortage of runway, airspace or OLFs.

Note (5) 1511 OPS/PTR reflects a weighted average T-45 and T-2/T-45 spli syllabust used by the BSAT.

Note (6) 1473 OPS/PTR reflects last T-45 certified 1393 OPS/PTR plus 80 detachment OPS. Recent syllabus change awaiting final OPNAV approval after BRAC proposes 1385 OPS/PTR (Daylight)

DERIVATION DATA (CONTINUED):

(FIGURE 4) SUMMARY OF FIELD OPERATIONS AVAILABLE TO GENERATE STRIKE PTR IN SOUTH TEXAS

Site	Daylight OPS. Avail.	T2/T45 PTR	T45 PTR
NAS Kingsville (12.1 Hrs)	229,416 (1)	151	155
NAS Kingsville (12.1 Hrs)	286,770 (2)	189	194
OLF Orange Grove (11.6 Hrs.)	148,457 (1)	98	100
OLF Orange Grove (11.6 Hrs)	178,698 (3)	118	121
NAS Corpus Christi (12.1 Hrs.)	280,394 (4)	185	190
NAS Corpus Christi (12.1 Hrs.)	208,880 (5)	138	141
NAS Corpus Christi (12.1 Hrs.)	191,496 (6)	126	130
NAS Corpus Christi (12.1 Hrs.)	119,982 (7)	79	81
OLF Goliad (10.1 Hrs.)	129,260	85	87
OLF BEEVILLE (10.1 Hrs.)	129,260	85	87

Note (1) Most conservative of all previous certified and historical data. NASMOD Study estimates NAS Kingsville / Orange Grove with continued occasional use of NAS Corpus Christi for spill-over instrument approaches and out-and-in flights charasteristic of the tempo of operations while the T-2/T-A4 operated at NAS Kingsville / NAS Chase Field will easily allow PTR production capability in the 350 range.

Note (2) BRAC 93 Certified Data (100 OPS/HR Daylight Capacity)

Note (3) BRAC 93 Certified Data (65 OPS/HR Daylight Capacity)

Note (4) Reflects JCSG on UPT/FAA Advisory Circular capacity of 111 ops/hr, 318,314 (certified for Joint UPT Study) and reduced by 37,920 for HM, USCG, Customs, Army Depot, station aircraft and historical transient ops. Assumes runway extensions in BRAC95 proposal to 6000 FT (Parallel runway 13L extension will have largest impact on NAS Corpus Christi's jet Ops capacity).

Note (5) Note 4 Plus T-44 required homefield OPS of 71,514 deleted from daylight operations available balance.

Note (6) Reflects ultra-conservative OPS available of 229,416 used by BSAT with Note (4) deletions.

Note (7) Reflects ultra conservative OPS available of 229,416 and deletes required homefield OPS to support T-44 (Note 5) plus Note 4 other tenant deductions).

DERIVATION DATA (CONTINUED):

(FIGURE 5) STRIKE TRAINING SITE PTR PRODUCTION COMBINATIONS:

NAS Kingsville provides the Lion's share of requirement, however field operations capacity appears to be significantly understated during BRAC 95. No explanation exists for the substantial reductions in capacity. Field configurations have not changed since 1993. NASMOD estimated a solid 350 PTR capability at the Kingsville / Orange Grove with over-spill instrument / PCN approaches at NAS Corpus Christi, while FAA capacity analysis yielded a total of 591, 865 equating to a strike T-2/T-45 PTR of 391 and a T-45 only PTR of 401. NASMOD also envisioned NAS Corpus in a support role handling the instrument approach load and the form/ACM, out and in events. This would maximize the NAS Kingsville complex while minimizing any potential AICUZ noise impact associated with concentrated jet touch and go operations at NAS Corpus Christi. Considerable surge capability is available with Saturday operations and the retention / redirect of OLF Goliad.

	BRAC 95 Data		BRAC 93 Data	
	PTR (1) T2/T45	PTR (2) T45	PTR (1) T2/T45	PTR2 T45
NAS Kingsville	151	155	189	194
OLF Orange Grove	98	100	118	121
Sub-total	**249**	**255**	**307**	**315**
NAS Corpus Christi (3)	79	81	118**	121**
Sub-total with T-44 retained *	**328**	**336**	**425**	**436**
OLF Goliad	98	100	118	121
Sub-total	**426**	**436**	**543**	**557**
OLF Beeville	98	100	118	121
TOTAL	**524**	**536**	**661**	**678**

Note (1) 1511 ops / PTR associated with T-45 and T-2/T-45 syllabus required until T-45 picks up entire strike training load in 2001.
Note (2) 1473 ops / PTR
Note (3) Includes BRAC 95 proposed additions plus retains T-44 training.

* NAS Corpus Christi's 'Sub-total with T-44 relocated' could provide an additional 47 PTR with T2/T-45 or an additional 51 PTR with T-45 only syllabus.
** Conservative estimate of T-45 PTR contribution capacity is 65 ops / hr x 11.6 hr / day x 237 days (BRAC 93 data stated 160 ops / hr for T-34 and T44).

NAS PENSACOLA COMPLEX

BRAC 95 PROPOSAL IMPACT IN FY 97

OPTION 1: CNATRA/CTW-6 CERTIFIED DATA -- IMPACT

Complex includes NAS Pensacola and OLF Chocktaw

* Total Ops Required: 578,758

Type Tng/Evt	Daylight Ops Per PTR	x	PTR FY 97	=	Total Daylight Ops Required
E-2/C-2	866		36		31,176
Pri. NFO	121		486**		58,806
Int. NFO	111		387**		37,407
USAF	21		158 (USAF only)		3,318
Adv. NFO					
TN/BN	113		77		8,701
RIO	147		91		13,377
OJN	113		151		16,912
WSO	131		77		10,087
ATDS	E2-FRS		99		0
Transient/Tenant/ Blue Angels (historical data) Data NAS/OLF					55,238
					235,022
					+
Multi-Engine (T-44)			350		247,277
					482,299
				+	96,459 (20% surge)

* Includes 20% surge

** Assumes no USAF NFO training in T-34

Total 578,758

NAS PENSACOLA COMPLEX
BRAC 95 PROPOSAL IMPACT IN FY 97

OPTION 2: BRAC 93/JCSG ON UPT SCENARIO RESPONSES/ ASSESSMENTS
TRAINING AIR STATION CONFIGURATION MODELING DATA

Complex includes NAS Pensacola and OLF Chocktaw

* Total Ops Required: 585,141

Type Tng/Evt	Daylight Ops Per PTR	x	PTR FY 97	=	Total Daylight Ops Required
E-2/C-2	744 (648, 719, 866)		36		26,784
Pri. NFO	123 (120, 121, 130)		486**		59,778
Int. NFO	111 (consensus)		495**		37,404
USAF	21		158 (USAF only)		3,318
Adv. NFO	146 (90, 167, 181)		396 (no ATDS)		57,816
Transient/Tenant/ Blue Angels (historical data) (15,860, 39,378)					55,238
					240,341
					+
Multi-Engine (T-44)			350		247,277
					487,618
				+	97,523 (20% surge)

Total 585,141

* Includes 20% surge

** Assumes no USAF NFO training in the T-34

NAS PENSACOLA COMPLEX
BRAC 95 PROPOSAL IMPACT IN FY 2000

OPTION 3: COMMON SENSE APPLIED TO 10 MAY 95 PTR LTR.
MODEL/JCSG ON UPT/ HISTORICAL DATA CONSIDERED

Complex includes NAS Pensacola and OLF Chocktaw

* Total Ops Required: 540,817

Type Tng/Evt	Daylight Ops Per PTR	x	PTR FY 97	=	Total Daylight Ops Required
E-2/C-2	866		36		31,176
Pri. NFO	121		434**		54,934
Int. NFO	111		302**		33,522
USAF	21		158 (USAF only)		3,318
Adv. NFO	123		366		45,018
Transient/Tenant/					35,436
Multi-Engine (T-44)			350		247,277
					450,681
				+	90,136 (20% surge)

Total 540,817

NAS Pensacola Complex Capacity (including OLF Chocktaw)		Field Ops Deficit
Air Station Configuration Model	340,356	200,461
BRAC 95 Data	341,355	199,462
FAA	424,027	116,790

* Includes 20% surge
** Assumes no USAF NFO training in the T-34

NAS PENSACOLA COMPLEX
BRAC 95 PROPOSAL IMPACT IN FY 97

OPTION 3: COMMON SENSE (CONSERVATIVE) – CNATRA/CTW-6 CERTIFIED DATA CONSIDERED JCSG/TNG. AIR STATION MODEL/HISTORICAL DATA

Complex includes NAS Pensacola and OLF Chocktaw

* Total Ops Required: 562,389

Type Tng/Evt	Daylight Ops Per PTR	x	PTR FY 97	=	Total Daylight Ops Required
E-2/C-2	866		36		31,176
Pri. NFO	121		486**		58,806
Int. NFO	111		337**		37,407
USAF	21		158		3,318
Adv. NFO	123		396		48,708
Transient/Tenant/ Blue Angels (historical data) (assumes reduced transient ops at Chocktaw by 35% 15,860, 25,106, VICE 39,378)					41,966
					221,381
					+
Multi-Engine (T-44)			350		247,277
					468,658
				+	93,731 (20% surge)

* Includes 20% surge

** Assumes no USAF NFO training in the T-34

Total 562,389

NAS Pensacola Complex Capacity (Including OLF Chocktaw)		Field Ops Deficit
Air Station Configuration Model	340,356	222,033
BRAC 95 Data	341,355	221,034
FAA	424,027	138,362

R

CLOSE HOLD

Facilities (cont.)

A. Airfield (cont.)

16. Give the maximum sortie generating capacity per year of your installation given the current aircraft mix and type at your installation, and consistent with the training mission.

AIR OPS: Sherman Field using FAA criteria: parallels - max hourly capacity would be 129 VFR & 56 IFR and on single runway 68 VFR and 51 IFR.

Syllabus of Training *	Level (Track) of Pilot Training *	Trainer Aircraft *	Maximum Sorties+
General NFO	Primary	T-34C	4,924
General NFO	Intermediate	T-34C	4,366
		T-39	2,824
Advanced NFO	RIO/TN/OJN	T-39 T-2	4,857 2,647
E2/C2 Pilot	Advanced	T-2	5,076

* Maximum number of flight hrs per year are limited by contractor maintenance. Available flight hours directly affected number of sorties available. SORTIE RATE CAPACITY CAN BE INCREASED WITH ADDITIONAL FUNDING.

7. Are there any recommendations on how to increase sortie generating capacity and reduce the number of training installations? If so please explain.

NASP CO
9/7/94

CTW-6: Close NAS Meridian Mississippi and decommission Training Air Wing ONE. Move VT-19 (Intermediate Strike, T-2C Aircraft) and VT-7 (Advanced Strike, TA-4J aircraft) to Training Air Wing SIX board NAS Pensacola. NAS Pensacola has the hanger space, ramp space, office space and airspace available to safely and efficiently conduct NFO Training, Advanced E2/C2 training, Intermediate strike training and Advanced strike training concurrently as it was previously accomplished here through 1985. Previous AICUZ studies contain data for the T-2C, TA-4J, and T-39 aircraft. See note 1.

AIR OPS: Centralized scheduling for squadrons ensuring even spacing of operations allowing maximum use of all operating hours instead of 3 to 4 rush hours (75% of daily traffic) and remainder of day is slow.

1: NAS Pensacola does not have the capability to do All NFO, All Advanced E2/C2 and All of NAS Meridian's strike pipe (IGB). Extensive capacity analysis would have to be conducted prior to implementing this option.

CNATRA N3

*See attached CNET letter

ELS
CNET 7254

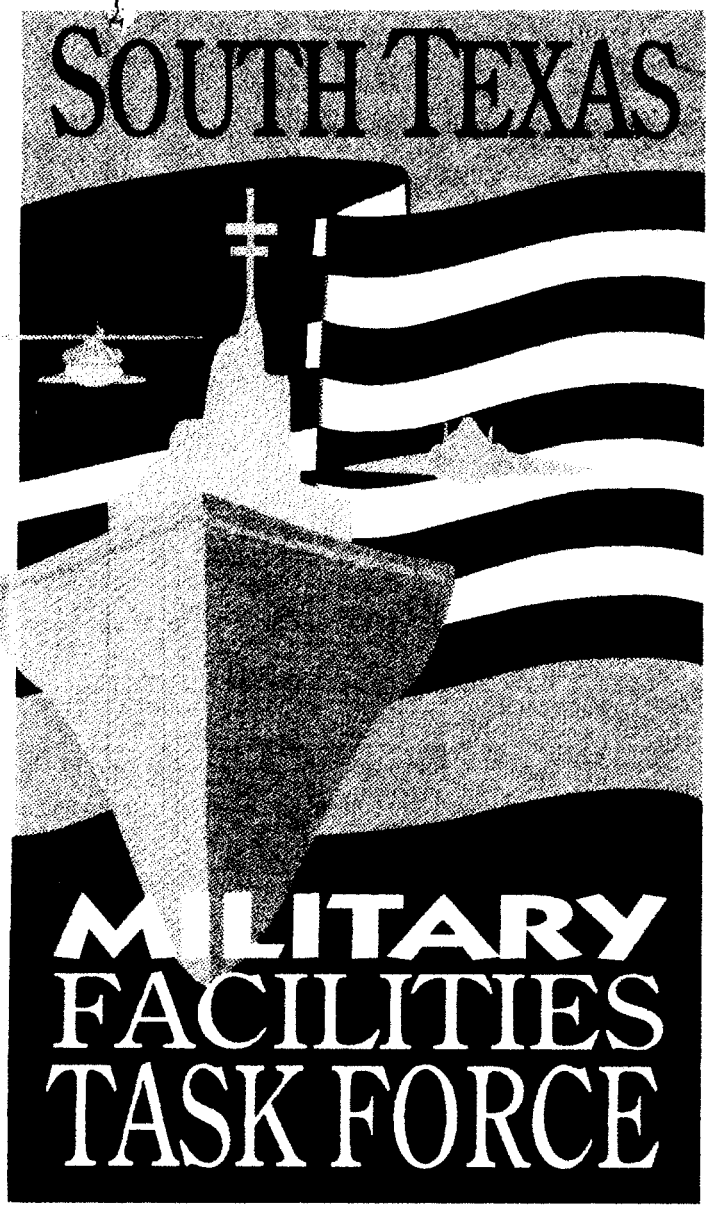
JERRY/GARY
— IF CNATRA SAYS THEY CAN'T DO 168 x 1511 = 253,848 FIELD OPS IN ADDITION TO 94 LOAD, HOW DO THE EXPECT TO DO 247,277 T-44 OPS + 200% INCREASE IN NFO OPS.
CRAIG

58 (9/7/94)

CLOSE HOLD

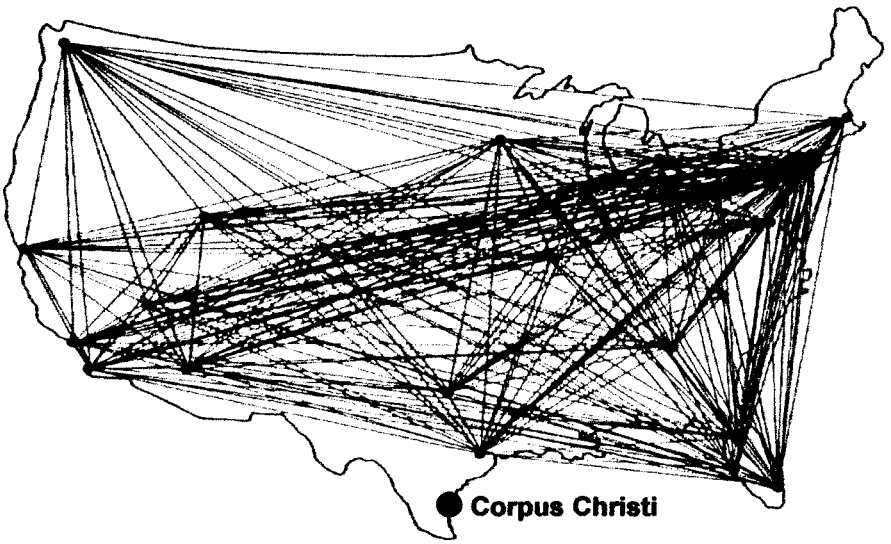
CRAIG REYNOLDS 12 JUNE 1995
CAPT. USN (Retired)

Document Separator



Joint Flying Training and BRAC 95

The View From South Texas



SOUTH TEXAS
MILITARY FACILITIES TASK FORCE

P.O. Box 640
Corpus Christi
Texas 78403
(512) 883-5571

October 1994

SUBJECT: "Joint Flying Training and BRAC 95: The View From South Texas"

The South Texas Military Facilities Task Force, a coalition of community volunteers from the four county Corpus Christi Bay Area, supports the missions of Naval Air Station Kingsville, Naval Station Ingleside, Naval Air Station Corpus Christi and its major tenant, Corpus Christi Army Depot.

The collapse of the Soviet Union and subsequent defense budget cuts mandate significant reductions in the DOD infrastructure. However, it is essential that the BRAC 95 retain those bases providing the greatest long term capacity, capability, flexibility and versatility necessary to enhance military training well into the next century.

There are certain economies to be obtained with "jointness". DOD has directed a number of studies in this regard including "Joint Pilot Training". The South Texas Military Facilities Task Force has retained several retired Navy and Air Force senior aviators to review the requirements and assets of both services in the training of aviators. These senior aviators have visited all Navy and Air Force bases involved in aviation training and have produced the attached report.

We invite you to review this document which we believe to be an objective analysis of our current aviation training assets and continuously changing requirements.

Loyd Neal
Chairman

A COOPERATIVE EFFORT BY ARANSAS, KLEBERG, NUECES, & SAN PATRICIO COUNTIES

Joint Flying Training and BRAC 95

The View From South Texas

October 1994

Prepared by the
South Texas Military Facilities Task Force
1201 N. Shoreline
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PREFACE

JOINT AVIATION TRAINING: THE CASE FOR SOUTH TEXAS

The collapse of the Soviet Union and subsequent defense budget cuts mandate significant reductions in the DoD infrastructure to render it more compatible with the size and characteristics of a shrinking force structure. This requires the closure of certain military bases and/or the relocation of essential support activities.

A. MILITARY VALUE

During BRAC 95 each military base will be evaluated in terms of its 'military value' with respect to:

1. Utility vis a vis current and future mission requirements and contribution to the operational readiness of the DoD's total force.
2. The availability and condition of land, facilities and associated air space.
3. The ability to accommodate contingency, mobilization and total force requirements.
4. Cost and manpower savings realistically realizable from base closure/ relocation.

In assessing military value, distinction must be made between features that are humanly possible to change (e.g. aircraft complements, facilities, housing, runways, etc.) and those which are beyond human control (e.g. weather, proximity to salt water, proximity to Mexico, etc.). Moreover, such considerations as encroachments and civil airways overlays over pilot/aircrew training area, while humanly possible to arrest, are in some areas, moving inexorably in directions which can only aggravate current problems.

South Texas is especially suited to joint pilot training because of the large volume of uncrowded airspace and excellent flying weather. These features are unique to south Texas and cannot be matched by any Navy or Air Force pilot training bases in any other area. With the advent of the North American Free Trade Agreement (NAFTA), negotiations with Mexico might make even more unencumbered airspace and real estate for such special missions as low-level navigation, ground attack ranges, basic air-to-air training and low level intercepts.

Corpus Christi and Kingsville enjoy an additional advantage for Navy pilot training because of their proximity to salt water and deep water, aircraft-carrier-capable port (Naval Station Ingleside). Lore of the sea, an important element of Navy pilot training, is best imparted at the water's edge, not deep inland.

Nowhere, in the United States, are the natural advantages of the South Texas training environment matched, let alone surpassed. Once they are given up by a base closure decision they can never be recovered and the flying training system will remain, thereafter, less efficient than it was before.

B. SOUTH TEXAS AIRCREW TRAINING BASE COMPLEX

The South Texas aircrew training base complex consists of NAS Corpus Christi, NAS Kingsville, Laughlin AFB and Randolph AFB. These bases are currently involved in conducting all categories of Navy/Air Force pilot training (except helicopter training). In addition, Randolph AFB is participating, with NAS Pensacola, in the conduct of joint training for NFO's, WSO's and EWO's. Additionally, NAS Corpus Christi has been tasked to provide C-130 pilot training for Air Force student pilots (Joint primary pilot training is being initiated at Reese AFB and NAS Whiting Field.).

NAS Corpus Christi stands out among the ten other undergraduate aircrew training sites nationwide in that it is, more properly, a Federal Support Complex whose tenants pay about one third of its annual operating costs. Undergraduate pilot training is an included (but not the major) activity. A major tenant, is the Corpus Christi Army Depot (CCAD) which is the Army's only and the world's largest helicopter repair activity. CCAD employs over 3000 civilians, 58% of which are Hispanic. Other major tenants include the U.S. Customs Service with P-3A and P-3B AEW assets which require basing at Corpus Christi in order to perform their drug interdiction operations in the Caribbean, Mexico and Central and South America. Corpus Christi is also the U.S. Coast Guard's site for the operation of its HH-65A "Dolphin" helicopters and HU 25A "FALCON" fanjets employed in its Southwest mission. The Naval Hospital at NAS Corpus Christi is the only military hospital south of San Antonio and serves an area 150 miles to the north to 120 miles south. Services are provided for personnel stationed at NAS Corpus Christi, NAS Kingsville, NAS Dallas and Naval Station Ingleside as well as for a large community of military retirees. 'Interdependence' is a key feature of the Corpus Christi complex in that all of the activities on or near NAS Corpus Christi are importantly dependent on it for operational, personnel and/or logistic support. Of particular military value is the C-5 capable runway which supports both CCAD and MINEWARCOM logistics. It should also be recognized that while BRAC 95 will be a Department of Defense exercise, any decision which requires the relocation of non-DoD- organizations will incur costs which will have to be defrayed somewhere in the federal budget. Moreover, if the only action is to relocate NAS Corpus Christi's pilot training assets, the result will be merely cost shifting, not cost savings.

NAS Kingsville is currently the only operational site for the T-45, the Navy's first-of-a-kind pilot training system. The T-45 training system includes flight simulators and state-of-the art computer-aided ground training. The system is the prototype for future undergraduate pilot training systems such as the Joint Primary Aviation Training System (JPATS). NAS Kingsville has existing ramp and maintenance facilities capable

of accommodating the entire T-45 buy now planned, Moreover, NAS Kingsville, with the complex of auxiliary fields available in the area, has the capacity to train all the Navy strike pilots who will fly the T-45 during the current decade and beyond. NAS Corpus Christi, because of its proximity to Kingsville, could serve as a supplementary/ auxiliary T-45 training base without any further investment in T-45 infrastructure beyond that planned for NAS Kingsville. Single siting the T-45 would enable short term cost avoidance upwards of $200 million and long term savings several times that.

Laughlin AFB is ideally sited for undergraduate pilot training and has in place the facilities as assets required for significant increases in student output with little, if any, requirement for additional capital investment.
Randolph AFB is, justifiably, the centerpiece of the Air Force's aircrew training programs, is one of the two major participants in the joint aircrew training program, and the Air Force's focal point for the formulation, direction and management of its elements of the joint aircrew training program.

C. TRAINING REQUIREMENTS AND CAPABILITY TO PERFORM

Infrastructures currently in-place in the South Texas undergraduate pilot training complex will support an annual output of 800-1000 primary students and at least 1300 advanced students without further capital investment. Current Navy/Air Force statements of pilot training requirements (PTR's) through FY 1999 indicate the need for an input of 1800 to 2300 primary students per year. About two thirds of these will be Navy students. Since joint training plans provide only for the exchange of 100 students, the irreducible minimum of primary training bases appears to be three Air Force and two Navy. A 'safer' mix would be four Air Force and two Navy in order to provide increased 'surge' capacity to deal with (currently) unforeseen contingencies.

D. SUMMARY

NAS Corpus Christi is much more than a Naval Air Station; it is a Federal Support Complex. Experience at Corpus Christi has proven the efficacies of the co-location and consolidation of a family of interdependent activities. This extends beyond the boundaries of the Naval Air Station to Naval Station Ingleside's MINEWARCOM for which the personnel, operational and maintenance support are essential to mission performance. Moreover, the co-location of CCAD at NAS Corpus Christi and Shore Intermediate Maintenance Activity and Navy drydock at NAVSTA Ingleside provides the potential for a Regional Maintenance Facility. NAS Corpus Christi's runways are capable (now) of operating the JPATS and there is, in-place, adequate ramp and hangar space for the JPATS and/or the Air Force's T-1 as well as the MINEWARCOM's MH-53 helicopter. The base is C-5 capable and currently provides that service to CCAD.

NAS Kingsville has the capabilities and capacity to train, in the T-45, all the strike pilots the Navy will require during the current decade and beyond. The cost savings potentially realizable from single-siting the T-45 at Kingsville merit honest, serious, objective consideration.

Finally, since BRAC 95 will determine what complex of bases will be available to conduct aircrew training well into the next century, it is essential that those bases provide the best available in the way of capacity, capability, flexibility and versatility. In South Texas these already existing qualities are materially enhanced by the natural advantages of airspace and weather unmatched anywhere else in the continental United States. The Navy came to Texas 50 years ago to train pilots because of good weather and air space. Much has changed in 50 years; however, weather has not. In 50 years South Texas air space has only become more attractive for pilot training relative to the alternatives. The route to training efficiencies and cost savings runs through South Texas.

NOTE: This preface is based on the study: "Joint Flying Training and BRAC 95: The View From South Texas."

JOINT FLYING TRAINING AND BRAC 95:

THE VIEW FROM SOUTH TEXAS

EXECUTIVE SUMMARY

This report consists, first, of an appreciation of the nature and scope of the Joint Flying Training Program (JFTP) of the Department of Defense which is now being implemented. It then addresses the potential impact of BRAC '95 and the factors influencing the decision-making process which, it is hoped, will result in a complex of flying training bases best suited for executing the JFTP in 1995 and on into the next century. Included is the justification for the inclusion, in that complex, of the Navy and Air Force bases located in South Texas.

The principal elements of the report are:

A. JOINT FLYING TRAINING
What is involved with Pilot, Naval flight Officer (NFO), Weapons Systems Officers (WSO), and Electronic Warfare Officer (EWO) training.

B. FLYING TRAINING REQUIREMENTS
The derivation of training requirements from force structure and aircraft procurement projections...and the resultant student training requirements.

C. FIXED-WING FLYING TRAINING BASES
An inventory of the existing flying training bases, a comparative evaluation of their worth to the training program and a look at student capacities (because the latter will likely be the principal factor influencing base closure/relocation decisions).

D. BASE CLOSURE CONSIDERATIONS
A review of the selection criteria, a caution against over-dependence on numerical quantification, and a discussion of some of the "real world" considerations which need to influence the decision-making process for BRAC '95.

E. IMPLEMENTATION AND BRAC '95
The influence of student capacity estimates, variables which mandate against premature foreclosure on future options/alternatives and a preview of future possibilities for joint pilot training. Highlighted is the importance of the role that the training bases in South Texas can/should play in all this.

The South Texas training base complex consists of NAS Corpus Christi, NAS Kingsville, Laughlin AFB, and Randolph AFB. These bases are currently involved in conducting all categories of Navy/Air Force joint flight training (except helicopter training). In addition, Randolph AFB is participating with NAS Pensacola in the conduct of joint training for NFO's, WSO's, and EWO's. Corpus Christi stands out among the other aircraft training sites nationwide in that it is, more properly, a Federal Support Complex with 47 tenants wherein flight training is an included (but not the major) activity. If the only BRAC '95 action is to relocate NAS Corpus Christi's training assets, the result **will be cost shifting, not cost savings.**

Current in-place infrastructures in the South Texas complex will support an annual output of 800-1000 primary students and at least 1300 advanced students without further capital investment. Certain efficiencies and economies, such as those which could be realized by single-siting the T-45 at NAS Kingsville, merit special consideration.

South Texas is especially suited to joint pilot training because of the large volume of uncrowded airspace and excellent flying weather. These features are unique to South Texas and cannot be matched by any Navy or Air Force pilot training bases in any other area. With the advent of the North American Free Trade Agreement (NAFTA), negotiations with Mexico might make even more unencumbered airspace and real estate available for such special missions as low-level navigation, ground attack ranges, basic air-to-air training and low level intercepts.

Corpus Christi and Kingsville enjoy an additional advantage for Navy pilot training because of their proximity to salt water. Lore of the sea, an important element of Navy pilot training, is best imparted at the water's edge, not deep inland.

Nowhere, in the United States, are the natural advantages of the training environment matched, let alone surpassed. Once they are given up by a base closure decision they can never be recovered and the flying training system will remain, thereafter, less efficient that it was before.

The View From South Texas derives from on-site visits to six Air Force and five Navy bases, conversations with highly placed officials in the DoD and Congress and a thorough search of contemporary documentation on the subject of joint aircrew training.

A. JOINT FLYING TRAINING

1. OVERVIEW

The military services are implementing a group of fixed-wing aircraft training initiatives in response to the 15 April, 1993 Secretary of Defense Memorandum on "The Roles, Missions and Functions of the Armed Forces of the U.S.," Plans purport to consolidate certain elements of fixed-wing training for Air Force, Navy, Marine Corps and Coast Guard students. Implicit in the planning is the accommodation of ongoing training programs for NATO, FMS and NOAA students.

Near-term focus is on joint training in three categories:

- Fixed-wing Primary
- Advanced Airlift/Tanker/Maritime Patrol
- Advanced training for Naval Flight Officers/ Weapons Systems Officers/ Electronic Warfare Officers.

Present planning for joint training does not extend to Navy strike pilot training or to Air Force fighter/fighter-bomber or heavy bomber training. To date, plans have been developed for personnel exchanges which provide that Navy and Air Force will exchange instructors and each will train 100 of the other's primary students per year.

Following examinations of training capacity and infrastructure, Navy and Air Force have stated jointly that neither has the aircraft or base capacity to train all DoD fixed-wing pilot trainees projected for FY '99 and beyond. It goes without saying that BRAC '95 decisions should reflect, inter alia: 1) near-term (pre FY '99) steady state requirements plus some surge capacity; 2) long-term (FY '99 and after) requirements which must be recognized in 1995 in order not to seriously inhibit or preclude the exercise of future options.

Pursuant to a SECDEF Memorandum of 23 May, 1993, the subject of rotary wing training is being addressed separately. The Air Force has already consolidated its rotary wing pilot training with the Army at Fort Rucker, Alabama. Remaining issues are the consolidation at Fort Rucker, of Navy/Marine Corps/Coast Guard rotary wing pilot training, existing differences in training helicopters and training syllabi and the (Navy's) practice of using fixed-wing training in the T-34 to select and train students enroute to rotary wing training. Navy, Marine Corps, and Coast Guard helicopter pilots are currently being trained at Whiting Field. The Air Force is considering primary fixed wing training for prospective helicopter pilots.

2. FIXED WING PILOT TRAINING

Although differing in some particulars, both Air Force and Navy pilot training programs are the product of similar training philosophies. Both embody the teaching of basic military flying skills during a primary training phase with progression to service-

specific training in (subsequent) advanced phases. The Air Force program differs from the Navy's in that Air Force student pilot candidates go through a pre-primary screening phase in the T-3. Navy pilots do not. There are no comparative data available with which to judge the relative efficiencies of these two approaches. Air Force and Navy pilot training flows are shown in Figures 1 and 2.

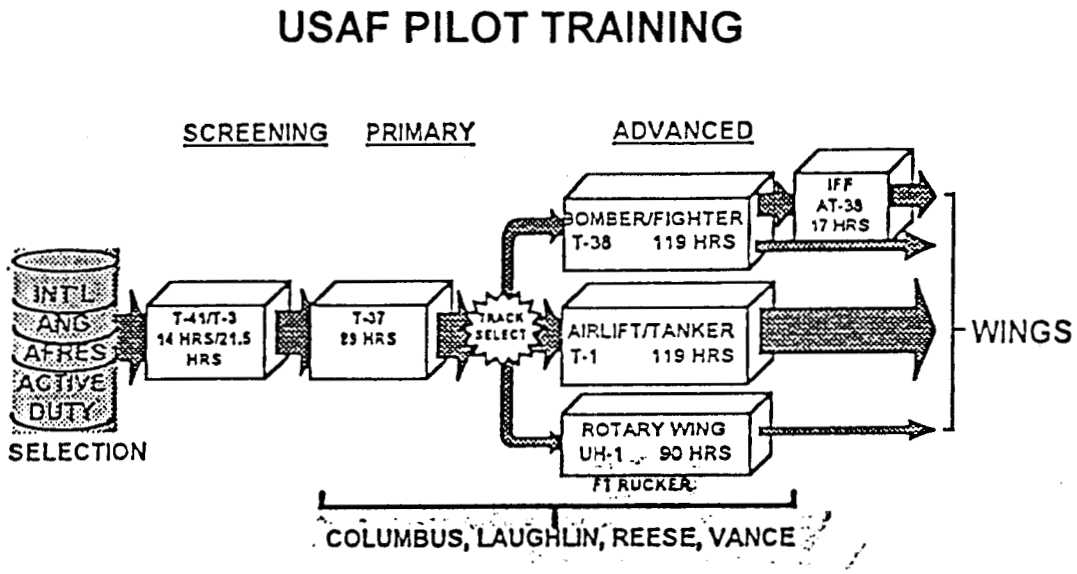


FIGURE 1

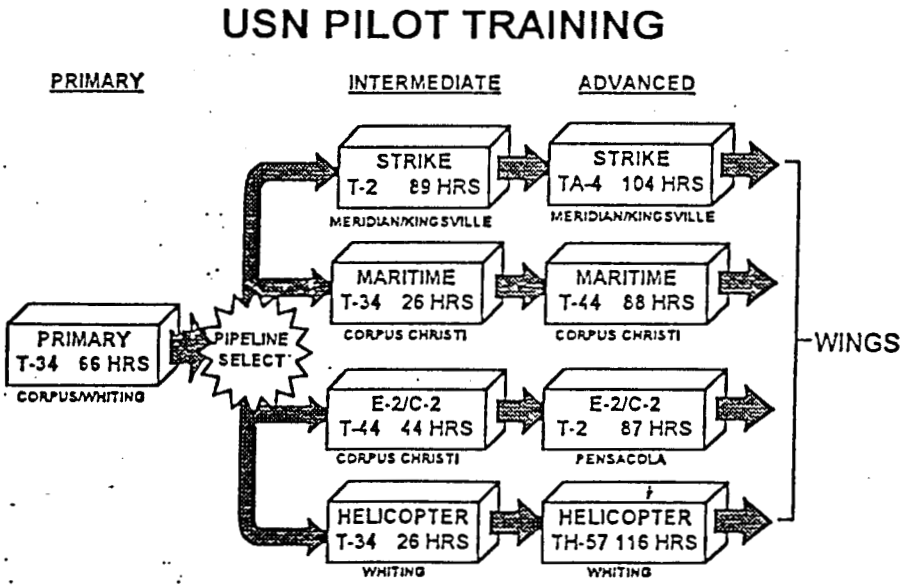


FIGURE 2

3. JOINT PILOT TRAINING

a. Primary Training

Projections for the implementation of a joint pilot training system provide for the orderly transition from primary training in either the T-37 (Air Force) or T-34 (Navy) to a single joint primary trainer, the JPATS, flown by both, commencing late in the 1990's or early in the 2000's. In all cases, primary training will feed four pipelines:

- Navy fighter/attack
- Air Force fighter/bomber
- Joint airlift/tanker/maritime patrol
- Joint helicopters

Figure 3 depicts the four pipelines after the JPATS becomes operational.

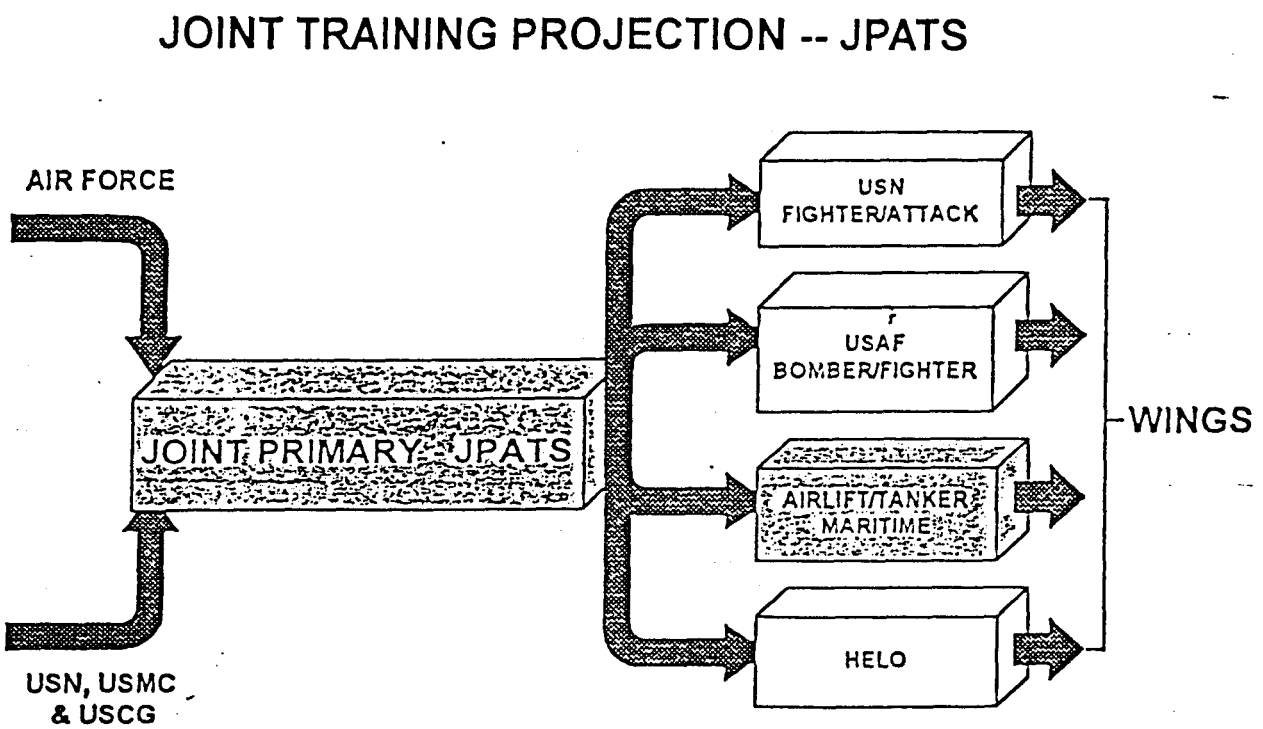
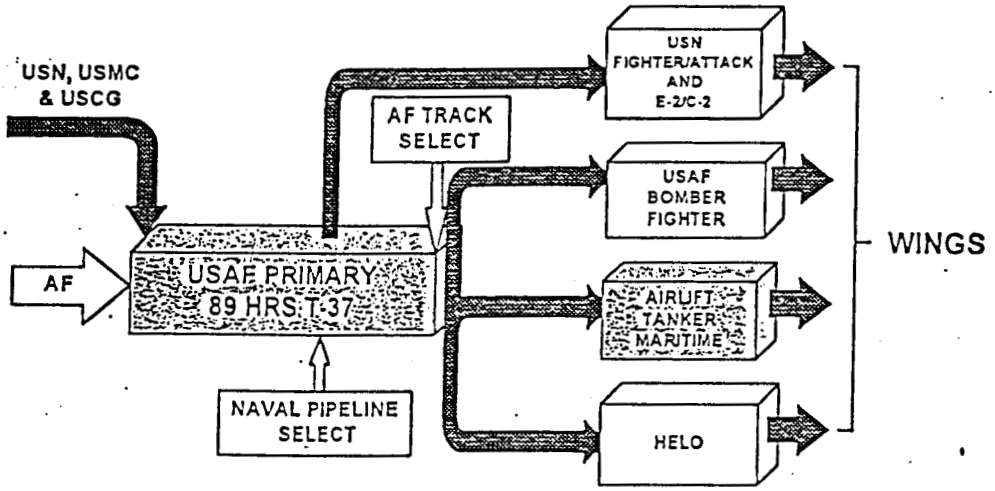


FIGURE 3

Interim (pre JPATS) joint pilot training flow, embodying training in the Air Force's T-37, is shown by Figure 4. The Navy counterpart to the Air Force program, involving primary training in the T-34, is shown by Figure 5.

INTERIM JOINT TRAINING FLOW

AIR FORCE T-37 PROGRAM

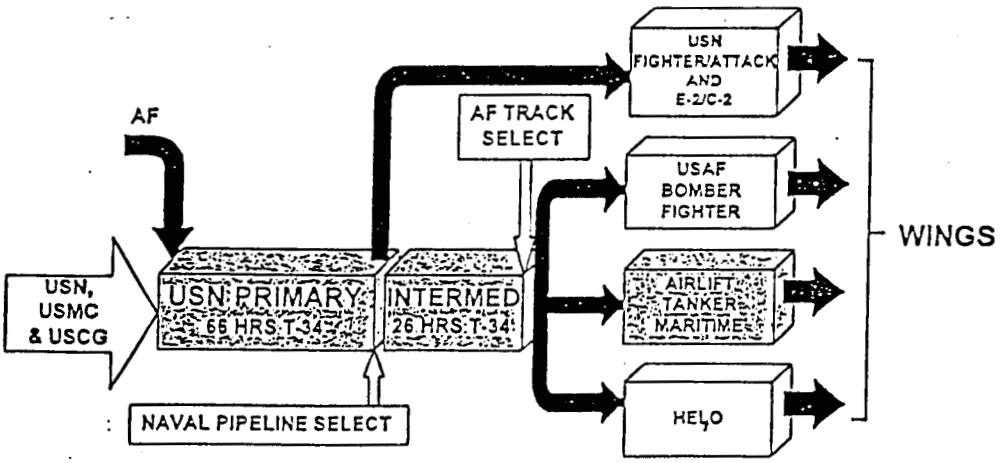


- NAVY PIPELINE SELECT AT 66 HR POINT IN PRIMARY SYLLABUS
  - STRIKE AND E-2/C-2 RETURN TO NAVY FOR TRAINING
  - MARITIME AND HELO CONTINUE TO 89 HOUR POINT
- AIR FORCE TRACK SELECT AT 89 HOUR POINT

FIGURE 4

INTERIM JOINT TRAINING FLOW

NAVY T-34 PROGRAM



- NAVY PIPELINE SELECT AT 66 HOUR POINT
- AIR FORCE TRACK SELECT AT 92 HOUR POINT

FIGURE 5

The plan is to build, first, two prototype joint primary training squadrons (one each Navy and Air Force) with alternating Air Force/Navy/Marine Corps commanders and 30 instructor pilots. The goal is an annual exchange student pilot load of 100 by 1998. Again, it should be emphasized that this is principally a student exchange program and may impact base closure considerations differently from a joint training program involving about 2000 pilots annually, in which student pilot exchanges might not be balanced between the two services.

At present it appears that the selection of bases to receive the JPATS may be influenced by requirements to provide a training complex of a main field and one or more auxiliary fields, all with runways with a minimum of 5000 feet in length. The principal determinant of the number of runways required will be the expected/required student output. All the existing Air Force training bases meet JPATS runway standards as do the Navy's Corpus Christi, Kingsville, Pensacola and Meridian. Navy Whiting's mainside runways are adequate for JPATS but only one of its current auxiliary fields (BREWTON) meets the 5000 feet runway requirement. ALF Choctaw, currently being used by NAS Pensacola for T-2 touch and go landings, with its single 8,000-ft. runway, would be required to support both NAS Pensacola and NAS Whiting Field.

b. Airlift/Tanker/Maritime Patrol Training

The Air Force and Navy have stated jointly that undergraduate flight training for airlift/tanker/maritime patrol pilots requires one Navy T-44 squadron and four Air Force T-1 squadrons — and that neither service has the capacity to meet the total training requirement. "Total training requirement" may also eventually include fixed-wing multi-engine conversion training for Army rotary-wing pilots. Thinking to date is that this would be best conducted in the Navy's T-44.

Advanced joint multi-engine fixed-wing training plans provide that turboprop pilots will train in the T-44 and turbojet pilots in the T-1. This means that Air Force C-130 pilots (approximately 150 per year) will be trained by the Navy. Navy E-6 pilots (approximately 25 per year) will be trained by the Air Force as will Air Force turbojet airlift and tanker pilots. Navy P-3, E2C and C-2 pilots will train in the T-44. E2C and C-2 pilots will be carrier-qualified, in the near term, in the Navy T-2 and, eventually, in the Navy's T-45. A joint service instructor force will be involved in all T-44 and part of T-1 training.

Figure 6 depicts the Air Force C-130/Navy E-6 pilot training track. Figure 7 depicts the Navy E-6/Air Force C-130 pilot training track.

USAF C-130/USN E-6 TRACK SELECT

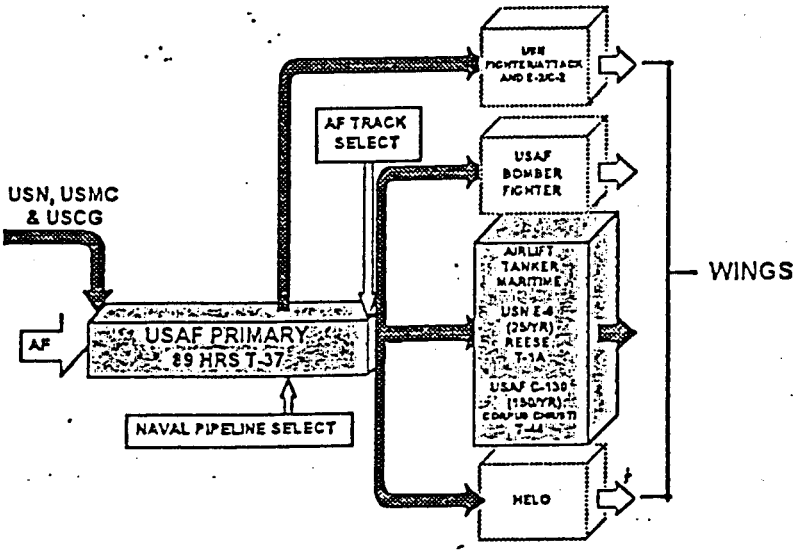


FIGURE 6

USN E-6/USAF C-130 TRACK SELECT

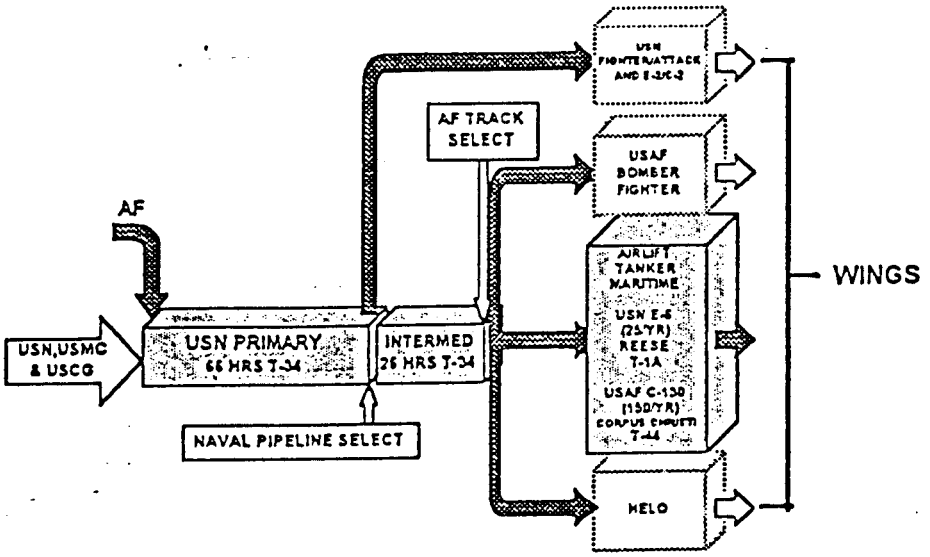


FIGURE 7

c. NFO/Weapon Systems Officer (WSO)/EWO Training

Training for non-pilot aircrews generally mirrors the fundamental approach to pilot training in that it starts with the teaching of basic skills and progresses to service-specific training. The current Air Force Specialized Undergraduate Navigator training program is depicted in Figure 8. The current Navy NFO training program is depicted in Figure 9.

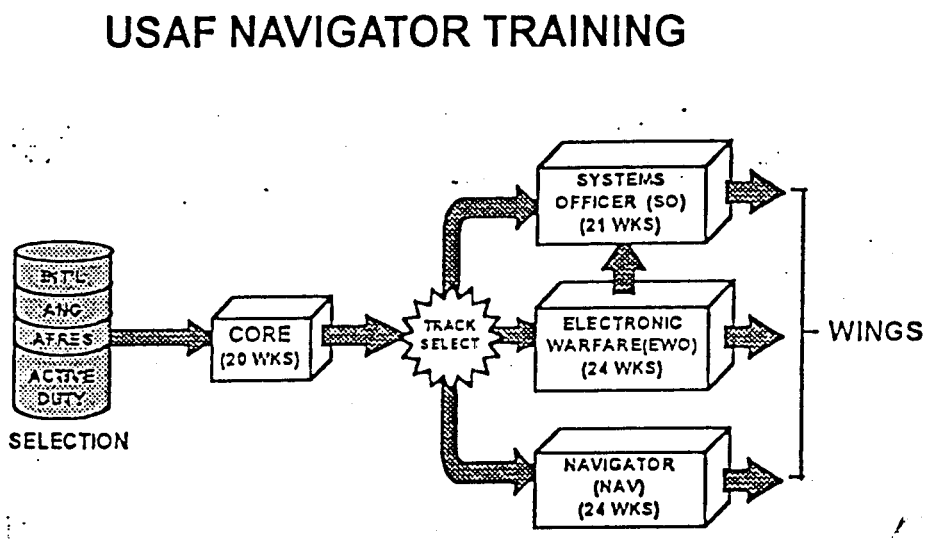


FIGURE 8

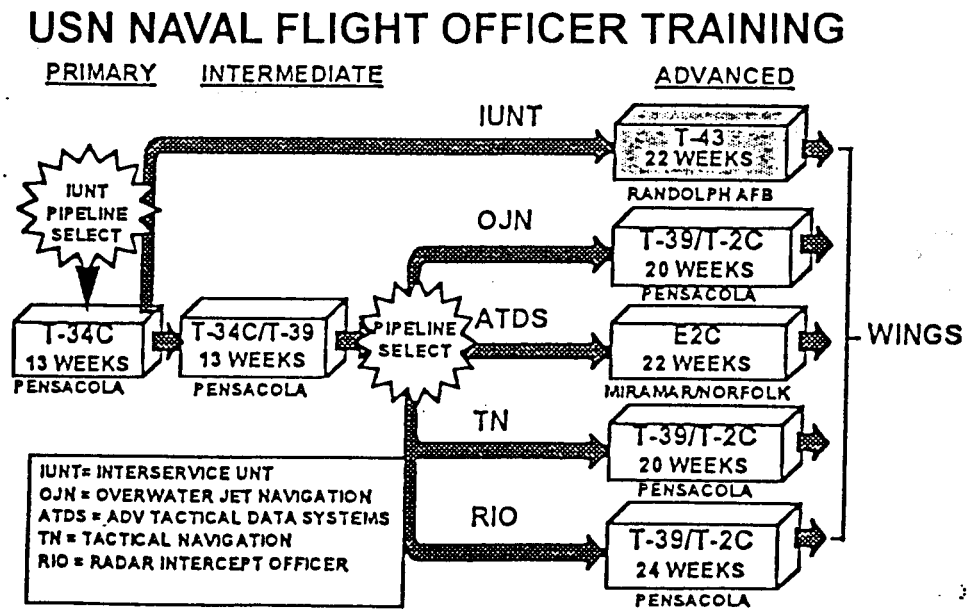


FIGURE 9

The joint training proposed for NFO/WSO/EWO's purports to provide the highest quality of training and the optimum use of resources. Student flow is depicted in Figure 10.

JOINT STRIKE/SO/EWO TRAINING

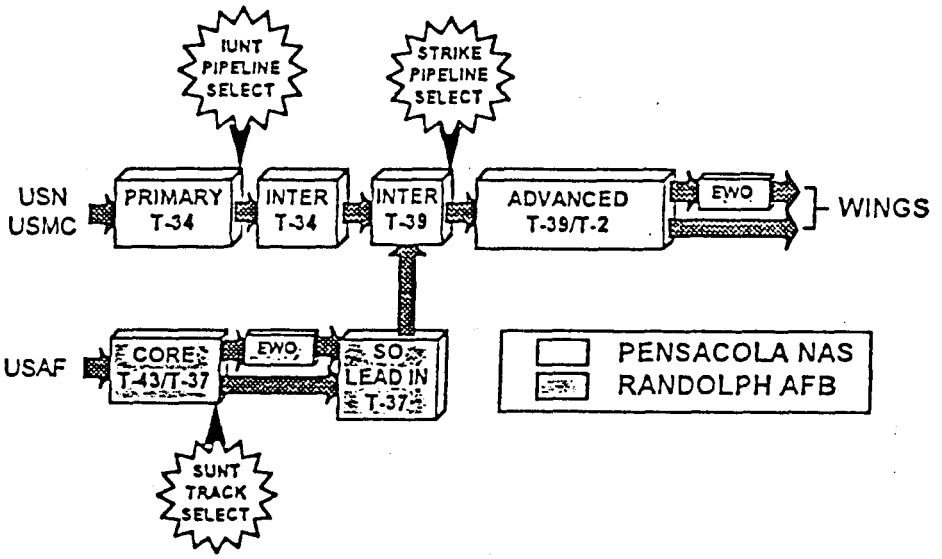


FIGURE 10

All Air Force WSO's and Navy NFO's slated for strike aircraft are to be trained at Navy Pensacola. Navy/Marine Corps navigators and NFO's assigned to transports and land-based patrol aircraft will continue to train at Randolph AFB.

Air Force WSO's will complete core training and receive basic aviation indoctrination and fundamental navigation training at Randolph. Track selection occurs at the 22 week point. Air Force officers selected for WSO training at Pensacola will receive additional training in the T-37 and then enter, with students at Pensacola, into the intermediate phase in the T-39. Thereafter, both Navy and Air Force students will receive the same training.

In 1995 the Air Force will commence training in its Simulator for Electronic Warfare Training at Randolph. Thereupon, Navy NFO's requiring EW training will train at Randolph after completing training at Pensacola. This will be in lieu of training now being conducted at the Navy EW school at Corry Field (Pensacola area). Air Force Trainees slated for EW duty will receive this same training prior to going to Pensacola.

Overall, there are several differences in syllabi and training equipment which have to be ironed out in order to optimize the joint training program. The end product, however, will be the better use of in-place, proven training systems which best replicate operational systems and realistically simulate combat environments. This program is more "joint" than the planned pilot training program. The retention of both Pensacola and Randolph is essential to the realization of these objectives.

B. FLYING TRAINING REQUIREMENTS

1. OVERVIEW

The principal determinant of flying training requirements is the planned force structure. This translates to requisite manning levels which, in turn, determine the rate at which new aircrews must be trained to compensate for attrition from all causes. An indication of future aircrew requirements is also provided by aircraft procurement plans which provide a measure of the extent to which the force structure can/will be fleshed out. There are few, if any, indications that the force structure will grow in the future.

Both Navy and Air Force take all these factors into account when formulating their aircrew training requirements. These provide the basis for sizing the training infrastructure (viz. aircraft, facilities, equipment, personnel).

There is in all this, of course, a predominant imponderable: an unpredictable international community of nations which may create problems beyond the premises of contemporary strategic plans. Prudence requires, therefore, that allowances must be made for a reasonable surge in student output should some future military contingency require it.

Another factor, impossible to quantify at this time in terms of pilot training requirements, is possible changes in the current roles and missions of the military services. The DoD has formed a Commission on the Roles and Missions of the Armed Services which commenced work in September 1994. The findings of the Commission are certain to be of great interest to certain luminaries, such as Senator Sam Nunn, who, for some time, has led Congress in pressing for change.

It is reasonable to assume that emphasis in the future will continue to be on "jointness." Few, if any, issues in the flying training arena will be addressed unilaterally by any single service. BRAC 95 actions must be in the same context, taking especial care not to foreclose prematurely on any options which might later evolve from a dynamic situation.

2. FORCE STRUCTURE

a. Navy	FY 95	FY 96	FY 97	FY 98	FY 99
Aircraft Carriers					
Active Duty	11	?	?	?	?
Reserve	1	?	?	?	?
Tactical Air Forces USN Air Wings					
Active Duty	10*	?	?	?	?
Reserve	1*	?	?	?	?
USMC Air Wings					
Active Duty	3	?	?	?	?
Reserve	1	?	?	?	?
Patrol Squadrons	15	?	?	?	?
S-3 ASW Squadrons	4/8 & 6/6**	?	?	?	?

* 50 tactical aircraft ** 4-8 plane; 6-6 plane

b. Air Force	FY 95	FY 96	FY 97	FY 98	FY 99
Fighter Units (Wings & Groups)					
Active	25	?	?	?	?
Reserve	4	?	?	?	?
National Guard	45	?	?	?	?
Bomber Units					
Active	10	?	?	?	?
Reserve	0	?	?	?	?
National Guard	2-B-52	?	?	?	?
Airlift Units					
Active	13	?	?	?	?
Reserve	14	?	?	?	?
National Guard	4	?	?	?	?
Tanker Units					
Active	8	?	?	?	?
Reserve	1	?	?	?	?
National Guard	15	?	?	?	?

3. AIRCRAFT PROCUREMENT

a. Navy

	FY 95	FY 96	FY 97	FY 98	FY 99
AV-88 Harrier	4	7	12	13	18
F/A-18C/D Hornet	24	24	24		
F/A-18E/F Hornet			12	24	24
E2C Hawkeye	4	4	4	4	4
AH-1 Sea Cobra	12	9	9		
T-45A Goshawk	12	12	12	12	24
JPATS**			8	24	24
SH-60R Seahawk				2	15

* Remanufacture
** Under Reconsideration

b. Air Force

	FY 95	FY 96	FY 97	FY 98	FY 99
F-22			4	4	12
AC-130 U	9				
C-17	6	8	8	8	12
C-130J		4	4	4	4
F-16	20	24	3		
B-2	3	5	1	2	
E-8		2	2	2	2
NDAA			3		
C-32A					1
OC-135B		2			
T-1A	35	36	23		
T-3A	42	17			
JPATS**			5	16	27

** Under Reconsideration

4. AIRCREW TRAINING REQUIREMENTS

a. Navy	FY 95	FY 96	FY 97	FY 98	FY 99
(1) Pilots Strike	303	309	336	336	336
Maritime	228	228	271	271	271
E2/C2	43	43	53	53	53
Rotary	497	490	485	485	485
TOTALS	1071	1070	1145	1145	1145

Navy also committed to train 150 USAF C-130 pilots and 95 (equivalent PTR) Army rotary-to-fixed wing per year.

	FY 95	FY 96	FY 97	FY 98	FY 99
(2) NFO's					
RIO	57	57	68	68	68
TN (Tactical Navigator)	50	50	50	50	50
OJN (Overwater Jet Nav.)	37	37	52	52	52
ATDS (Adv.Tact. Data Sys.)	37	37	41	41	41
Interservice UNT (NAV)	138	140	137	137	137
TOTALS	319	321	348	348	348

Source: CNO letter 1542, Serial N889J6/3U6587, dated 20 September 1993, Subject: "Pilot and Naval Flight Officer Training Rates, FY 94-99" and modifications thorough 10 March 1994.

b. Air Force	FY 95	FY 96	FY 97	FY 98	FY 99
(1) Pilots Undergraduate (Total)	500	525	525	525	900
Pilots Fighter/Bomber	185	194	194	194	333
Airlift/Tanker	290	305	305	305	522
Helicopter	25	26	26	26	45

Typical Student Output:
Fighters 28 percent
Bombers 9 percent
Tankers 18 percent
Airlift 40 percent
Helicopter 5 percent

(2) Navigators	FY 95	FY 96	FY 97	FY 98	FY 99
WSO	24	24	51	51	51
EWO	26	26	61	61	61
NAV	119	124	135	135	136
TOTALS	169	174	247	247	248

C. FIXED-WING FLYING TRAINING BASES

1. CURRENT BASES

Service	Base	State	Aircraft
Air Force	Columbus AFB	Mississippi	T-37,T-1,AT-38
	Laughlin AFB	South Texas	T-37,T-1,T-38
	Randolph AFB	South Texas	T-1,T-3,C-21,T-37 T-38,T-41,T-43,AT-38
	Reese AFB	Texas	T-37,T-1,T-38
	Sheppard AFB	Texas	T-37,T-38,AT-38
	Vance AFB	Oklahoma	T-37,T-1,T-38
Navy	NAS Corpus Christi	South Texas	T-34,T-44
	NAS Kingsville	South Texas	T-45
	Meridian	Mississippi	T-2,TA-4
	NAS Pensacola	Florida	T-34,T-2,T-39
	NAS Whiting	Florida	T-34,TH-57

The totals are six (6) Air Force and five (5) Navy. The type(s) of training being performed is connoted by the types of aircraft assigned. Figure 11 is a map showing the approximate locations of each of the foregoing. Field configurations are shown by Figures 12-A through 12-K.

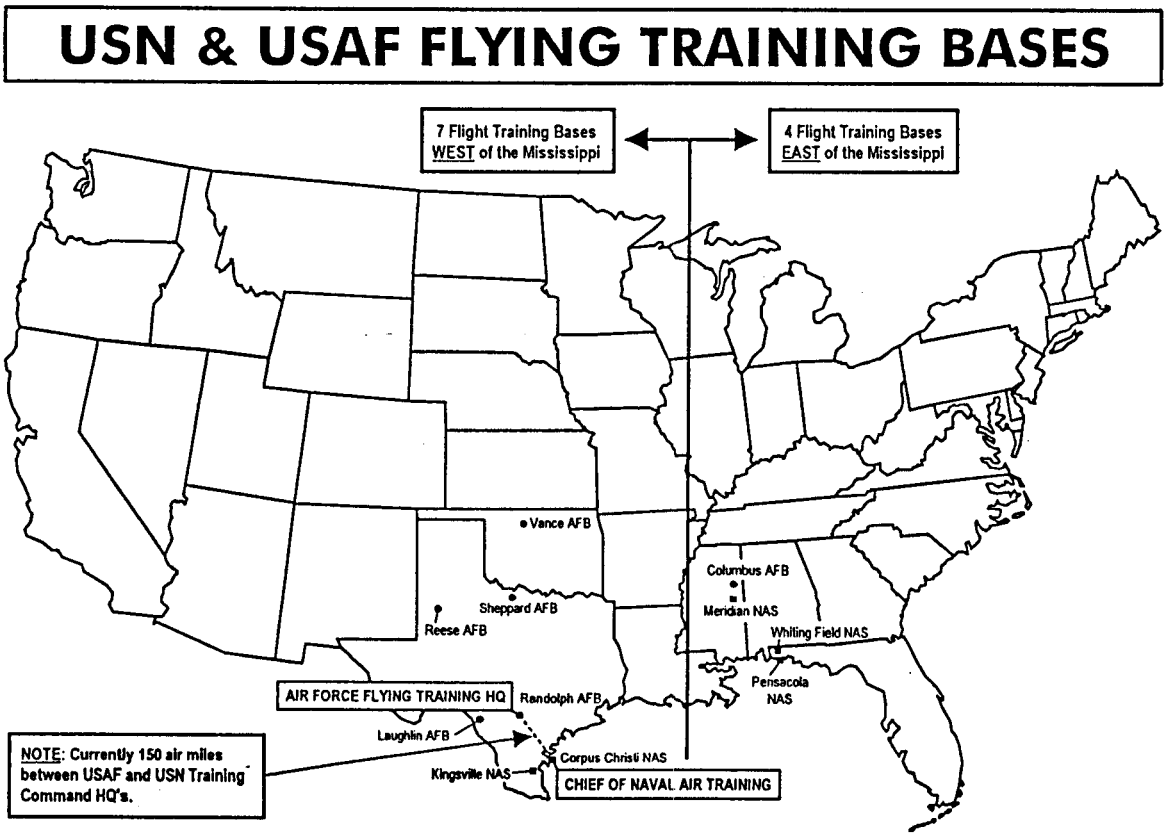


FIGURE 11

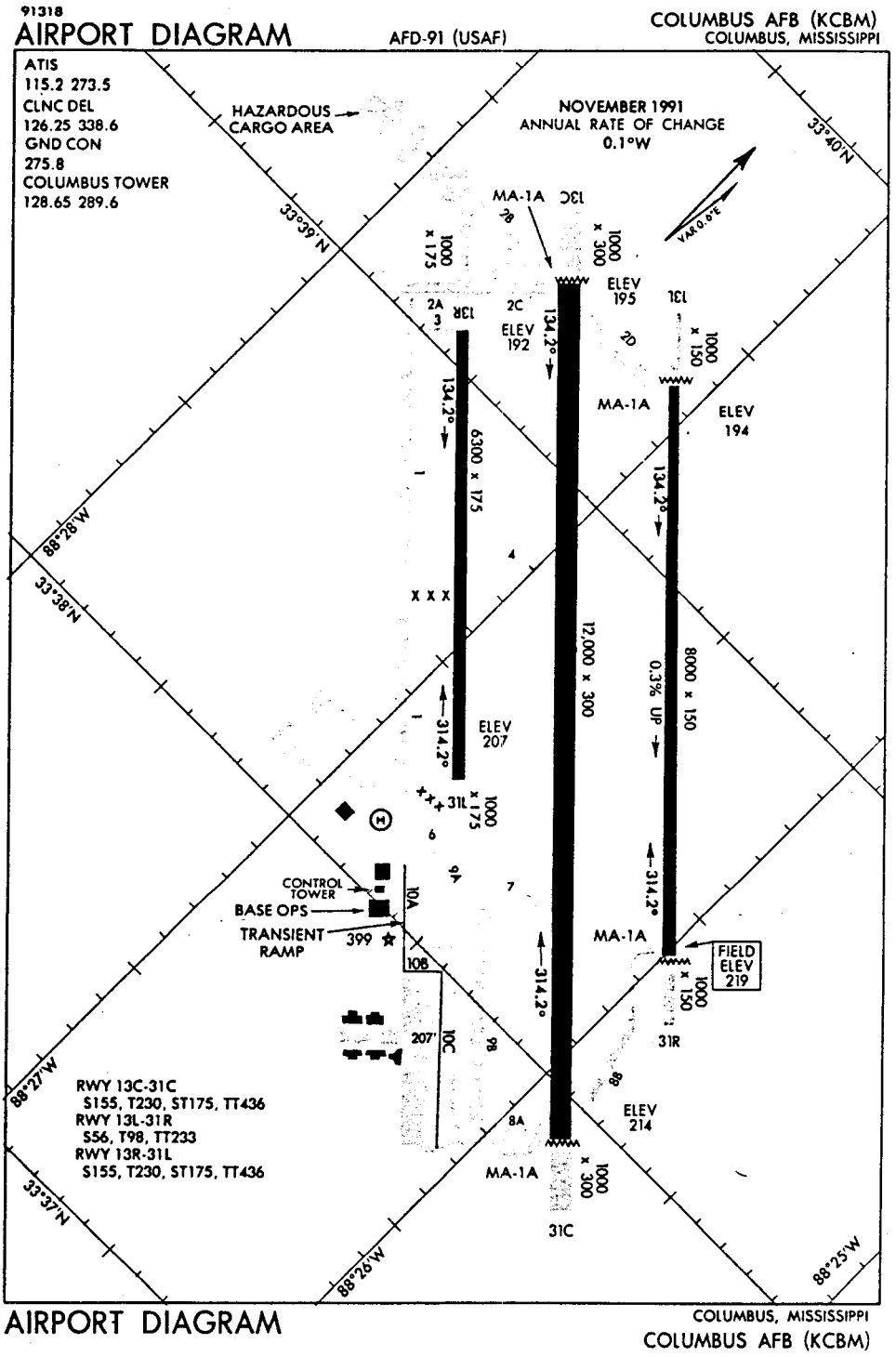

91318
AIRPORT DIAGRAM
AFD-91 (USAF)
COLUMBUS AFB (KCBM)
COLUMBUS, MISSISSIPPI
ATIS
115.2 273.5
CLNC DEL
126.25 338.6
GND CON
275.8
COLUMBUS TOWER
128.65 289.6
HAZARDOUS CARGO AREA
NOVEMBER 1991
ANNUAL RATE OF CHANGE
0.1°W
VAR 0.6°E
33°40'N
33°39'N
33°38'N
33°37'N
88°28'W
88°27'W
88°26'W
88°25'W
MA-1A
ELEV 195
ELEV 192
ELEV 194
ELEV 207
ELEV 214
FIELD ELEV 219
134.2°
314.2°
6300 x 175
12,000 x 300
8000 x 150
0.3% UP
CONTROL TOWER
BASE OPS
TRANSIENT RAMP
399
207'
RWY 13C-31C
S155, T230, ST175, TT436
RWY 13L-31R
S56, T98, TT233
RWY 13R-31L
S155, T230, ST175, TT436
AIRPORT DIAGRAM
COLUMBUS, MISSISSIPPI
COLUMBUS AFB (KCBM)

FIGURE 12-A

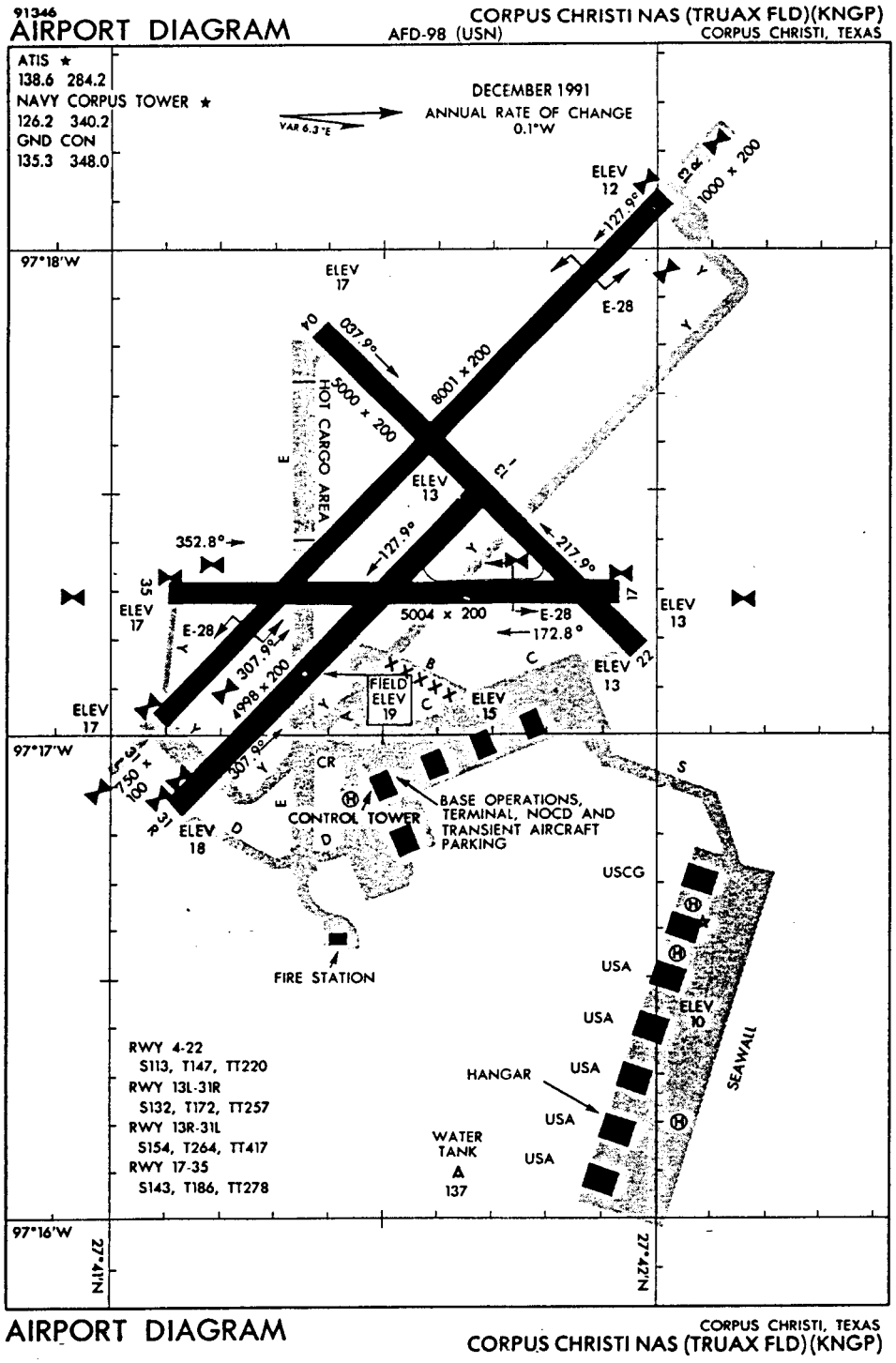

91346
AIRPORT DIAGRAM
AFD-98 (USN)
CORPUS CHRISTI NAS (TRUAX FLD)(KNGP)
CORPUS CHRISTI, TEXAS
ATIS ★
138.6 284.2
NAVY CORPUS TOWER ★
126.2 340.2
GND CON
135.3 348.0
DECEMBER 1991
ANNUAL RATE OF CHANGE
0.1°W
VAR 6.3°E
ELEV 12
127.9°
1000 x 200
97°18'W
ELEV 17
E-28
037.9°
8001 x 200
5000 x 200
HOT CARGO AREA
ELEV 13
217.9°
352.8°
127.9°
35
17
ELEV 17
E-28
5004 x 200
E-28
172.8°
ELEV 13
22
ELEV 13
307.9°
4998 x 200
FIELD ELEV 19
ELEV 15
ELEV 17
97°17'W
750 x 100
307.9°
CR
ELEV 18
CONTROL TOWER
BASE OPERATIONS, TERMINAL, NOCD AND TRANSIENT AIRCRAFT PARKING
USCG
FIRE STATION
USA
USA
ELEV 10
SEAWALL
HANGAR
USA
USA
WATER TANK
137
USA
RWY 4-22
S113, T147, TT220
RWY 13L-31R
S132, T172, TT257
RWY 13R-31L
S154, T264, TT417
RWY 17-35
S143, T186, TT278
97°16'W
27°41'N
27°42'N
AIRPORT DIAGRAM
CORPUS CHRISTI, TEXAS
CORPUS CHRISTI NAS (TRUAX FLD)(KNGP)

FIGURE 12-B

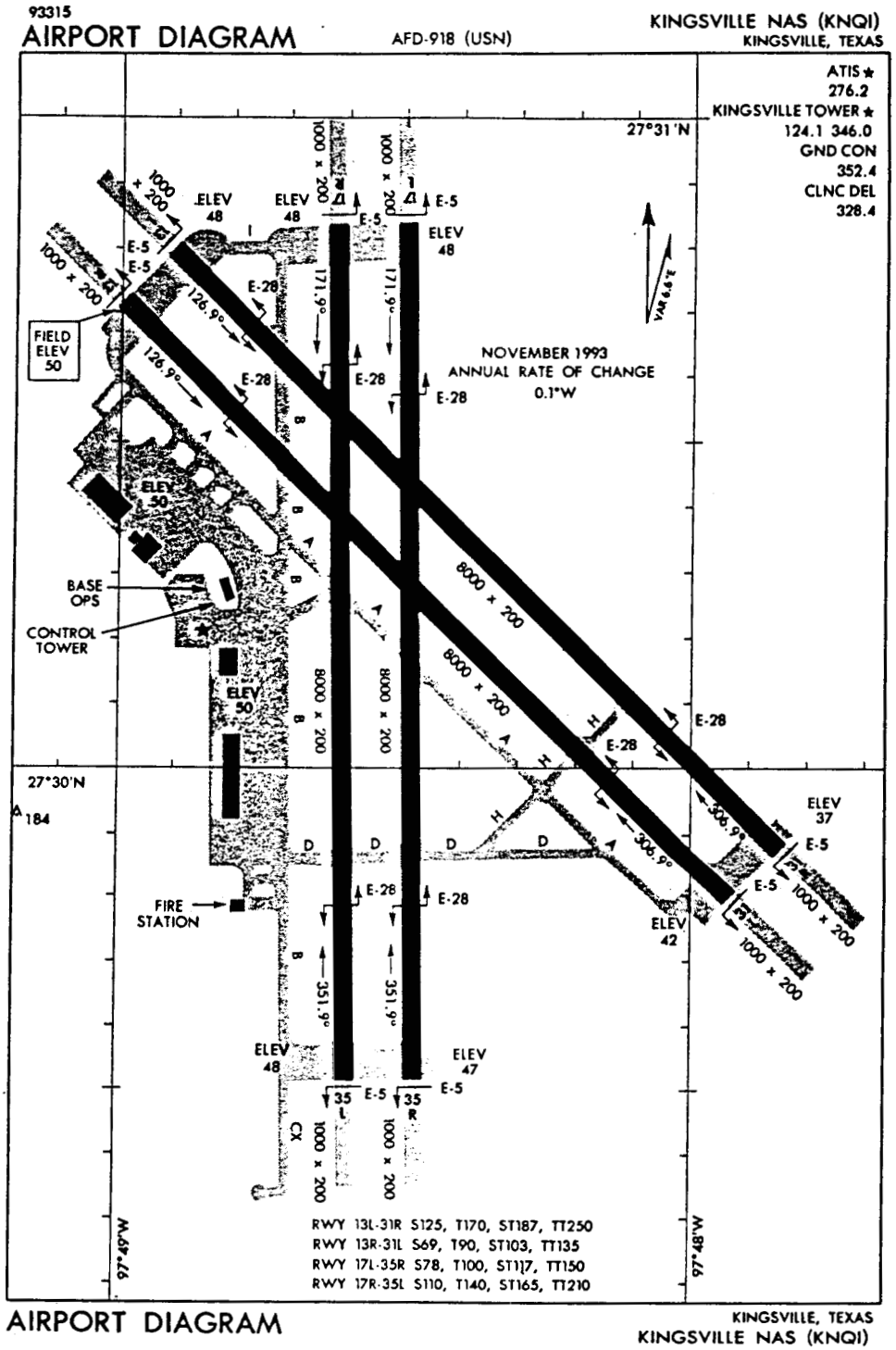

93315
AIRPORT DIAGRAM
AFD-918 (USN)
KINGSVILLE NAS (KNQI)
KINGSVILLE, TEXAS
ATIS ★
276.2
KINGSVILLE TOWER ★
124.1 346.0
GND CON
352.4
CLNC DEL
328.4
27°31'N
NOVEMBER 1993
ANNUAL RATE OF CHANGE
0.1°W
FIELD ELEV 50
BASE OPS
CONTROL TOWER
FIRE STATION
27°30'N
184
RWY 13L-31R S125, T170, ST187, TT250
RWY 13R-31L S69, T90, ST103, TT135
RWY 17L-35R S78, T100, ST117, TT150
RWY 17R-35L S110, T140, ST165, TT210
AIRPORT DIAGRAM
KINGSVILLE, TEXAS
KINGSVILLE NAS (KNQI)

FIGURE 12-C

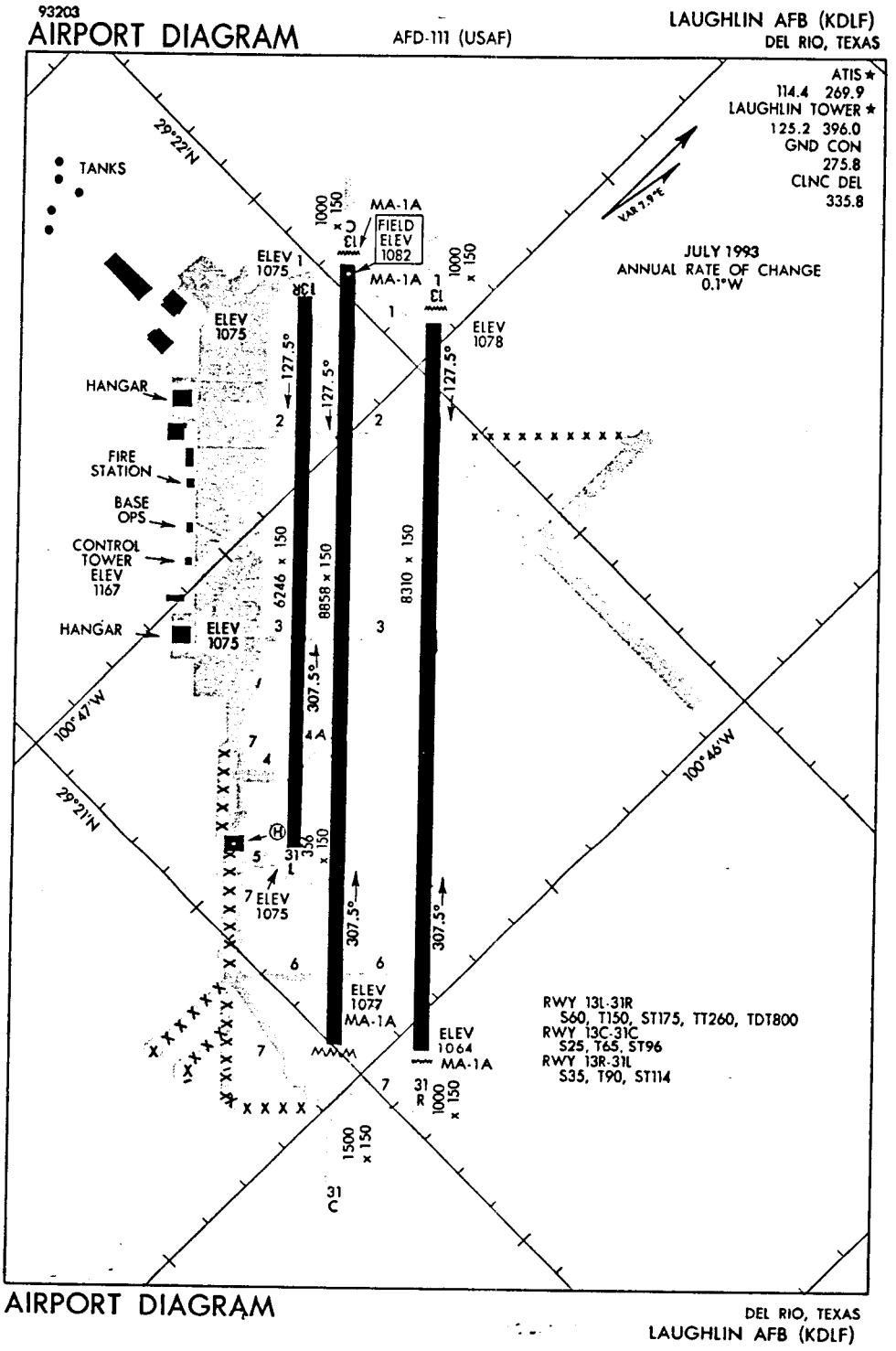

93203
AIRPORT DIAGRAM
AFD-111 (USAF)
LAUGHLIN AFB (KDLF)
DEL RIO, TEXAS
ATIS ★
114.4 269.9
LAUGHLIN TOWER ★
125.2 396.0
GND CON
275.8
CLNC DEL
335.8
JULY 1993
ANNUAL RATE OF CHANGE
0.1°W
TANKS
29°22'N
MA-1A
FIELD
ELEV
1082
ELEV 1075
ELEV 1078
HANGAR
FIRE STATION
BASE OPS
CONTROL TOWER
ELEV
1167
HANGAR
ELEV 1075
127.5°
307.5°
6246 x 150
8858 x 150
8310 x 150
1000 x 150
356 x 150
1500 x 150
100°47'W
100°46'W
29°21'N
ELEV 1075
ELEV
1077
MA-1A
ELEV
1064
MA-1A
RWY 13L-31R
S60, T150, ST175, TT260, TDT800
RWY 13C-31C
S25, T65, ST96
RWY 13R-31L
S35, T90, ST114
AIRPORT DIAGRAM
DEL RIO, TEXAS
LAUGHLIN AFB (KDLF)

FIGURE 12-D

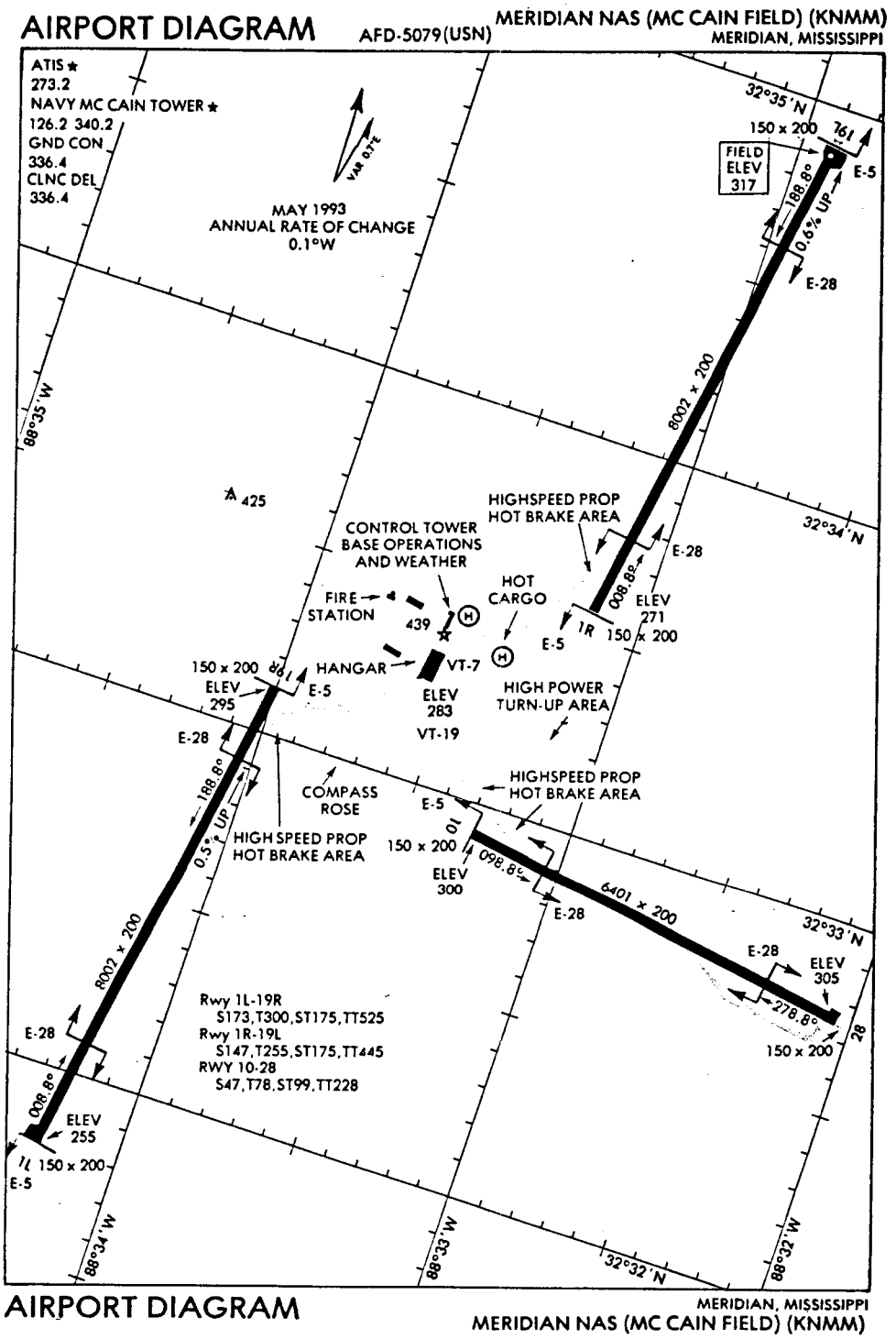

AIRPORT DIAGRAM
AFD-5079(USN)
MERIDIAN NAS (MC CAIN FIELD) (KNMM)
MERIDIAN, MISSISSIPPI
ATIS ★
273.2
NAVY MC CAIN TOWER ★
126.2 340.2
GND CON
336.4
CLNC DEL
336.4
VAR 0.7°E
MAY 1993
ANNUAL RATE OF CHANGE
0.1°W
32°35'N
150 x 200
FIELD
ELEV
317
E-5
188.8°
0.6% UP
E-28
8002 x 200
88°35'W
425
HIGHSPEED PROP
HOT BRAKE AREA
32°34'N
CONTROL TOWER
BASE OPERATIONS
AND WEATHER
E-28
008.8°
ELEV
271
FIRE
STATION
439
HOT
CARGO
1R
150 x 200
E-5
150 x 200
HANGAR
VT-7
ELEV
295
E-5
ELEV
283
VT-19
HIGH POWER
TURN-UP AREA
E-28
188.8°
COMPASS
ROSE
HIGHSPEED PROP
HOT BRAKE AREA
E-5
0.5% UP
HIGH SPEED PROP
HOT BRAKE AREA
10
150 x 200
098.8°
ELEV
300
6401 x 200
E-28
32°33'N
E-28
ELEV
305
278.8°
28
150 x 200
8002 x 200
E-28
Rwy 1L-19R
S173,T300,ST175,TT525
Rwy 1R-19L
S147,T255,ST175,TT445
RWY 10-28
S47,T78,ST99,TT228
008.8°
ELEV
255
1L
150 x 200
E-5
88°34'W
88°33'W
32°32'N
88°32'W
AIRPORT DIAGRAM
MERIDIAN, MISSISSIPPI
MERIDIAN NAS (MC CAIN FIELD) (KNMM)

FIGURE 12-E

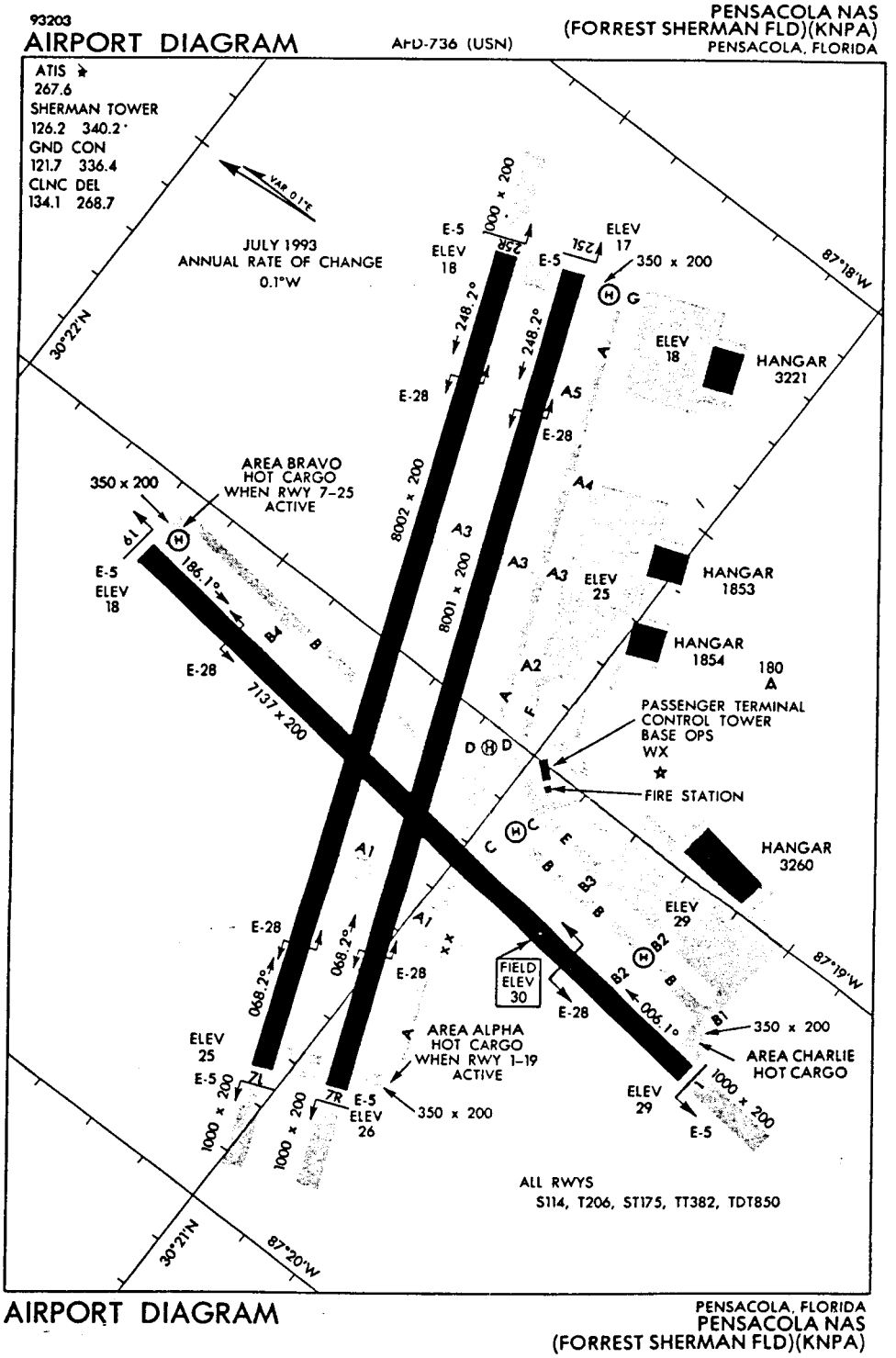

93203
AIRPORT DIAGRAM
AFD-736 (USN)
PENSACOLA NAS
(FORREST SHERMAN FLD)(KNPA)
PENSACOLA, FLORIDA
ATIS
267.6
SHERMAN TOWER
126.2 340.2
GND CON
121.7 336.4
CLNC DEL
134.1 268.7
JULY 1993
ANNUAL RATE OF CHANGE
0.1°W
VAR 0.1°E
30°22'N
87°18'W
87°19'W
87°20'W
30°21'N
E-5
ELEV
18
ELEV
17
350 x 200
1000 x 200
248.2°
E-28
8002 x 200
8001 x 200
HANGAR
3221
HANGAR
1853
HANGAR
1854
HANGAR
3260
ELEV
25
ELEV
29
AREA BRAVO
HOT CARGO
WHEN RWY 7-25
ACTIVE
186.1°
7137 x 200
PASSENGER TERMINAL
CONTROL TOWER
BASE OPS
WX
FIRE STATION
FIELD
ELEV
30
068.2°
006.1°
AREA ALPHA
HOT CARGO
WHEN RWY 1-19
ACTIVE
AREA CHARLIE
HOT CARGO
ELEV
26
ALL RWYS
S114, T206, ST175, TT382, TDT850
AIRPORT DIAGRAM
PENSACOLA, FLORIDA
PENSACOLA NAS
(FORREST SHERMAN FLD)(KNPA)

FIGURE 12-F

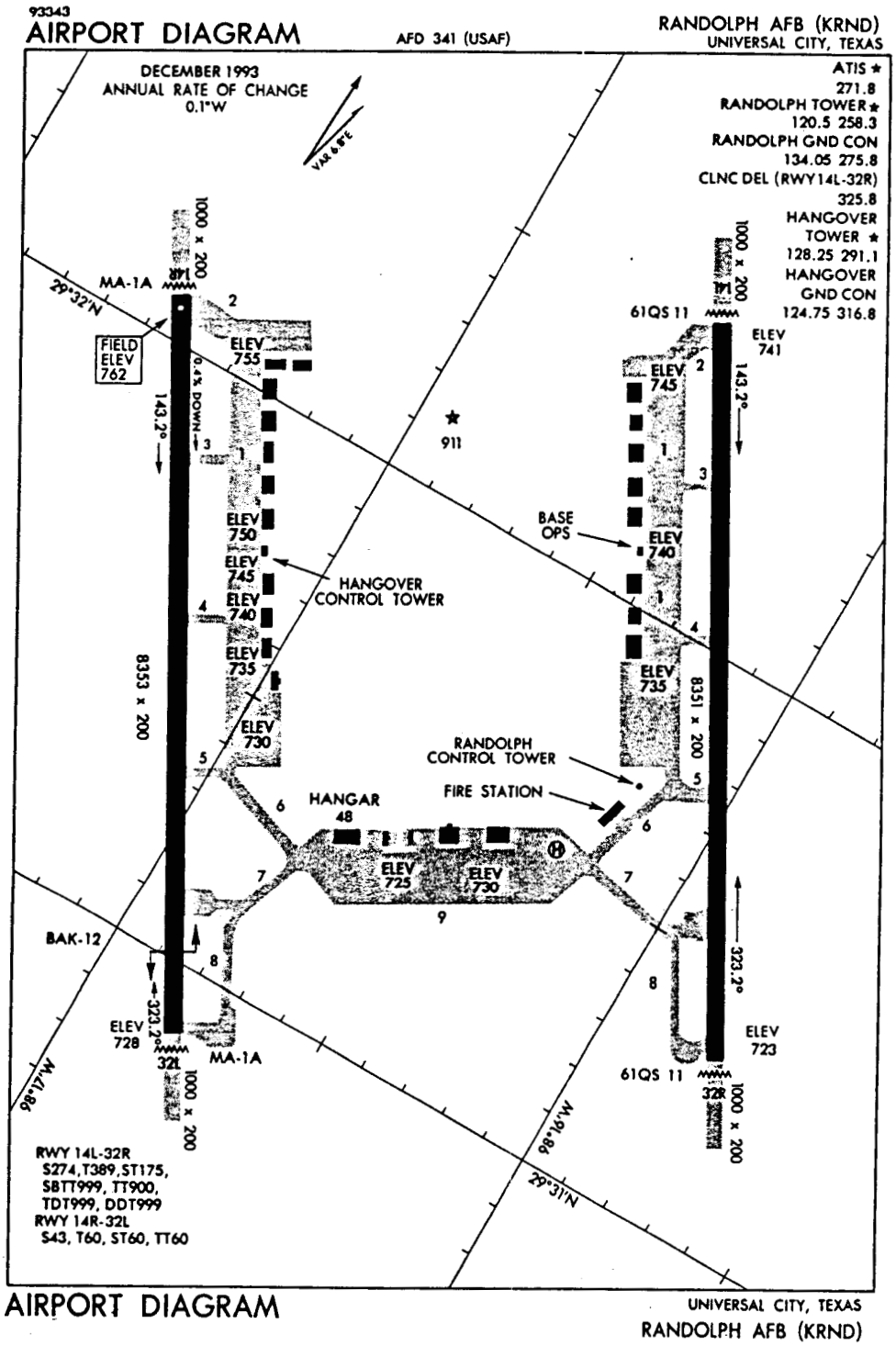

93343
AIRPORT DIAGRAM
AFD 341 (USAF)
RANDOLPH AFB (KRND)
UNIVERSAL CITY, TEXAS
DECEMBER 1993
ANNUAL RATE OF CHANGE
0.1°W
VAR 6.8°E
ATIS ★
271.8
RANDOLPH TOWER ★
120.5 258.3
RANDOLPH GND CON
134.05 275.8
CLNC DEL (RWY 14L-32R)
325.8
HANGOVER
TOWER ★
128.25 291.1
HANGOVER
GND CON
124.75 316.8
1000 x 200
MA-1A
29°32'N
FIELD
ELEV
762
ELEV
755
0.4% DOWN
143.2°
911
ELEV
750
ELEV
745
ELEV
740
ELEV
735
ELEV
730
HANGOVER
CONTROL TOWER
8353 x 200
61QS 11
ELEV
741
ELEV
745
BASE
OPS
ELEV
740
ELEV
735
8351 x 200
RANDOLPH
CONTROL TOWER
FIRE STATION
HANGAR
48
ELEV
725
ELEV
730
BAK-12
323.2°
ELEV
728
32L
MA-1A
98°17'W
RWY 14L-32R
S274, T389, ST175,
SBTT999, TT900,
TDT999, DDT999
RWY 14R-32L
S43, T60, ST60, TT60
ELEV
723
61QS 11
32R
98°16'W
29°31'N
AIRPORT DIAGRAM
UNIVERSAL CITY, TEXAS
RANDOLPH AFB (KRND)

FIGURE 12-G

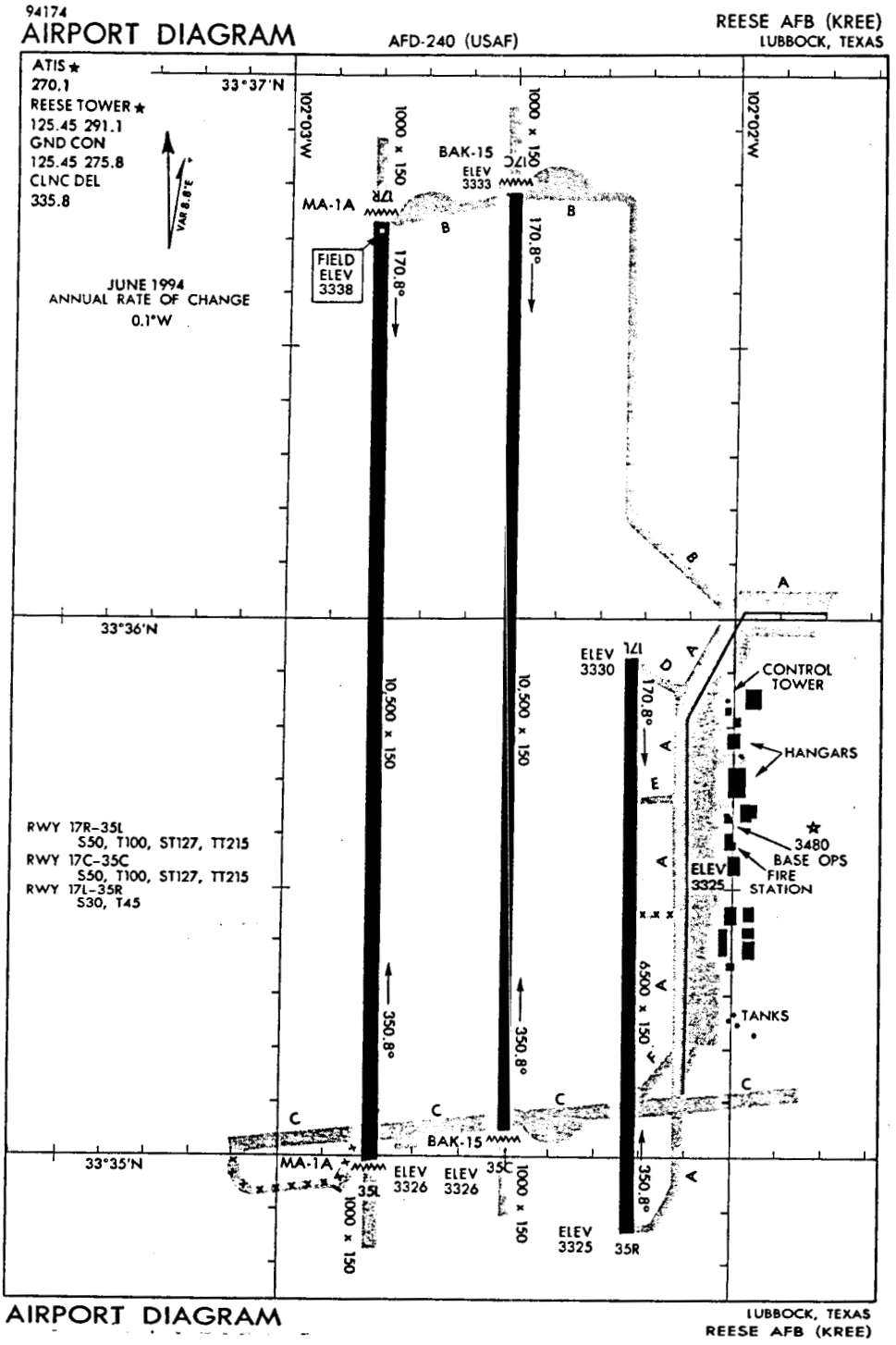

94174
AIRPORT DIAGRAM
AFD-240 (USAF)
REESE AFB (KREE)
LUBBOCK, TEXAS
ATIS ★
270.1
REESE TOWER ★
125.45 291.1
GND CON
125.45 275.8
CLNC DEL
335.8
VAR 8.8°E
JUNE 1994
ANNUAL RATE OF CHANGE
0.1°W
33°37'N
33°36'N
33°35'N
102°03'W
102°02'W
1000 x 150
BAK-15
ELEV 3333
17C
MA-1A
17R
FIELD ELEV 3338
170.8°
350.8°
10,500 x 150
ELEV 3330
17L
6500 x 150
CONTROL TOWER
HANGARS
3480
BASE OPS
FIRE STATION
ELEV 3325
TANKS
RWY 17R-35L
S50, T100, ST127, TT215
RWY 17C-35C
S50, T100, ST127, TT215
RWY 17L-35R
S30, T45
ELEV 3326
35L
35C
35R
AIRPORT DIAGRAM
LUBBOCK, TEXAS
REESE AFB (KREE)

FIGURE 12-H

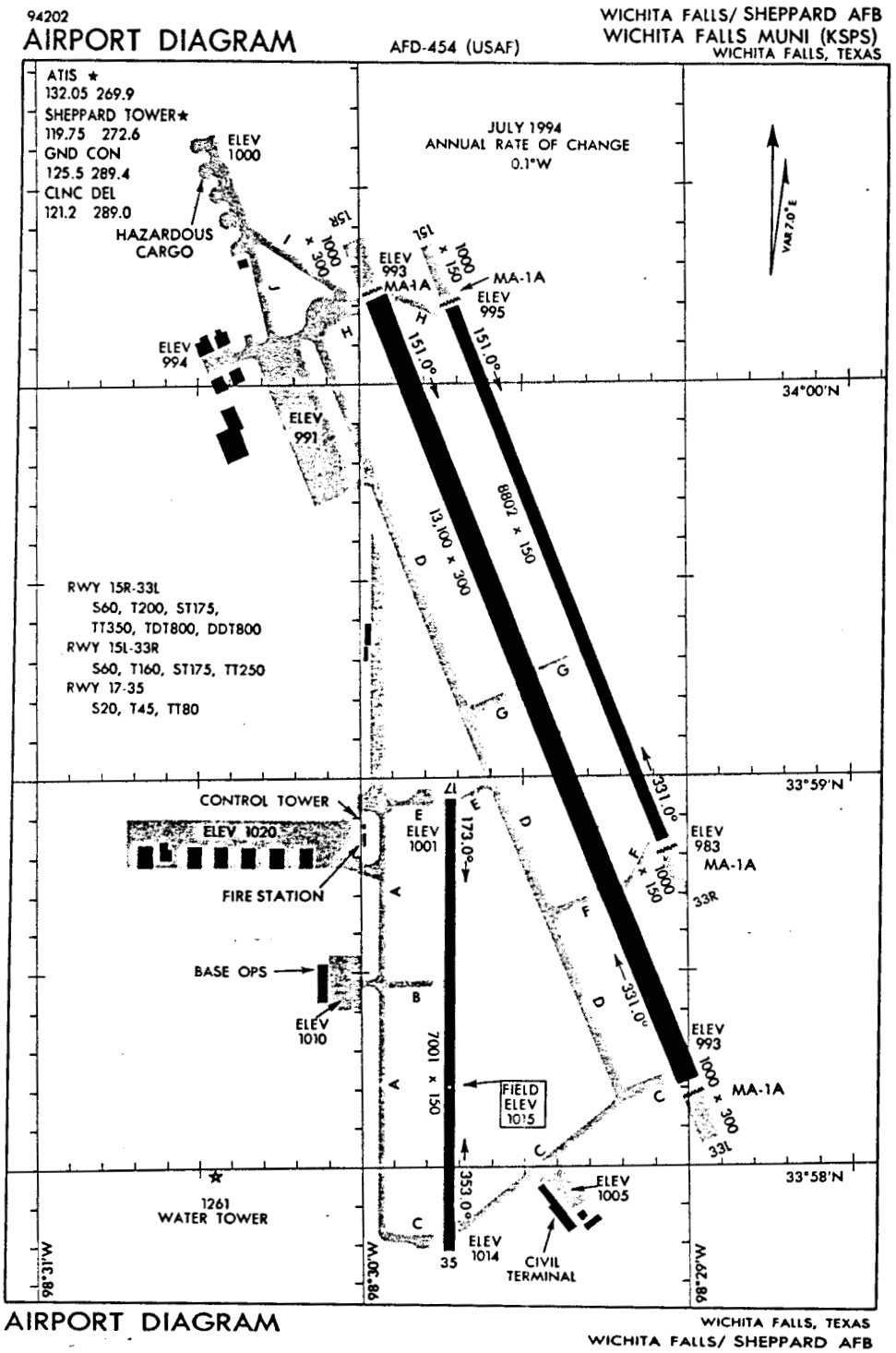
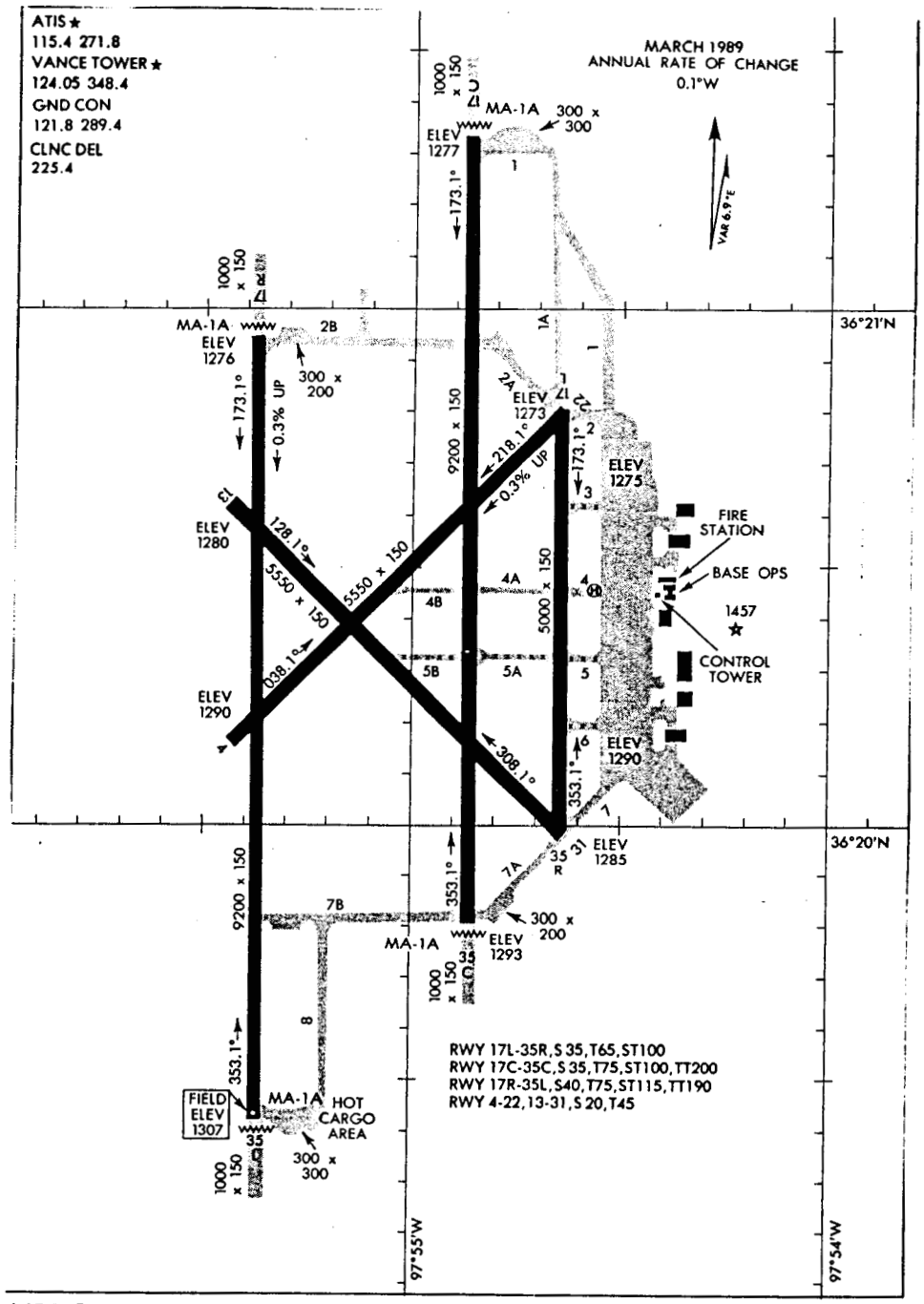

94202
AIRPORT DIAGRAM
AFD-454 (USAF)
WICHITA FALLS/ SHEPPARD AFB
WICHITA FALLS MUNI (KSPS)
WICHITA FALLS, TEXAS
ATIS ★
132.05 269.9
SHEPPARD TOWER★
119.75 272.6
GND CON
125.5 289.4
CLNC DEL
121.2 289.0
ELEV 1000
HAZARDOUS CARGO
JULY 1994
ANNUAL RATE OF CHANGE
0.1°W
VAR 7.0°E
ELEV 993
MA-1A
ELEV 995
ELEV 994
ELEV 991
34°00'N
13,100 x 300
8802 x 150
RWY 15R-33L
S60, T200, ST175,
TT350, TDT800, DDT800
RWY 15L-33R
S60, T160, ST175, TT250
RWY 17-35
S20, T45, TT80
33°59'N
CONTROL TOWER
ELEV 1020
FIRE STATION
ELEV 1001
173.0°
ELEV 983
MA-1A
33R
BASE OPS
ELEV 1010
7001 x 150
FIELD ELEV 1015
ELEV 993
MA-1A
33L
33°58'N
1261
WATER TOWER
ELEV 1005
ELEV 1014
CIVIL TERMINAL
98°31'W
98°30'W
98°29'W
AIRPORT DIAGRAM
WICHITA FALLS, TEXAS
WICHITA FALLS/ SHEPPARD AFB

FIGURE 12-I



AIRPORT DIAGRAM

ENID, OKLAHOMA
VANCE AFB (KEND)

FIGURE 12-J

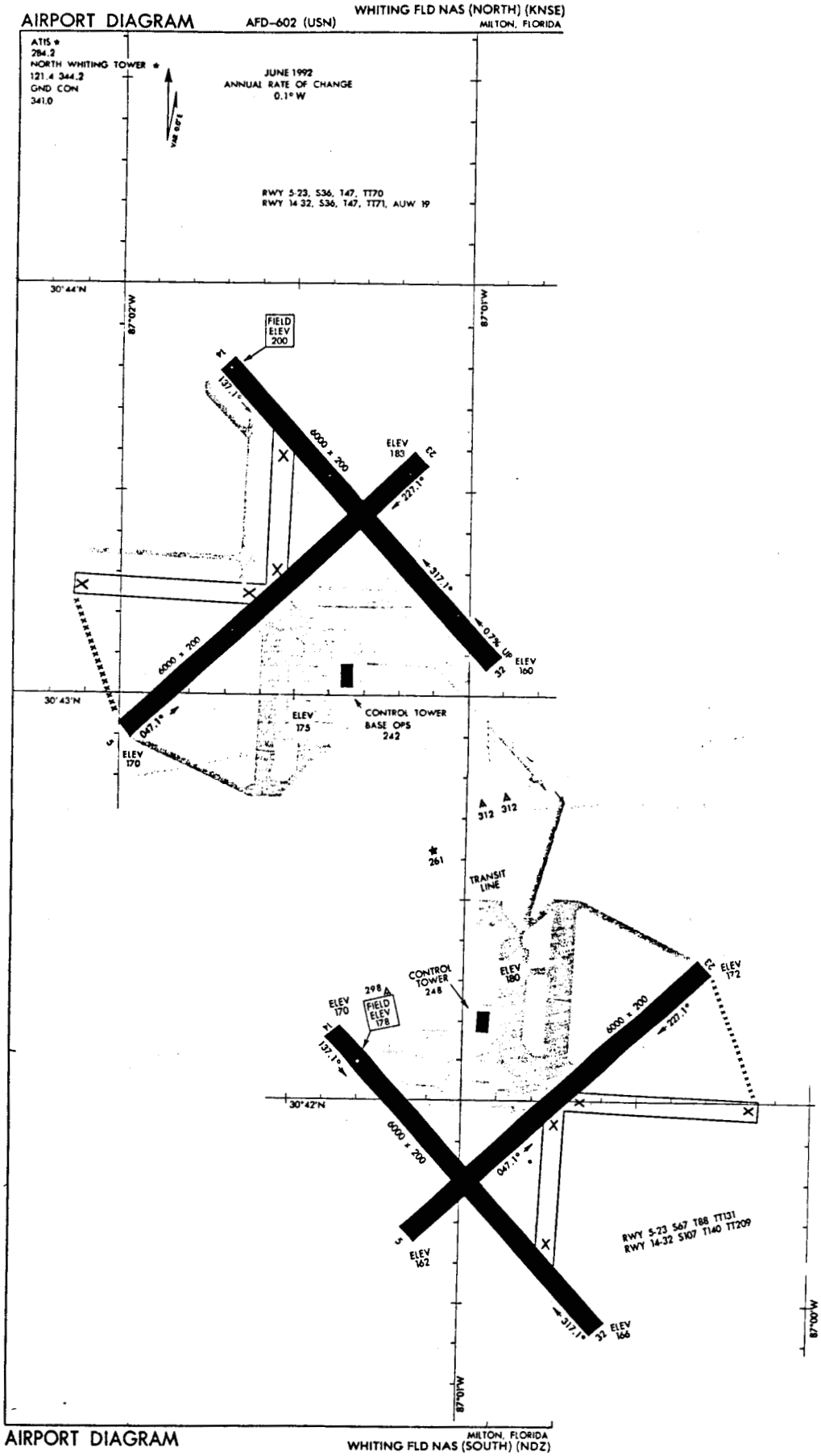

AIRPORT DIAGRAM
AFD-602 (USN)
WHITING FLD NAS (NORTH) (KNSE)
MILTON, FLORIDA
ATIS
284.2
NORTH WHITING TOWER
121.4 344.2
GND CON
341.0
JUNE 1992
ANNUAL RATE OF CHANGE
0.1° W
RWY 5-23, S36, 147, TT70
RWY 14-32, S36, 147, TT71, AUW 19
30°44'N
87°02'W
87°01'W
FIELD ELEV 200
6000 x 200
ELEV 183
227.1°
317.1°
0.7% UP
ELEV 160
30°43'N
047.1°
ELEV 175
CONTROL TOWER BASE OPS 242
ELEV 170
312
261
TRANSIT LINE
CONTROL TOWER 248
ELEV 180
ELEV 172
298
FIELD ELEV 178
30°42'N
RWY 5-23 S67 T88 TT131
RWY 14-32 S107 T140 TT209
ELEV 162
ELEV 166
AIRPORT DIAGRAM
MILTON, FLORIDA
WHITING FLD NAS (SOUTH) (NDZ)

FIGURE 12-K

A notable difference between the existing Air Force and Navy pilot training systems is that Air Force fixed-wing student pilots can complete the entire undergraduate training syllabus at a single base while Navy students are generally required to make at least one move and occasionally, two or three. The nearest Navy equivalent to the Air Force single site system is at Whiting Field, for helicopter pilot training, and in South Texas, where Corpus Christi and Kingsville function, essentially, as a single site for strike pilot training: in cases where primary training is performed at Corpus Christi or for maritime patrol pilots completing both primary training (in the T-34) and advanced training (in the T-44) at Corpus Christi. Corpus Christi's utility and versatility as a joint service multi-engine training site would be materially enhanced by the addition of one or more Air Force T-1 squadrons. This would increase its capacity for single site pilot training. There is ample room for such an addition.

2. COMPARATIVE EVALUATION

A rough order of magnitude appreciation of the military value of the eleven Air Force and Navy bases currently involved in undergraduate pilot training appears in Figure 13. No attempt has been made to assign a relative weighting to the various factors listed as criteria of military value: either in comparing one criterion (category) to another, or with respect to absolute numerical values of the ratings (i.e. Green, Yellow or Red) within each category. Nevertheless, even the simplistic approach taken resulted in relative rankings quite consistent with conclusions reached during actual on-site visits to each of the bases listed, as well as data used during BRAC 93.

DoD AVIATION TRAINING FACILITIES

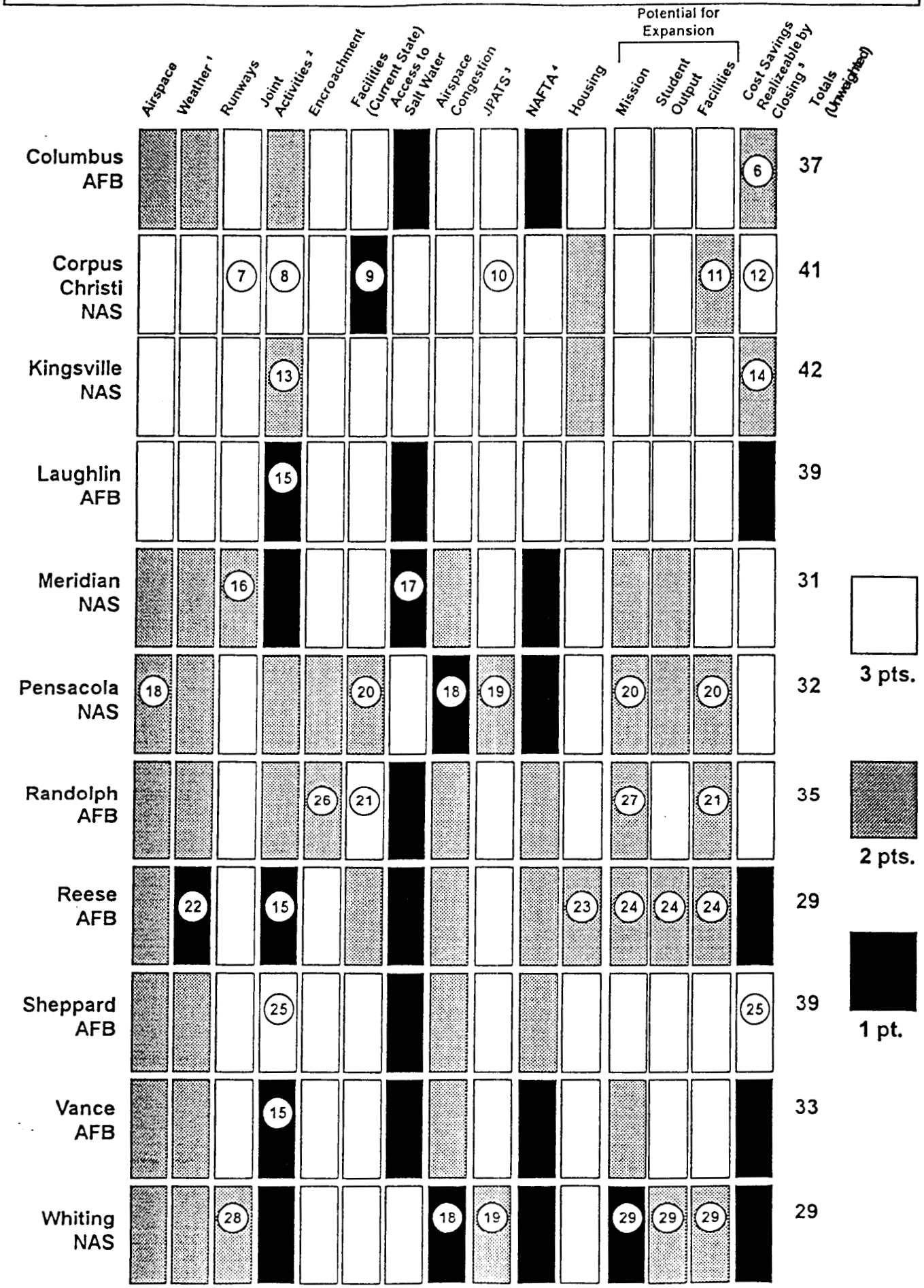


FIGURE 13-A

NOTES

1. Weather based on ceiling and visibility averages.

2. "Joint" = Navy plus other DoD and non-DoD government agencies.

3. Suitability of runways for JPATS operations at both mainside and auxiliary fields (minimum of 5,000 feet required).

4. Geographically located to best exploit NAFTA opportunities (e.g. for flight training: low-level routes and bombing targets.

5. Rating appears to be inverted in that base closings offering best cost savings are rated 'R' and those providing least cost savings are rated 'G.' This contributes to the military value ratings in that comparatively low savings from closing is a reason for keeping a base open.

6. Former SAC base. Tremendous cost to replace bomber/tanker-capable airways, taxiways, and ramps.

7. 5,000-foot parallel runways easily extendible to 8,000 feet. C-5 capabilities essential for CCAD support.

8. Major tenants: CCAD, U.S. Customs Service, U.S. Coast Guard. Tenants' contributions to base operating support (BOS) materially reduce Navy expenditures.

9. Sub-par operations and maintenance facilities.

10. All runways JPATS capable.

11. Ample room to accommodate one or two T-1 training squadrons or more primary trainers.

12. Pilot training represents only a small percentage of BOS costs. Moving it would only *shift*, not eliminate, costs.

13. Strike training, Border Patrol, ROTHR support. More scheduled.

14. Would be difficult and costly to relocate the T-45 training system, especially the OFT's and the corrosion control facility.

15. Capable of pilot training only.

16. Configured as a strike base. Runway configuration not suitable for high-volume pilot training operation.

17. More than 150 miles from coastline.

18. 40 percent of Navy near misses/midairs have occurred in the Pensacola/Whiting area.

19. Lacks JPATS-capable auxiliary fields.

20. Pensacola is an ante bellum base with several outdated facilities. They are basically adequate for the present mission, but growth would require substantial capital investment. Navy will protect Pensacola as "The Cradle of Naval Aviation."

21. Randolph is an old but well-maintained base. Future growth will require substantial capital investment. USAF is committed to protection of Randolph.

22. Field elevation, temperature extremes, and frequency of crosswinds are additional considerations.

23. Old/refurbished.

24. Near saturation now.

25. NATO pilot training. Major foreign investment. Definitely not a candidate for closure.

26. San Antonio building/expanding toward Randolph.

27. Inhibited by encroachment on San Antonio.

28. Adequate for T-34 and TH-59 training operations.

29. Field configuration and facilities limit future mission expansion. Congestion a factor.

FIGURE 13-B

3. LOOKING BEHIND THE RATINGS

In interpreting Figure 13, it is especially important that cognizance be taken of the notes accompanying the Green/Yellow/Red treatment of rankings. Even then, however, it is difficult to properly attribute to those bases located in South Texas (viz. Laughlin, Kingsville and Corpus Christi) the significant advantages accruing from air space and weather. Distinction must also be made between features which it is humanly possible to change (e.g. aircraft complements, facilities, housing, runways) and those which are beyond human control (e.g. weather, proximity to salt water, closeness to Mexico (re NAFTA). Moreover, such considerations as encroachment and civil airways overlays over training areas, while humanly possible to arrest, are, in some areas, moving inexorably in a direction which will aggravate current problems.

Differences in present missions, or present base configurations, complicate comparative analyses of future potentials as undergraduate pilot training bases. Laughlin, Reese, Vance, Columbus, Kingsville and Meridian are, essentially single mission bases although Laughlin and Columbus have prior Strategic Air Command ties. Meridian's runway configuration is unique and reflects the non-training mission for which it was designed. Corpus Christi is, more properly, a Federal Support Complex wherein flight training is an included (but not the major) activity. If the only BRAC 95 action at Corpus Christi is to relocate Corpus Christi's training-mission-essential T-34's and T-44's, the result will be merely cost-shifting, not cost savings. Moreover, any decision to close Corpus Christi in its entirety must consider the impact on at least two other non-DoD government departments, not to mention the significance of the contributions of Corpus Christi's tenants to its Base Operating Support costs.

Phase-in of the JPATS, and phase-out of the T-37, T-34, T-2 and TA-4 will all affect training syllabi and the complex of bases needed to execute them. JPATS will eventually ease the training load on the T-45 by absorbing part of the intermediate pilot training load. Unless Pensacola could pick up the interim strike pilot training load on the T-2 and TA-4, Meridian will have to continue to operate these aircraft until they reach the end of their service lives or enough T-45's are available to deliver the entire Navy strike PTR. Kingsville is currently capable of basing and operating all the T-45's the Navy plans to buy. This, coupled with the costs of the T-45 infrastructure and economies of scale, suggests that BRAC 95 should look carefully at the cost issues related to the dual basing of the T-45 as currently planned. The proximity of Corpus Christi to Kingsville would prevent its use as an alternate/supplementary T-45 base without a requirement for additional T-45 infrastructure.

BRAC 95 should consider, also, the implications of the expiration of the service lives of the T-38 and T-44, both of which require consideration of possible replacements and the associated basing schemes. The concept of a streamlined stable of training aircraft is discussed in Section D.

4. STUDENT CAPACITIES

None of the flying training bases is currently operating up to its capacity. In some cases, a ratio of one instructor per student exists. While there may be considerable debate over maximum attainable capacity, on-site visits revealed general agreement that increases in present student outputs could be attained, drawing on the on-board complements of training aircraft and existing infrastructures with little or no additional capital investment. Some Air Force wing commanders felt that, for the 'no augmentation' condition postulated, present student outputs could be doubled. There should be little argument, therefore, over the reasonableness of the following conservative estimates of current capacity.

Base	Annual Student Output (Potential)	Types
Columbus	300	F/METJ *
Laughlin	300	F/METJ *
Reese	250	F/METJ *
Sheppard	200	F
Vance	300	F/METJ *
Corpus Christi	500-759 **	Primary (T-34)
Corpus Christi	450-791 **	Airlift/Maritime (T-44)
Meridian	225-232 **	Strike (T-2/TA4)
Kingsville	121-336 ***	Strike
Whiting	1100-2989 **	Primary (T-34)

* Fighter/Multi-engine Turbojet

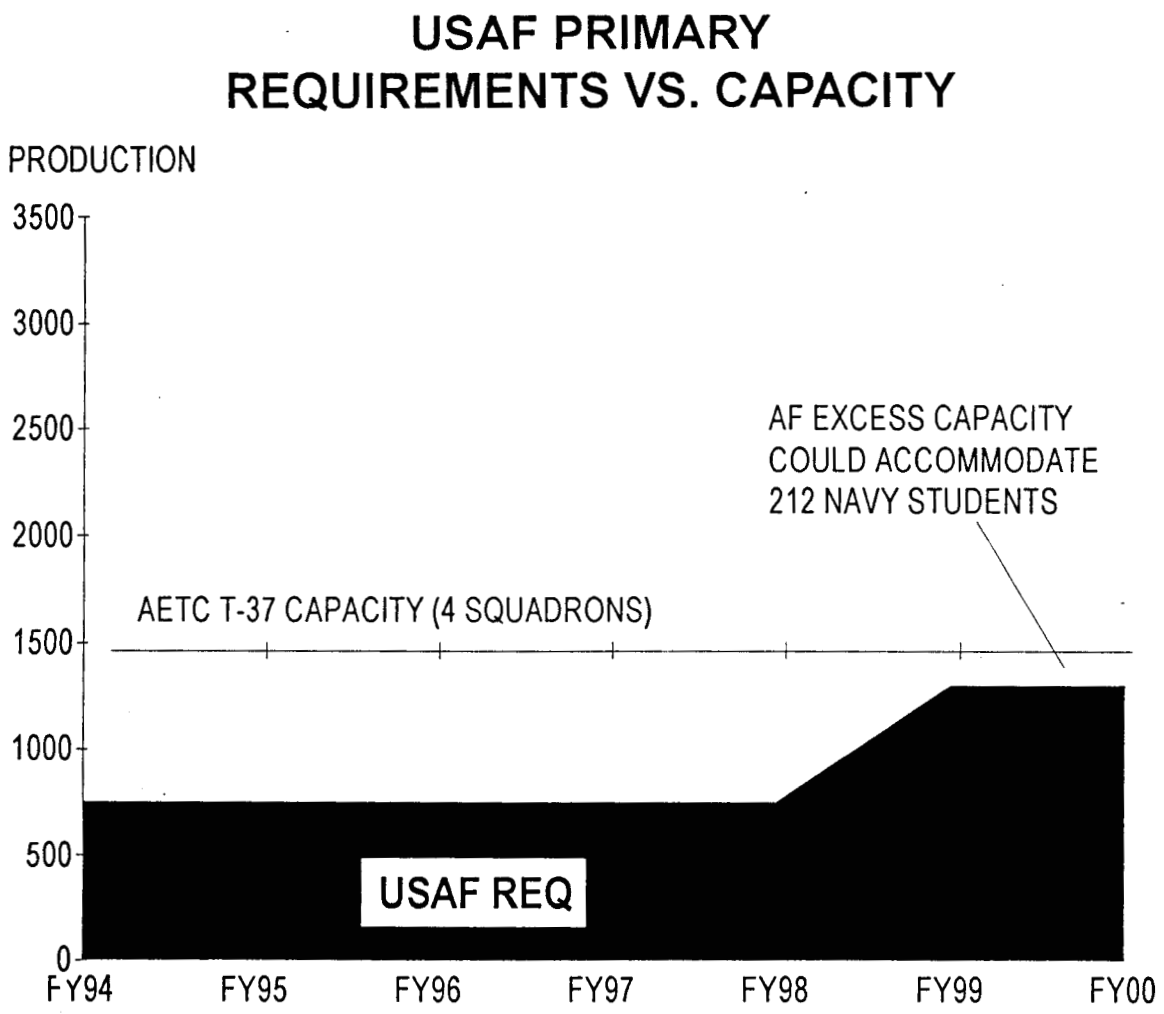
** Capacity cited by CNATRA during briefing of the Base Closure Commission on 5 June 1993 vs. capabilities used by the Commission staff during hearings, BRAC 93.

*** Student output ranges from 121 in FY 95 to ultimate capacity of 336 in 2002. Output peaks at 336, regardless of whether the T-45 is dual-based at Meridian and Kingsville or single-sited at Kingsville.

While the estimates of Air Force capacity correlate well with the projections of Figure 14, the Navy numbers are considerably higher than those stated in the joint report to SecDef (see Figure 15). It should be noted, however, that estimates for the Air Force are based on information obtained during on-site visits during May and June, 1994, and are deliberately conservative. Navy figures have a firmer basis in fact inasmuch as they represent publicly iterated command positions and/or data used during the deliberations of BRAC 93.

The bottom line is that the capacities of both the Air Force and the Navy are probably understated in Figures 14 and 15.

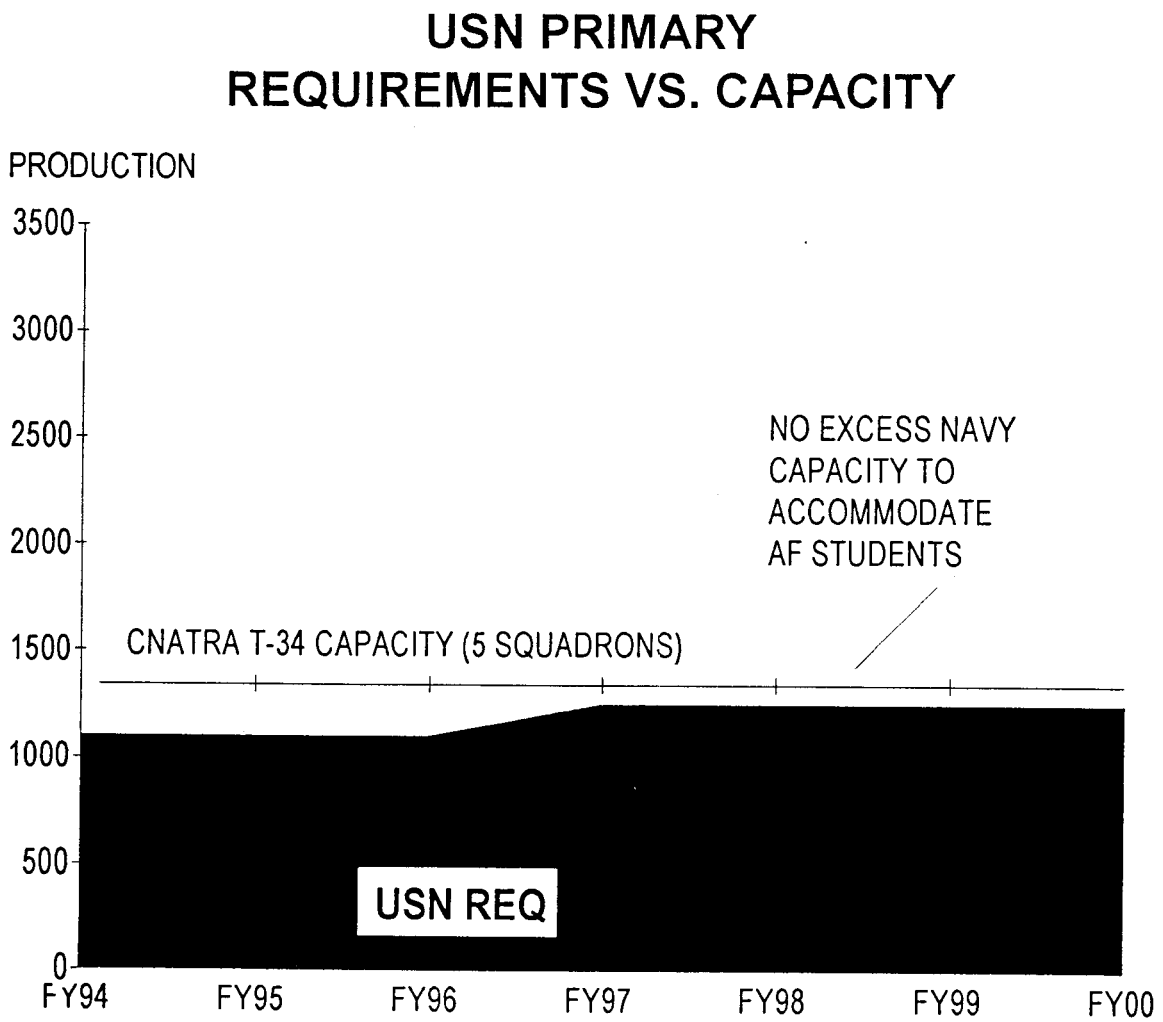
The Air Force possesses 307 T-37 aircraft that have been modified, via a structural life extension program (SLEP), and are located at their four remaining undergraduate training bases. Maximum student production capacity of these assigned aircraft is 1,404 per year. The reduced Air Force requirement due to force downsizing in the steady state by FY99 is 1,212. This leaves an excess capability to produce only 212 USN pilots at Air Force bases.



SOURCE: Joint Memorandum for the Secretary of Defense from the Acting Secretaries of the Air Force and Navy, respectively, dated 9 July, 1993.

FIGURE 14

The Navy capacity for primary student production at their two locations is 1,253 per year. Seventy-four excess T-34 aircraft are being retired, resulting in 225 used to meet this requirement. There is no excess capacity when compared to the projected FY99 production of 1,253.



SOURCE: Joint Memorandum for the Secretary of Defense from the Acting Secretaries of the Air Force and Navy, respectively, dated 9 July, 1993.

FIGURE 15

D. BASE CLOSURE CONSIDERATIONS

1. SELECTION CRITERIA

The deliberations of the Base Closure Commission in 1995 will focus on eight final selection criteria in three major areas of concern:

- MILITARY VALUE

  a. The current and future mission requirements and the impact on operational readiness on the DoD's total force.

  b. The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.

  c. The availability to accommodate contingency, mobilization and future total force requirements at both the existing and potential receiving locations.

  d. The cost and manpower implications.

- RETURN ON INVESTMENT

  e. The extent and timing of potential costs and savings, including the number of years, beginning with the date of completion of the closure or realignment, for the savings to exceed the costs.

- IMPACTS

  f. The economic impact on communities.

  g. The ability of both the existing and potential receiving communities' infrastructure to support forces, missions and personnel.

  h. The environmental impact.

2. QUANTIFICATION

If prior Base Closure Commission deliberations may be accepted as indicative, an attempt will be made to reduce as much as possible of this to numerical values since most people are more comfortable with numbers as decision-making tools. Numbers alone, however, may not be sufficiently indicative of specific features/aspects which give one base an edge over another.

Undoubtedly, BRAC 95 will focus early on the aggregate capacity of the existing Air Force and Navy undergraduate aircrew training bases. This has already been addressed, as evidenced by Figures 14 and 15. If the PTR projections for the 'out years' (i.e. FY 1996 and subsequently) are correct, then there is only enough capacity to accommodate requirements, plus an approximate 10% surge capacity.

The question, then, is what is to be inferred from the force structure and aircraft procurement projections appearing in Section B earlier herein. Very likely the 'out year' PTR requirements are unjustifiably inflated and there is, in fact, existing capacity in excess of projected requirements. Whether or not this is provable, however, BRAC 95 will very likely result in the closure of one or more undergraduate aircrew training bases. The challenge, therefore, is to assure that those bases which are, in fact, of the greatest value are kept open and that they can, indeed, meet the training requirements most likely to be imposed. This leads to some 'real world' observations, not necessarily quantifiable numerically.

3. BEYOND NUMERICAL VALUES

a. Undoubtedly, both Navy and Air Force will each seek to sustain their 'service culture' during the prosecution of the joint flight training programs. This cannot be achieved merely by placing one service's personnel in the other's training environment as the sole (or principal) means of propagating the service culture. A subtle element of Navy culture, impossible to quantify numerically, is the omnipresent influence of salt water. Learning to deal with the sea as both a trusted friend and implacable enemy is an indispensable element of any Navy training curriculum. The lore of the sea is best imparted at the water's edge, not deep inland.

b. Proof of culture as a prime consideration is provided by the Air Force's insistence that the historic importance of Randolph AFB be emphasized by its retention and the Navy's vigorous advocacy of NAS Pensacola as "The Cradle of Naval Aviation."

c. "Jointness" may be earlier and more easily achievable with NFO/SO/EWO training because of the focus on technology and techniques and the perception that cultural differences in these specialized areas are not so large as they are perceived to be in the pilot arena.

d. Planning to date has not progressed beyond the student/instructor exchange point for fixed-wing aircrew training. The introduction of the JPATS might expedite progress toward a truly joint undergraduate pilot training program, but this is not assured. Moreover, there are already some signs that the introduction of the JPATS might be delayed well beyond current projections. This is due not only to the usual uncertainties of a new procurement, but recent questions by some (e.g. the Congres-

sional Budget Office) who are asking why a new trainer is required when the T-34's service life extends to 2010 and alternatives for extending the service life of the T-37 exist. Overlaying all this are the fiscal demands of competing DoD programs, such as the C-17 and the F-22, and the obvious priorities the Administration accords to social programs anent health care, crime prevention and welfare reform. Any decision to delay the JPATS could impact the base closure process. For example, Whiting, which appears vulnerable with JPATS in the offing, would retain its credentials and justification as a T-34 operating base. Any JPATS delay would also impact Navy strike pilot training where the present plan is to optimally utilize the T-2 and TA-4 until the end of their service lives and then shift part of the intermediate training load to the JPATS, thus reducing the load on the T-45. The bottom line for BRAC 95 is that such possibilities are in the air and decisions should not be made which foreclose on any of the reasonable options/alternatives.

e. The acceptance of the JPATS as a joint service primary trainer suggests that, in the long term, the Navy-Air Force joint flying training program could be further 'streamlined'. The end product would be a screening stage in the T-3A and an inventory of three principal trainers: JPATS, T-1 and T-45. The rationale is as follows:

The JPATS will be a training system, as is the T-45. For a large number of pilot trainees this would/will ease their transition to the advanced training phase in the T-45.

The Navy's T-44's will eventually require SLEP or replacement. The T-1 could be, starting now, placed at Corpus Christi as the eventual replacement for the T-44. In the interim, it could serve both the Navy and the Air Force as it does now; as the tanker/airlift/E-6 training aircraft.

*The T-45 is a training system, is a better trainer than the T-38, and has longer to go on its service life. The most significant requisite for a Navy strike pilot, as compared to his/her Air Force counterpart, is carrier landing qualification. Some Air Force pilots on exchange duty receive even this. A joint syllabus could be devised which graduates Air Force pilots at the point of carrier qualification. This would require the procurement of more T-45's than is now planned and the establishment of at least one Air Force T-45 training base. In the long run, it could be cheaper and result in upgraded training efficiencies not realizable with any plan to SLEP T-38's or procure a new replacement. The savings in operations and maintenance costs by retiring the T-38 would be quite significant.

There would continue to exist a requirement for special purpose aircrew trainers, such as the C-21, T-39, T-41 and T-43. In the interests of "Jointness" the Navy and Air Force should evaluate the utility of the T-3 as a pre-primary screening tool for both services. Comparative empirical data on washout rates of Air Force and Navy primary students should provide useful clues. Again, the significance of such possibilities in the context of base closure is that BRAC 95 decisions should not prematurely foreclose on such alternatives/options.

f. Of all the factors influencing flying training, none are more important than the airspace to do it in and the weather to permit it. These factors will become even more important as the base structure shrinks. For example, weather work-arounds possible with light student loadings become increasingly difficult as student loads increase. Similarly, moving more aircraft into an area already experiencing a high near-miss and mid-air collision rate will only aggravate the situation. It is likely also that vertical airspace limitations, already being imposed by overlays of the civil aviation routes, will continue to tighten, not ease. Records clearly show the weather and airspace advantages over all other flying training bases enjoyed by training bases in South Texas. Defense Mapping Agency ONC (series) charts (Scale 1:250,000) with overlays of civil air-ways superimposed dramatically demonstrate the superiority of both the size and utility of the air space available for flight training in South Texas. This advantage is much easier to see than to calculate (Figure 16 shows the scheduled traffic routes between large and hub airports.). However, should it be lost in the base closure process, it will never be retrieved and the ultimate cost of that loss cannot be accurately calculated.

FIGURE 16
SCHEDULED TRAFFICE BETWEEN LARGE HUB AIRPORTS
(SOURCE: BLUE AIR UPDATE)

g. "Jointness" sure to be emphasized by BRAC 95 is nowhere better exemplified within the eleven flying training base complex than at Corpus Christi which hosts 47 tenants, including a major Army depot, A Defense Logistics Agency operation and major operational elements of two other government departments (viz. U.S. Customs Service/Treasury and U.S. Coast Guard/Transportation). The contributions of its tenants to Base Operating Support costs renders Corpus Christi a real bargain when compared to its training base contemporaries. (In fact, over one third of Corpus Christi's operations costs are reimbursed). Since Base Closure is a DoD exercise, its impact on other government departments could raise (as yet) unanticipated cost issues. At Corpus Christi, for example, both Treasury and Transportation might bill the DoD for the costs of disruption and moving. Even if the DoD were not billed, however, such costs would have to be defrayed somewhere in the federal budget. Finally, it should again be noted that any move of flight training out of Corpus Christi unless the entire base were closed would result only in cost shifting, not cost savings. There would, in fact, be additional costs: those of the move.

h. Another subtle aspect of the situation at Corpus Christi, difficult to quantify numerically, is the interdependence of activities which, if disrupted, would cost tax dollars and impact efficiencies. Examples are CCAD's dependence on Corpus Christi's runways and ramps for C-5 operations and Naval Station Ingleside's reliance for support of the mine warfare staff and other personnel support. In addition, Corpus Christi is required for the support of mine warfare training operations, including the basing, operation and maintenance support of MH-53 mine warfare helicopters. Corpus Christi also supports a very large Armed Forces Reserve training activity and serves as the headquarters of the Chief, Naval Air Training (CNATRA). None of these activities limits Corpus Christi's capacity for joint pilot training.

i. Looking to the future, it is not difficult to envisage that Ingleside's carrier-capable pier and the availability of all the air training requisites in the Corpus Christi area could permit supplanting the now-occasional carrier deployments to Guantanamo Bay, Cuba for intensive training. The potential exists, in South Texas, for higher fleet training efficiencies, cost savings and a boost in the morale of crews which will be subjected to steadily growing absences from CONUS as the force structure shrinks. Corpus Christi could easily accommodate the Fleet Training Group now stationed at Guantanamo Bay..... and its mission.

j. While BRAC 95 will, ostensibly, transpire sans political influences, the impact of decisions remains among the factors to be considered. This would seem to mitigate against any arbitrary concentration of base closure actions in any area. This suggests that very strong justification

should be required in order to close all the flying training bases in Mississippi or Florida or to restrict flying training base closures to Texas. In Oklahoma, the closure of both Vance AFB and the Tinker Depot would appear to be unreasonable on its face. Finally, for 'cultural' reasons, if for no other, it would be unrealistic to close only Navy training bases or only Air Force training bases. "Jointness" can go only so far without a Congressional mandate providing for complete unification.

k. At least one base (viz. Sheppard) can reasonably be removed from consideration for closure because of the international implications of closing this NATO pilot training base in which there is substantial foreign financial investment. Sheppard does contribute to the U.S. Air Force pilot pool by graduating about 150 students (fighter pilots) annually. This could probably be doubled.

l. It is reasonable to assume that the institutional defense of Randolph and Pensacola coupled with their demonstrable importance to aircrew training will ensure their survival. Therefore, if Sheppard is also out of harm's way, eight flying training bases are left on the list of possible candidates for closure.

m. There is little question that the principal focus of BRAC 95 will be on joint flying training student capacity. It is essential, therefore, that BRAC 95 decisions derive from accurate data. As discussed in Section C, there were wide variances in capacity data available during BRAC 93.

It must be recognized that the natural tendency of the military services is to provide the lowest estimates which can possibly be validated because of the consequences of excess capacity. On the other hand, the Commission, with a mandate to enable the economies realizable from base closure and relocation, is ready to accept the highest numbers that can possibly be corroborated because they provide an unimpeachable raison de 'etre for closure/relocation. It stands to reason that somewhere between these two extremes is a realistic/accurate statement of capacities which is the only one which should be considered in deciding what complex of bases is required to perform the aircrew training mission during 1995 and into the next century.

E. IMPLEMENTATION AND BRAC 95

1. OVERVIEW

The sine qua non of the output of BRAC 95 vis a vis joint flying training is that there must remain, when all decisions have been rendered, a complex of bases which can deliver the required PTR's, have spare capacity for some surge in output to accommodate (now) unforeseen contingencies, and are capable of absorbing new aircraft/training systems (e.g. JPATS) with minimum disruptions and costs. Because of the overwhelming importance of capacity estimates to the decision making process, it is absolutely essential that the DoD and the Commission be in agreement on capacity estimates.

2. THE IMPLEMENTATION PROCESS

a. Pilot Training

Reese AFB (Lubbock, Texas) and NAS Whiting Field (Milton, Florida) have already been chosen to be the first to implement (primary) joint pilot training. Concurrently, NAS Corpus Christi (Texas) is being jointly manned to conduct airlift/maritime training in the T-44. The other bases will phase into joint pilot training when the JPATS becomes operational somewhere around year 2000. Because the JPATS contract has not been awarded, and because there may be some obstacles placed in the way of its procurement, operational capability of the JPATS by 2000 may be optimistic. In the meantime, both Navy and Air Force must maintain a training air base structure which includes the T-34 and the T-37, but capable of accommodating the JPATS when it becomes available. It is probable, for example, that the JPATS will require more vertical airspace and longer runways than the T-34. Moreover, it should be possible to conduct, in the JPATS, the intermediate Navy strike pilot training now being conducted in the T-2 and T-45.

Instructor pilot and student pilot exchanges at Reese, Whiting and Corpus Christi have begun and will expand on an annual basis. Advanced pilot training is being organized into four separate tracks:

Air Force Fighter/Bomber (T-38 and AT-38)

Navy Strike (T-2, TA-4 and T-45)

Air Force Airlift/Tanker (T-1)

Navy Maritime Patrol (T-44)

There is a test program underway between Reese and Corpus Christi. Instructor pilot and student exchanges are underway:

- Air Force will train Navy E-6 (Boeing 707) pilots.
- Navy will train approximately 150 Air Force C-130 pilots per year.
- Corpus Christi will continue to train P-3, E2C and C-2 pilots.
- Corpus Christi may be tasked to undertake the rotary wing to fixed wing conversion of approximately 200 (95 PTR-equivalent) Army pilots per year. (This proposal is being reviewed due to the limited number of T-44s available.)

Helicopter. The Army is training both Army and Air Force helicopter pilots at Fort Rucker (Alabama).

- Navy Marine Corps and Coast Guard helicopter pilots are being trained at Whiting and the Secretary of the Navy has been tasked to examine the practicability of integrating the Navy's helicopter training with the Army and Air Force at Fort Rucker.
- Air Force tentatively plans to emulate the Navy in providing preliminary fixed-wing training for rotary wing pilot candidates, commencing in 1995. This practice may require a re-evaluation, by both services, when the JPATS becomes available or if delays in JPATS procurement force modification of training load projections for the T-37 and T-34.

b. NFO/WSO/EWO Training

In parallel with the implementation of the joint pilot training program, joint training syllabi for NFO'S/WSO'S/EWO'S are being set up at Randolph AFB, San Antonio (Texas) and NAS Pensacola (Florida). Details were provided earlier herein in Section A. The services agree that the joint aircrew training program may incur slight additional costs over the unilateral programs they supplant but that joint initiatives will best exploit the existing hardware and programs to produce the best qualified graduates ever.

c. Service Committment

The commitment of the services to making joint training work is probably best expressed by the following extract from the Executive Summary of the 9 July 1993 joint Navy/Air Force memorandum to SecDef:

"In summary, joint training has enormous potential. Our approach will be to start this year, build the program year by year, learn as we go, and produce the world's best joint pilot and systems officer training programs. Young aviators will be exposed to the joint service environment, while field grade officers will earn joint duty credit, thus promoting future joint operations. Services will gain from each others' training strengths, resulting in better training overall. Economies of scale will be attainable in every joint training venture, especially with a common aircraft, ground training system, and logistics system. The services are prepared to step smartly into joint training and take full advantage of common training systems like JPATS. The remainder of this report outlines the details of our plan and schedule, and offers a first look at costs and cost avoidance. As we train together, we will continue to improve the quality of our graduates and work toward further efficiencies."

3. BASE REQUIREMENTS FOR JOINT AIRCREW TRAINING

a. Setting the Stage

Air Force and Navy have opined that the closure of flying training bases in prior years (viz. NAS Chase, Mather AFB and Williams AFB) will result in annual savings, to the DoD, of $189 million per year against the up-front $322 million base closure costs. It is unlikely that BRAC 95 will settle for this and that further cuts will be sought. Of the eleven bases 'under the gun', it appears, as discussed in Section D, that the roles and commitments of Pensacola, Randolph and Sheppard are the most defensible. This, then, leaves a total of eight bases from which closure/relocation candidates will most likely be selected.

b. Student Training Requirements

(1) Primary Training

PTR projections indicate that an average annual output of 1610 fixed-wing primary students will be required to feed the four joint pipelines until FY-1999. This number will be higher (by approximately 40) if the Air Force initiates a fixed-wing primary phase for rotary wing students. If allowance is made for an overall attrition of twelve percent, then the requisite annual primary student input ranges from a low of about 1800 to a high of approximately 2300.

Referring to Section C, the Air Force primary training bases (viz Columbus, Laughlin, Reese, Sheppard and Vance) can produce a total of at least 1400 primary students annually while Navy's Whiting and Corpus Christi (combined) can produce at least 1600. (It should be noted that the Navy number of 1600 is more than the 1200 shown in Figure 15, but is consistent

with the capacity estimates used during BRAC 93). If the higher Navy capacity number is, in fact, correct, then at least one Air Force primary training base probably could be closed and still retain a primary flight training complex with adequate steady-state-plus-surge capability.

Looking ahead, if Whiting cannot accommodate the JPATS, then the remaining bases in the complex might be hard-pressed to deliver 2000 primary students per year. This suggests that it would be prudent to examine how the time and cost factors involved in rendering the Whiting complex (Mainside and auxiliaries) JPATS-capable as compared with the closure (or retention) of one Air Force base. At the same time, the practicability of a pre-rotary fixed wing training phase in the JPATS (after phase-out of T-37's and T-34's) should be included in the deliberations of BRAC 95. This is because of the impact of this practice on fixed-wing primary student outputs and because decisions made in 1995 should not foreclose on future options/alternatives.

At this point it appears that the irreducible minimum is a complex of four Air Force and two Navy primary training bases. Corpus Christi is an especially strong candidate for retention because it is already making an important (and probably irreplaceable) contribution to the annual output of primary students, has JPATS-capable runways to accommodate future primary training requirements and has been assigned a major role in joint Airlift/Maritime/Army (?) pilot training in the T-44. The T-44 is a required training asset. Moving it would only shift, not reduce, costs and would, in fact, incur extra costs the costs of the move sans long term savings.

(2) Advanced Pilot Training

(a) Air Force

The Air Force figures in three of the four tracks laid out for advanced pilot training:

- Fighter/Bomber pilots being trained at Columbus, Laughlin, Reese, Sheppard, and Vance.
- Tanker Pilots and Jet Airlift pilots being trained at Columbus, Laughlin, Reese and Vance.
- C-130 Airlift pilots being trained at NAS Corpus Christi.
- Helicopter pilots being trained with the Army at Fort Rucker.

If a fixed-wing prelude to helicopter training is required that primary training can be performed at any Air Force or Navy primary training base.

There are two uniquely distinguishing features of Air Force fixed-wing pilot training:

- Except for C-130 pilots, Air Force students can complete both primary and advanced training at the same base.
- The Air Force fixed-wing pilot training program includes a pre-primary screening phase in the T-3 (Navy does not similarly pre-screen its students).

Student capacity limitations, if any, at Air Force bases appear to derive more from primary training requirements than from advanced training PTR's.

(b) Navy

The Navy figures in two of the four tracks for advanced pilot training:

- Navy/Marine Corps/FMS (Foreign Military Sales) Strike pilots are being trained at Meridian (T-2 and TA-4) and Kingsville (T-45). Kingsville commenced flight training in the T-45 in early 1994. Student output is currently limited by aircraft on board. It will continue to expand, depending on the rate of increase in aircraft inventory. CNATRA estimates, inter alia, that the JPATS will pick up part of the intermediate training load circa 2002. Kingsville's strike pilot outputs in the T-45 will be complemented by Meridian's output in the T-2 and TA-4. These aircraft are approaching the end of their service lives. Navy planning provides for the phase-out of its T-2's and TA-4's apace with the build-up of the T-45 inventory. Present Navy planning envisages Meridian's outfitting with "Cockpit 21" (digital cockpit display) T-45's, commencing with the 73rd T-45. (Present plans are to retrofit all of Kingsville's analog aircraft, commencing in FY 1999). CNATRA envisages that Meridian will be producing 168 T-45 pilot graduates by year 2001. Thereafter, the strike pilot training load will be balanced between Kingsville and Meridian.

Experience during BRAC 93 was that CNATRA's estimates of strike pilot training capacities were quite conservative. This appears to have been carried forward to current planning which continues to reflect CNATRA's 1993 contention that one and one half Navy strike pilot training bases were required. BRAC 95 should be able to develop adequate evidence that:

-- Kingsville's capacity for strike pilot training has been consistently understated.

- -- Kingsville is fully capable of basing and operating all the T-45's the Navy plans to procure. Cost savings accruing from this action would be quite significant.

- -- Corpus Christi could serve as an alternate/supplemental T-45 base without any further requirements for T-45 infrastructure beyond that planned for Kingsville.

- Navy P-3, E2C and C-2 pilots are being trained in the T-44 at Corpus Christi. Navy E-6 pilots will be trained by the Air Force in the T-1. Corpus Christi is capable of absorbing at least one squadron of T-1's. This should be examined in the light of its potential, in the short term, for enhancements in the scope and depth of advanced joint pilot training at Corpus Christi and, in the longer term, the practicability of replacement of the T-44 with the T-1.

- As mentioned earlier, the possibility of co-locating Navy/Marine Corps/Coast Guard helicopter training with the Army and Air Force at Fort Rucker is under consideration.

4. THE CASE FOR JOINT PILOT TRAINING IN SOUTH TEXAS

South Texas is especially suited to joint pilot training because of the large volume of uncrowded airspace and excellent flying weather. These features are unique to South Texas and cannot be matched by any Navy or Air Force pilot training bases in any other area. With the advent of the North American Free Trade Agreement (NAFTA), negotiations with Mexico might make even more unencumbered airspace and real estate available for such special missions as low-level navigation, ground attack ranges, basic air-to-air training and low level intercepts.

Corpus Christi and Kingsville enjoy an additional advantage for Navy pilot training because of their proximity to salt water. As mentioned earlier, the lore of the sea is best taught at the water's edge, not deep inland.

By creating a South Texas complex of flying bases, all elements of both Air Force and Navy training (except for helicopter training) can be accommodated. The South Texas components of the joint training base system and their functions are:

NAS CORPUS CHRISTI

- Primary Flying Training (T-34 and JPATS): 500-700 students
- Airlift/Tanker Training (T-44 and T-1(?)): 150 students
- Maritime Patrol Training (T-44): 450-600 students
- Instructor Pilot Upgrade Training (T-34, T44)

- Fixed Wing Multi-Engine Conversion Training for Army pilots (T-44): 95 (PTR equivalent) students (under review ??)
- Advanced Fighter/Attack Training Detachment (T-45)?

NAS KINGSVILLE

- Advanced Fighter/Attack Training (T-45): 336-375 students (by single siting the T-45)

Kingsville would also figure importantly in any action to reduce the training aircraft 'stable' to three aircraft: JPATS, T-1 and T-45 sometime in the future. Such a 'stable' would support the "economy of scale" argument advanced by the services in their 9 July 1993 memorandum to SecDef.

LAUGHLIN AFB

- Primary Flying Training (T-37, JPATS): 300 students
- Advanced Bomber/Fighter Training (T-38, AT-38, T45(?)):150-300 students
- Advanced Airlift/Tanker Training (T-1):150-300 students

RANDOLPH AFB

- HQ Joint Flying Training Instructor Pilot Upgrade Training (T-37, T-1, T-38)

The currently in-place infrastructures in the South Texas pilot training complex will support an annual output of 800-1000 primary students and at least 1300 advanced students without further capital investment.

All South Texas bases are surrounded by complexes of outlying fields where training operations can be conducted. Several are in use now and more are available. This translates to readily achievable increases in student outputs.

NOWHERE, IN THE UNITED STATES, ARE THE NATURAL ADVANTAGES OF THE TRAINING ENVIRONMENT IN SOUTH TEXAS EVEN MATCHED, LET ALONE SURPASSED. ONCE THEY ARE GIVEN UP, BY A BASE CLOSURE DECISION, THEY CAN NEVER BE RECOVERED AND THE FLYING TRAINING SYSTEM WILL REMAIN, THEREAFTER, LESS EFFICIENT THAN IT WAS BEFORE.

Document Separator

CAPABILITY OF AVIATION FACILITIES

IN SOUTH TEXAS

TO SUPPORT

NAVY/JOINT FLIGHT OPERATIONS

PREPARED FOR

THE SOUTH TEXAS MILITARY FACILITIES TASK FORCE

BY

FRANK W. AULT
&
GRAHAM E. SHIRLEY

CAPABILITY OF AVIATION FACILITIES IN SOUTH TEXAS TO SUPPORT NAVY/JOINT FLIGHT OPERATIONS

A. GENERAL

The capability of an area/region to support aviation operations is defined by three major elements:

Airfields and their associated:

a. Runways
b. Taxiways
c. Ramps
d. Outlying fields (OLF's)
e. Weapons ranges

Airspace
Weather

B. THE AIRFIELDS

There are three basic elements of the South Texas airfield complex:

1. **NAS Kingsville and its associated OLF (Orange Grove)**
2. **NAS Corpus Christi (NASCC) and its associated OLF's (Waldron, Cabaniss, and Aransas Pass)**
3. **Several outlying fields not currently used by the Navy, but capable of supporting Navy flight operations and with reasonable possibilities of obtaining Navy access.**

Those airfields in South Texas currently being used by the Navy, and those potentially available, are listed in Attachment 1. No changes in airfield configurations are contemplated, except at NAS Corpus Christi, where the Navy's BRAC '95 proposal includes $7.4 million for the extension of runways 13/31 Left and 17/35 to 6,000'.

C. AIRSPACE

The South Texas airspace available for flight operations equals 107,550 cubic miles, ranging from sea level to 18,000 feet MSL and covering a surface area of 31,630 square miles.

The areas in South Texas used for military flight operations are shown in Attachment 2.

D. WEATHER

Flying weather in South Texas is the best in the United States. Comparisons with other aviation training areas are shown in Attachment 3. More specifically, information used by the Base Closure Commission in 1993 included the following percentages of scheduled flight training hours lost to weather:

NAS Kingsville	7.0%
NAS Corpus Christi	12.0%
NAS Whiting Field	17.0%
NAS Meridian	17.8%
NAS Pensacola	20.0%

E. THE AIRCRAFT

1. Current

The aircraft currently based at the respective South Texas airfields are :

a. **NAS Kingsville: 49 T-45's**
b. **NAS Corpus Christi: 70 T-34's; 57 T-44's; 3 USCG Falcon Jets; 3 USCG HH-65's; 6 US Customs Service (USCS) P-3's (AEW)**

2. Proposed by the Navy

The Navy proposal for BRAC'95 is that all T-45's be single -sited at NAS Kingsville, using Orange Grove and "NAF Corpus Christi" as OLF's. Concomitantly, all T-34's and T-44's would be moved to the NAS Whiting/NAS Pensacola complex and NAS Corpus Christi, redesignated as "NAF Corpus Christi" would receive two minesweeping helicopter squadrons (HM-14 and HM-15), each equipped with 12 MH-53 helicopters. The Navy planned to use the space vacated by the T-34's and T-44's to accommodate the MH-53's.

3. Proposed by the South Texas Military Facilities Task Force (STMFTF)

The STMFTF concurs with the Navy proposal to single site the T-45 at NAS Kingsville and the T-34 at NAS Whiting. The space vacated by the T-34 squadrons, plus Hangar 42 (as the AIMD) on the seawall, would be used to accommodate the incoming helicopter squadrons.

The STMFTF contends that the proposed move of the T-44's out of NAS Corpus Christi is unwarranted in that:

a. Cost of the move, per se, as well as the cost of accommodating the T-44's at NAS Pensacola, will never be recovered. The move, therefore, is in direct contravention of a prime BRAC objective, which is to save money for DOD. There are no "economies of scale" realized, as there are in the T-34 move.

b. The Navy has not fully considered the ability of NAS Pensacola to absorb the T-44 training operation. Recently calculated capacities for NAS Pensacola are:

Authority	Airfield Ops/Year
FAA Advisory Circular A/C 150/5060-5 used by the Joint Cross Service Study Group (JCSSG)	270,072
BRAC 95 Capacity Analysis Data Call for NAS Pensacola computed @ 65 ops/hr (65 x 12.1 x 237) 65=Parallel Runway/ VFR capacity 35 ops/hr = single X-wind runway	187,400

Historical data at NAS Pensacola for 1991-1993 provide the following usage:

Aircraft type	Operations/Year
C-12 / Transients	15,700
T-2 (E-2C/C-2 Training)	27,500
T-34/T-2/T-39 (NFO Training)	60,840
FA/18 and C-130 (Blue Angels)	160
TOTAL	104,200

The annual requirement for T-44 operations for the three categories of training is 264,443 operations (the calculations to support this figure are found in paragraph 7). Historically an average of 117,000 T-44 operations per year have been conducted at NASCC, with the remainder at outlying fields. The 117,000 figure does not reflect the increase that will occur with the addition of USAF C-130 lead-in training that will be conducted in the T-44. Even without the C-130 training requirements, the Navy T-44 operations now conducted at CCNAS (117,000) plus the current operations at NAS Pensacola (104,200) equals (221,200) exceeds

the capacity of NAS Pensacola (187,400), as defined in the BRAC '95 Capability Analysis. With the addition of C-130 lead-in training (117,000), the total requirement at NAS Pensacola (338,200) exceeds even the FAA Advisory Circular capacity (270,072).

Another factor is the availability of suitable OLF's in the NAS Pensacola area. The T-44 requires an OLF with day and night capability and a runway length of at least 4,500 feet. None of the 13 OLF's in the NAS Pensacola area meets these criteria! The consolidation of all primary training (in T-34's) at NAS Whiting Field will result in higher utilization of all the OLF's now being used for that purpose.

Finally, the addition of yet another aircraft to the mix of T-34's, T-2's, T-39's, FA-18's, C-12's, TH-57's, and H-3's already operating in the Greater Pensacola area will further congest the airspace and add to the safety problems of operating dissimilar aircraft types in that area.

c. The T-44 is already single sited at NAS Corpus Christi. If the T-44's are left at NAS Corpus Christi, the T-45's single sited at NAS Kingsville, and the T-34's single sited at NAS Whiting, then the Navy will have all its undergraduate pilot training at the Pensacola complex and all its advanced pilot training in South Texas.

d. There is no imperative dictating a T-44 move in the near term. Ample space exists at NAS Corpus Christi to absorb MH-53's and any T-45's (using NASCC as an OLF) without displacing the T-44's. The remaining field capacity would be sufficient to base and operate the current USCG and USCS assigned aircraft as well as handling the normal transient aircraft. These transient aircraft include the C-5 currently used for normal Corpus Christi Army Depot (CCAD) support. Because the T-45 operations at NASCC will be very slow to increase (principally due to the T-45 procurement rate of one per month), there is no reason to accelerate the T-44 move, if it is moved at

all. In the event that the decision is made to move it in the future, it could be moved at a time and to a place that it is prudent to do so. In short, NASCC can accommodate the T-44, and there is no reason to move it now.

F. CAPACITY

1. General

Although the mix of aircraft proposed by the STMFTF involves both training(T-44 and T-45) and operational flights (MH-53, USCG Falcon Jet and HH-65, and USCS P-3), the primary determinant of capacity is the ability of the NAS Kingsville and NAS Corpus Christi complexes to produce the required number of student pilots (known as Pilot Training Requirements or PTR). The PTR drives the level of utilization of both the main fields and their associated OLF's, and in turn limits the ability of the main fields to support flying operations that do not train student pilots.

In deciding the capacity required, the Navy looks first at the PTR. Attachment 4 is the latest statement of PTR's by the Chief of Naval Operations (CNO). South Texas is concerned with Strike (T-45), Maritime (T-44) and E-2/C-2 (T-44/T-2 now and T-44/T-45 when the T-2 goes out of service).

2. NAS Kingsville

NAS Kingsville and its OLF, Orange Grove, are dedicated exclusively to T-45 training. The measure of capacity of these fields depends on:

a. Number of operations (takeoffs and landings are each considered one operation) which the field is capable of supporting. This capacity must be corrected for losses due to weather.

b. The number of hours per day that the field will conduct flight operations.

c. The number of days per year that the field will operate. With a five-day working week, the number of flying days per year is 237.

The value selected in each category is derived from certified data provided by the Navy, and recognized as authentic by the Base Structure Analysis Team (BSAT) In any case where conflict exists, the STMFTF selected the most conservative number (even if the higher number can be justified). The following applies to T-45 operations:

Site	Ops/Hr	Hours	Days	Total	Ops/Plt	PTR
NAS K'ville	80	12.1	237	229,416	1473	155
O Grove	54	11.6	237	148, 457	1473	100
			TOTAL	377, 873		

Note 1 Ops/Hr is weather corrected
Note 2 Ops/Plt are daylight only
Note 3 Last Navy certified number was 1393 Ops\Plt. Current Chief of Naval Air Training (CNATRA) staff position is that 1473 Ops/Plt more accurately reflects T-45 experience to date. Both numbers include 35% overhead which has been validated by actual flight training experience.

One of the concerns expressed during Meridian's presentation to the BRAC on 4 April was that NAS Kingsville and its OLF (Orange Grove) would be unable to sustain the tempo of operations required to produce the required Strike PTR. The following historical data has been extracted from Runway Utilization Data available at NAS Kingsville:

Year	Total Runway Operations *
1986	368,468
1987	454,094
1988	444,085
1989	411,860 **
1990	371,086

*NAS Kingsville plus OLF Orange Grove
**January through September only

This historical record clearly shows that the 377,873 T-45 " operations available" is clearly within the demonstrated capabilities of the NAS Kingsville/Orange Grove complex. This can clearly be done without resorting to the 6,000 RPM (red line) activity alluded to in the Meridian presentation.

3. NAS Corpus Christi

The utilization of NAS Corpus Christi for T-45 training should produce the following results:

Site	Ops/Hr	Hours	Days	Total	Ops/Plt	PTR
CC I	54	10.1	237	129,260	1473	87
CC II	80	10.1	237	189,581	1473	130

Note 1 T-45 operations restricted to runway 13/31(used 90% of the time because of prevailing winds)
Note 2 CC II is runway configuration after runway extension
Note 3 An additional 37,920 operations are dedicated to transient operations. This is computed by using the factors in the table above and allowing a period of 2 hours out of the daylight flying day.

4. Use of Other OLF's

South Texas has ample airspace and a number of fields suitable as OLF's for T-45 training. The most suitable OLF is Beeville for which a Memorandum of Agreement has been executed by the Beeville\Bee County Redevelopment Authority and the Kingsville Area Industrial Development Foundation. This Agreement becomes effective when the Navy and Beeville sign a lease for use of the airfield as an OLF. The cost of the lease is $1 per year. A copy of this Agreement is Attachment 5.

Another potential OLF is Goliad, a field that is owned by the Navy and is being leased to the community of Goliad on a 90 day renewable basis. Current plans are to eventually sell the airfield to the highest bidder. Attachment 6 outlines the situation at Goliad.

The capacities of both airfields as OLF's for the T-45 are:

Site	Ops/Hr	Hours	Days	Total	Ops/Plt	PTR
B'ville	54	10.1	237	148,457	1473	87
Goliad	54	10.1	237	148,457	1473	87

The contributions to the PTR of several airfields currently being used and those immediately available are shown in Attachment 7 and summarized in the table below.

Airfield	Airfield PTR		Total PTR
NAS Kingsville	155		155
OLF Orange Grove	100		255
NAS Corpus Christi I	87		342
NAS Corpus Christi II	130	(+43)	385
Beeville	87		472
Goliad	87		559

This confirms that the South Texas airfield complex is capable now of delivering the 336 PTR required by the Navy. Upon completion of the runway extensions at NAS Corpus Christi, the 355 PTR required by the addition of E-2C and C-2 pilots into T-45 carrier qualification phase can easily be met. Because the E-2C and C-2 pilots are currently being carrier qualified in the T-2, T-45 training will not be required until the T-2 is retired from the inventory after the year 2000.

Adequate capacity in excess of current requirements is available in South Texas alone to satisfy the surge capability, requested by the CNO.

5. Considerations Impacting Strike PTR's

a. T-45 Availability

There were 49 T-45's at NAS Kingsville as of 31 Mar 95. Future deliveries are programmed at 12 per year until FY 2001 and 18 per year until delivery is complete. Until the T-45 delivery has been completed, Strike pilot training will be conducted in some combination of T-45 only, T-2/TA-4, or T-2/T-45. The TA-4 should run out of service life in 1997 or 1998, but the T-2 will be available until FY 2005.

b. Possible Closure of NAS Meridian

The problem facing CNATRA is the phase in/out of the involved aircraft in a manner to sustain required PTR output. Closure of NAS Meridian would require a decision:

(1) Either to relocate (as soon as possible), all , or part of NAS Meridian's T-2 and TA-4 aircraft to NAS Kingsville or NAS Pensacola.

or

(2) As permitted by BRAC rules, to continue Strike pilot training at NAS Meridian until the end of the TA-4 service life, and then move the T-2 to South Texas or the NAS Pensacola complex.

Either action would require a re-evaluation of the Strike PTR capacities of NAS Kingsville and NAS Corpus Christi in the light of the possible changes to the types and numbers of aircraft to be assigned. Neither action should present insurmountable obstacles, because the surge capabilities provided by Beeville and Goliad would be available, if the Navy takes action in the near term to protect its option to use these airfields. In such a scenario, if the T-2 aircraft were all moved to NAS Pensacola and the T-44 aircraft were retained at NAS Corpus Christi, then <u>all the Navy pilot training would be single-sited!</u>

Should NAS Meridian remain open, it is very likely that action would be taken to install a T-45 training operation. Approximately $245 million has been invested in T-45 infrastructure at NAS Kingsville. It is unlikely that even a "bare bones" T-45 infrastructure could be installed at NAS Meridian for less than 2/3 or 3/5 of that amount. In view of the capacity and capabilities of the South Texas complex to single-site and operate the T-45, a major investment in NAS Meridian appears hard to justify.

c. <u>Availability of JPATS</u>

The Navy plans to use the Joint Primary Aircraft Training System (JPATS) as its intermediate strike trainer. Until the JPATS becomes available, intermediate strike training will continue to be conducted in the T-2 or the T-45, or both. The delay of the JPATS will result in a higher utilization rate for the T-45 than originally planned. When the JPATS enters the inventory, it will reduce the operational training requirements for the T-45 at NAS Kingsville and NAS Corpus Christi, depending on how it is utilized and where it is based.

6. Capacity for Aviation Operations Other Than Strike Pilot Training

a. General

As envisaged by the STMFTF, NAS Corpus Christi will be basing and operating:

1. Spillover T-45's from NAS Kingsville
2. Fifty-seven (57) T-44 aircraft conducting:
   a. Maritime Pilot Training
   b. E-2C and C-2 Pilot Training
   c. USAF C-130 lead-in Pilot Training (150 per year)
3. The twenty-four (24) MH-53 helicopters of HM-14 and HM-15
4. Three (3) Falcon Jets and three (3) HH-65 helicopters of USCG
5. Six (6) USCS P-3 AEW aircraft
6. Transient aircraft of various types, including the C-5 support for CCAD and Mine Countermeasure support.

To support its other aircraft training operations, NAS Corpus Christi is complemented by OLF's Waldron, Cabaniss, and Aransas County. Waldron is currently being used principally for T-34 operations and could be dedicated exclusively to MH-53 operations upon relocation of the T-34 squadrons. Cabaniss and Aransas Pass would remain dedicated to fixed wing operations, principally the T-44.

b. Capacity of the NAS Corpus Christi Complex

The daylight capacity of the NAS Corpus Christi Complex, shown graphically in Attachment 8 is :

Site	Ops/Hr	Hours	Days	Total Ops
NAS Corpus	111 (1)	12.1	237	318,314 (4)
NAS Corpus	80 (2)	12.1	237	229,416 (4)
Cabaniss	74 (3)	12.1	237	212,209
Waldron	74 (3)	12.1	237	212,209
Aransas Co.	74	8.0	237	140,304 (5)

TOTAL AIRFIELD OPS AVAILABLE = 794,135 TO 883,036!

Note 1: FAA Advisory Circular AC 150/5060-5
Note 2: BSAT 95
Note 3: FAA Advisory Circular AC 150/5060-5
Note 4: Capacity at NASCC reflects BRAC 95 proposed runway extension
Note 5: Aransas County Airport is a leased facility

To be subtracted from the total airfield operations available are those to be dedicated to T-45 operations. These are:

PTR	Ops Required		NAS Kingsville &Orange Grove		Ops Needed at NAS Corpus
336	494,928	-	377,873	=	117,055
355*	522,915	-	377,873	=	145,042

*After FY 2000

An additional 37, 920 operations are dedicated to other than T-44 or MH-53 daylight operations (I. E. 237 x 2 x 80 = 37,920 operations)

7. T-44 Training Requirements

Category	PTR	Day & Night Ops	Total Ops
Maritime	233	571*	133,043
USAF C-130	150	780	117,000
E-2C & C-2	56	400*	14,400
		TOTAL	264,443

* Data used during BRAC '93. Operations are conservative in that they are both day and night; therefore higher than day ops alone.

8. Summary of Requirements

Aircraft	Ops/Yr Minimum		Ops/Yr Maximum
T-45	117,055		145,042
T-44	264,443		264,443
Other (tenants)	37,920		37,920
TOTAL	419,418	to	447,405

Based on these calculations, there is ops capacity at NAS Corpus Christi ranging from 374,720 to 463,718 operations per year that can be used for MH-53 helicopters, transient aircraft, and USCG and USCS aircraft.

9. NAF Corpus Christi or NAS Corpus Christi

The STMFTF believes that the redesignation of NAS Corpus Christi as an NAF is inconsistent with ether size of the installation, the number of tenants (46), the number of assigned personnel (approximately 7500), the importance of the mission and the complexity and multiplicity of operations. NAS Corpus Christi has an annual budget of $50 million, one-third (1/3) of which is paid by the tenants. With the accession of T-45 aircraft and MH-53 helicopters, the importance and complexity of NAS Corpus Christi will increase. Downgrading NAS Corpus to an NAF would incur numerous risks in command and control, financial management, executive management, and environmental control.
NAS CORPUS CHRISTI IS MORE THAN A NAVAL AIR STATION,

IT IS A FEDERAL SUPPORT COMPLEX!

SOUTH TEXAS AIRFIELDS

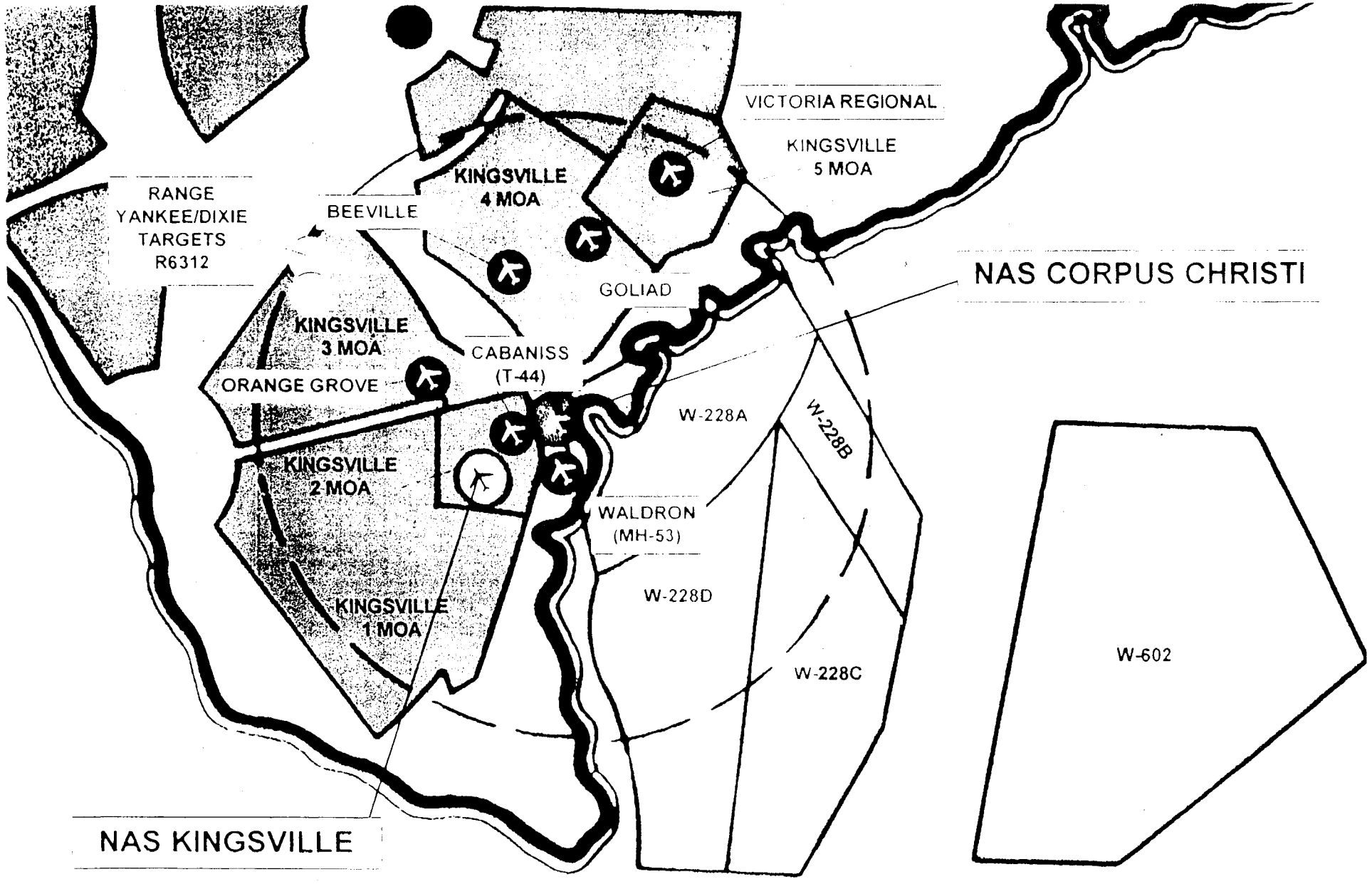
Name	Runway Length	Distance from NAS Corpus Christi	Distance from NAS Kingsville
Alice	6,000'	38 NM	19 NM
Aransas County	5,600'	28 NM	*
Beeville	8,000'	48 NM	53 NM
Brownsville	7,400'	110 NM	99 NM
Cabaniss	5,000'	8 NM	*
Corpus Christi International	7,500'	13 NM	23 NM
Goliad	8,000	55 NM	73 NM
Harlingen	8,300	95 NM	76 NM
Kleberg County	6,000'	40 NM	15 NM
Orange Grove	8,000'	42 NM	24 NM
NAS Corpus Christi	8,000'	N/A	30 NM
NAS Kingsville	8,000'	30 NM	N/A
San Patricio	5,000'	24 NM	*
Victoria	9,100'	70 NM	99 NM
Waldron	5,000'	5 NM	*

NOTES
1) All runways > or = 5,000'
2) * -- not used for T-45 operations
3) Waldron is MH-53 operating location
4) Cabaniss is T-44 operating location

Attachment 1

SOUTH TEXAS MOAs & WARNING AREAS

W/ OUTLYING FIELDS AND TARGETS

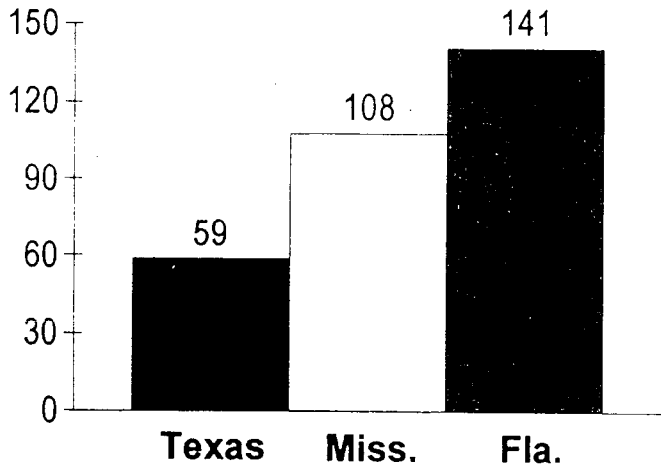


Attachment 2

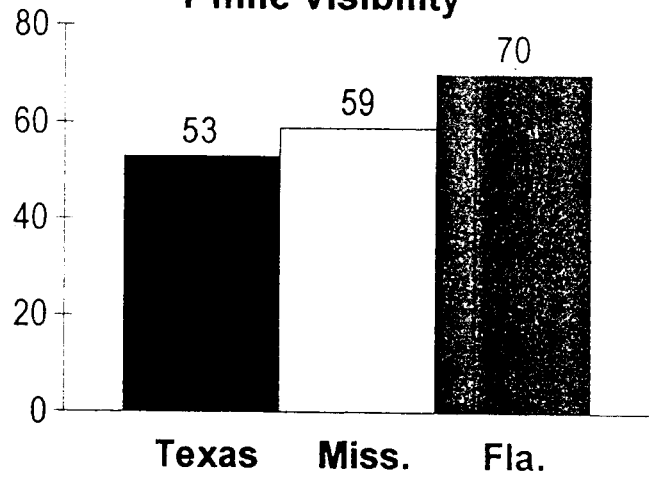
DAYS WITH STORMS AND VISIBILITY

MARCH 1992 TO FEBRUARY 1994

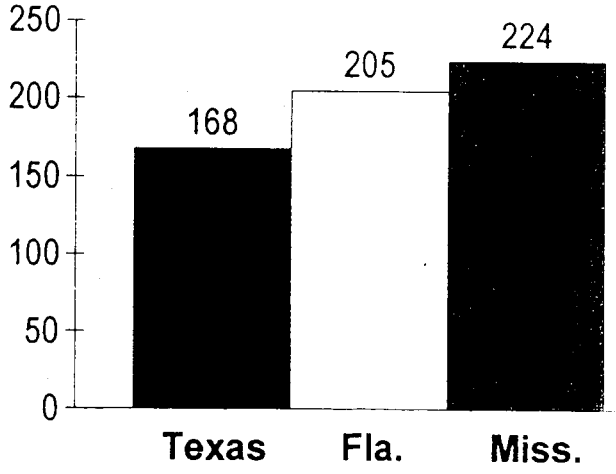
Days with Thunderstorms



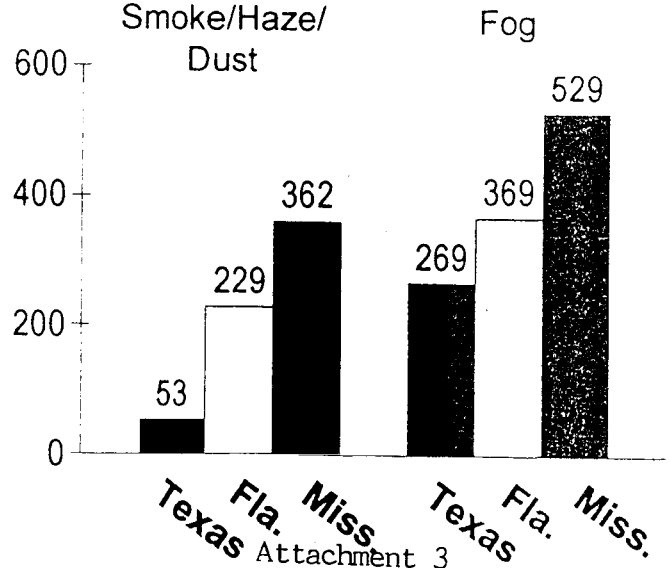
Days with Less than 300' ceiling 1 mile visibility



Days with Less than 1000' ceiling 3 miles visibility



Days with Obstructions to Visibility



Source Federal Climate Data Center, Asheville, N.C.

Attachment 3

DEPARTMENT OF THE NAVY
CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

IN REPLY REFER TO
1542
Ser N889JG/4U661666
20 Jul 1994

From: Chief of Naval Operations

Subj: PILOT AND NAVAL FLIGHT OFFICER TRAINING RATES, FY 94-99

Ref: (a) CNO ltr 1542 Ser N889J6/3U658748 of 20 Sep 1993

Encl: (1) Pilot Training Rates (PTR), FY 94-99
(2) Naval Flight Officer Training Rates (NFOTR), FY 94-99

1. This letter modifies and supersedes reference (a). Enclosures are effective on receipt and reflect planned production goals for FY 94-99. These goals are intended to resolve current pool excesses, balance ongoing transitions and new production with FRS output and return to steady state force mix of 10 CVWs, 12 VP Squadrons and appropriate force support for 330 ships in FY 97.

2. Significant changes include:

- Increase VFA pilot manning from 17 to 19/squadron
- Reduction from 15 to 12 VP squadrons
- Decom of VAW 122
- Realignment of E2/C2 pilot career paths
- Adjustment for Helo pools
- WSO curriculum approved/20 to 40 plus up of FMS NFOTR

3. OPNAV point of contact is Captain Scott Krajnik, N889G/J, A/V 224-6010/6013, commercial 703-614-6010/3.

J.S. MOBLEY
By direction

Distribution:
CNO (N1, 11, 12, N88C, N88R, N889C, N889F, N095, N821E)
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Attachment 4

PILOT TRAINING RATES 20 JUL 94

FY-94	STRIKE	MARITIME	B2/C2	ROTARY	TOTAL
USN	173	120	43	214	550
USMC	118	32	0	188	338
COGARD	0	15	0	35	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	321	214	43	502	1080
FY-95					
USN	163	140	36	184	523
USMC	110	31	0	181	322
COGARD	0	10	0	45	55
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	303	228	36	475	1042
FY-96					
USN	183	140	36	184	543
USMC	106	29	0	181	316
COGARD	0	12	0	38	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	319	228	36	468	1051
FY-97					
USN	203	146	36	184	569
USMC	103	28	0	176	307
COGARD	0	12	0	38	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	336	233	36	463	1068
FY-98					
USN	203	146	36	200	585
USMC	103	28	0	176	307
COGARD	0	12	0	38	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	336	233	36	479	1084
FY-99					
USN	203	146	36	200	585
USMC	103	28	0	176	307
COGARD	0	12	0	38	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	336	233	36	479	1084

ENCLOSURE (1)

NAVAL FLIGHT OFFICER TRAINING RATES

20 Jul 1994

	RIO	WSO	TN	OJN	ATDS	NAV	TOTAL
FY-94							
USN	29	0	48	37	35	102	251
USMC	0	17	14	0	0	0	31
FMS	0	0	0	0	0	15	15
NOAA	0	0	0	0	0	1	1
TOTAL	29	17	62	37	35	118	298
FY-95							
USN	39	0	38	37	35	122	271
USMC	0	18	12	0	0	0	30
FMS	0	20	0	0	0	15	35
NOAA	0	0	0	0	0	1	1
TOTAL	39	38	50	37	35	138	337
FY-96							
USN	39	0	38	57	35	128	297
USMC	0	18	12	0	0	0	30
FMS	0	40	0	0	0	15	55
NOAA	0	0	0	0	0	1	1
TOTAL	39	58	50	57	35	144	383
FY-97							
USN	48	0	38	57	40	128	311
USMC	0	18	12	0	0	0	30
FMS	0	40	0	0	0	15	55
NOAA	0	0	0	0	0	1	1
TOTAL	48	58	50	57	40	144	397
FY-98							
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USMC	0	18	12	0	0	0	30
FMS	0	40	0	0	0	15	55
NOAA	0	0	0	0	0	1	1
TOTAL	48	58	50	57	40	144	397
FY-99							
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FMS	0	40	0	0	0	15	55
NOAA	0	0	0	0	0	1	1
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ENCLOSURE (2)

PILOT AND NAVAL FLIGHT OFFICER TRAINING RATES, FY 94-99

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

W. A. EARNER	W A Earner
NAME (Please type or print)	Signature
	11/21/94
Title	Date

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement (Agreement) is entered into by and between the Beeville/Bee County Redevelopment Authority (Authority) and the Kingsville Area Industrial Development Foundation (Foundation). The purpose is to effectuate a lease between the two parties for the airfield portion of the property formerly known as Naval Air Station (NAS) Chase Field in Beeville, Texas.

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WHEREAS the Foundation wishes to secure the airfield portion of Chase Field for use by Naval Air Station (NAS) Kingsville, Texas, as an Outlying Field (OLF) in the training of student pilots,

In view above and for the consideration stated below, the parties agree as follows:

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The property formerly known as NAS Chase Field is shown in Exhibit A. This Agreement covers only the airfield (Airfield) portion of that property, shown in Exhibit B.

2. Term

The term of this Agreement shall be for twenty (20) years, starting from the effective date this Agreement enters into effect in accordance with Paragraph 4 below.

3. Lease of Premises

During the term of this Agreement, the Foundation shall lease the Airfield from the Authority, subject to the conditions set forth in this Agreement. The Foundation affirms that its sole purpose in leasing the Airfield is to make it available to the U. S. Navy for use as an OLF by NAS Kingsville.

4. Agreement to be Effective Upon Sublease

The terms of this Agreement shall become effective only upon the execution of a legally binding sublease between the Authority and the Navy for use of the Airfield as an OLF. Such a sublease must be approved in writing by the Foundation prior to or at the time of its execution, such approval not to be unreasonably withheld.

5. Termination

This Agreement may be terminated in either of the following ways:

A. Either party may terminate this Agreement, upon the giving of six months' written notice to the other party.

B. If the Authority and the Navy have not entered into a legally binding sublease within five years of the date of execution of this Agreement, then the Agreement shall lapse.

6. No Exclusive Use

The parties agree that the Navy shall not have exclusive use of the Airfield, and that any sublease between the Authority and the Navy shall so state. The parties further agree to negotiate a joint use agreement at the appropriate time if it is determined that such an agreement is required to delineate the respective rights and obligations of the parties with regard to the shared use of the Airfield between Navy and civil aircraft.

7. Consideration

As consideration for use of the Airfield, the Foundation shall pay $1 per year to the Authority.

8. Expenses

All expenses associated with use of the Airfield by the Navy shall be paid either by the Foundation or directly by the Navy. Any and all expenses paid by the Authority shall be reimbursed by the Foundation or the Navy.

9. Improvements

All improvements made to the Airfield by or for the Navy shall be paid for by the Foundation or the Navy.

10. Liability and Indemnification

The parties agree that the Authority shall have no liability for (i) loss of or damage to property or (ii) injury or death of any person as a result of activities conducted by the Foundation or the Navy pursuant to this Agreement. The Foundation agrees to indemnify, save, hold harmless and defend the Authority against all suits, claims or actions related to or arising from any activities conducted at or from the Airfield in connection with this Agreement.

This Agreement is executed this 17 day of December, 1994.

BEEVILLE/BEE COUNTY REDEVELOPMENT AUTHORITY

By: [signature]

Title: Chaieman

KINGSVILLE AREA INDUSTRIAL DEVELOPMENT FOUNDATION

By: Cephus Rach

Title: President

EXHIBIT A

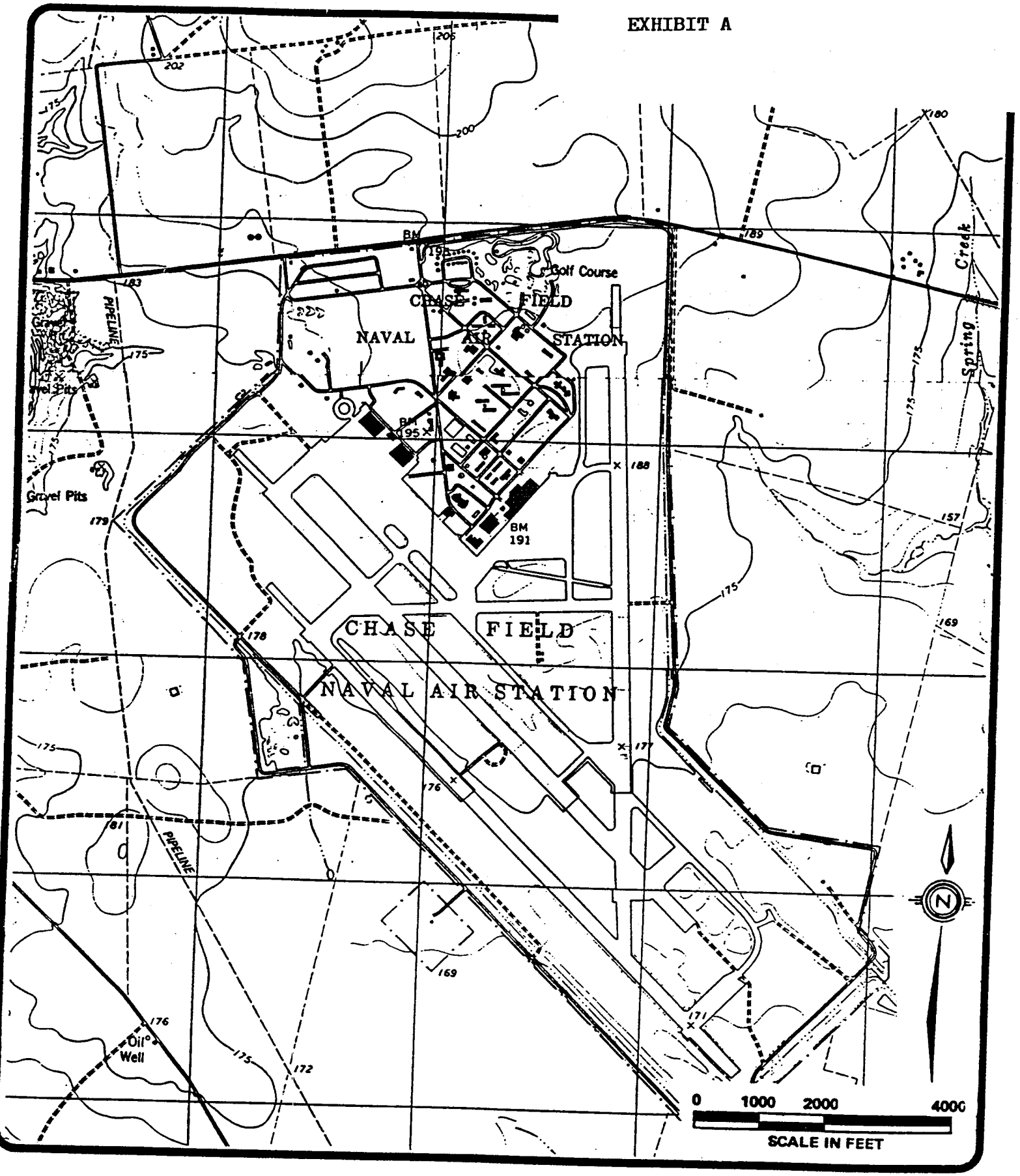
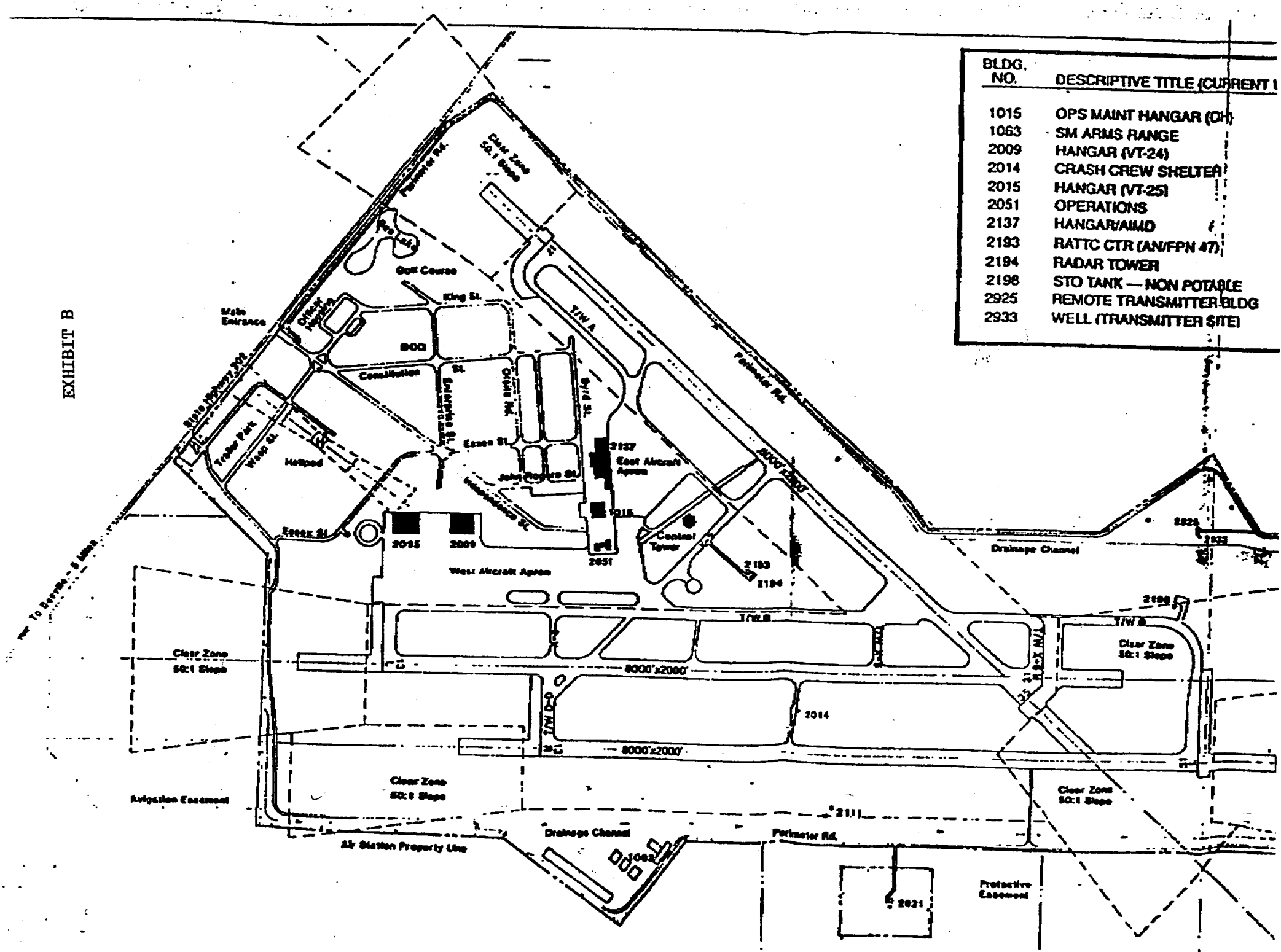

Golf Course
CHASE FIELD
NAVAL AIR STATION
BM 195
BM 191
Gravel Pits
PIPELINE
Spring Creek
CHASE FIELD
NAVAL AIR STATION
PIPELINE
Oil Well
0 1000 2000 4000
SCALE IN FEET

EXHIBIT B


BLDG. NO.
DESCRIPTIVE TITLE (CURRENT
1015 OPS MAINT HANGAR (OH)
1063 SM ARMS RANGE
2009 HANGAR (VT-24)
2014 CRASH CREW SHELTER
2015 HANGAR (VT-25)
2051 OPERATIONS
2137 HANGAR/AIMD
2193 RATTC CTR (AN/FPN 47)
2194 RADAR TOWER
2198 STO TAN — NON POTABLE
2925 REMOTE TRANSMITTER BLDG
2933 WELL (TRANSMITTER SITE)
Main Entrance
Officer Housing
Golf Course
King St.
BOQ
Constitution St.
Trailer Park
Wasp St.
Hellpad
Essex St.
Enterprise St.
Chicago St.
Bird St.
John Rogers St.
Independence St.
2137
East Aircraft Apron
2015
2009
2051
West Aircraft Apron
Control Tower
2193
2194
Perimeter Rd.
8000'x2000'
Drainage Channel
2925
2933
2198
Clear Zone 50:1 Slope
2014
2111
Aviation Easement
Air Station Property Line
1063
2021
Protective Easement

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P.O. BOX 190010
2155 EAGLE DRIVE
NORTH CHARLESTON, S C 29419-9010

11011
Code 061
31 Mar 95

Mr. Dick Messbarger
Executive Director
Greater Kingsville Economic Development Council
P.O. Box 5032
Kingsville, TX 78363

Dear Mr. Messbarger:

With regard to your letter of 28 March 1995 covering OLF Goliad, the following information is provided:

a. OLF Goliad contains approximately 1,136 acres of land. Approximately 20 percent is covered by runways. The property is federally owned.

b. OLF Goliad is currently licensed to the County of Goliad. This ninety (90) day license automatically renews itself.

c. At present, the property will either be sold to Goliad County or sold to the highest bidder. The price is negotiable.

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Please contract the undersigned if further information is required at (803) 743-0494.

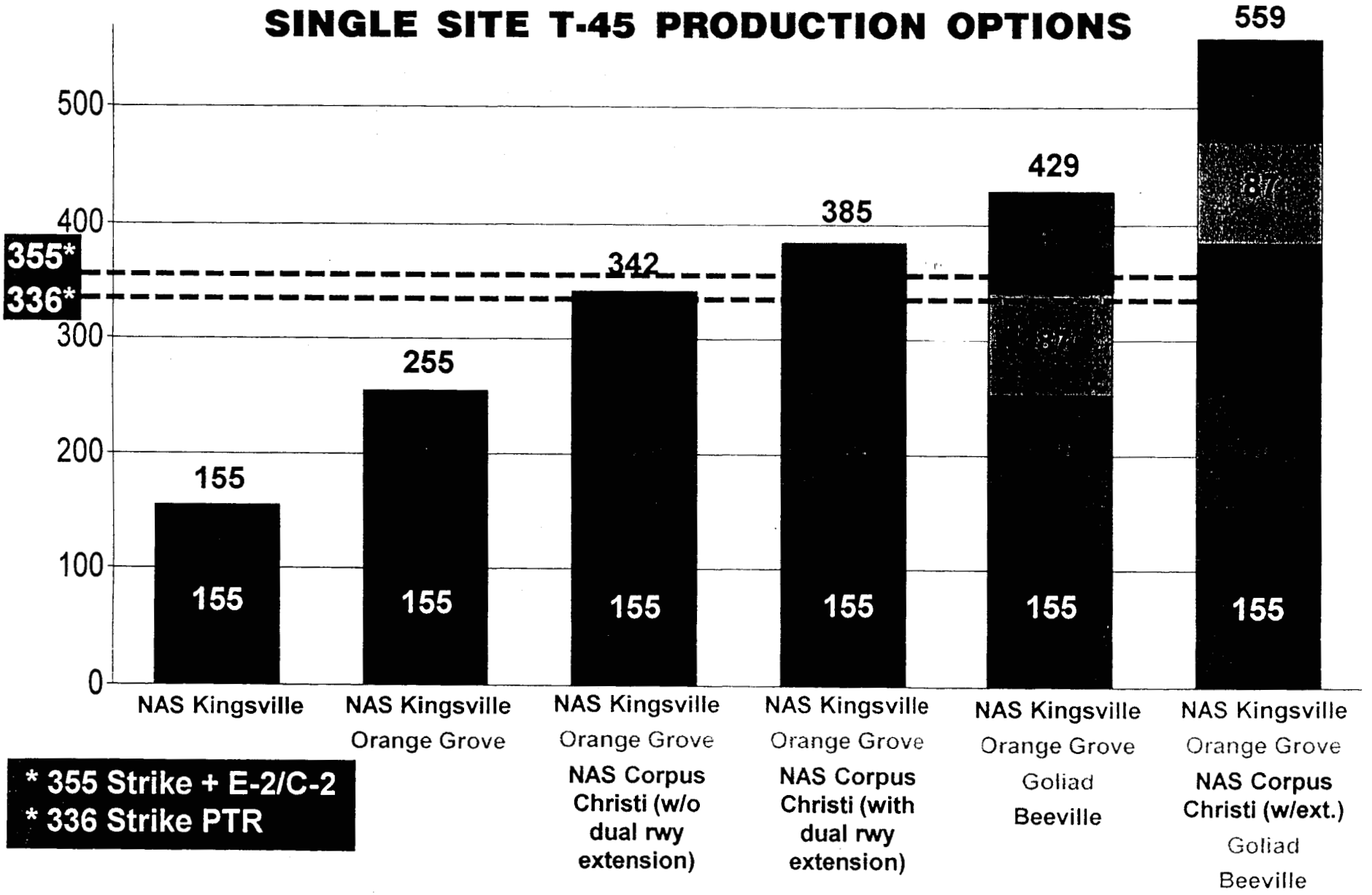
Sincerely,

E. R. NELSON, JR.
Head, Real Estate Division

Attachment 6

SOUTH TEXAS AVIATION COMPLEX

NAS CORPUS CHRISTI · NAS KINGSVILLE

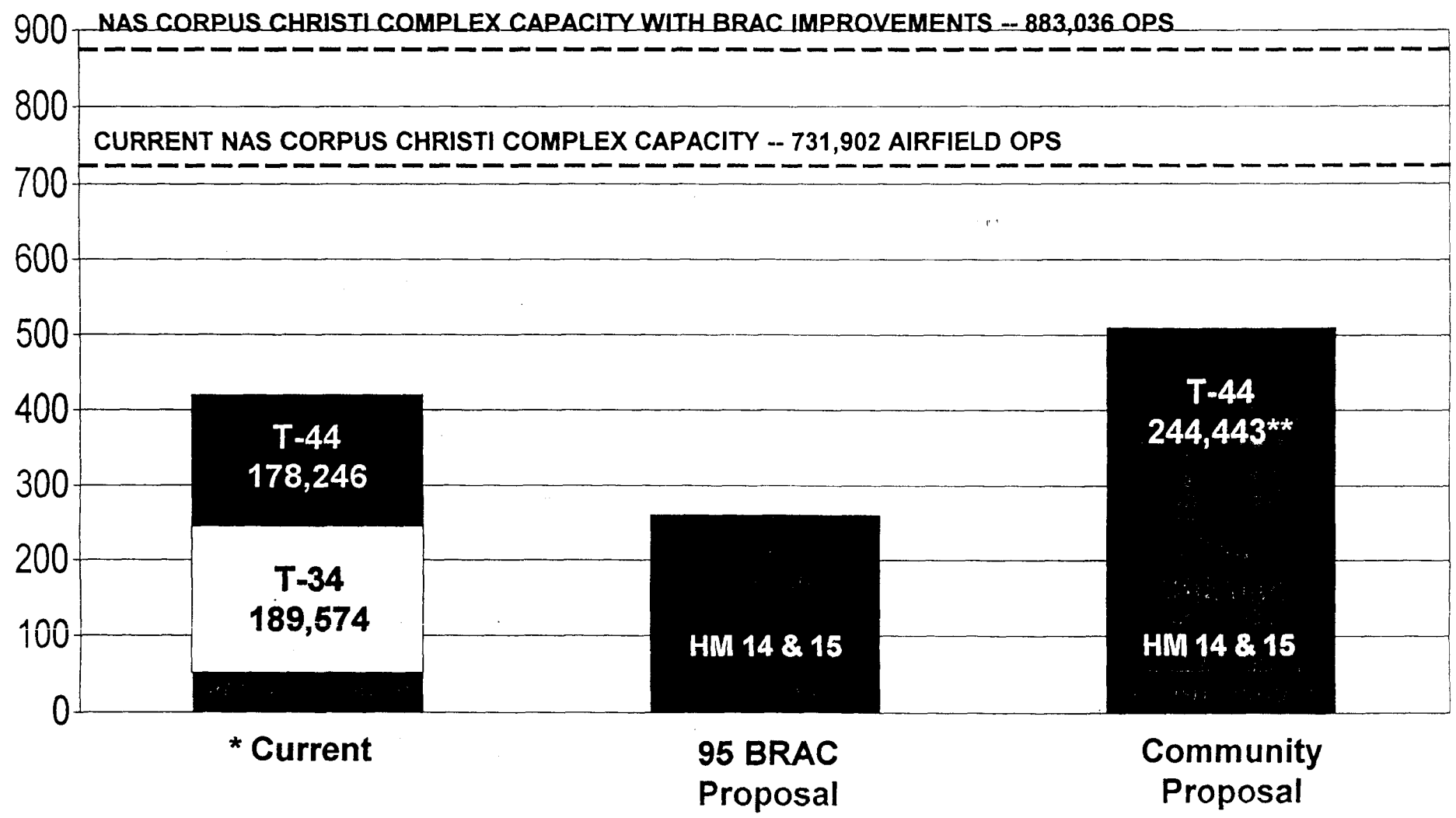


Assumes most current Wing 2 daylight operations per T-45 PTR of 1473

Attachment 7

NAS CORPUS CHRISTI COMPLEX

CURRENT AND PROJECTED OPERATIONS



Complex includes NAS Corpus Christi, OLF Cabaniss, OLF Waldron, and Aransas County (currently leased)

* 1993 Annual Operations

** Reflects increase due to U.S. Air Force C-130s

Document Separator

SOUTH TEXAS AIRFIELDS

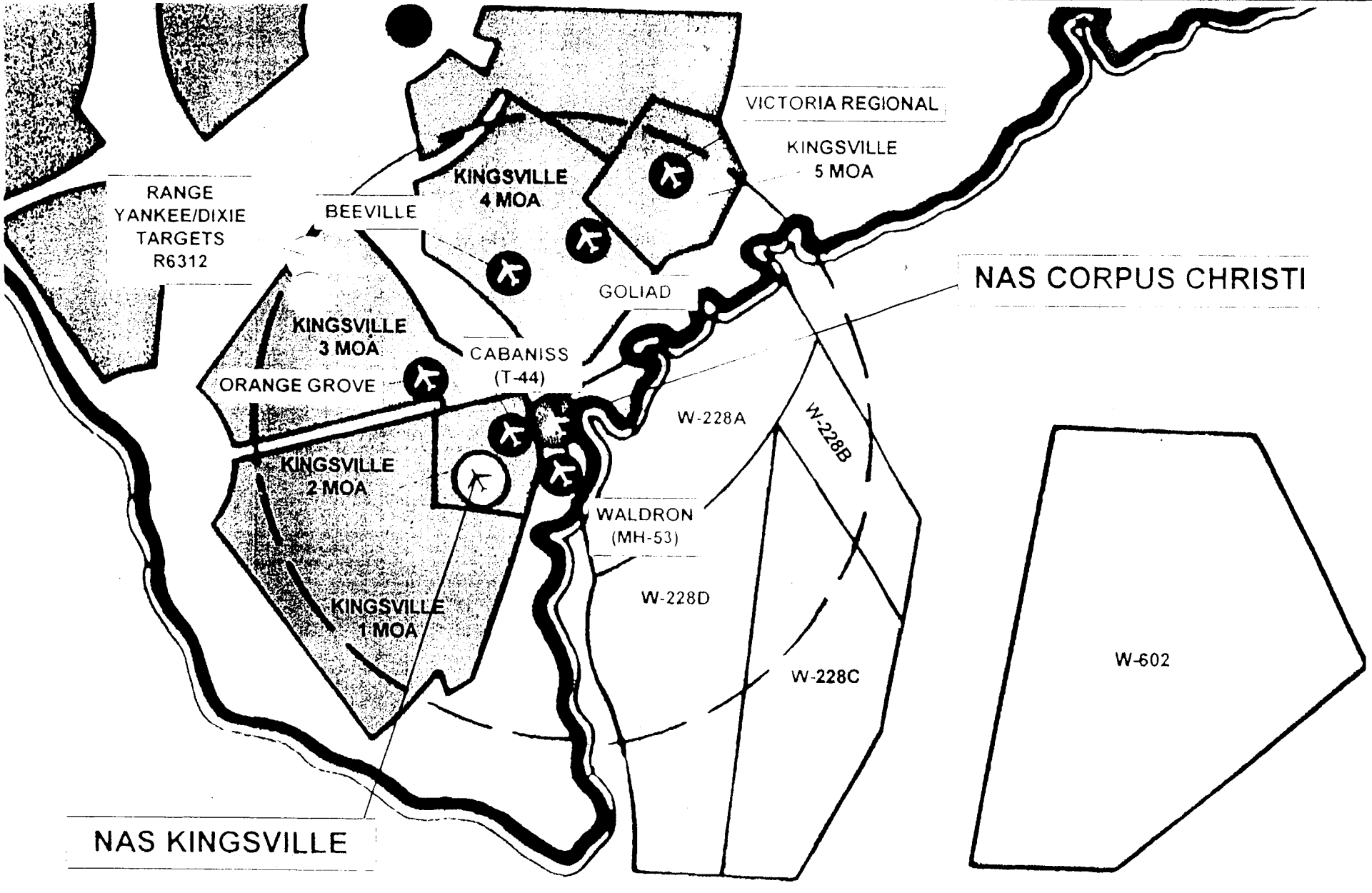
Name	Runway Length	Distance from NAS Corpus Christi	Distance from NAS Kingsville
Alice	6,000'	38 NM	19 NM
Aransas County	5,600'	28 NM	*
Beeville	8,000'	48 NM	53 NM
Brownsville	7,400'	110 NM	99 NM
Cabaniss	5,000'	8 NM	*
Corpus Christi International	7,500'	13 NM	23 NM
Goliad	8,000	55 NM	73 NM
Harlingen	8,300	95 NM	76 NM
Kleberg County	6,000'	40 NM	15 NM
Orange Grove	8,000'	42 NM	24 NM
NAS Corpus Christi	8,000'	N/A	30 NM
NAS Kingsville	8,000'	30 NM	N/A
San Patricio	5,000'	24 NM	*
Victoria	9,100'	70 NM	99 NM
Waldron	5,000'	5 NM	*

NOTES
1) All runways > or = 5,000'
2) * – not used for T-45 operations
3) Waldron is MH-53 operating location
4) Cabaniss is T-44 operating location

Attachment 1

SOUTH TEXAS MOAs & WARNING AREAS

W/ OUTLYING FIELDS AND TARGETS

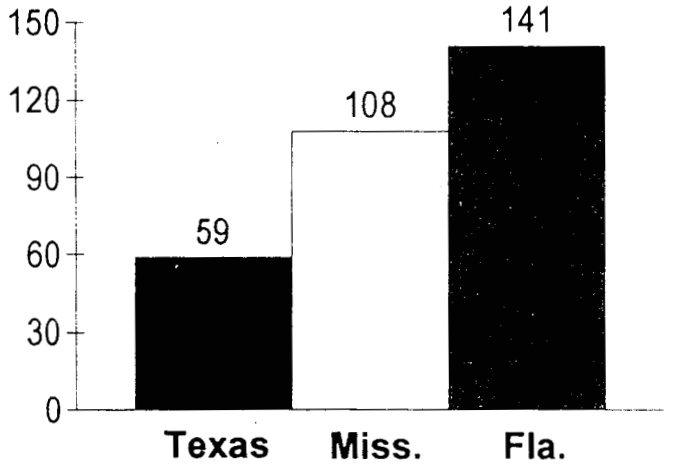


Attachment 2

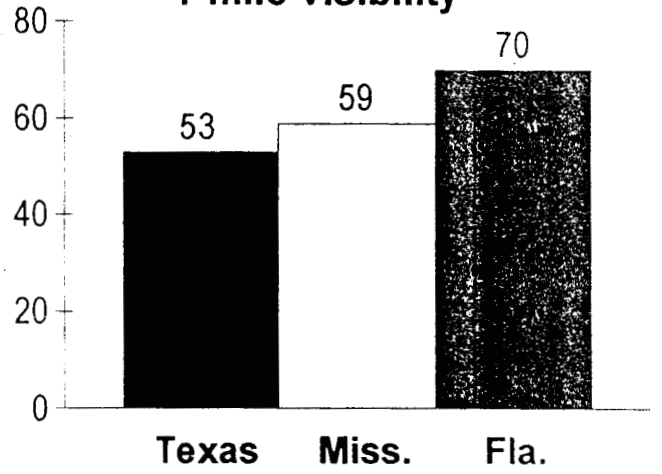
DAYS WITH STORMS AND VISIBILITY

MARCH 1992 TO FEBRUARY 1994

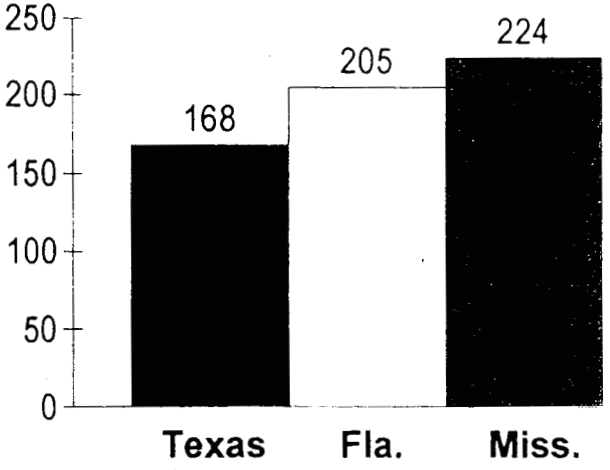
Days with Thunderstorms



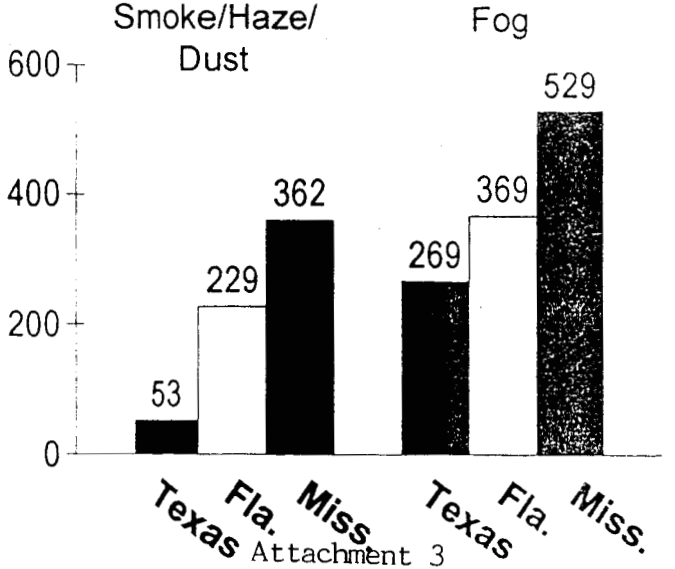
Days with Less than 300' ceiling 1 mile visibility



Days with Less than 1000' ceiling 3 miles visibility



Days with Obstructions to Visibility



Source: Federal Climate Data Center, Asheville, N.C.

Document Separator

DEPARTMENT OF THE NAVY
CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

IN REPLY REFER TO
1542
Ser N889JG/4U661666
20 Jul 1994

From: Chief of Naval Operations

Subj: PILOT AND NAVAL FLIGHT OFFICER TRAINING RATES, FY 94-99

Ref: (a) CNO ltr 1542 Ser N889J6/3U658748 of 20 Sep 1993

Encl: (1) Pilot Training Rates (PTR), FY 94-99
(2) Naval Flight Officer Training Rates (NFOTR), FY 94-99

1. This letter modifies and supersedes reference (a). Enclosures are effective on receipt and reflect planned production goals for FY 94-99. These goals are intended to resolve current pool excesses, balance ongoing transitions and new production with FRS output and return to steady state force mix of 10 CVWs, 12 VP Squadrons and appropriate force support for 330 ships in FY 97.

2. Significant changes include:

- Increase VFA pilot manning from 17 to 19/squadron
- Reduction from 15 to 12 VP squadrons
- Decom of VAW 122
- Realignment of E2/C2 pilot career paths
- Adjustment for Helo pools
- WSO curriculum approved/20 to 40 plus up of FMS NFOTR

3. OPNAV point of contact is Captain Scott Krajnik, N889G/J, A/V 224-6010/6013, commercial 703-614-6010/3.

J.S. MOBLEY
By direction

Distribution:
CNO (N1, 11, 12, N88C, N88R, N889C, N889F, N095, N821E)
CMC (A, T, M, ASM-31, MPP-33, MMOA-2)
CG MCCDC (TE32A)
COMDT COGARD (G-PO-2/23, TO-2/7)
CHNAVPERS (211V, 43, 432, 433)
CNET (OOL/T25)
CNATRA (OO, N019, N-1, N-2, N-3, N-32, N-34, N-7)
COMNAVAIRESFOR (CODE 51)
COMNAVCRUITCOM (CODE 311)
NAVDEPNOAA
NETSAFA
NAVMAC (CODE 3)

Attachment 4

PILOT TRAINING RATES 20 JUL 94

FY-94	STRIKE	MARITIME	E2/C2	ROTARY	TOTAL
USN	173	120	43	214	550
USMC	118	32	0	188	338
COGARD	0	15	0	35	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	321	214	43	502	1080
FY-95					
USN	163	140	36	184	523
USMC	110	31	0	181	322
COGARD	0	10	0	45	55
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	303	228	36	475	1042
FY-96					
USN	183	140	36	184	543
USMC	106	29	0	181	316
COGARD	0	12	0	38	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	319	228	36	468	1051
FY-97					
USN	203	146	36	184	569
USMC	103	28	0	176	307
COGARD	0	12	0	38	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
TOTAL	336	233	36	463	1068
FY-98					
USN	203	146	36	200	585
USMC	103	28	0	176	307
COGARD	0	12	0	38	50
FMS	30	45	0	65	140
NOAA	0	2	0	0	2
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BEEVILLE/BEE COUNTY REDEVELOPMENT AUTHORITY	KINGSVILLE AREA INDUSTRIAL DEVELOPMENT FOUNDATION
By: [signature]	By: [signature]
Title: Chaieman	Title: President

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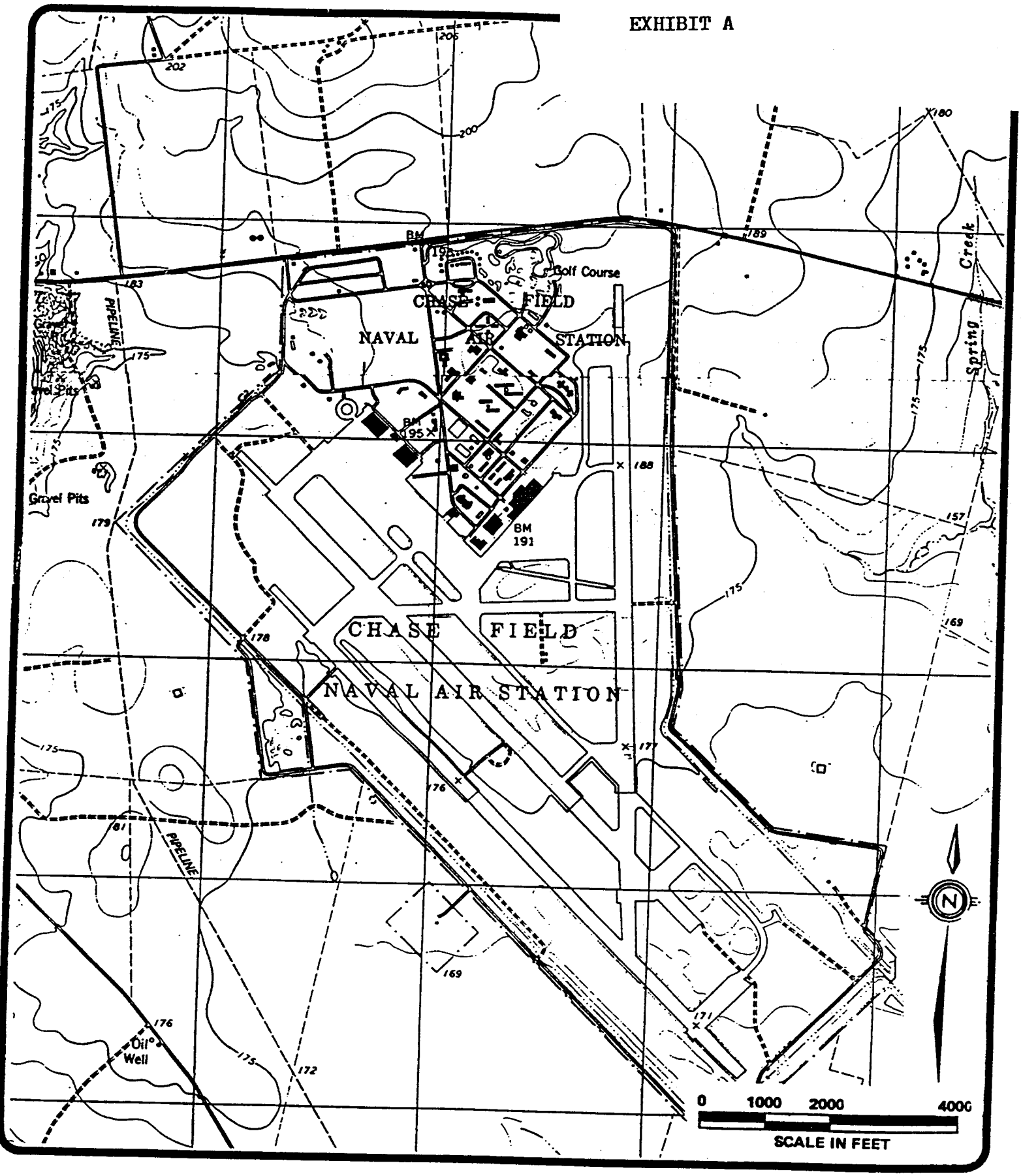
Golf Course
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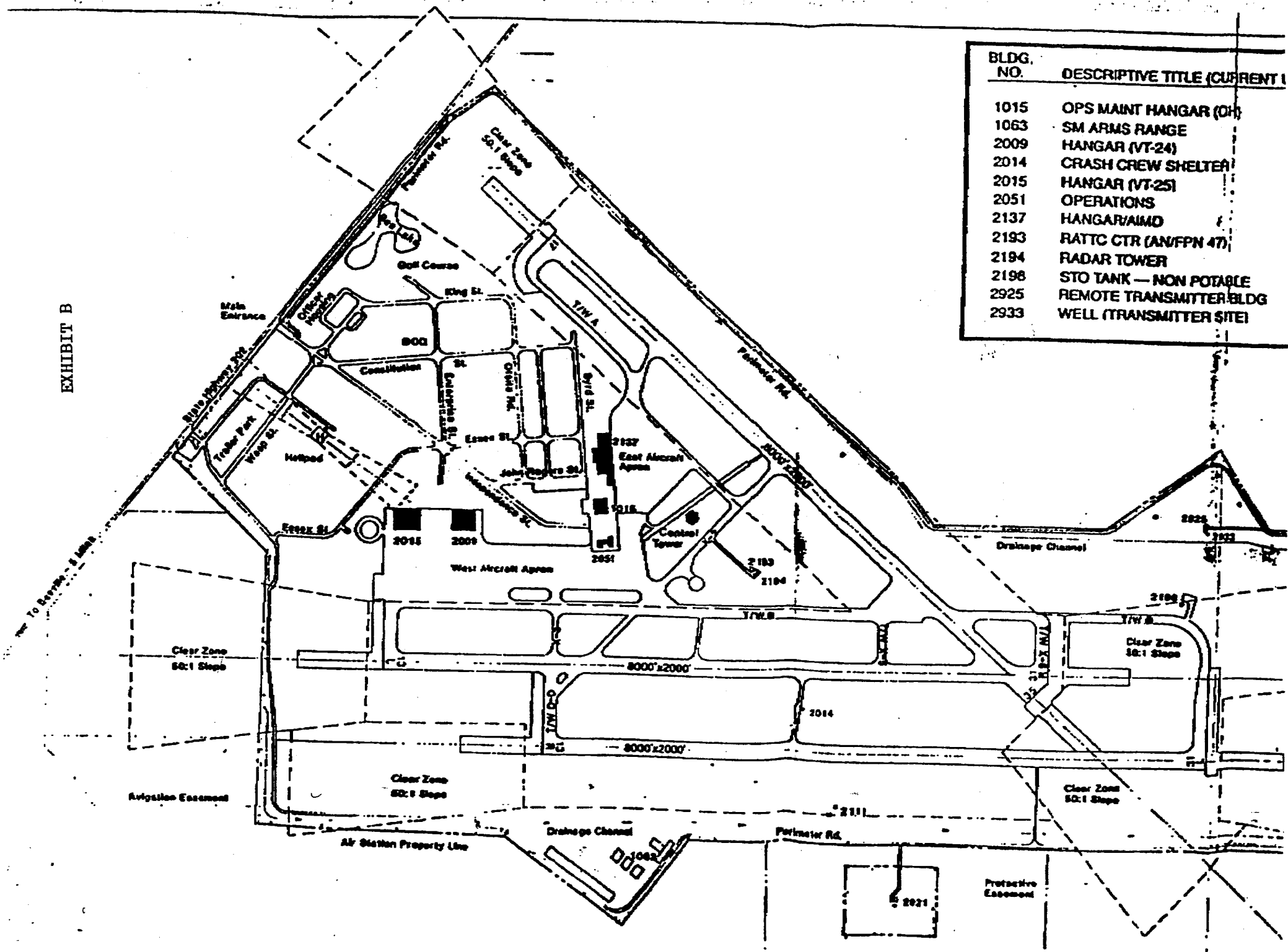
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Constitution St.
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Air Station Property Line
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DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P.O. BOX 190010
2155 EAGLE DRIVE
NORTH CHARLESTON, SC 29419-9010

11011
Code 061
31 Mar 95

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Executive Director
Greater Kingsville Economic Development Council
P.O. Box 5032
Kingsville, TX 78363

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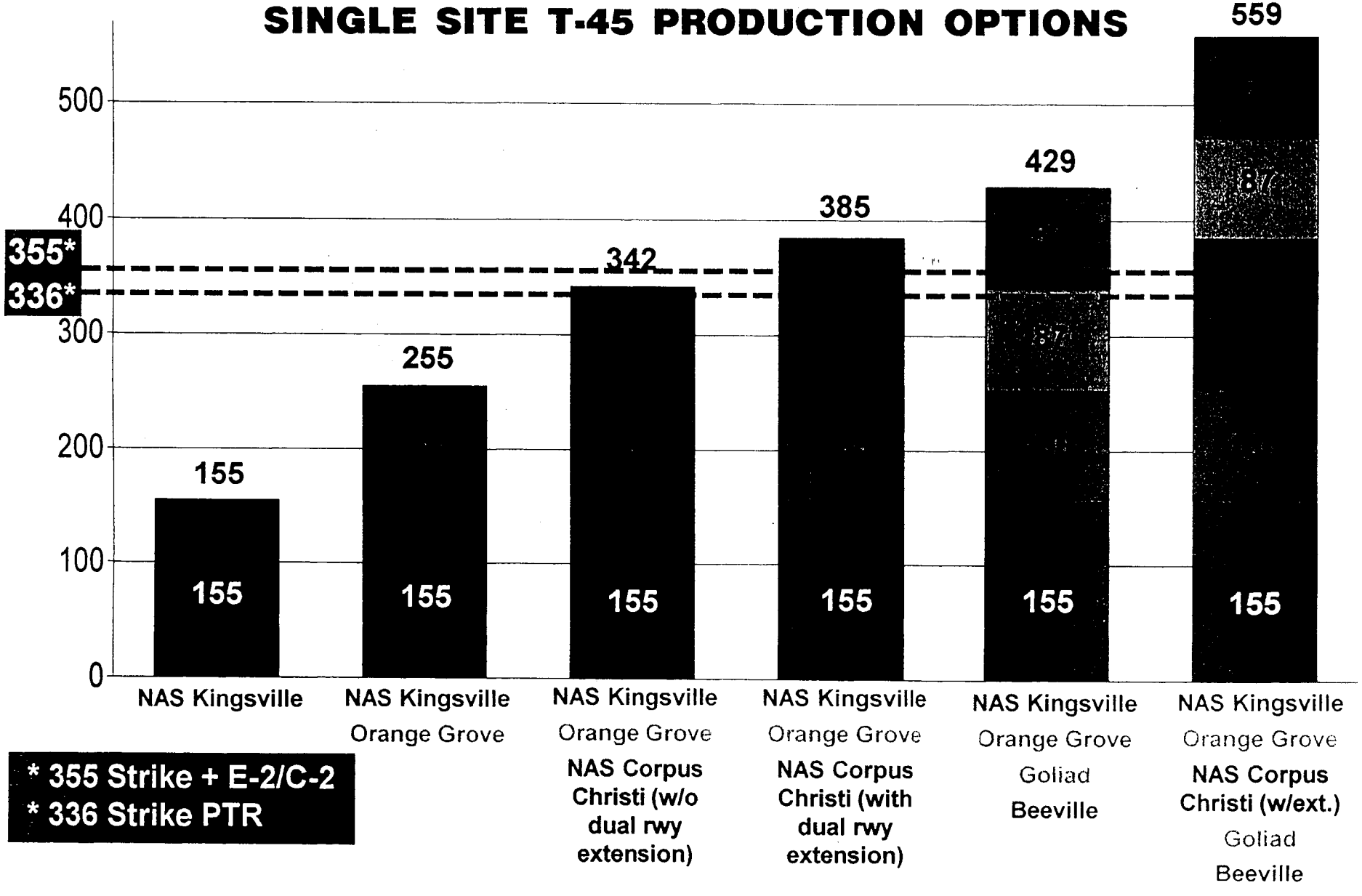
Head, Real Estate Division

Attachment 6

SOUTH TEXAS AVIATION COMPLEX
NAS CORPUS CHRISTI - NAS KINGSVILLE

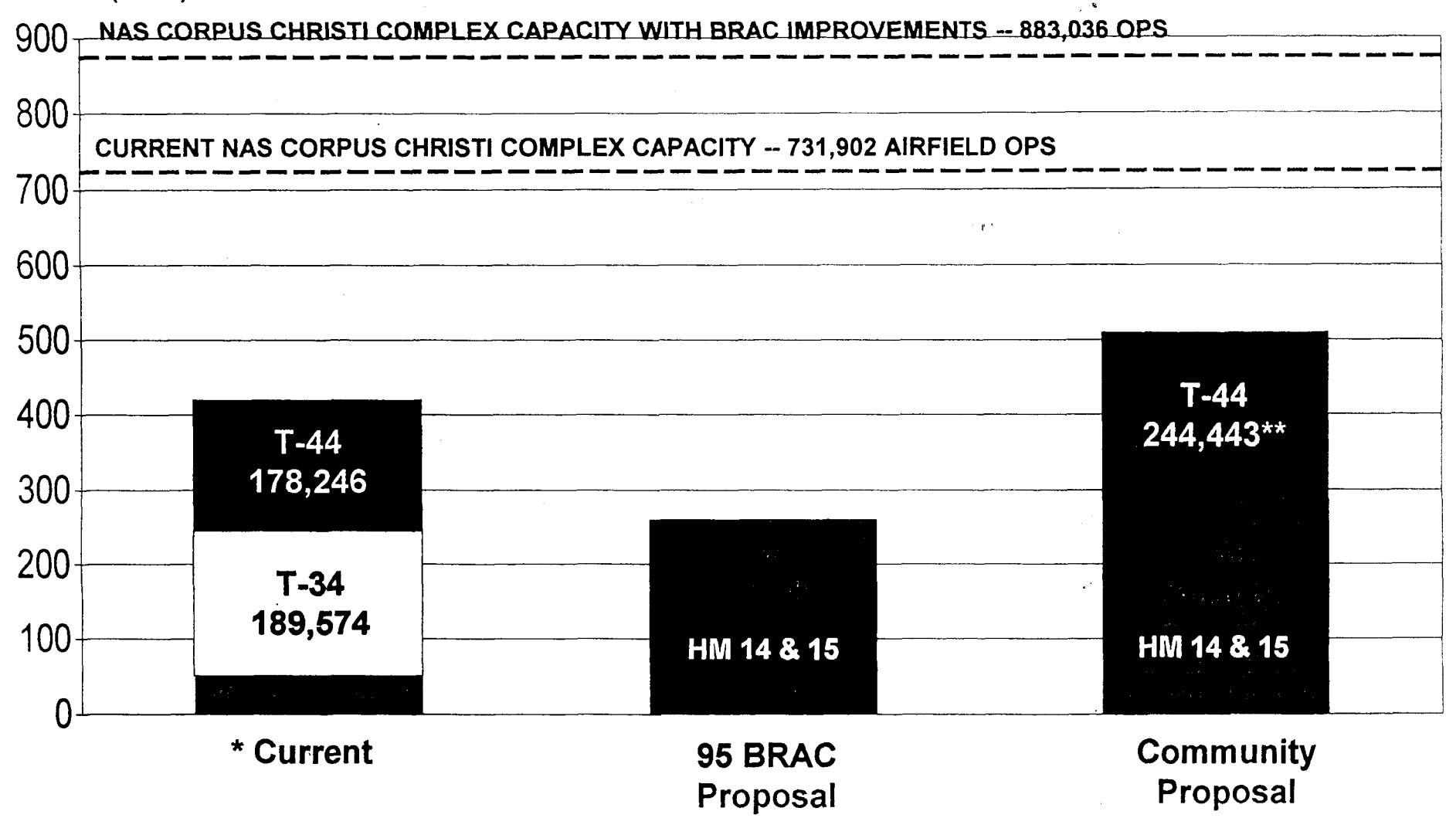


Assumes most current Wing 2 daylight operations per T-45 PTR of 1473

Attachment 7

NAS CORPUS CHRISTI COMPLEX

CURRENT AND PROJECTED OPERATIONS



Complex includes NAS Corpus Christi, OLF Cabaniss, OLF Waldron, and Aransas County (currently leased)

* 1993 Annual Operations

** Reflects increase due to U.S. Air Force C-130s

Document Separator

Anniston Army Depot

Information Booklet

for

Commissioner Josue (Joe) Robles, Jr.

9 June 1995

ANNISTON ARMY DEPOT
TANK REBUILD CENTER
WEAPONS • TANKS • AMMUNITION

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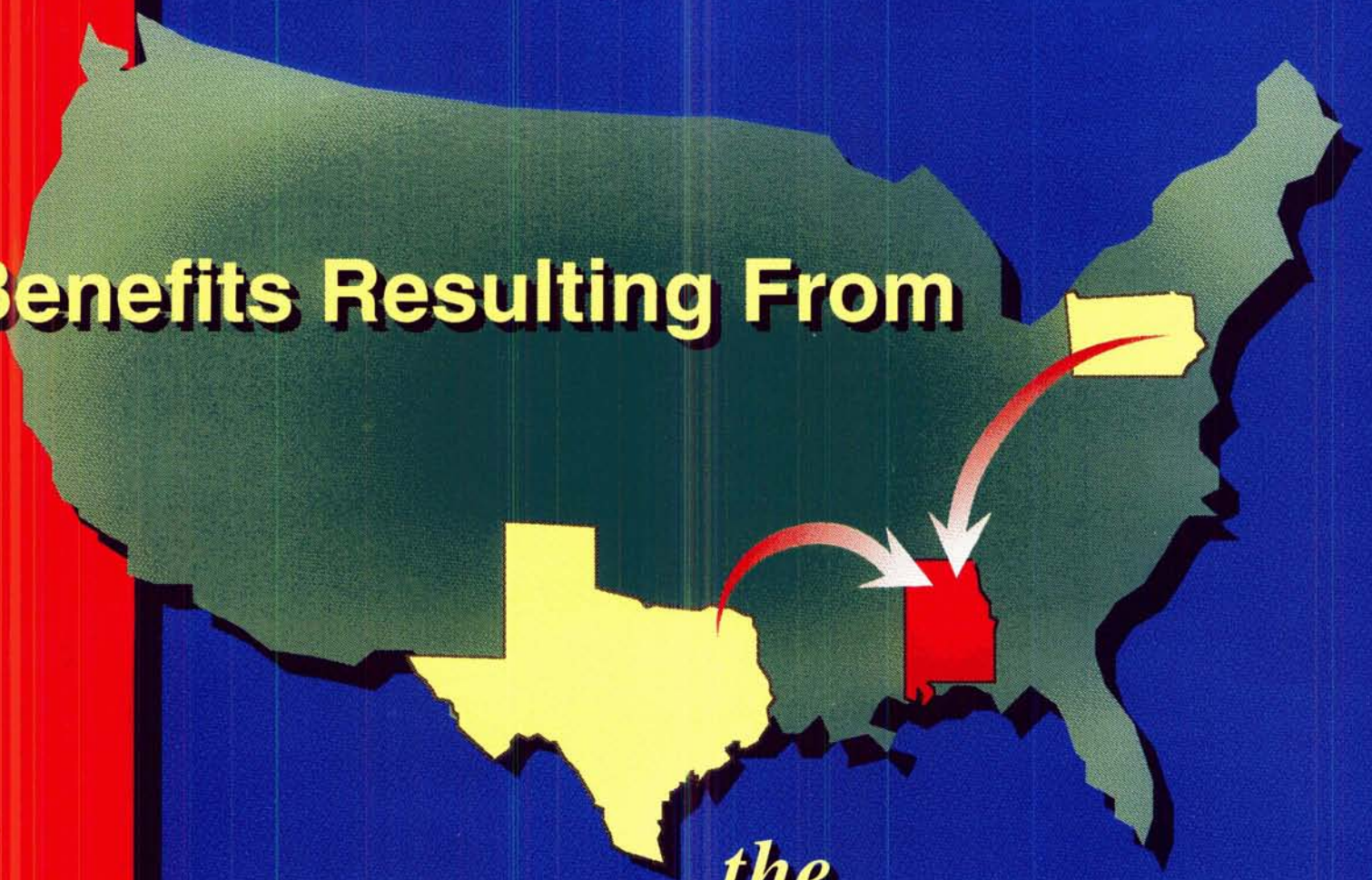
Benefits Resulting From



the DoD Recommendation To Consolidate Ground Combat Vehicle Maintenance

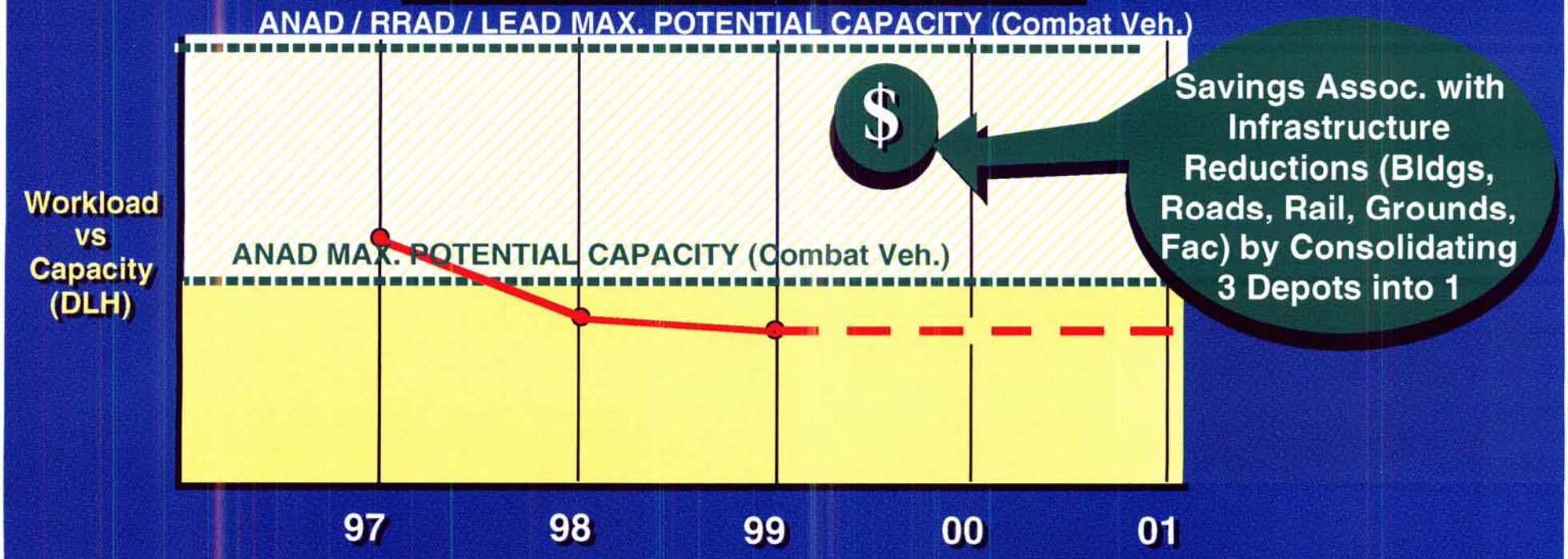
Benefits Resulting from the DOD Recommendation to Consolidate Ground Combat Vehicle Maintenance

- Reductions of Excess Infrastructure and Costs
- Improved Operating Efficiencies and Reduced Costs
- Improved Readiness

Excessive Capacity

Excessive Infrastructure

Excessive Costs!



- Capacity & Workload Source: BRAC 95 Data Calls
- Maximum Potential Capacity = Max. Cap. A Depot Can Achieve on a 1-8-5 Workshift with No Restrictions on Equipment or Personnel

Reduction of Infrastructure *without* Adversely Affecting Maintenance of Ground Combat Vehicles During...

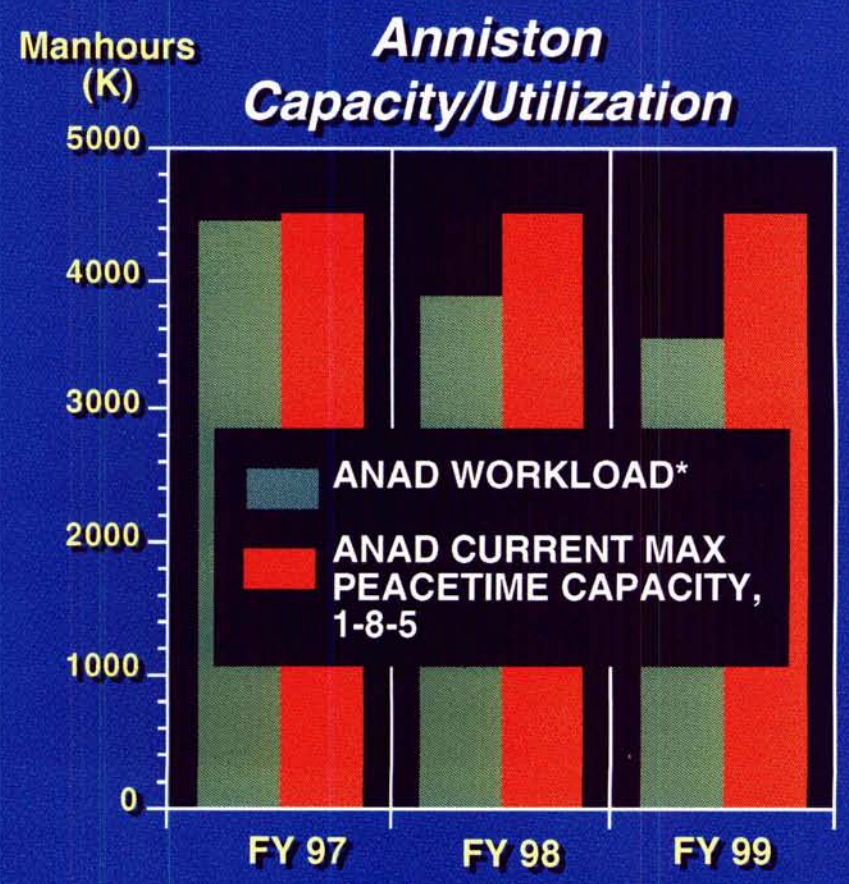
- ✔ PEACETIME
- MOBILIZATION/WARTIME

PEACETIME

DoD Recommended Total Consolidated Workload vs Anniston Total Capacity (1-8-5)

Commodity	FY 97	FY 98	FY 99
LEAD			
SP Howitzers	1208	618	416
Towed Howitzers	35	32	42
ANAD			
Electro-Optics	86	74	69
Engines & Comp	392	392	385
Combat Vehicles	1787	1146	1058
Ground Spt Equip	89	182	232
RRAD			
Aircraft	29	36	37
Engines & Comp	122	118	120
Combat Vehicles	1887	1261	1142
Construction Equip	25	17	17
Ground Spt Equip	0	4	4
Total Workload	5660	3880	3522
Total Consolidated Wkld*	4417	3880	3522
ANAD Max Capacity	4512	4512	4512
ANAD Utilization(%)	98	86	78

* RRAD transition in FY 97 & LEAD transition in FY 98



PEACETIME

DoD Recommended Consolidated Combat Vehicle Workload vs Anniston Combat Vehicle Capacity (1-8-5)

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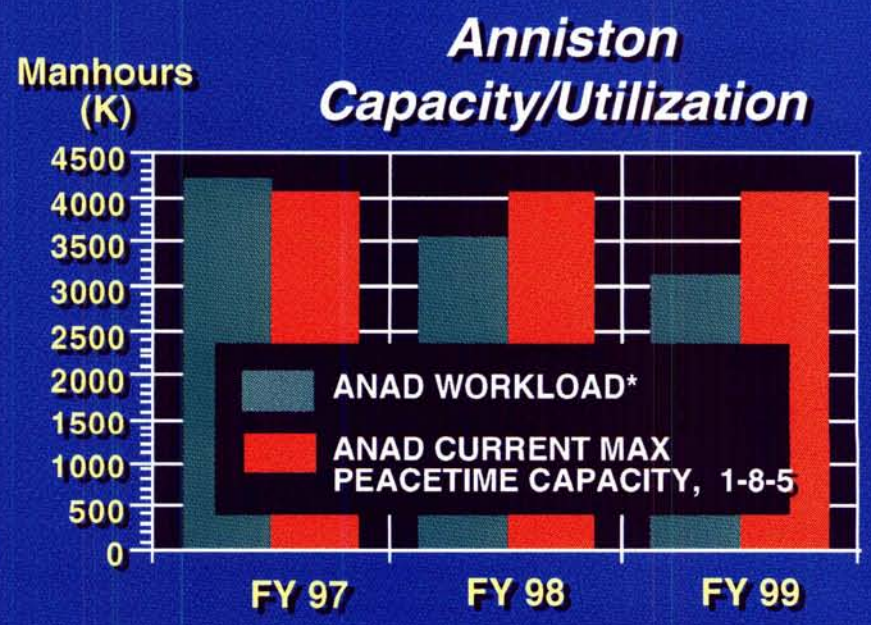
RRAD			
Engines & Comp	122	118	120
Combat Vehicles	1887	1261	1142
Construction Equip	25	17	17
Total Workload	5421	3552	3138
Total Consolidated Workload*	4213	3552	3138
ANAD Max Capacity	4042	4042	4042
ANAD Utilization(%)	104	88	78

* RRAD transition in FY 97 & LEAD transition in FY 98

CAPACITY BY	CBT VEHICLE	OTHER
Vehicle	3118	
Engines	924	
Missile		107 **
Ground Spt & Other		364
TOTAL	4042	471

** Transitioning to LEAD & TOAD as part of BRAC 93 & BRAC 95



Conclusions:

Anniston can accommodate the consolidated tracked vehicle workload with 4% overtime in FY 97 and no overtime in FY 98/99.

Anniston's maximum peacetime capacity will increase with the transfer of equipment from RRAD and LEAD and the opening of laid away facilities.

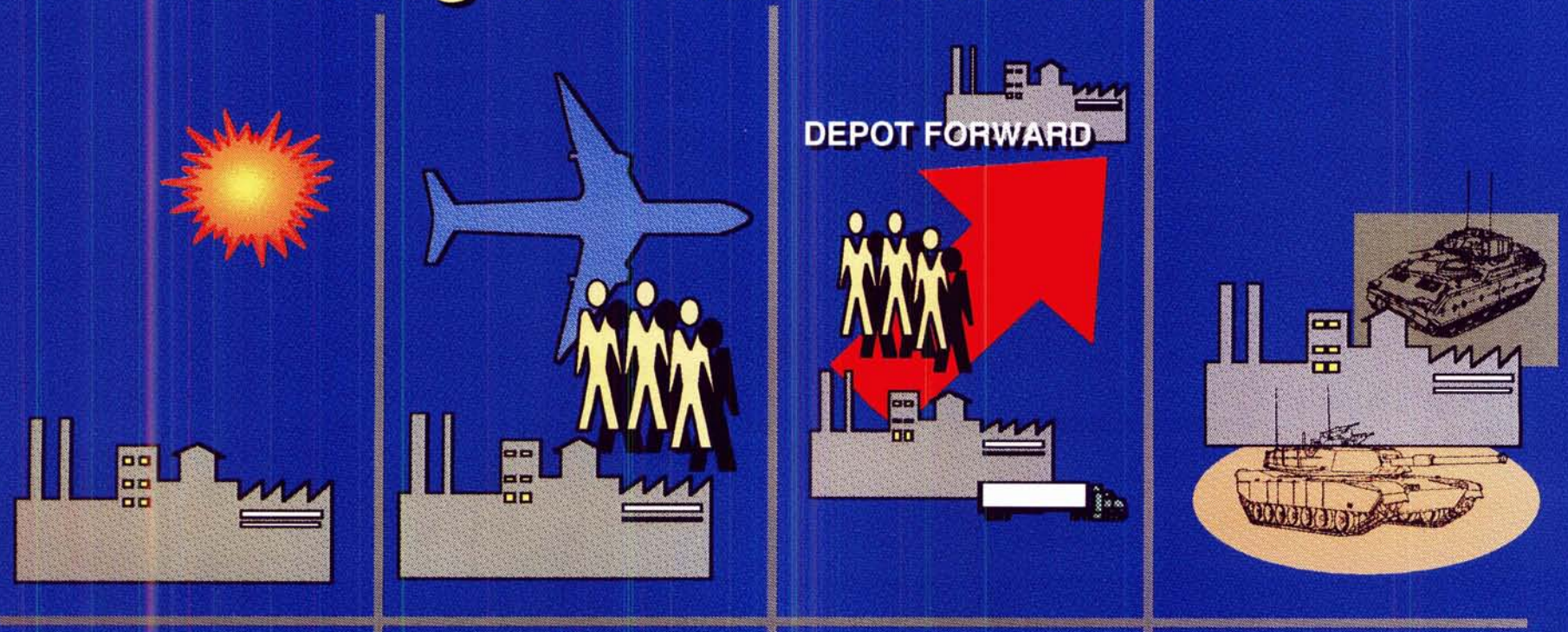
Anniston's maximum peacetime Combat Vehicle capacity (4042 mhrs) is based on a 1-8-5 operation.

Reduction of Infrastructure *without* Adversely Affecting Maintenance of Ground Combat Vehicles During...

PEACETIME

- ✔ MOBILIZATION/WARTIME

Depot Combat Vehicle Support During Mobilization/Wartime



PEACETIME

MOBILIZATION/ DEPLOYMENT

Technicians w/ toolboxes provide quick support to field units preparing equipment/systems for deployment.

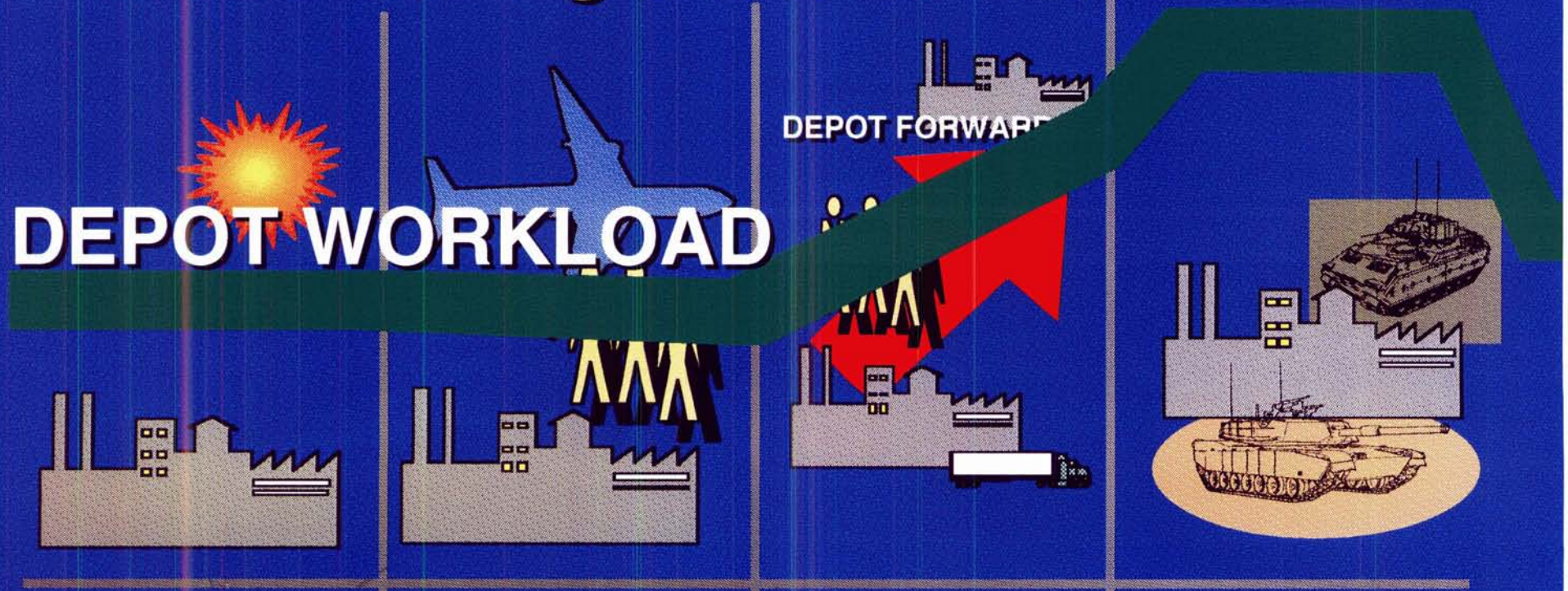
SUSTAINMENT

Depot technicians & craftsmen set up depot-forward in theater of operation. Depot produces components & subassemblies for shipment to theater of operation.

RECONSTITUTION

Weapon systems/end items process through depots in route to home station.

Depot Combat Vehicle Workload Levels During Mobilization/Wartime



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RECONSTITUTION

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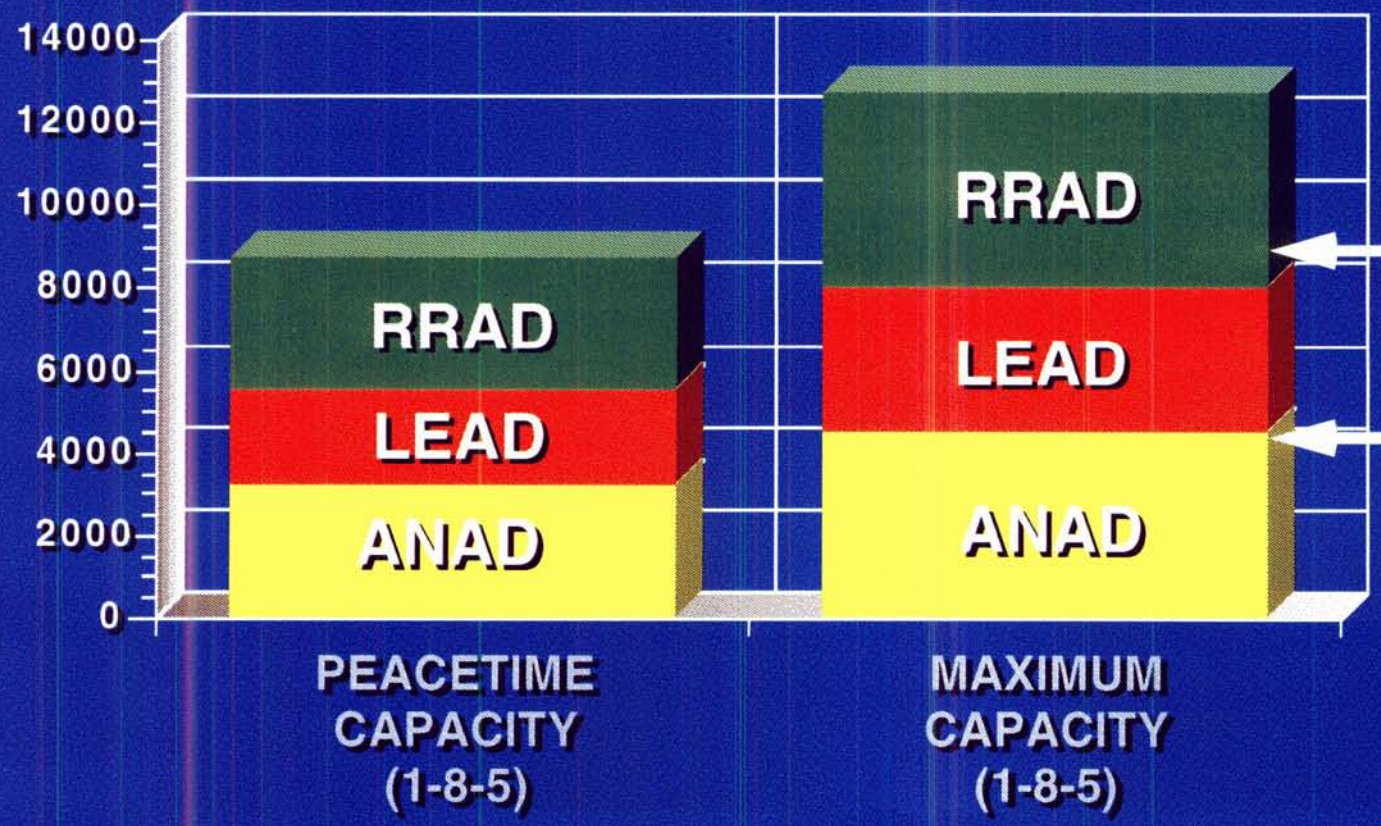
MOBILIZATION/WARTIME
Impact Closing 2 Ground Depots



But Only If Compared to Peacetime Capacity

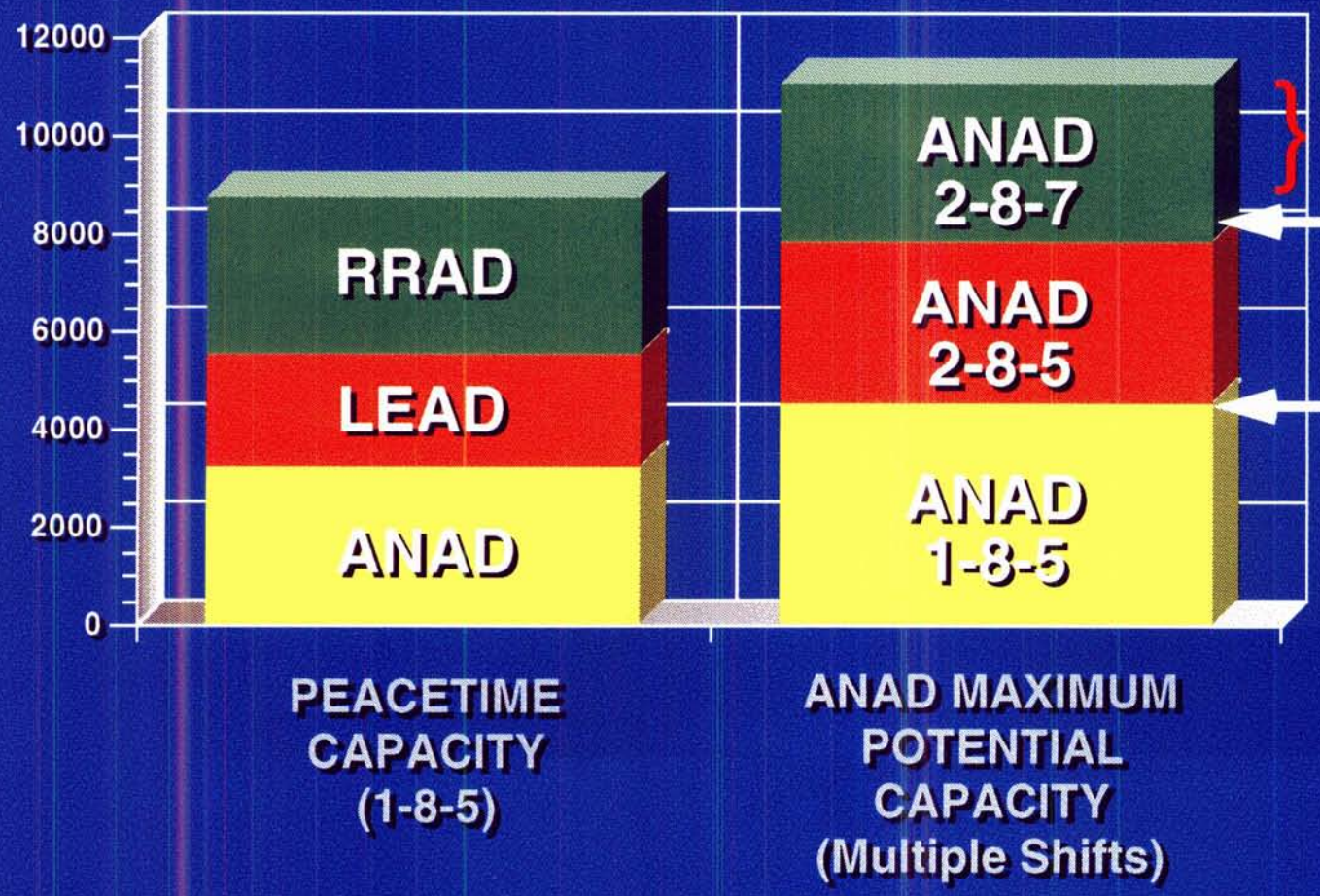
Short Wartime Requirement

No Problem Funded Workload

If compared to Potential Surge/Mobilization Capacity However....

MOBILIZATION/WARTIME

Actual Impact Closing 2 Ground Depots



Using Multiple Shifts ANAD Capacity Meets/Exceeds Mobilization/Wartime Ground Depot Capacity Requirements

~~Short~~ Wartime Requirement

No Problem Funded Workload

Capability Comparisons

ANAD / RRAD / LEAD

CONSOLIDATED GROUND COMBAT VEHICLES

Heavy M1 FOV, M60 FOV, M88	LIGHT / MEDIUM M113 FOV, Bradley, MLRS	Artillery Towed & Self Propelled		
CAPABILITY/ CONSIDERATIONS		ANAD	RRAD	LEAD
70 + Ton Ship/Receive Crane		✔	✘	✘
High Speed Test Track (sized to accommodate all combat vehicles)		✔	✘	✘
Firing Range		✔	✘	✔
Classified Armor Capability		✔	✘	✘
Turbine Engine Overhaul Capability		✔	✘	✘
Turbine Engine Testing		✔	✘	✘
Reciprocating Engine Overhaul		✔	✔	✔
Reciprocating Engine Testing		✔	✔	✔

CONT.

CONSOLIDATED GROUND COMBAT VEHICLES CONT.

Heavy M1 FOV, M60 FOV, M88	LIGHT / MEDIUM M113 FOV, Bradley, MLRS	Artillery Towed & Self Propelled	
CAPABILITY/ CONSIDERATIONS	ANAD	RRAD	LEAD
Transmission Overhaul/Testing			
1100	✔	✘	✘
1410	✔	✔	✔
850	✔	✔	✔
250	✔	✔	✔
Hydrostatic Steering Unit Test Capability	✔	✘	✘
Automated Blast Facility (sized to accommodate all combat vehicles)	✔	✘	✘
9 1/2" Thick Shop Floors & Roads	✔	✘	✘
Recoil Maintenance Capabilities	✔	✘	✔
Combat Veh. Bridge Maintenance Capability	✔	✘	✘

CONT.

CONSOLIDATED GROUND COMBAT VEHICLES CONT.

Heavy M1 FOV, M60 FOV, M88	LIGHT / MEDIUM M113 FOV, Bradley, MLRS	Artillery Towed & Self Propelled		
CAPABILITY/ CONSIDERATIONS		ANAD	RRAD	LEAD
Drive through Paint Booths (sized to accommodate all combat vehicles)		✔	✘	✔
Fire Control/Optics Maintenance Capability		✔	✔	✔
Hydraulic Maintenance Capability		✔	✔	✔
Stabilized Gun System Repair		✔	✔	✘
Turret Repair/Testing		✔	✘	✘
OverPressure NBC Systems		✔	✘	✘
Steel/Classified Ballistic Armor Welding		✔	✘	✘
Laser Range		✔	✔	✘
Material Engineering Lab		✔	✘	✘

CONT.

* CONSOLIDATED GROUND COMBAT VEHICLES CONT.

Heavy M1 FOV, M60 FOV, M88	LIGHT / MEDIUM M113 FOV, Bradley, MLRS	Artillery Towed & Self Propelled		
CAPABILITY/ CONSIDERATIONS		ANAD	RRAD	LEAD
Heavy Combat Vehicle Machining				
CNC		✔	✘	✘
Conventional		✔	✘	✘
Cleaning & Finishing		✔	✔	✔
Chain Gun Overhaul		✔	✔	✘
Aluminum Ballistic Armor Welding		✔	✔	✔
Heavy System Peculiar Equipment		✔	✘	✘
Medium System Peculiar Equipment		✘	✔	✘
Artillery System Peculiar Equipment		✘	✘	✔
Artillery Recoil Maintenance & Testing		✘	✘	✔
Tritium Storage		✔	✔	✔

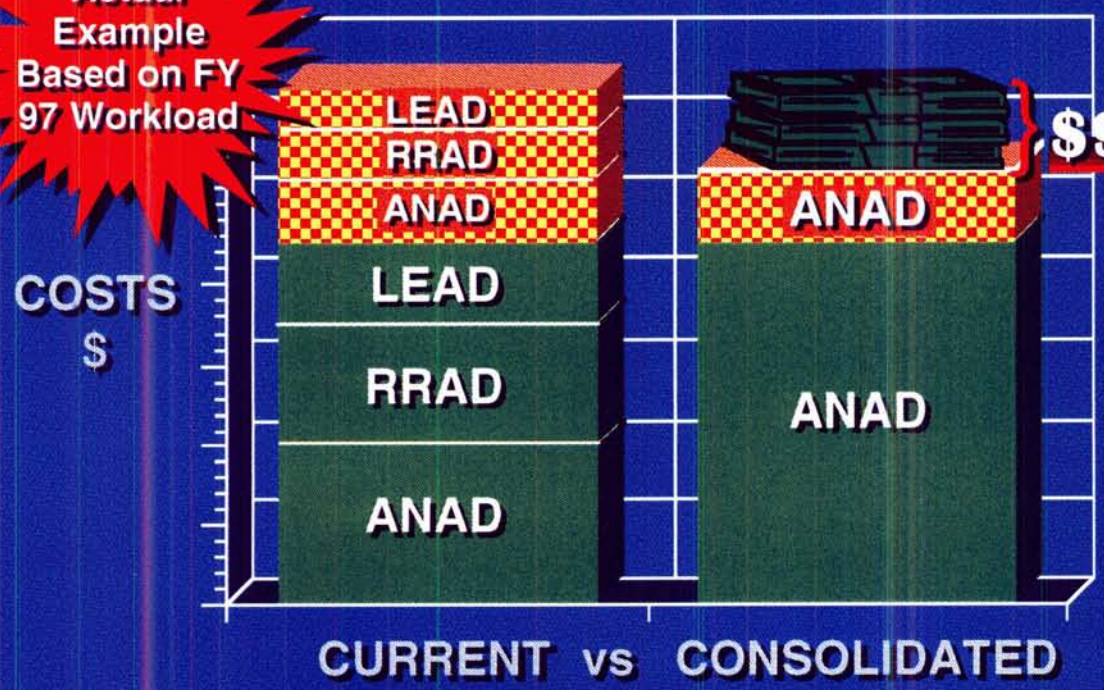
* Complete support within the fenceline of a single depot.

Benefits Resulting from the DOD Recommendation to Consolidate Ground Combat Vehicle Maintenance

- Reductions of Excess Infrastructure and Costs
- Improved Operating Efficiencies and Reduced Costs
- Improved Readiness

Annual Operating Cost Savings Resulting from Consolidation of Workload

Actual Example Based on FY 97 Workload



$90 MIL ANNUAL SAVINGS!

...Which Equates to Overhauling an Additional...

189 M1/A1 Tanks
OR
206 Bradleys
OR
295 M109 Paladins
OR
1,118 M113/A3s

OVERHEAD COSTS

DIRECT LABOR COSTS

Consolidation of Ground Combat Vehicle Workload from 3 to 1 Depots Produces Annual Savings by Reducing Overhead Costs!

Cost Advantages of Consolidating Ground Combat Vehicle Maintenance

Total FY95 Overhead Cost = $79,037,000

Assuming Same Overhead Costs in FY97 ($79,037,000) and Comparing the Effect Workload has on rates....

FY97

ANAD ONLY			RATE	CONSOLIDATE WORKLOAD			RATE
Direct Hours	2,354,000 HRS		- - -	Direct Hours	5,660,000 HRS		- - -
Direct Labor	$51,246,580	or	$21.77/hr	Direct Labor	$123,218,200	or	$21.77/hr
Overhead	$79,037,000	or	$33.58/hr	Overhead	$100,377,445 *	or	$17.73/hr
Total			$55.35/hr	Total			$39.50/hr

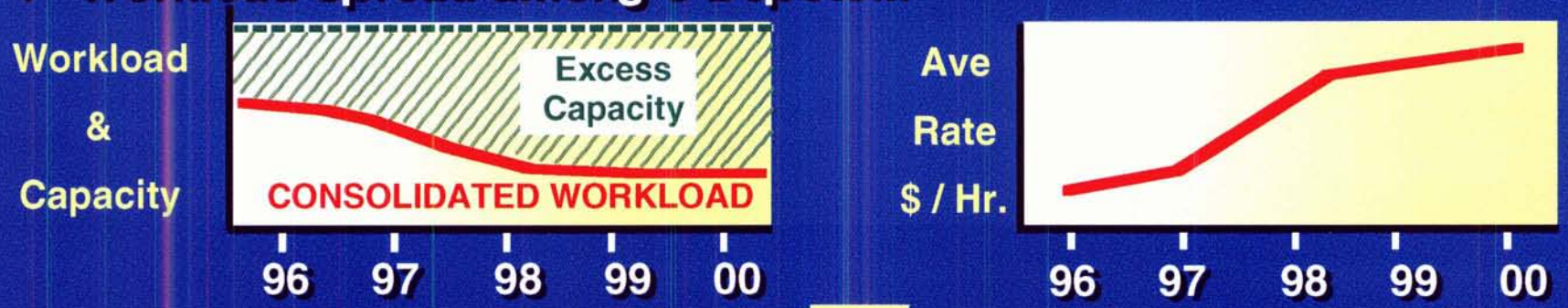
DIFFERENCE
$15.85/HR

Annual Savings $15.85 x 5,660,000 DLH = $89,711,000

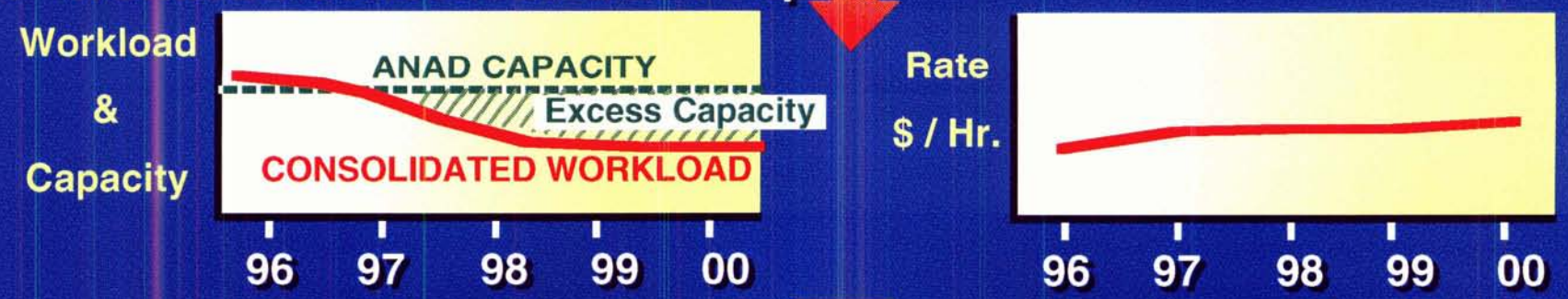
*INCLUDES increases in variable overhead costs (utilities, within shop OH) that would increase with additional Direct Labor. Fixed costs would remain the same.

Recap of Infrastructure & Cost Benefits

- Workload Spread among 3 Depots...



- Workload Consolidated at 1 Depot...

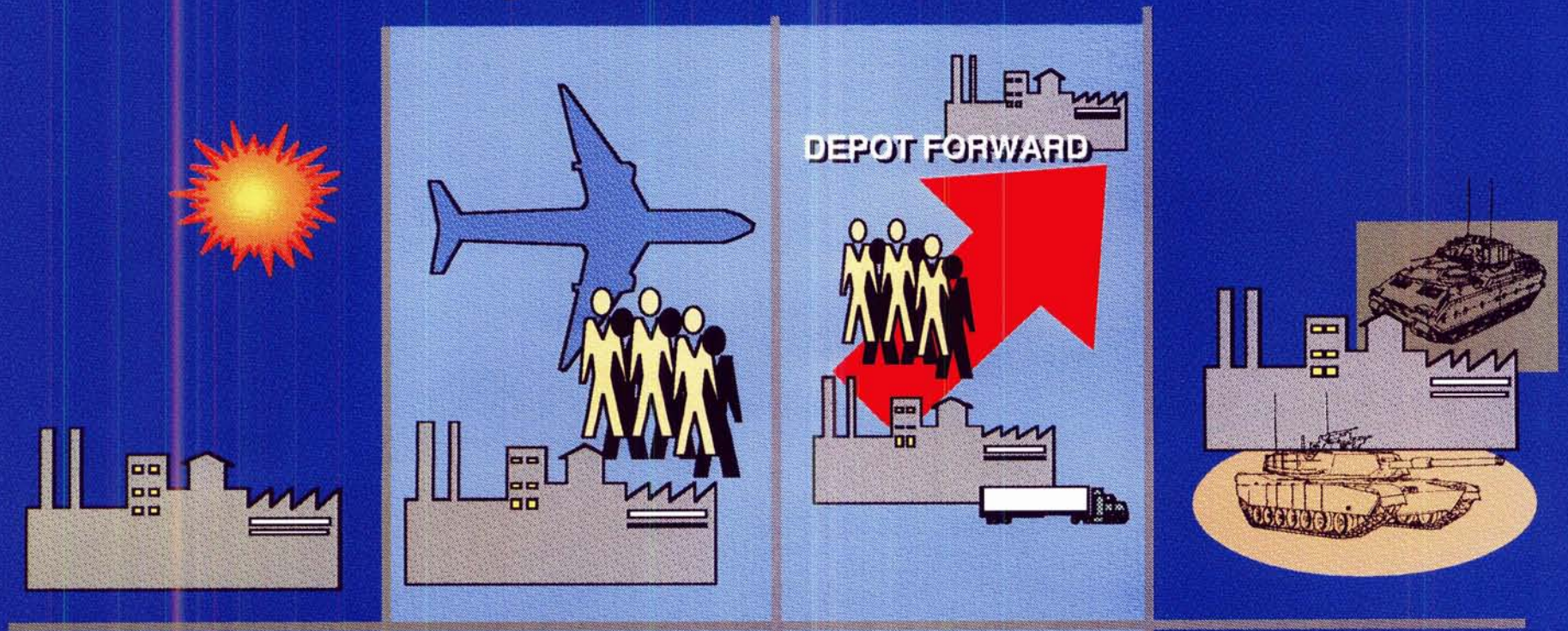


Consolidation Savings

Benefits Resulting from the DOD Recommendation to Consolidate Ground Combat Vehicle Maintenance

- Reductions of Excess Infrastructure and Costs
- Improved Operating Efficiencies and Reduced Costs
- Improved Readiness

Combat Vehicle Readiness Improvements During Mobilization/Wartime



PEACETIME

Consolidation = Improved Readiness

MOBILIZATION/ DEPLOYMENT

Technicians w/ toolboxes provide quick support to field units preparing equipment/systems for deployment.

SUSTAINMENT

Depot technicians & craftsmen set up depot-forward in theater of operation. Depot produces components & subassemblies for shipment to theater of operation.

RECONSTITUTION

Weapon systems/end items process through depots in route to home station. (Not time sensitive)

Readiness Improvements

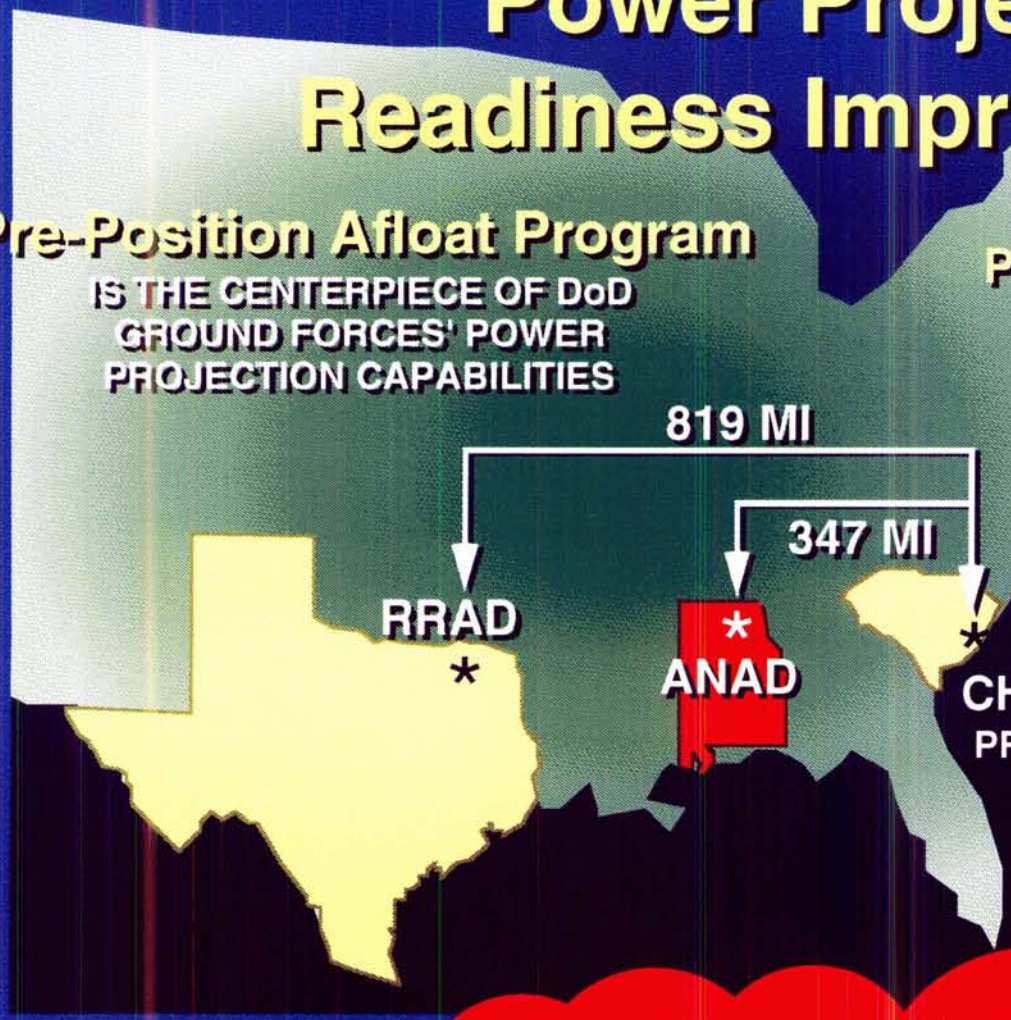
Consolidation of Ground Combat Vehicle Maintenance at a Single Site Increases Readiness During Mobilization/Wartime...

- CROSS-TRAINED TECHNICIANS THAT CAN SUPPORT ALL GROUND SYSTEMS
- "ONE FACE" TO THE CINC AND SUPPORTED TROOP UNITS
  - IMPROVED CONTROL /COORDINATION
  - REDUCED ADMINISTRATIVE /SUPPORT BURDEN
- FEWER PERSONNEL = REDUCED COSTS AND INCREASED EFFICIENCY

Power Projection Readiness Improvements

Pre-Position Afloat Program

IS THE CENTERPIECE OF DoD GROUND FORCES' POWER PROJECTION CAPABILITIES



PRE-POSITION AFLOAT PROGRAM

- GS/DS MAINT ONLY
- DEPOT-LEVEL MAINT RETURNED TO DEPOT
- FLEET TO BE SUPPORTED...

148	M1 TANKS FOV
164	BRADLEYS FOV
304	M113 FOV
32	M109
8	M728
16	AVLB
40	M88A1
28	M9ACE
72	D7F
32	D8K
12	M578
56	HQ-16M

Depot Support of Pre-Position Afloat Program

CLOSER = QUICKER RESPONSE= IMPROVED READINESS = REDUCED COSTS

Summary

There is NOT ENOUGH Defense Funding and Workload to Support 2 or 3 Hard Iron Depots in the Outyears...

THE CHOICES:

DOD Recommendation

- HIGH CAPACITY UTILIZATION
- LOW OPERATING COSTS /RATES
- REDUCED INFRASTRUCTURE / COSTS
- IMPROVED READINESS
- REDUCTION OF CORE REQUIREMENTS
- IMPROVED UTILIZATION OF RESOURCES
- STABLE WORKFORCE

?

Inefficient Operations

- LOW CAPACITY UTILIZATION
- HIGH OPERATING COSTS / RATES
- EXCESSIVE INFRASTRUCTURE / COSTS
- STATUS QUO / REDUCED READINESS
- DUPLICATION OF CORE CAPABILITIES
- UNDER FUNDED
- WORKFORCE LEVELS BELOW MINIMUM READINESS REQUIREMENTS

The DOD Recommendation Supports Readiness and Makes Good Business Sense !!!

MILITARY VALUE

ANNISTON ARMY DEPOT

MILITARY VALUE

CONSIDERATIONS...

- MAINTENANCE CAPACITY
- MAINTENANCE FLEXIBILITY
- STORAGE CAPACITY
- AMMO CAPACITY
- DEPLOYMENT NETWORK
- FACILITIES & UTILITIES
- INFORMATION MISSION AREA
- TEST & EVALUATION FAC/EQUIP
- ENVIRONMENTAL
- ENCROACHMENT
- BUSINESS EFECIENCY INDICATORS
- UNIQUE FEATURES/CAPABILITIES

PURPOSE

Summarize BRAC 95 Installation Assessment Data used to measure the military value of Anniston Army Depot

MAINTENANCE CAPACITY

- CALCULATIONS
  - DOD 4151.15 H
  - WORK POSITION / CEDRS BASED
- ANAD CAPACITY REDUCTIONS
  - 4.2 - 3.2 MDLH
  - 2941 - 2086 WORK POSITIONS
- EXCESS CAPACITY REDUCTION = IMPROVED CAP. UTILIZATION
- EXCLUDES AMMO MAINTENANCE

ANAD retains the ability to quickly expand current capacity to meet surge, mobilization, & other requiremnets!

MAINTENANCE FLEXIBILITY

OPS 29 COMMODITY LISTINGS

COMMODITY	ANAD CAPABILITY
Aircraft	25%
Automotive Equipment	100%
Combat Vehicles	100%
Construction Equipment	100%
Communications-Electronic Equipment	100%
Missile Systems	100%
Watercraft	50%
Munitions Armament	100%
Weapons Armament	100%
Rail Equipment	100%
General Equipment	100%
Commodity Groups	100%
Computer Hardware	100%

MAINTENANCE FLEXIBILITY

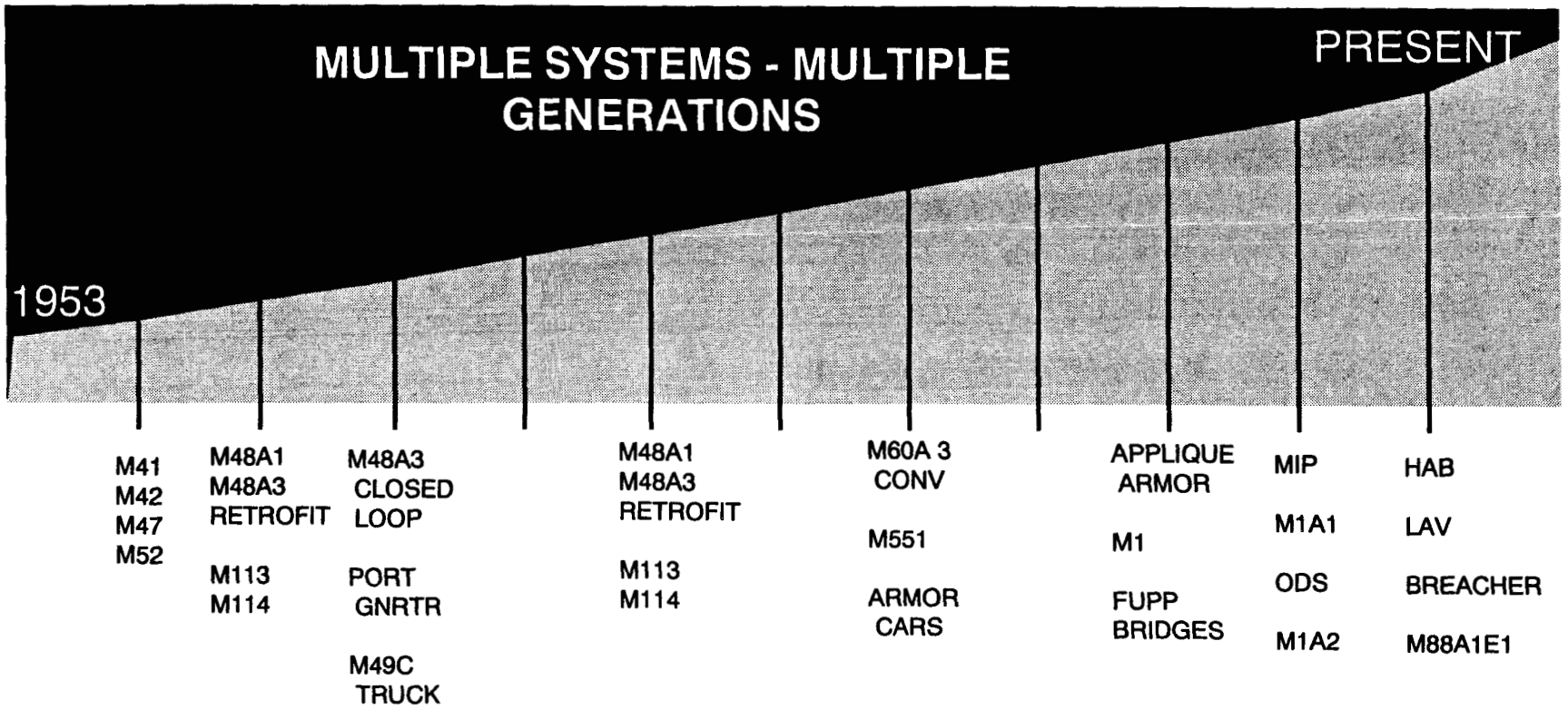
Facilities & Equipment Designed to Support <u>Any System Smaller</u> than an M1 Abrams Tank!

- CRANES
  - SHOP 60T
  - GANTRY 75T
- "FLEXIBLE" SHOP FLOOR SPACE
- 9 1/2" THICK REIF. CONCRETE ROADS & SHOP FLOORS
- TURBINE AND COMBUSTION ENGINE MAINT. & TESTING 0 - 1500 HP
- TRANSMISSION MAINT & TESTING TO 1500 HP
- FCIM/RAMP
- TEST TRACK
- 6 AXIS MACH CENTER

MAINTENANCE FLEXIBILITY

INSTITUTIONAL KNOWLEDGE

VEHICLE PRODUCTION HISTORY



SUPPLY/ STORAGE CAPACITY

AVAILABLE AND EXCESS

AMC STORAGE SPACE MCIT
REPORT (DLA/SUPPLY W'HOUSES) - 1,542,000 SF

OTHER ANAD STORAGE SPACE - 419,646 SF
TOTAL - 1,961,646 SF

OTHER CONSIDERATIONS:

- ASRS CUBIC STORAGE
- HIGH SECURITY STORAGE OF SMALL ARMS COLLOCATED WITH SMALL ARM MAINT. OPERATIONS

AMMUNITION STORAGE CAPACITY

ANAD 2,800,265 SF

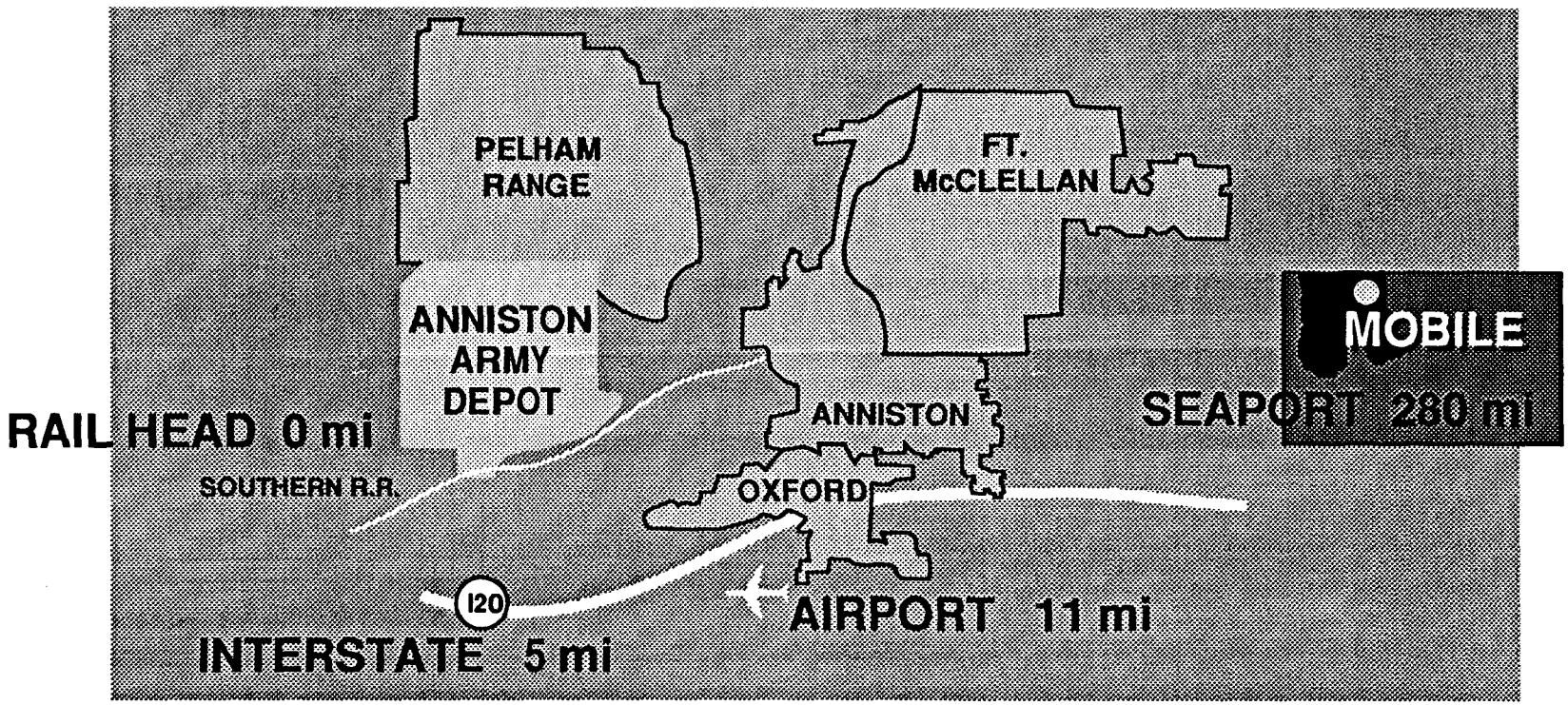
COOSA RIVER STORAGE ANNEX 348,036 SF

TOTAL 3,148,301 SF

OTHER CONSIDERATIONS:

- 155 HIGH SEC. CHEMICAL STORAGE MAGAZINES
- 198 HIGH SEC. CAT. I STORAGE MAGAZINES
- 478 STADLEY MAGAZINES
- ANAD CURRENTLY STORES 47% OF ALL ARMY'S CAT I MUNITIONS

DEPLOYMENT NETWORK



Closest Army Depot (394 miles) to Army's Prepositioned Maintenance Facility at Charleston, S.C. Naval Weapons Station

FACILITIES AND UTILITIES

FACILITIES

- NO WWII WOOD BUILDINGS
- NO TEMPORARY BUILDINGS
- 99% PERMANENT FACILITIES

UTILITIES	TOTAL CAPACITY	CURRENT USE	AVAIL. CAPACITY
• WATER	5.7 MGD	1.2 MGD	4.5 MGD
• SEWER	.62 MGD	.2 MGD	.42 MGD
• INDUSTRIAL WASTE	.25 MGD	.113 MGD	.137 MGD
• ELECTRICAL	720,000 KWH/DAY	12,000 KWH/DAY	708,000 KWH/DAY
• NATURAL GAS	UNLIMITED	200 KCF/DAY	ANY NEEDED

INFORMATION MISSION AREA

Network Capabilities

- FIBER BACKBONE
- LOCAL AREA NETWORK
- 800 PC's INSTALLED - 725 PC's NETWORKED
- ADDITIONAL FIBER UNDER CONSTRUCTION

cont.

INFORMATION MISSION AREA cont.

Wide Area Network

- CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM (CSEPP)
- DEFENSE DATA NETWORK (DDN)
- MEDDAC (U.S. ARMY MEDICAL DEPARTMENT ACTIVITY)
- DCA (DLA COMMUNICATIONS NETWORK)
- GDLS (GENERAL DYNAMICS LAND SYSTEM) - PRIVATE INDUSTRY
- CHEMICAL STOCKPILE DISPOSAL PROGRAM (CSDP)

cont.

INFORMATION MISSION AREA cont.

JLSC Systems

- PDMSS (Program & Depot Maintenance Scheduling System)
- HMMS (Hazardous Material Management System)
- FCIM/RAMP (Flexible Computer Integrated Manufacturing/Rapid Acquisition of Manufactured Parts)
- JEDMICS (Joint Engineering Data Management Information & Control System

TEST & EVALUATION FACILITIES AND EQUIPMENT

- FACILITIES
  - 18 BUILDINGS TOTALING 82,694 SF
- EQUIPMENT
  - 104 PIECES WORTH $56.62 MIL
- RANGES
  - 24 RANGES TOTALING 1399 ACRES

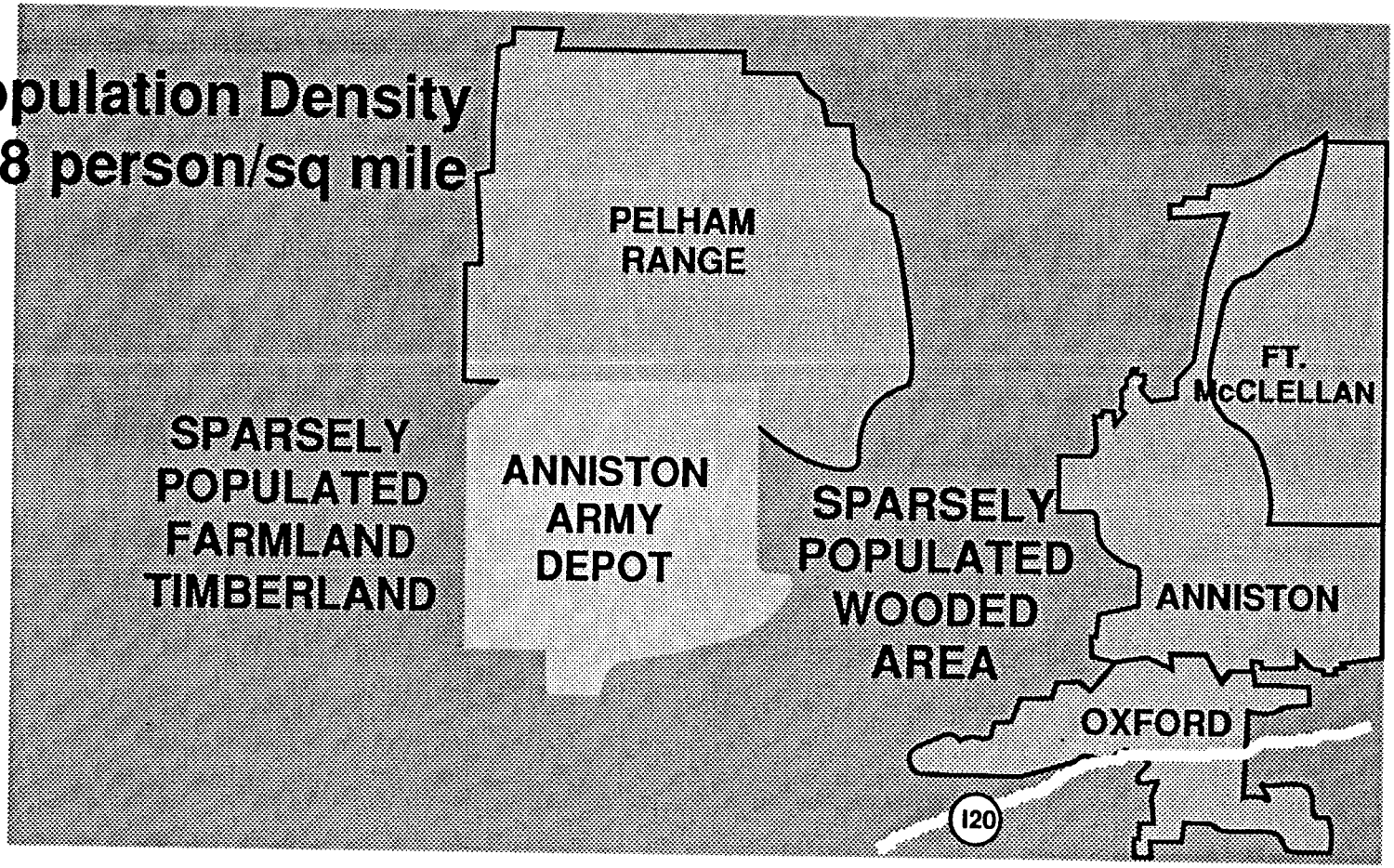
ENVIRONMENTAL

- TOTAL COMPLIANCE WITH ALL PERMITS
  - AIR
  - WATER
  - HAZ / SOLID WASTES
  - UNDERGROUND ST. TANKS
  - ASBESTOS
  - RADON

$40 MIL INVESTED SINCE 1982

- HAZARDOUS WASTE MINIMIZATION
  - 50 % REDUCTION SINCE 1984
- LED ARMY EFFORTS TO IMPLEMENT TECHNOLOGIES
  - HIGH PRESSURE PARTS WASHERS
  - ION VAPOR DISPOSITION OF ALUM.
- NATIONAL PRIORITY LIST (NPL) IN 1989
  - GROUNDWATER CONTAMINATION
  - CLEAN-UP - $77MIL THROUGH 2030

ENCROACHMENT

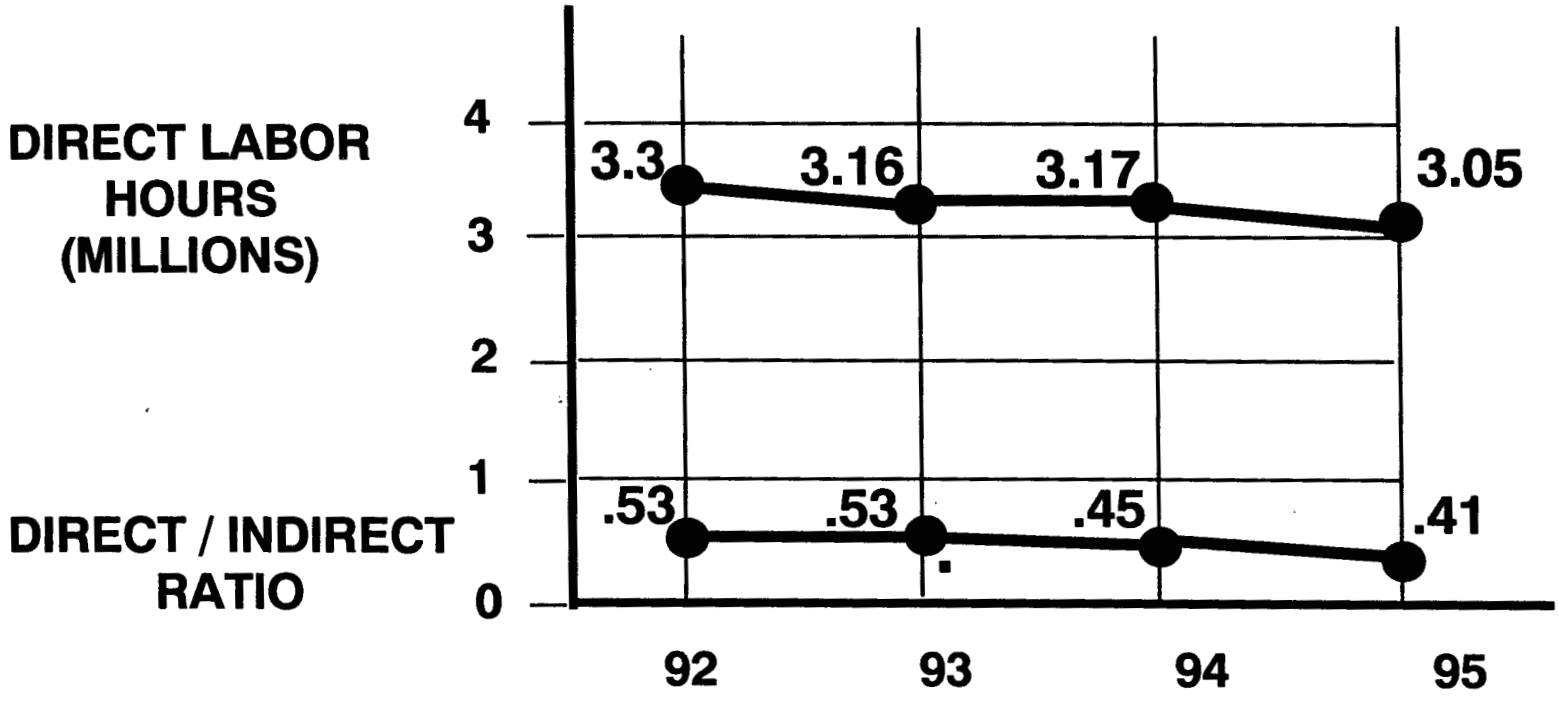


BUSINESS EFFICIENCY INDICATORS

- **MCA COST FACTORS:**
  - **ANAD: .77**
- **VHA FACTORS:**
  - **ANAD: $0.00**

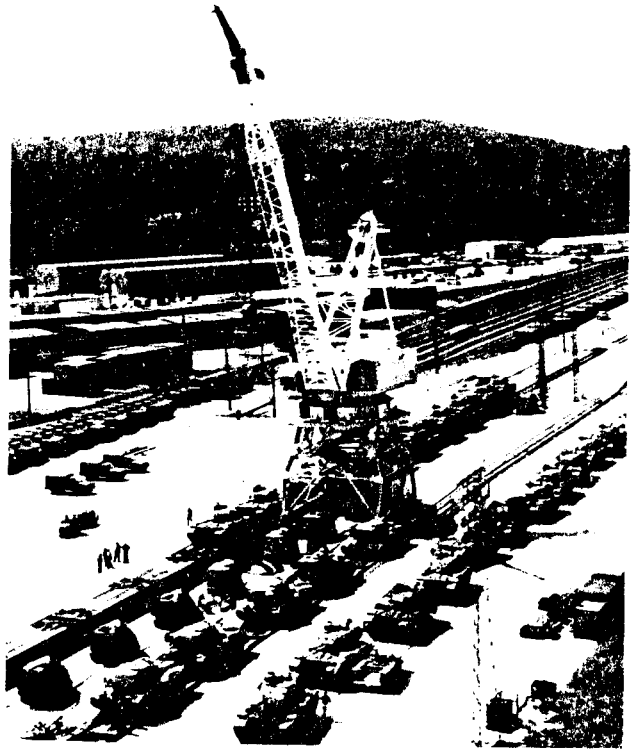
Construction & cost of living expense at ANAD are less expensive

BUSINESS EFFICIENCY INDICATORS

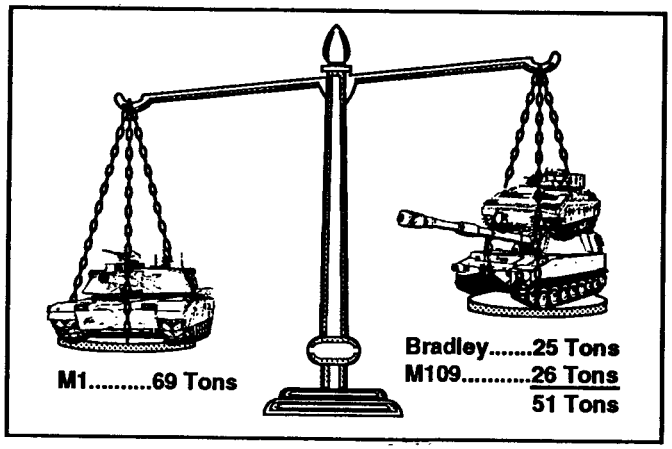


UNIQUE FEATURES AND CAPABILITIES

SHIPPING & RECEIVING FACILITY



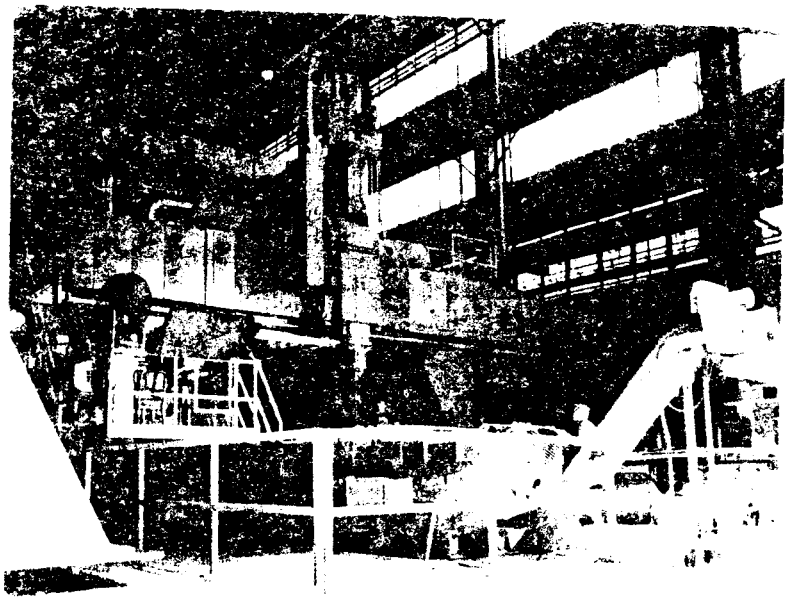
- 75 Ton Gantry Crane
- 600' Rail & Truck Dock
- Lighting for 24 Hour Operation



BLDG. 400 MAINTENANCE FACILITY

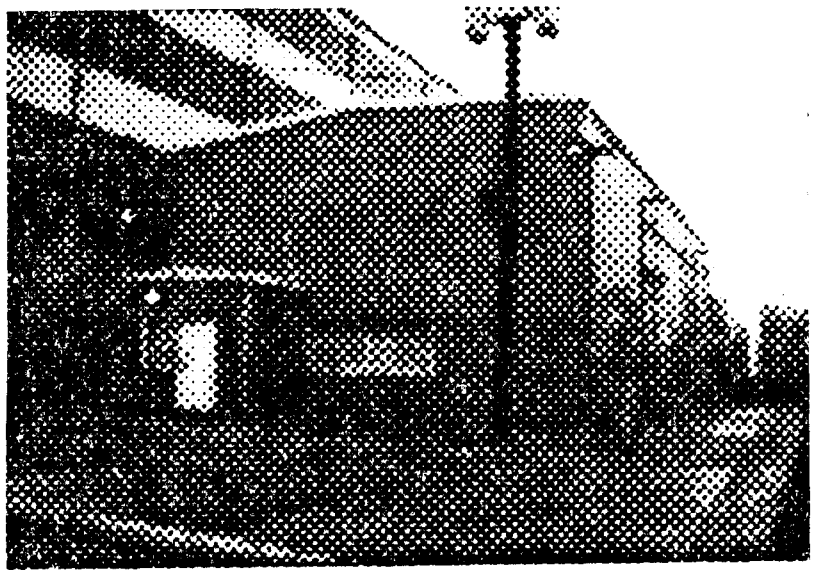
- 5 Acres of Flexible-use Floor Space
- 20 to 60 Ton Crane
- 9 1/2" Thick Concrete Floors

COMBAT VEHICLE MACHINE CENTER



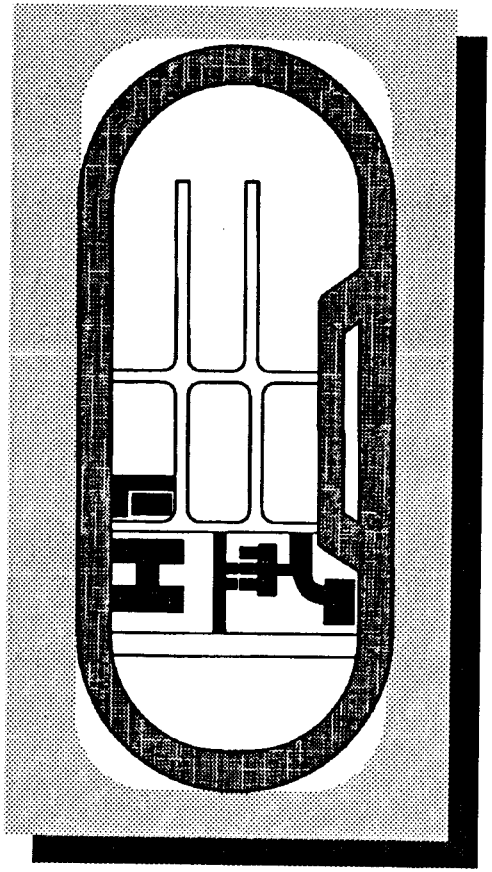
- 30 Tons
- 60' x 20' x 10' Working Envelope
- 6 Axis
- Computer Controlled

SPECIAL ARMOR REPAIR FACILITY



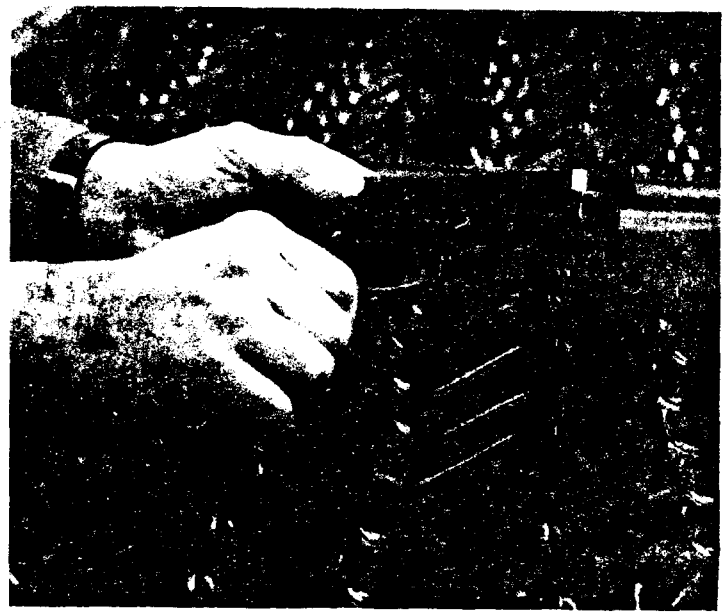
- 3320 SF
- 20 Ton Crane
- High Security
  - Fense
  - IDS
  - Cameras
- Full Requirements to Support Depleted Uranium Armor Repair

VEHICLE TEST TRACK



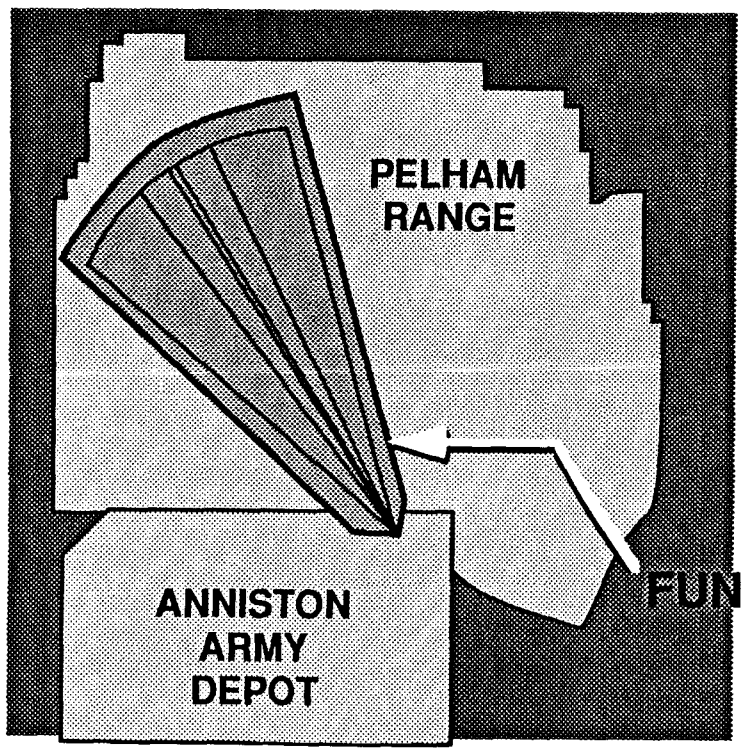
- 1.13 Mi
- 30/40/60 % Slopes
- Laser Range
- Superelevated Curves for Speed Testing
- Lighting for 24 Hour (Mobilization) Operation

SMALL ARMS REBUILD FACILITY



- Army's Only Small Arms Maintenance Facility
- Cleaning/Finishing/Painting Capabilities
- Indoor Function & Accuracy Testing with Computer Target System
- Intrusion Detection with Assessment Monitoring Cameras
- Collocated High Security Storage Warehouses

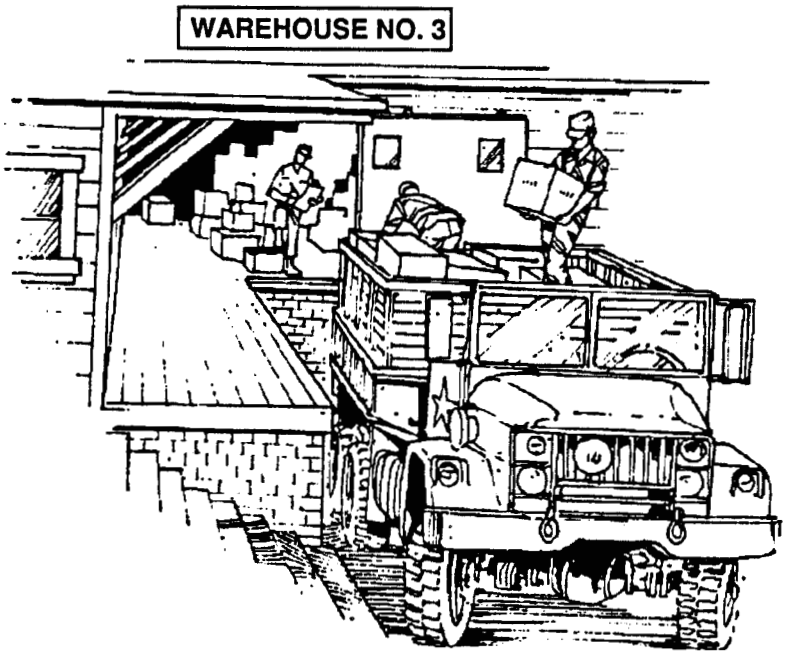
FIRING RANGE



- Currently Tests from Small Arms thru 152 mm
- 8 Inch Projectile Capable
- Noise Contours On-Post

FUNCTION FIRING RANGE
SAFETY FAN

Examples of Crises Response



Date	***Response***
1967	*During the 6-Day War:*
	- *Delivered 200 tanks accompanied by mechanics to Israel.*
1973	*During the Yom Kipper War:*
	- *9JJ - 200 tanks prepared and delivered within 60 days.*
In one 12-month period ...	
1983	*Designed and built 2 hard-target bonnets for M551 in 28 days.*
1983	*Prepared 68 M48A5 tanks for Lebanon in 30 days.*

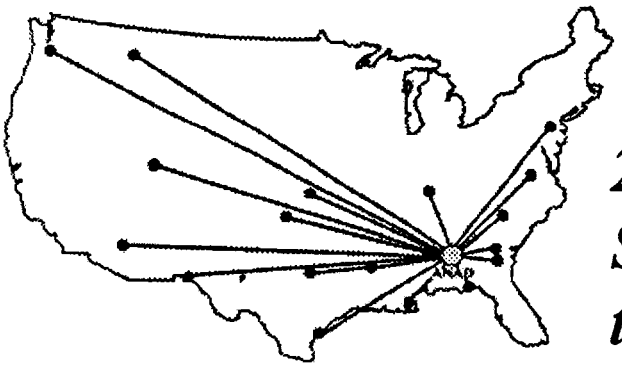
Examples of Crises Response - Continued

17-23 Nov 1983	*During Island Breeze:* - *Responded to 264 Material Release Orders (MROs) for weapons, ammo and vehicles.*
25 Oct - 2 Nov 1983	*During Urgent Fury:* - *Established a 24-hour operations center.* - *Shipped 104 requisitions* - *Shipped 15 truckloads of contingency stocks after duty hours within 24-hours of notification.*
12-month example ends ...	
1989	*During Operation Just Cause (Panama):* - *Shipped contingency stocks to Ft. Benning, Ga.* - *Shipped 198 tons of other materiel to Ft. Bragg, Ft. Stewart and Panama.*

OPERATION DESERT SHIELD/STORM

Pre-Deployment

EQUIPMENT READINESS AND SYSTEMS TRAINING



217 ANAD Systems Specialists dispatched throughout the United States from August - December 1990.

OPERATION DESERT SHIELD/STORM

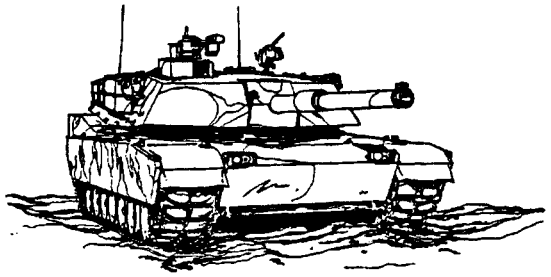
Deployment

☆ **476 ANNISTON EMPLOYEES -**

- **VEHICLES**
  - *Of the 1,332 civilians deployed, 36% were from ANAD.*
  - *<u>90%</u> of the <u>combat vehicle maintenance</u> mission was done by ANAD employees in country.*
- **ANAD MINI DEPOT**
  - *M1A1 MODIFICATIONS*
    - *Armor Package*
    - *Optical Improvements*
    - *Survivability Improvements*
    - *CARC Painting Equipment*
    - *1243 Total Vehicles*
- **INTER-SERVICE SUPPORT**
  - *INSTALLED APPLIQUE ARMOR ON 75 USMC M60A1 TANKS*
- **FORWARD SUPPORT**
  - *DESCOM USA Support Group*
  - *Maintenance/Supply*
  - *Field Support of Armored Vehicles*
- **NEW PRODUCTION HAND-OFF**
  - *M1A1 Tanks for USMC*

OPERATION DESERT SHIELD/STORM

Reconstitution

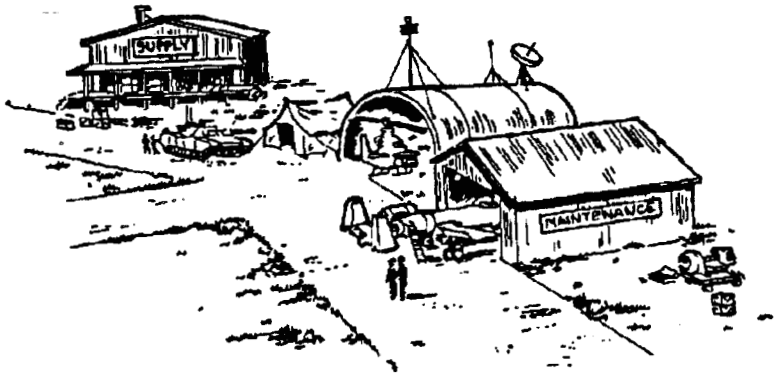


At the conclusion of Desert Storm, the heavy-tracked combat vehicle fleet in SWA was evaluated to determine the degree of repair necessary to ensure readiness was not compromised. Listed here is a recap of quanitties and series of vehicles workloaded at ANAD.

As of 6 June 95:

SERIES	QUANTITY
IPM1	236
M1A1	365
M1	300
M728 CEV	46
M88A1	371
AVLB	70
Total Vehicles	**1,388**

Pre-Deployment/Deployment Since ODS



HUMANITARIAN RELIEF

Personnel	*Dates*	*Purpose*	*Pre/Deploy*
7	*Aug - Nov 92*	*Hurricane Andrew South Florida*	*Deploy*

SOMALIA

Personnel	*Dates*	*Purpose*	*Pre/Deploy*
1	*9 - 23 Mar 94*	*Repair Radios*	*Deploy*

RWANDA

Personnel	*Dates*	*Purpose*	*Pre/Deploy*
1	*July 94*	*Quality Assurance*	*Deploy*
7	*July 94*	*(Standby)*	*Pre*

Pre-Deployment/Deployment Since ODS - Continued

CARIBBEAN BASIN - USS EISENHOWER

Personnel	Dates	Purpose	Pre/Deploy
2	13 - 28 Sep 94	Logistical Assistance	Deploy

SOUTHWEST ASIA

Personnel	Dates	Purpose	Pre/Deploy
5	July - Sep 95	Repair LCSS	Deploy
2	17 Oct - 6 Nov 94	Quality Assurance Team	Pre
29	11 Oct - 2 Dec 94	Repair Vehicles	Deploy

HAITI

Personnel	Dates	Purpose	Pre/Deploy
2	7-14 Feb 95	Vehicle Painting Assessment	Pre
4	21 Feb - 31 Mar 95	Paint Vehicles for U.N.	Deploy
21		(Standby)	
1	Apr - May 95	Contracting Officer	Deploy

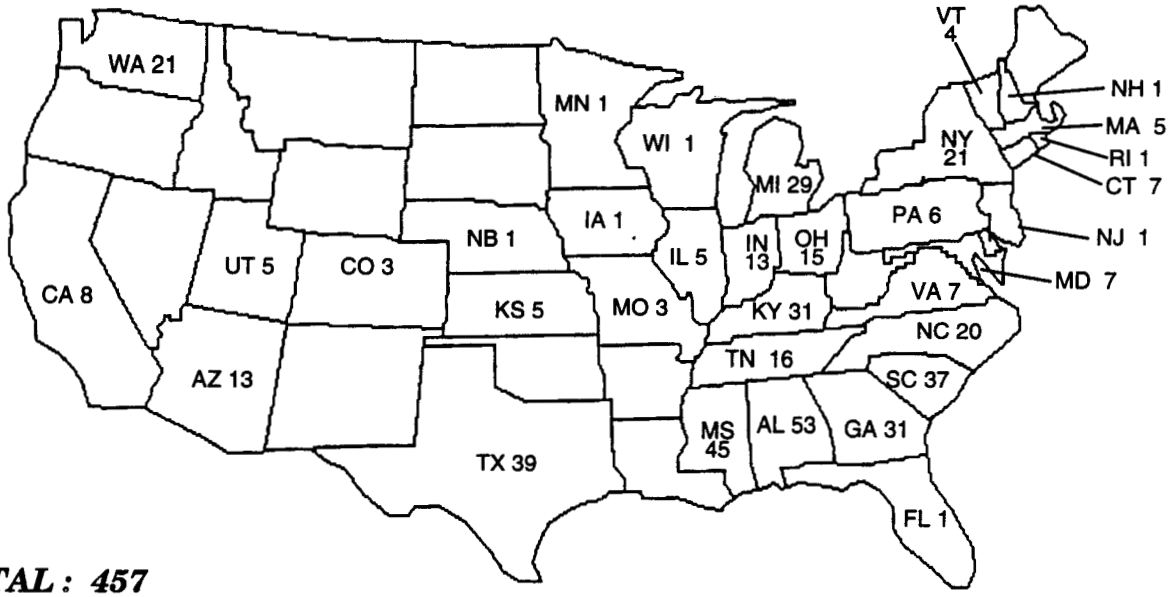
SOMALIA

Personnel	Dates	Purpose	Pre/Deploy
3	1 - 7 Feb 95	Load and Accompany Tanks	Deploy

OPERATION DETERMINED EFFORT

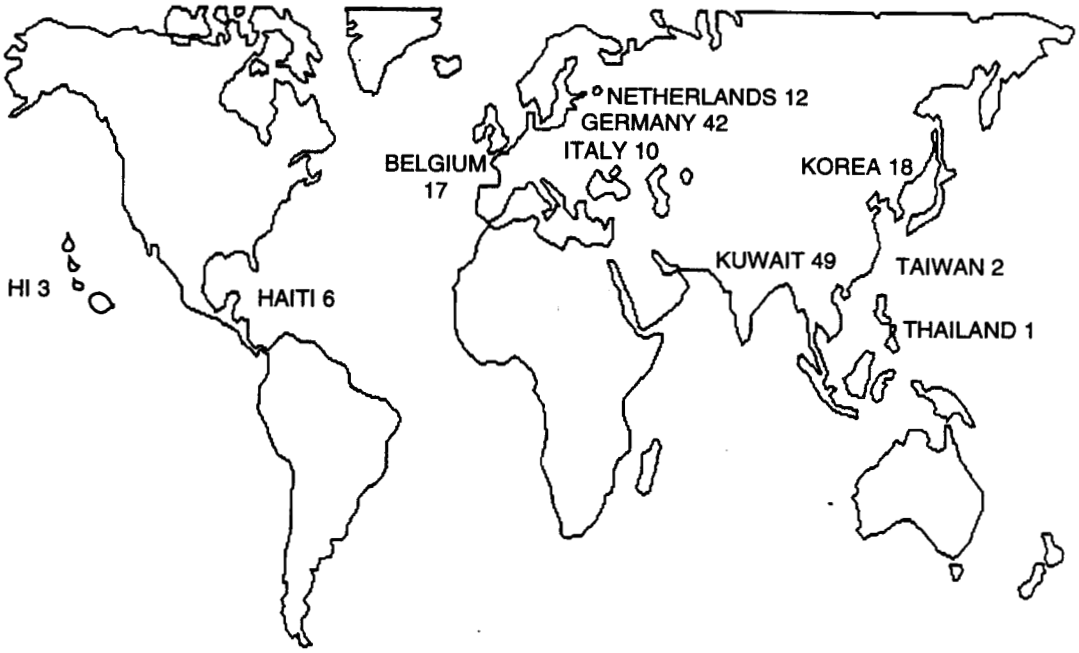
Personnel	Dates	Purpose	Pre/Deploy
10	Currently	(Standby)	Pre

FY95 PLANNED FIELD SUPPORT CONUS



TOTAL : 457

FY95 WORLD WIDE OCONUS



TOTAL: 160

PRODUCTION FACILITIES

Building	Function
105	* Repair of missile guidance systems and components, chemical agent alarms, and replacing of tritium vials in support of combat vehicle fire control and small arms
106	* Repair/overhaul of M1 Electro-Optics such as Gunner's Primary Sight * Repair/overhaul and testing of M1 Electronic Hull/Turret items
108	* Fabrication and reclamation utilizing processes such as CNC/ conventional machining, sheet metal, heat treating, and robotic/ conventional/electron beam/spot welding
111	* Repair electronic items as circuit cards to support Line Replaceable Units (LRUs) * Thermal System testing
113	* Rework, optical/mechanical fire control such as MRS, telescope, mounts, sights, etc. for all vehicles * Repair Air Borne TOW Missile System * Repair helicopter gun motors (20 mm)
117	* Overhaul/repair of combat vehicle electrohydraulic systems and components, conventional welding support for other shops
128	* Overhaul of 1100 transmissions and final drives in support of M1 Tanks * Upholstery - cutting, sewing, and gluing of nylon, canvas, leather, cloth, rubberized fabrics, etc. * Manufacture of metal data plates and bar code labels * Manufacture of stick-on decals * Manufacture of gaskets * Repair/fabrication/testing of wiring harness * Overhaul/Repair of AGT 1500 Turbine Engine in support of M1 Tank
129	* Repair/overhaul of Multiple Small Arms Weapons * Support chemical/abrasive cleaning of weapons * Support machining process * Indoor Target Accuracy Range supports firing of weapons * Indoor function firing up to 50 cal * Computer-controlled targeting system
130	* Overhaul/repair of internal combustion engines and components, i.e., starters, alternators, injectors, and injector pumps * Overhaul/repair of transmissions and output reduction units

PRODUCTION FACILITIES - Continued

Building	Function
133	* Repair/fabrication of recuperators for the AGT 1500 Turbine Engine utilizing three each computer controlled resistance welders * Verification Lab incorporating all the latest measuring methods and devices including computerized coordinate measuring machines
140	* Laboratory which houses the Army Oil Analysis Program equipment and supports the internal chemical cleaning processes within Directorate of Maintenance
143	* Final Paint Facility for application of CARC paint to combat vehicles
143	Turret * Repair/overhaul of vehicle turrets/main * Gun/recoil mechanisms and mechanical fire control * Gunner's Primary Sight testing * Pre-test and final acceptance test of M1 Turret Electric/Hydraulic components
145	* Fabrication/repair of vehicle hull/turret components and other items * Tool and die fabrication * CAD/CAM-NC/CNC Programming * FCIM
146	* Repair/refill of fire extinguisher bottles from combat vehicles and buildings to include recovery and refill of HALON systems * Repair of combat vehicle electrical components and wiring harnesses * Repair of combat vehicle cupolas and other turret components, i.e., shell racks, race ring reclamation, and white parts
147	* Reclamation of parts utilizing processes such as robotic/ conventional metalizing and machining
378	* Dismating and remating of M1 engines and transmissions
400	* Vehicle hull/turret disassembly * Vehicle hull/turret/component welding * Vehicle hull/turret machining * Testing of M1A1 NBC System * Overhaul/repair of vehicle hulls, e.g., M1, M88, 551, 728, AVLB * Repair/modifications of bridge sections * Aluminum/steel armor X-ray facility * Classified aluminum/steel armor repair area with Intrusion Detection System (IDS) * Manufacture of mining equipment and other special fabrications

PRODUCTION FACILITIES - Continued

Building	Function
409	* Vehicle hull/turret component parts steam cleaning/chemical cleaning and abrasive cleaning * CARC painting of vehicle components and other items * Welding repairs on vehicle radiators, oil coolers, fuel cells, and all containers for engine transmissions, final drives, etc.
410	* Dismate and remate of internal combustion engines such as the 1790, 6V53, and APUs * Dynamometer testing of internal combustion engines and turbine engines * Containerization of 1790 and 6V53 Engines
413	* CNC cutting of aluminum and steel plate, sawing, shearing, and CNC punching
414	* Chemical cleaning of vehicle/turret components * Chemical plating of vehicle/turret components such as cadmium plating, chromium, phosphating electroless nickel, black oxide, ion vapor deposition of aluminum, etc. * Vehicle hull/turret final repair facility * Vehicle test track for full dynamic vehicle testing such as 40/60 percent slopes, banked curves, spin pad, and bump course * Boresight and synchronize main gun and coaxial machine guns * Function test vehicle communication system
418	* Overhaul of various shelters (Not shown)
420	* Laser firing range for testing alignment of gun tube and fire control
421	* Vehicle hull/turret or complete vehicle steam cleaning facility
433	* Abrasive cleaning of large combat vehicle components and other items * CARC painting of large vehicle components and other items
434	* Overhaul/repair of miscellaneous items * Overhaul/repair/test of winches * Turret burn-out * Ground hopping of M1 FUPP

BUILDING 400 VEHICLE MAINTENANCE SHOP

	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
	Classified Armor Facility & Repair	√		
	Avail SF and Layout to Support Consolidation of ANAD/RRAD LEAD	√		
	X-Ray Testing	√	√	√
	Vehicle Ford & Swim Pit	√	√	√
Equipment				
	60 Ton Lifting Capacity	√		
	70 Ton Winch Test Stand	√		
	Heavy Vehicle Machining and Rollover Fixtures	√		
Skills				
	Heavy Mobile Equip. Mechanics	√	√	√
	Certified Ballistic Armor Welders			
	Steel	√		
	Aluminum	√	√	√
	Welders	√	√	√
	Machinists	√	√	√
Technology				
	Certified Ballistic Armor Welding			
	Steel	√		
	Aluminum	√	√	√

BUILDING 143 TURRET REPAIR FACILITY

	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
	30 Ton Lifting Capacity Bridge Crane	√		
	SF & Layout Available to Support Consolidation of ANAD/RRAD LEAD	√		
Equipment				
	M-1 Turret Test Stand	√		
	Bradley Turret Test Stand		√	
	Gymnasticators	√		√
	Drive Through Paint Booths to Support Large Vehicle	√		√
Skills				
	Fire Control Instrumentation Mechanic	√	√	√
	Artillery Repairers	√		√
	Electronic Integrated System Mechanic	√	√	√
	Welders	√	√	√
Technologies				
	Recoil Repair	√		√
	Gun Tube Non-Destructive Testing	√		√
	Electro-Optics	√	√	√

BUILDING 129 TRANSMISSION TESTING

	Capabilities	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
Equipment				
	Dynamometers			
	0 - 500 HP	√	√	√
	0 - 1200 HP	√	√	
	0 - 1500 HP	√		
	Hydrostatic Steering Test Units			
	0 - 200 HP	√	√	√
	0 - 1500 HP	√	√	
Skills				
	Mechanics	√	√	√
Technologies				
	Automated Testing	√	√	√

BUILDING 410 ENGINE TEST AREA

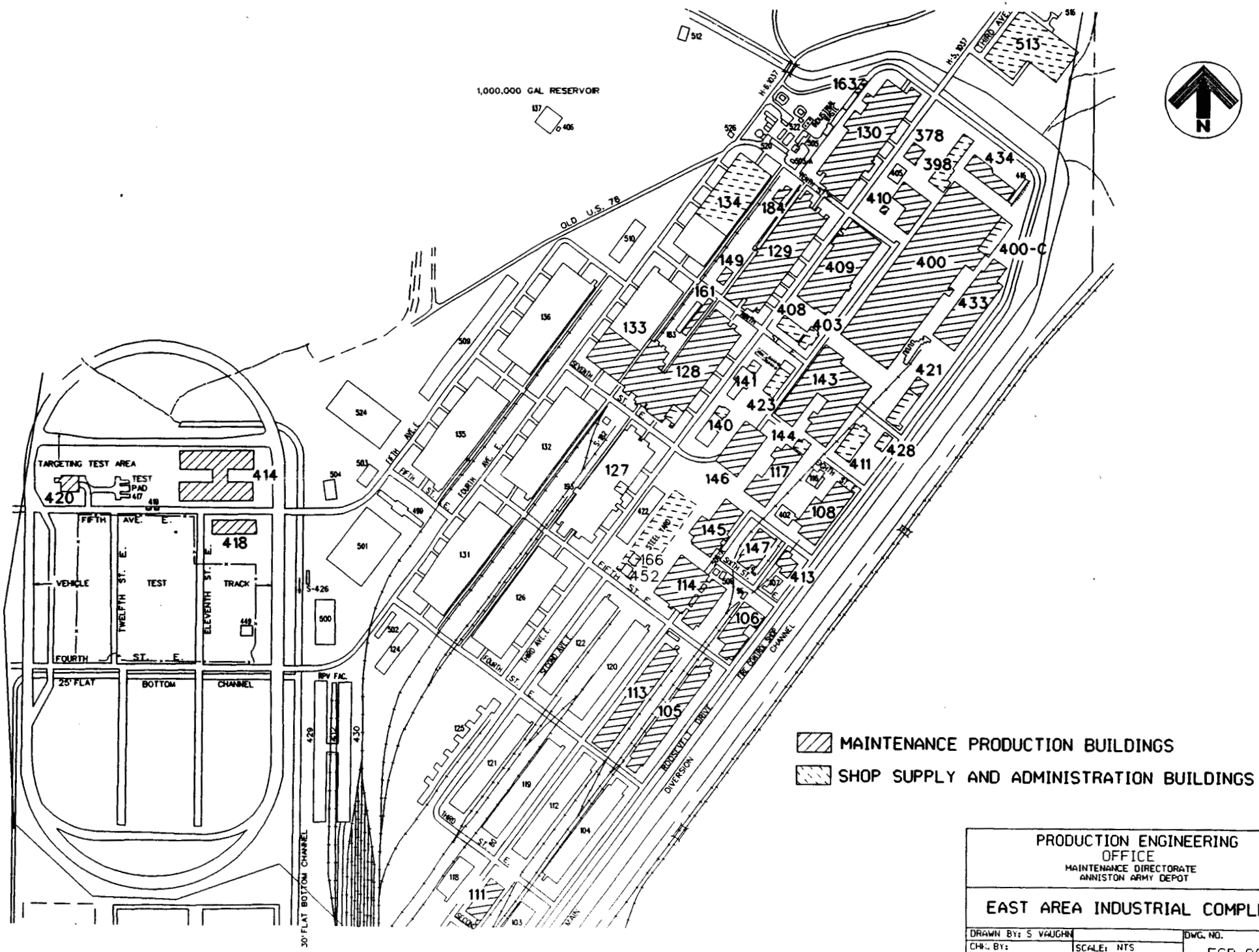
	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
	Engine Staging/Final Repair Area	√		√
	Reciprocating Engine Test Cells	√	√	√
	Turbine Engine Test Cells	√		
	High Frequency Sound Attenuated Test Cells	√		
Equipment				
	Dynamometers			
	Reciprocating Engine			
	0 - 500 HP	√	√	√
	0 - 1000 HP	√	√	√
	0 - 1500 HP	√		
	Turbine Engine			
	0 - 1500 HP	√		
	Power Pack			
	0 - 1500 HP	√		
	Power Pack Run-In	√	√	√
Skills				
	Mechanics			
	Reciprocating Engine	√	√	√
	Turbine Engine	√		
	Electronic Repair	√	√	√
Technologies				
	Automated Testing	√	√	√

BUILDING 130 COMBUSTION ENGINE SHOP

	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
	Environmentally Controlled Assembly Area	√		
	Carburetor & Ignition Shop	√	√	√
	Wiring Harness Repair	√	√	√
Equipment				
	Capacity to Support Consolidation of ANAD/RRAD LEAD	√		
	Injector Test Stand	√	√	√
	Injector Pump Test Stand	√	√	√
	Industrial Washers	√	√	√
	Machine Shop	√	√	√
Skills				
	Mechanic	√	√	√
	Machinist	√	√	√
Technologies				
	Combustion Engine Repair	√	√	√
	Carburetor/ Generator Repair	√	√	√
	Non-Destructive Testing	√	√	√

BUILDING 128 TURBINE ENGINE SHOP

	Consolidated Ground Depot Maintenance Requirements	ANAD M1/M88/AVLB M60/M728/M551	RRAD Bradley/M113/ MLRS	LEAD M109/Towed Artillery
Facility				
	Bearing Cleaning Facility	√		
	Environmentally Controlled Work Area	√		
Equipment				
	Sciaky Resistance Welders	√		
	Vacuum Brazing Furnace	√		
	Hydromechanical Unit Test Stand	√		
	Fuel Nozzle Test Stand	√		
	Vertical Balancer	√		
	Magnetic Particle Testing	√		
	Bearing Analyzer	√		
	Coord. Measuring Machine	√	√	√
	Air Flow Stand	√		
	Lapping Machine	√	√	
Skills				
	Turbine Engine Mechanics	√		
	Machinists	√	√	√
	Welders	√	√	√
Technologies				
	Turbine Engine Repair	√		
	Recuperator Reclamation	√		
	Non-Dest. Testing	√	√	√
	Prec.Balancing	√		



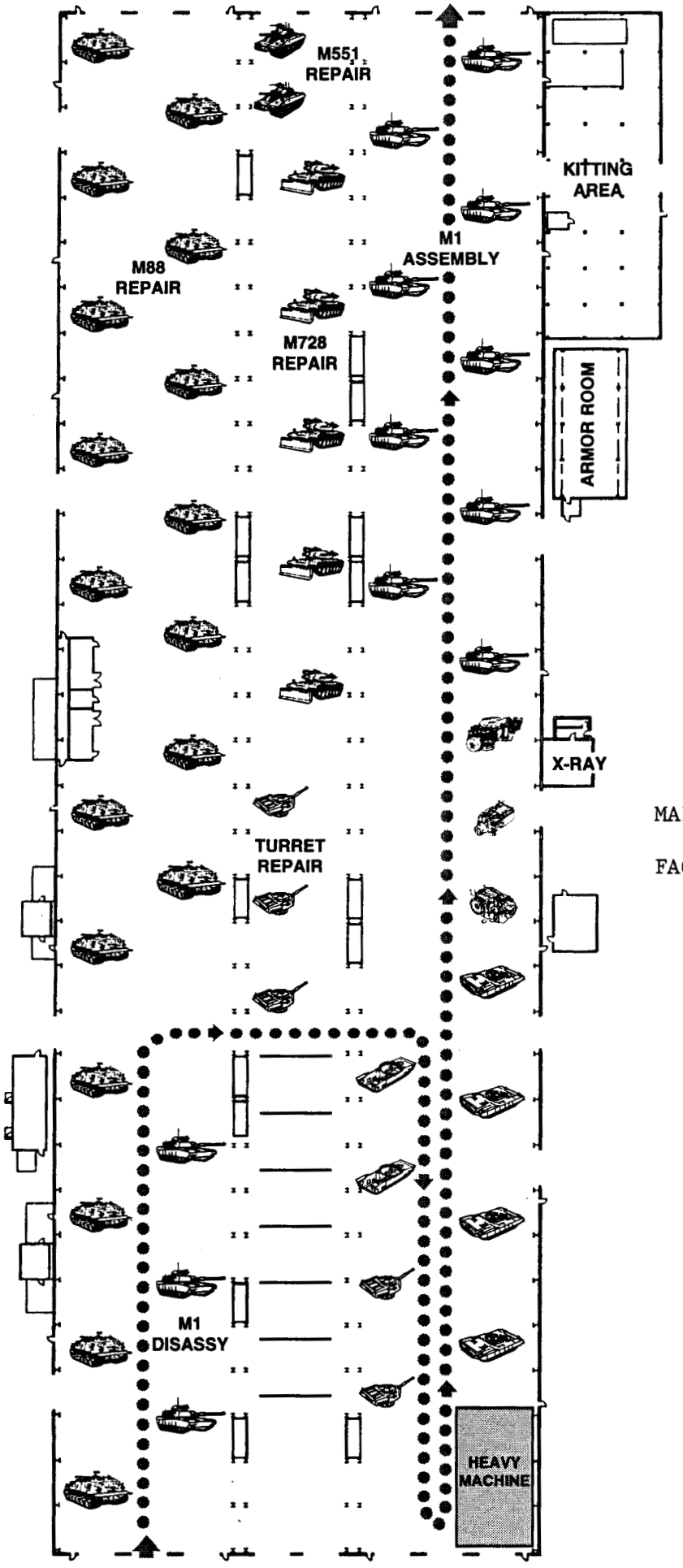
MAINTENANCE PRODUCTION BUILDINGS

SHOP SUPPLY AND ADMINISTRATION BUILDINGS

PRODUCTION ENGINEERING OFFICE
MAINTENANCE DIRECTORATE
ANNISTON ARMY DEPOT

EAST AREA INDUSTRIAL COMPLEX

DRAWN BY: S VAUGHN		DWG. NO.
CHK. BY:	SCALE: NTS	ESB-967
DATE: 21 MAR 95	SHEET 1 OF 1	

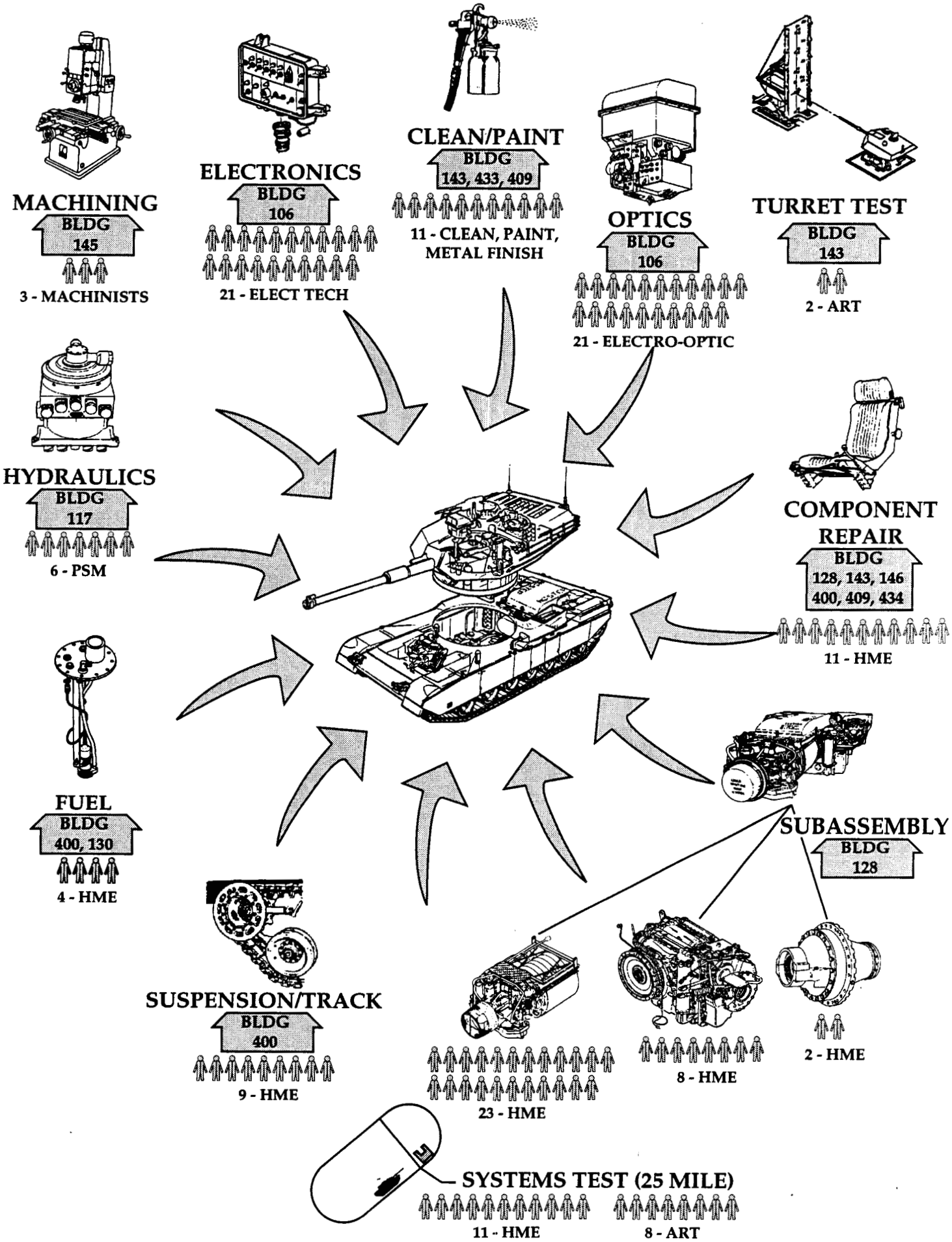


MAIN VEHICLE REPAIR

FACILITY (BLDG 400)

Facilities

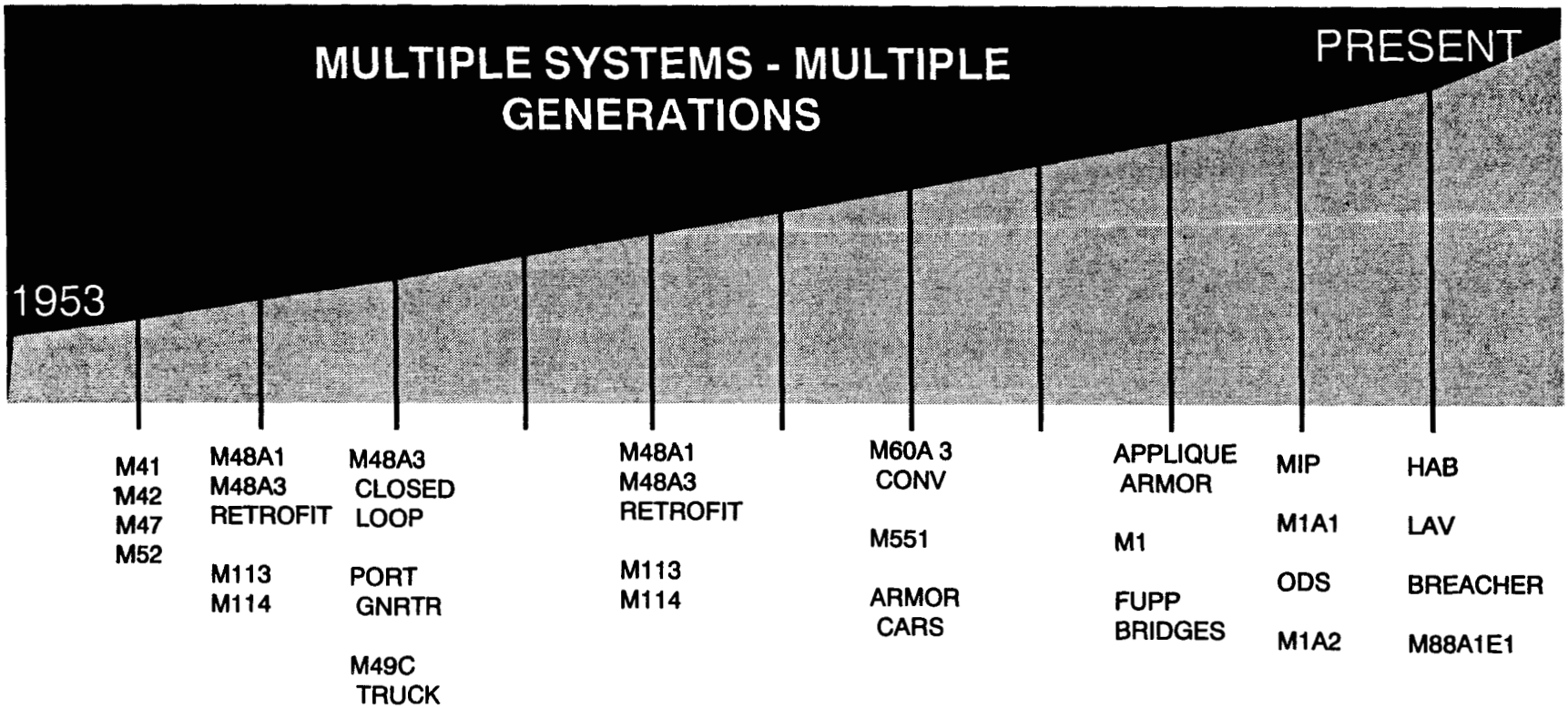
- ☑ *139,677 sq. ft. of environmentally controlled work space*
- ☑ *11,214 sq. ft. of 100K-Class clean room*
- ☑ *$30 Million in equipment*
- ☑ *An Intrusion Detection System (IDS)*


MACHINING
BLDG 145
3 - MACHINISTS
ELECTRONICS
BLDG 106
21 - ELECT TECH
CLEAN/PAINT
BLDG 143, 433, 409
11 - CLEAN, PAINT, METAL FINISH
OPTICS
BLDG 106
21 - ELECTRO-OPTIC
TURRET TEST
BLDG 143
2 - ART
HYDRAULICS
BLDG 117
6 - PSM
COMPONENT REPAIR
BLDG 128, 143, 146 400, 409, 434
11 - HME
FUEL
BLDG 400, 130
4 - HME
SUBASSEMBLY
BLDG 128
SUSPENSION/TRACK
BLDG 400
9 - HME
23 - HME
8 - HME
2 - HME
SYSTEMS TEST (25 MILE)
11 - HME
8 - ART

MAINTENANCE FLEXIBILITY

INSTITUTIONAL KNOWLEDGE

VEHICLE PRODUCTION HISTORY



DEPOT LEVEL REPAIR TECHNOLOGY/CAPABILITY MATRIX

TECHNOLOGY	ANAD M1, M88, M60, M728, AVLB, M551	RRAD BFVS, M113 MLRS	LEAD M109, TOWED ARTILLERY
Turbine Engines	X		
Diesel Engines	X	X	X
Mechanical Fire Control	X	X	X
Electro-Optics	X	X	X
Gun Tube/Recoil	X		X
Large Caliber Firing Range	X		X
High Speed Testing	X	X	
Stabilized Gun Systems	X	X	
NBC Systems	X		
Small Arms	X		
Crew Served Weapons	X		
Ballistic Armor (Steel)	X		
Ballistic Armor (Aluminum)	X	X	X
Classified Armor	X		
Laser Testing	X		X
FCIM	X		
Materials Engineering Lab	X		
Automated Vehicle Blasting	X	X	
Heavy Vehicle CNC Machining	X		
Heavy Vehicle Conventional Machining	X		
Cleaning & Finishing	X	X	X

SPECIAL PRODUCTION SKILLS

Skill Areas	Job Titles	
Heavy Mobile Equipment Mechanics	Heavy Mobile Equipment Mechanics - Internal Combustion and Turbine	
Welders	Welders	
Machinists	Machine Tool Operators Machinists	Toolmakers Automotive Machinists
Optics/Electronics **Electronic Measurement Equipment Mechanics** **Electro Optic Mechanics**	Electronics Integrated Systems Mechanics Electronics Mechanics Electronics Workers Electronics Equipment Mechanics	Optical Instrument Repairers Optical Element Workers Electronics Computer Equipment Mechanics
Equipment Operation/ Preparation/Preservation	Forklift Operators Mobile Industrial Equipment Operators Crane Operators Electroplaters Motor Vehicle Operators	Sandblasters Equipment Cleaners Preservation Packagers Painters Heat Treater Tank Drivers
Small Arms/Artillery	Small Arms Repairers Artillery Repairers	Pneudraulics Systems Mechanics Workers
Support Skills	Metal Tank & Radiator Repairers Fabric Workers Metal Forming Machine Operators	Chemical Equipment Repairers Metal Photo Transfer

SPECIAL SKILL CAPABILITIES

Personnel Certifications

Non-Destructive Testing Certification (Levels I, II,& III)

Radiography..... 6
Magnetic Particle.....62
Liquid Penetrant.....70
Ultrasonics..... 5

Vehicle Test Driving Certification

Combat Vehicles.....75

Soldering Certification

MIL Standard 2000.....472

Statistical Process Control

Trained (on-site).....2,992
Trained (external).....371

Welding Certification

GTAW Fillet Welding of Stainless Steels..... 10
Aluminum Castings..... 1
Medium Girder Bridge..... 1
GTAW Aluminum (Fuel Cells)..... 9
GTAW (Armor and Constructional Steels).... 4
Plug Welding - AWSD 1.1 1
FCAW Homogeneous Armor..... 3
Fillet - Armor..... 41
GMAS/GTAW Alum Alloy (Excl. Armor)..... 8
Arc - Constructional Steels..... 58
Special SMAW..... 2
MAW - Homogeneous Armor..... 56
Structural Steel..... 63
Special M1 Mod.....23
GTAW - Aluminum Alloy..... 1

Organic Abrasive Cleaner Certification

Organic Abrasive Blaster/Operator..... 9

Skills

☑ ***Electronics*.....*196***

58 .....20 years plus
95 .....10 to 20 years
43 .....0 to 10 years

☑ ***Electro-Optic* *122***

25 .....20 years plus
82 .....10 to 20 years
15 .....0 to 10 years

Training

☑ *Trade Schools*

- *Electronics Courses*

☑ *After Hours*

- *On-Depot*
- *No Expenses Involved*
- *Apprentices*

☑ *Apprentice Program*

- *D.O.L. Approved*
- *1 to 3 Ratio*

☑ *On-The-Job*

- *Familiarization*
- *System Related*

Technical Training Office

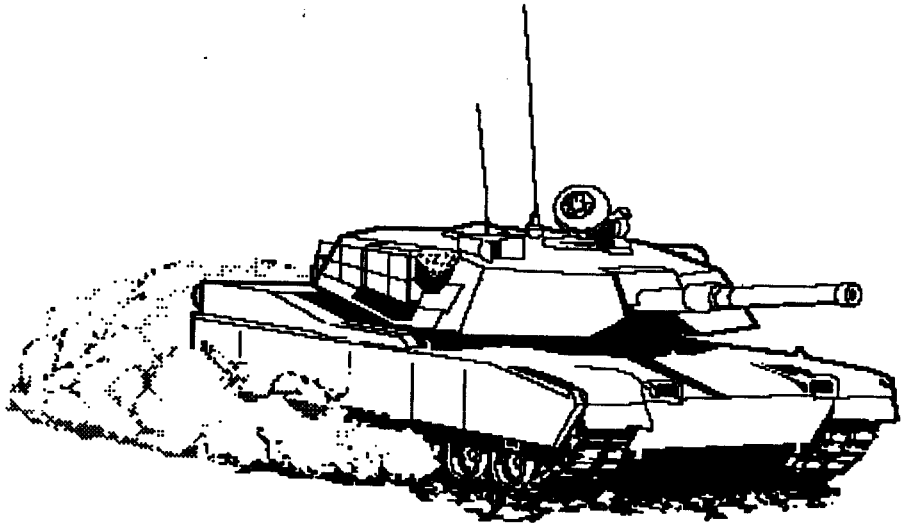
☑ *Apprentice & Worker Electronics Training*

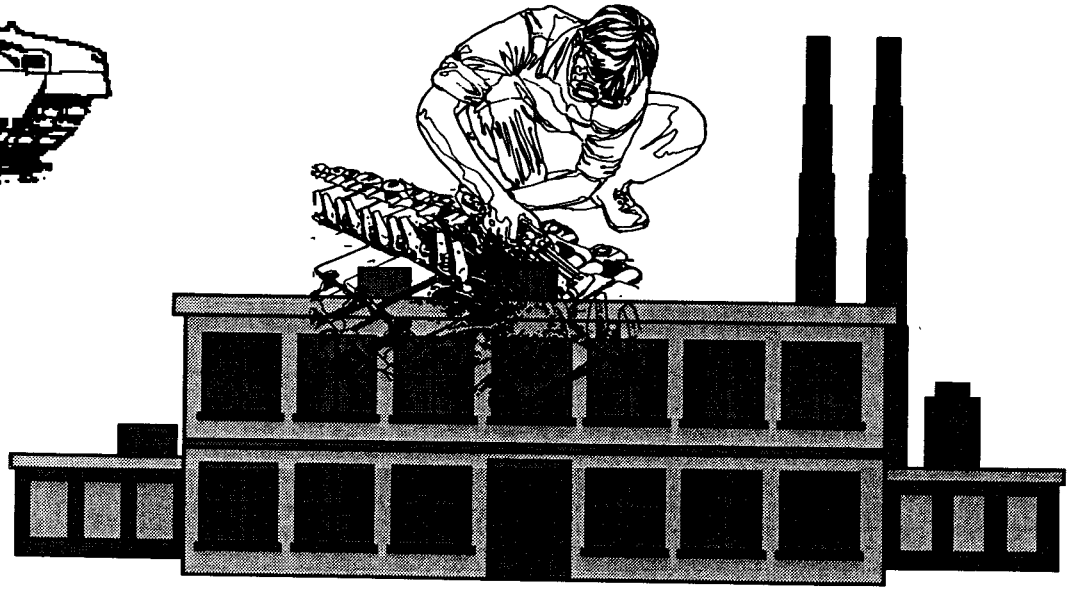
Title	Hours
Basic Mathematics for Electronics	40
Fundamentals for Electronics	80
AF Communication Fundamentals	80
RF Communication Fundamentals	80
Instruction Electronics Fundamentals	80
Industrial Electronics Fundamentals	80
Digital Electronics Concepts	120
Microprocessor Concepts & Applications	120
Interface & Memory Concepts	80
16-Bit Microprocessor Concepts	120
Robotics Concepts & Applications	80
Laser & Optics Fundamentals	120
Certified Soldering (MIL-STD-2000)	40
Electrostatic Discharge Awareness	2
Total	**1,122**

☑ *Preparatory Electronics Training*

AC/DC Fundamentals	80
Basic Electronics	80
Motors & Generators	80
Total	**240**

Strategic Planning Initiatives





Anniston Army Depot

PARTNERING AGREEMENTS WITH PRIVATE INDUSTRY

Abrams Integrated Management (AIM) XXI

- Recycle and Refurbish NTC M1A1 Fleet to Optimum Condition in Order to Sustain Training and Readiness
  - Restoration of Vehicles
  - Field Support
  - Information Management
- Partnership with General Dynamics Land Division (GDLS)
- MOU Signed 23 Sep 94
- SOW and Estimate Complete 3 Apr 95

FOX Upgrade Program

- Upgrade 103 US Army Basic XM93 FOX NBC Reconnaissance Systems to M93A1 Improved (IOT&E) Configuration
- Partnership with General Dynamics Land Division (GDLS)
- Participants: ANAD, GDLS, and CBDCOM
- MOU in Final Stages

Manufacturing Technology Consortium (MTC)

- Technology Transfer and Defense Reutilization Project to Assist Small and Mid-sized Manufacturers
- Partnership with Jacksonville State University
- Business Plan Complete
- Current Funding Includes:
  - Part-time Director through ADECA
  - Funds for Developing Video through EAACC to JSU for Filming
- Pursuing Grant Through Appalachian Regional Commission

Hybrid Electric HMMWV

- Develop Hybrid Electronic Drive for HMMWV to Provide the Soldier with Silent Drive, Extended Range, and Reduced Signature Capability in the Army's HMMWV Fleet.
- Primary Partner is Pentastar Electronics, Inc.
- Partnership Agreement Signed 28 Nov 94
- Funding of $1M from ARPA with Matching Funds from Industry Partners

Electronic Integrated Program Management

- Joint Flexible Computer Integrated Manufacturing (FCIM) Experiment on the Army's M1A2 Tank Upgrade Program Providing Real Time Visibility for Material Review Board Issues & Defective Government Material

- Partnership with General Dynamics Land Systems

- Electronically Connecting:
  - Anniston Army Depot
  - GDLS/Lima Tank Plant
  - ABRAMS PMO

- Capability Currently Operational

OTHER
SPECIAL INITIATIVES

Louisiana Maneuvers

- ANAD Interface with Sensor Artificial Intelligent Communication Integrated Maintenance System (SACIMS)
- Onboard Sensors Imbedded in the AGT 1500 Engine Predict Failure Prior to Occurrence
- Joint Initiative with CSS Battlelab
- Field Test Scheduled Aug 95 at the AWE

Tele-Maintenance - Video Assisted Repair

- ANAD interfaces SACIMS with the MICOM initiative Tele-Maintenance for the upcoming Prairie Warrior Exercise at Ft. Leavenworth, Ka. May 15-25, 1995
- ANAD takes the Factory to the Fox Hole
- Electronic Transmission of Video/Audio Data
- Remote Technician Field Support
- Improved Maintenance Technology

Flexibile Computer Integrated Manufacturing (FCIM)

FCIM requires that the information be rapidly delivered to and received from the shop floor.

The Rapid Acquisition of Manufactured Parts (RAMP) system accomplishes this task at Anniston. Enhancements to the Navy's baseline system make the Anniston RAMP system the most advanced within DOD. The capabilities of the RAMP system include forward scheduling, distributed numerical control, computer aided process planning, capacity planning, electronic data interchange, and other abilities. Additionally, the RAMP system can capture the part pedigree information required when producing level one parts used in nuclear or sub-safe applications.

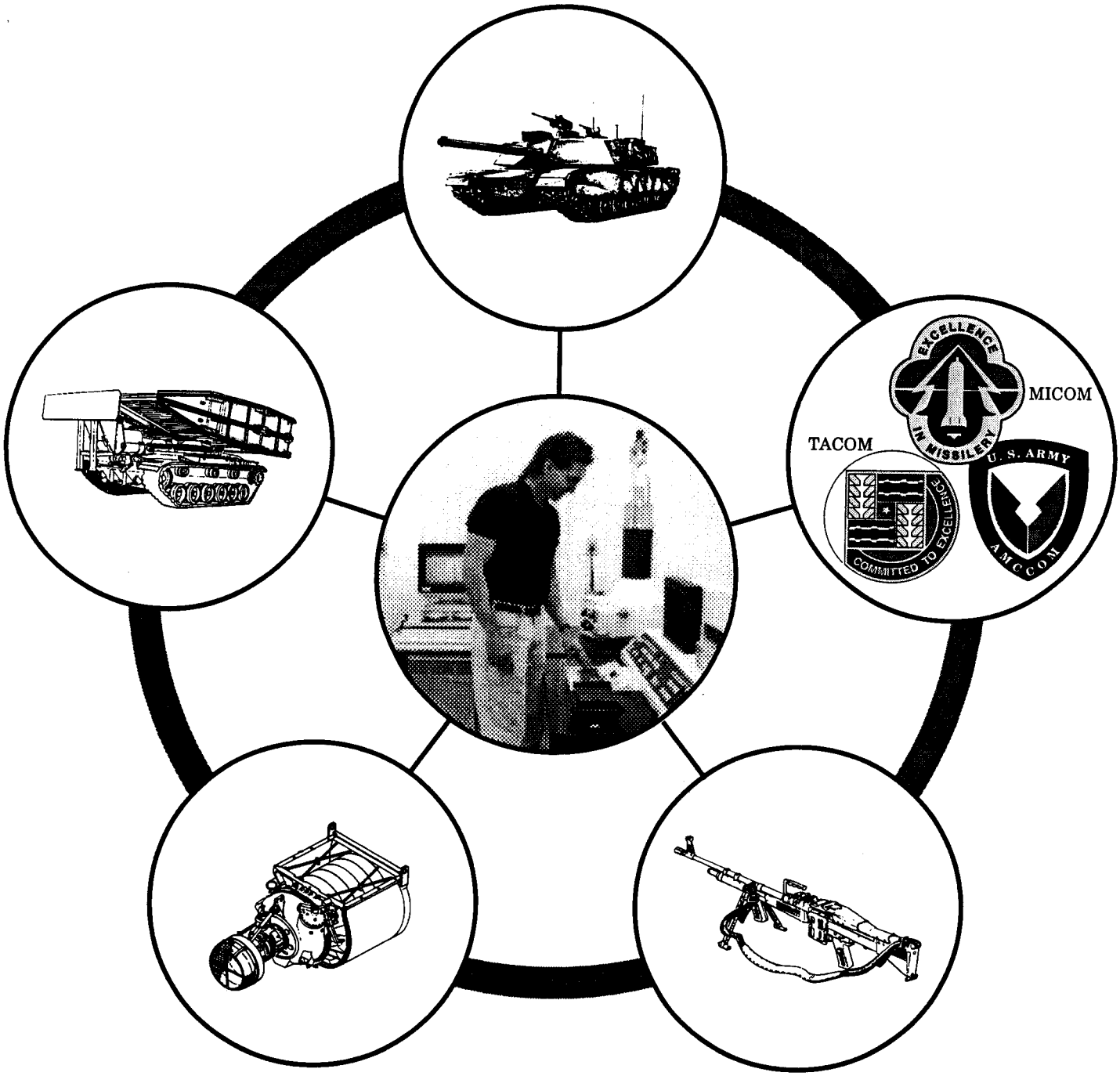
The goal of the system is to allow Anniston to deliver small lot sizes of replacement parts to a customer at a competitive price within 30 days after identification of a requirement.

Installation of the Anniston RAMP system hardware is complete. The RAMP system was released for production at Anniston in September 1994.

The RAMP network is integrated with Anniston's existing Intergraph CAD network. Sparc workstation controllers on the shop floor will display graphics created on the Intergraph CAD system, operator instructions, SPC requirements and download machine tool programs. DEC minicomputers run the Production and Inventory Control software, the Manufacturing Cell Controller software and the RAMP system software and common database. All of the systems are connected to the uninterruptible power supply (UPS) and are operative.

The RAMP system is able to import technical data directly from JEDMICS. JEDMICS is an automated information system consisting of computer hardware and software configured to retrieve, store, reproduce, distribute and manage engineering data. The Anniston JEDMICs system is installed and current weapons system information is being loaded.

MATERIALS LAB



MATERIALS ENGINEERING LAB

MISSION

- SUPPORT PRODUCTION PROCESS
- ENSURE QUALITY AND SPECIFICATION CONFORMANCE
- NEW PROCESS PROGRAM CERTIFICATION
- PERSONNEL CERTIFICATION
- FAILURE ANALYSIS
- MICROSTRUCTURAL ANALYSIS
- SUPPORT OTHER GOVERNMENT AGENCIES

MATERIALS ENGINEERING LAB

EQUIPMENT

- OPTICAL EMISSION SPECTROMETER
- X-RAY FLUORESCENCE SPECTROMETER
- LECO CARBON DETERMINATOR
- 1X - 80X MAGNIFICATION MICROSCOPES
- 50X - 1000X MAGNIFICATION METALLOGRAPHS
- 1X - 1000X MAGNIFICATION PHOTOGRAPHY SYSTEM
- HARDNESS TESTERS
  - STANDARD
  - SUPERFICIAL
  - BRINELL
  - MICRO HARDNESS
  - DUROMETER

M1 FOV PROGRAM

	OVERHAUL		RC IRON	
	M1	M1A1	M1	M1A1
EST MANHOURS	3989	4061	1688	1842
EST UNIT FUNDED COST	451,050	457,817	199,858	223,258

PRODUCTION SCHEDULE

					FY95		
	FY91	FY92	FY93	FY94	OCT	NOV	DEC
M1 RC IRON SCH/PROD	62/62	320/320	476/476	373/373	35/35	39/39	43/41

FY95 (cont'd)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
6/8	51/45	32/0	20/0	20/0	20/0	23/0	25/0	27/0

FY96

OCT	NOV	DEC
25/0	25/0	11/0

FIELDING FEEDBACK

- FY 94 DEFECTS - AVERAGED LESS THAN 4.0 (MINOR)
- IDENTIFY CUSTOMER REQUIREMENTS - UP FRONT COMMUNICATION
- FIELDING FOLLOW UP - VERIFY CUSTOMER NEEDS HAVE BEEN MET

M1 FOV UPGRADE

M1A2

M1 / M1A2

- COPRODUCTION - GDLS
- PLANNED QTY - PHASE I - 206
  - PHASE II - 792

SCHEDULE

FY	94	95 - 01	2002
QTY	86	120 PER YR	72

HAB

M1 / HAB

- COPRODUCTION - GDLS
- PLANNED QTY - 106/YEAR

SCHEDULE

FY	94	96-99
QTY	2	106

BREACHER

M1 / BREACHER

- COPRODUCTION - BMY
- PLANNED QTY - 106/YEAR

SCHEDULE

FY	94	97-99
QTY	1	106

U.S. MARINE CORPS PROGRAMS

	SCHEDULED QTY	
	FY 95	**FY 96**
M1A1 REFURBISH & UPGRADE	50	
M1A1 RC IRON	11	42
M1A1 T84 RC IRON	21	63

FMS WORKLOAD - M60 FOV

ITEM	CUSTOMER	SCHEDULED QTY
M60A3 TTS	TAIWAN	160
M60A3 TTS	THAILAND	102

M88A1
IMPROVED RECOVERY VEHICLE (IRV)

M88A1 ➡ M88A1 IRV

- COPRODUCTION - BMY
- PLANNED QTY - 52

SCHEDULE

FY	94	95	96	97	98
QTY	13	6	9	12	12

70 TON BRIDGE UPGRADE

- TEAMING - TACOM and FT. BELVOIR
- PLANNED QTY - 10

SCHEDULE

FY	95
QTY	10

MEDIUM GIRDER BRIDGE

- **TEAMING - ATCOM and WILLIAMS FAIREY**
- **PLANNED QTY -7**

SCHEDULE

FY	95
QTY	7

ARDEC TURRET

- TEAMING - ARMY RESEARCH DEVELOPMENT ENGINEERING COMMAND
- PLANNED QTY - 2

SCHEDULE

FY	95
QTY	2

COMBAT IDENTIFICATION PANELS (BATTLEBOARDS)

- **TEAMING - SPECIAL ASSISTANT FOR COMBAT IDENTIFICATION HEADQUARTERS, AMC**
- **PLANNED QTY - 2301**

FY 93

SCH	174 SETS
COMP	174 SETS

FY 94

SCH	1017 SETS
COMP	1017 SETS

FY 95

SCH	1110 SETS

NON-DEFENSE COMMERCIAL CO-PRODUCTION

10 USC 4543 Allows Private Industry to Team With Public Facilities To Manufacture Products That Are Dominated By Foreign Suppliers.

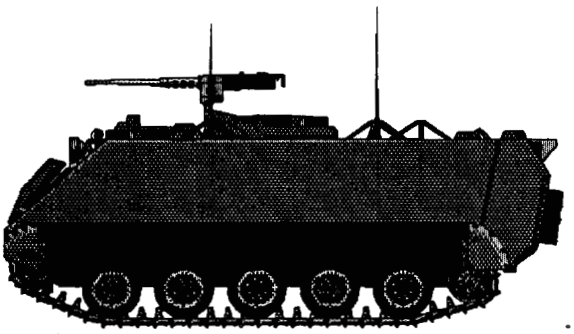
Teaming Agreement With United Defense Industries, L.P. Was Signed On 14 April 1994 To Utilize Depot Core Skills For Production Of Specialized Mining Equipment Not Currently Available From Domestic Suppliers.

Anniston Army Depot Is Currently Executing A $276,000.00 Basic Order Agreement For Fabrication Of Specialized Mining Equipment.

VEHICLE TEST TRACK USE AGREEMENT

MG Benchoff, CG IOC, Signed An Agreement With United Defense, L.P. For Use Of The CombatVehicle Test Track At Anniston Army Depot.

The Agreement Allows United Defense To Test 471 M113A2 to A3 Armored Personnel Carriers At Anniston Army Depot. The Usage Fee For This Effort Is $35,060.00



TURBINE ENGINE WORKLOAD

PRODUCTION	FY89	FY90	FY91	FY92	FY93	FY94	FY95	FY96
RTS M1 ENG EQUIV	577	695	867	648	149	220	432	272
M1 SERIES TANK ENG EQUIV	59	41	46	160	248	228	334	156

COST HISTORY

FY 86 ESTIMATED NEW COST $300,000.00

CURRENT NEW COST $497,020.00

FY 86 ANAD UNIT
FUNDED COST $120,000.00

FY 95 ANAD SLE ENGINE
UNIT FUNDED COST $115,312.66

PRPs FOR THE AGT 1500 ENGINE

- ★ 274 PARTS HAVE PRPs
- ★ 420 TOTAL PARTS
- ★ 175 PRPs INITIATED BY ANAD

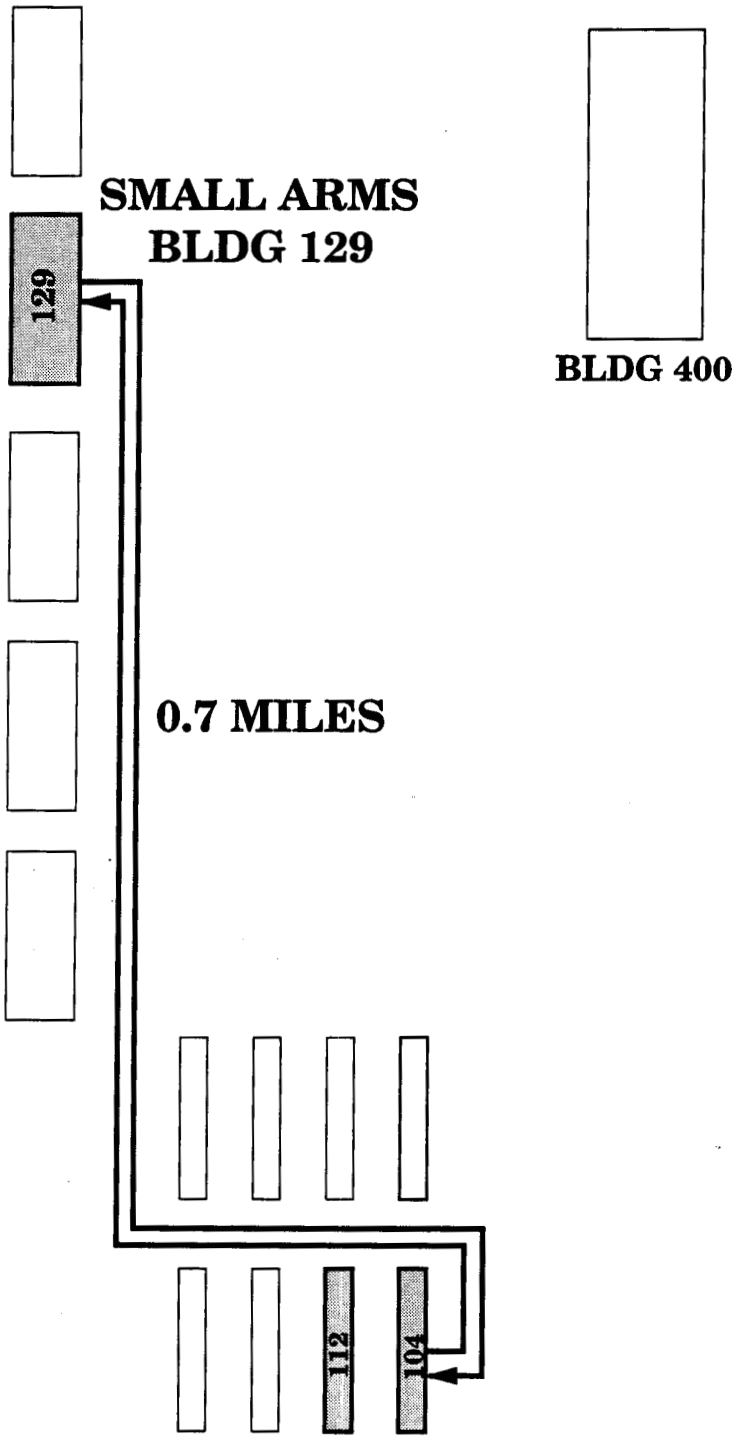
PRP = PART REPAIR PROCEDURE

ALL PRPs WILL BE INCORPORATED IN DMWR REWRITE

SHOP SECURITY CHARACTERISTICS

- Restricted Access Building
- Personnel - All are screened IAW AR 190-11 and LOI VII-06 using SDSAN Form 1090
- Personnel Entrance / Exit
- Metal Detector Monitoring (Exit Only)
- Monitored & Secured Receiving Area
- Secured Parts Room
- Secured Pistol Room
- Secured In-House Ammunition Storage Vault
- Monitored & Secured Shipping Area

SMALL ARMS ROUTE



WEAPONS IN-PROCESS

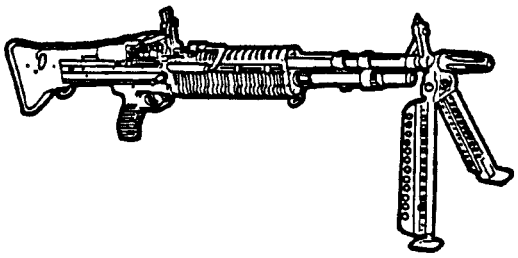
TYPE WEAPON	MARCH PRODUCTION	APRIL PRODUCTION
M16A1 Rifle	1,500	1,500
M16A2 Rifle (COV)	1,500	1,500
M16A2 Rifle (OH)	500	500
M60 Machine Gun	100	100
M2 50 Cal Machine Gun	100	100
M1 Rifle (Ceremonial)	435	0
M134 Mini Gun	60	0
M134 Mini Gun	0	17
M134 Mini Gun	0	3
M134 Mini Gun	0	6
M134 Mini Gun	0	6
45 Cal Pistol (National Match)	100	10
M249 SAW (Squad Auto. Weapon)	50	150
M230 Chain Gun	2	3
M3 Mount	50	50
M66 Ring Mount	10	0
M66 Ring Mount	50	22
M66 Ring Mount	3	2
M66 Ring Mount	1	3
Hellfire Container	100	100
81mm Mortar	100	100
(Approximately)	**4,447 Weapons** **214 Assembly Accessories**	**3,995 Weapons** **177 Assembly Accessories**

Plus Weapon Parts Storage

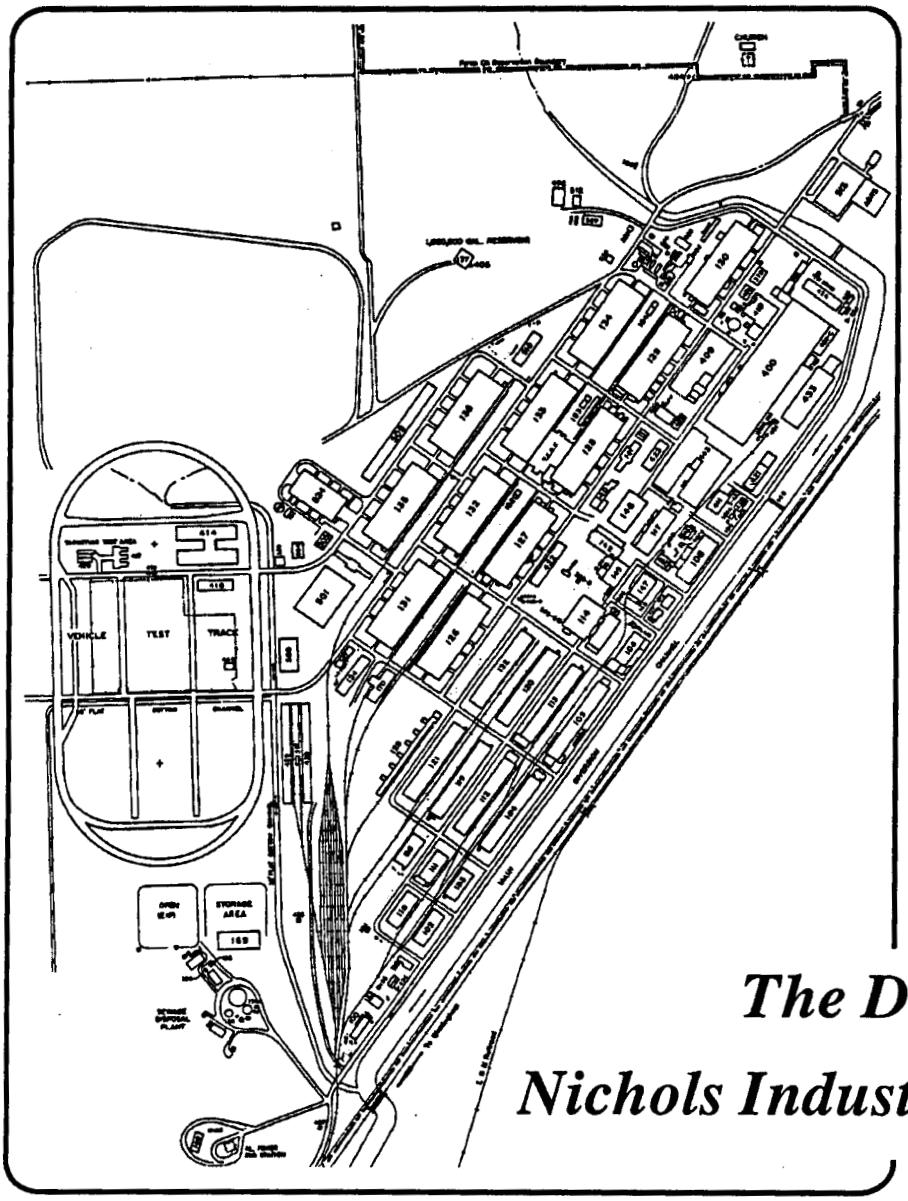
No Limit of Weapons in Shop, but Kept at a Minimum to Maintain Production.

Defense Distribution Depot - Anniston

DDAA
Warehousing Division #2



Weapons Support



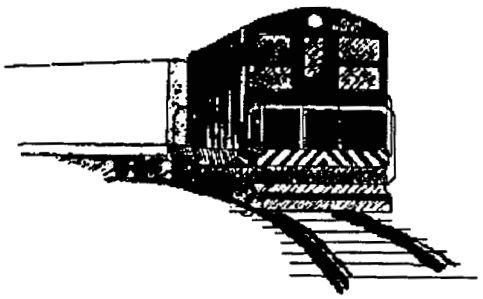
The Depot's Nichols Industrial Complex

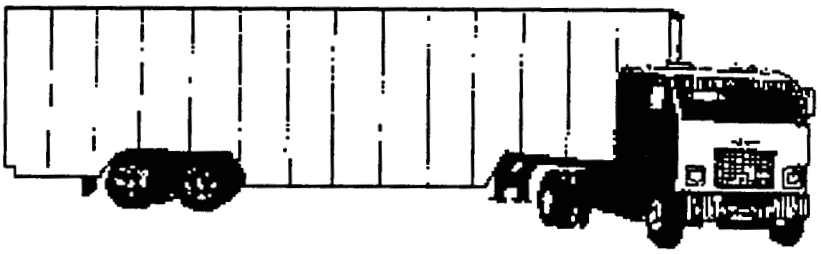
Storage ..... 220,232 Sq. Ft. (Net)

Processing ..... 64,740 Sq. Ft.

Mission (Functions)

- ☑ *Receiving*
- ☑ *Storage*
- ☑ *Preservation/Packaging*
- ☑ *Minor Repairs*
- ☑ *Shipping*
- ☑ *Demilitarization*





Mission (Commodities)

- ☑ *Pistols*
- ☑ *Rifles*
- ☑ *Machine Guns*
- ☑ *Grenade Launchers*
- ☑ *Mortars*
- ☑ *Rocket Launchers*
- ☑ *Recoilless Rifles*
- ☑ *Weapon Major Components*
- ☑ *Weapon Repair Parts*
- ☑ *Chemical Alarms*
- ☑ *Controlled Cryptograhic Items*
- ☑ *Demil Required Items*

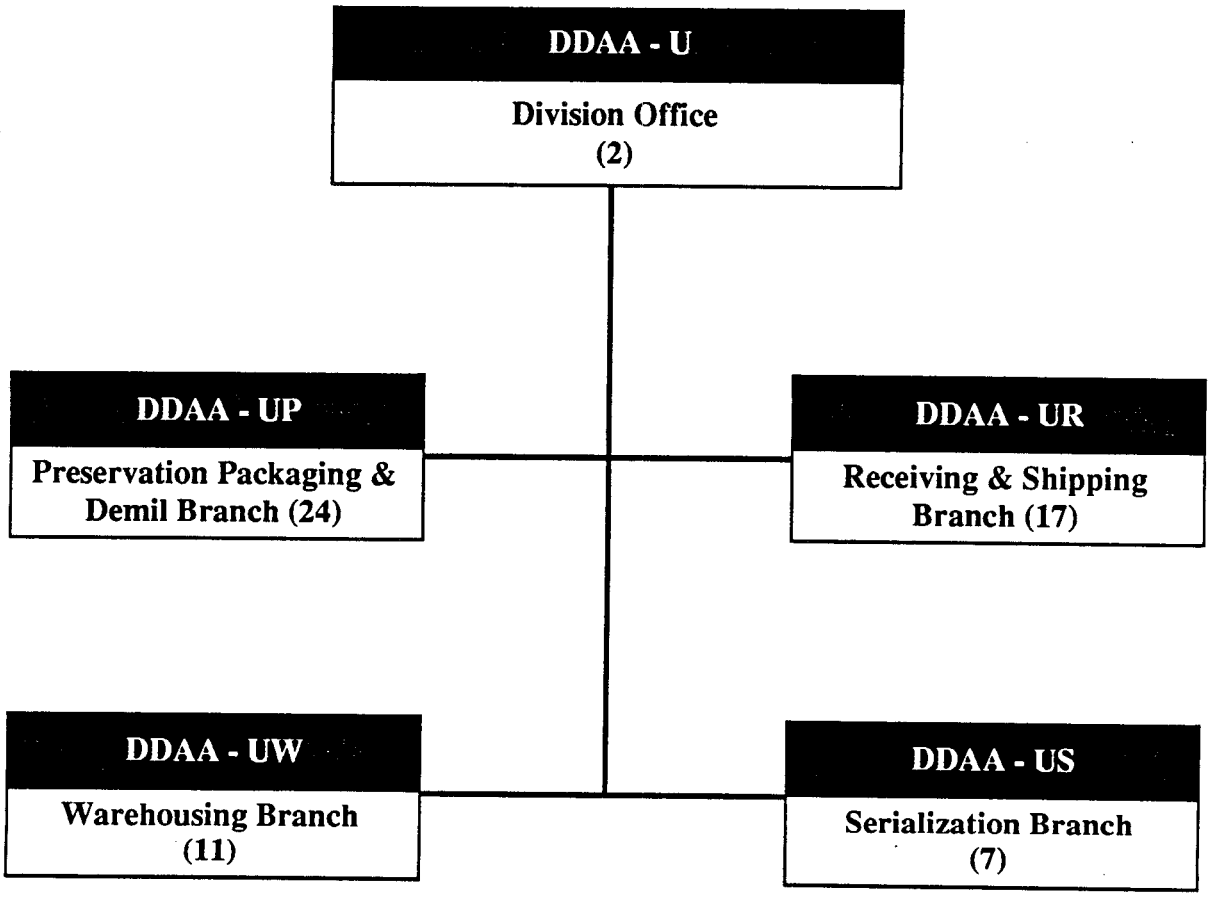
Small Arms Mission Activity

(5-Year Average)

- ☑ *Receiving .....316K Weapons*
- ☑ *Packaging .....104K Weapons*
- ☑ *Shipping .....263K Weapons*
- ☑ *Serialization .....3.4M S/N Transactions*
- ☑ *Minor Repair.....61K Weapons*
- ☑ *Demilitarization .....1,198 Short Tons*
- ☑ *Storage .....3.0M ($1.1B) **

** As of 28 Feb 94*

Organization



Security

☑ ***Personnel Security***

- *Non Critical Sensitive Positions*
- *Adjudication by DDRE (Memphis)*

☑ ***Physical Security***

- *Restricted Access*
- *Single Personnel Entrance*
- *Sign In - Sign Out*
- *Two-Man Rule*
- *Visitors Escorted*
- *Key & Lock Control*
- *Badge Exchange*
- *Metal Detectors*
- *High Security Hasps & Padlocks*
- *Security Checks Hourly*
- *Intrusion Detection System (Interior & Exterior)*
- *Parking*

Security - *Continued:*

☑ ***Accountability***

- *Accountable Records at AMCCOM*
- *Annual DODSASP Reconciliation*

☑ ***Inventory***

- *Performed Annually by Inventory Integrity Divisiion*
- *Annual Small Arms Reconciliation/ Location Survey*

☑ ***Inspections***

- *GAO, AAA, TAOR (DLA), IRAC, DLES, IG*

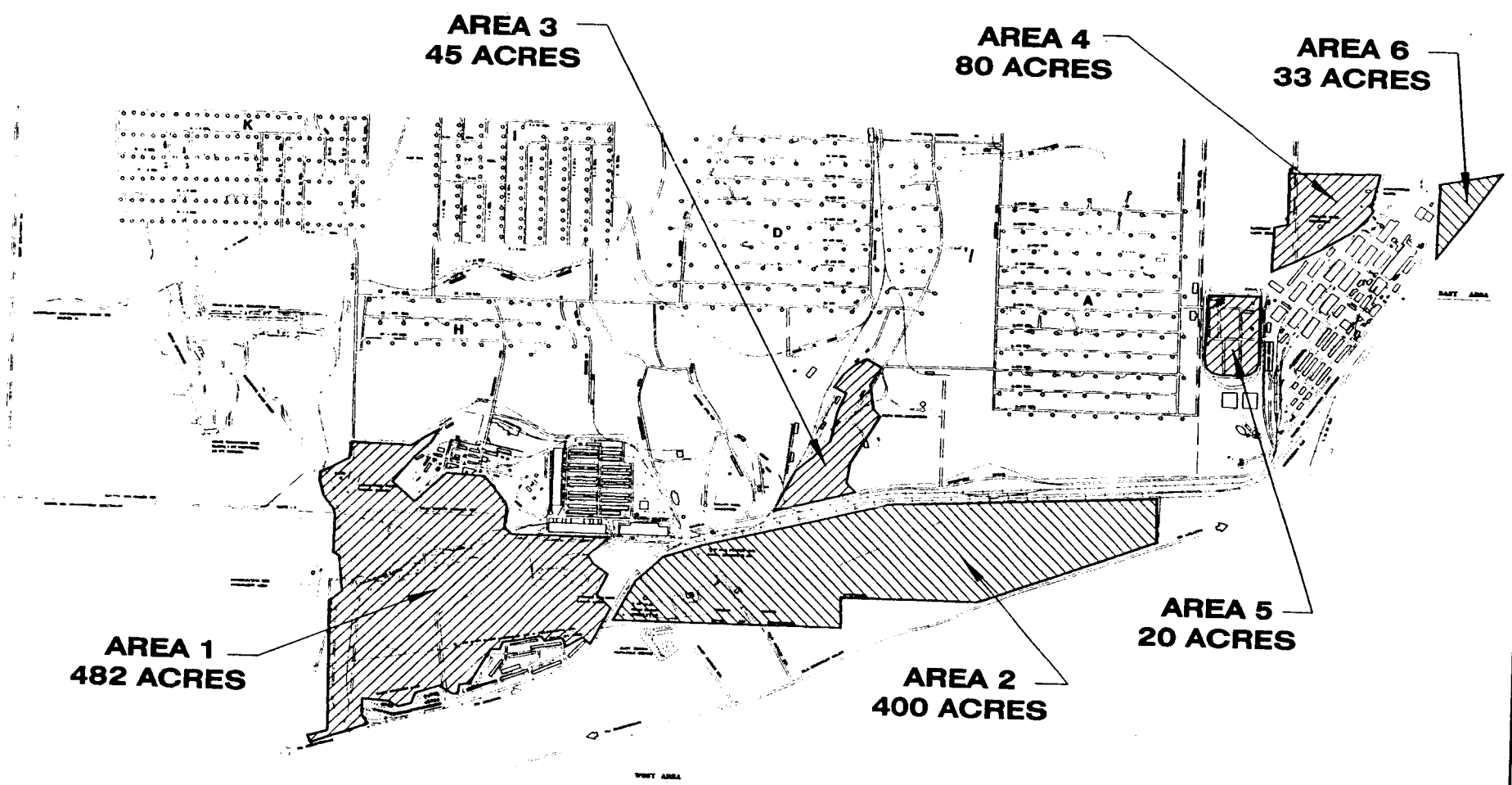
Demil

- ☑ ***In accordance with DoD 4160.21-m-1 (Oct 91)***
- ☑ ***Metal Shredder (Captain Crunch)***
- ☑ ***Shearing Machine***
- ☑ ***Smelting***
  - *Rock Island Arsenal*
  - *Waiver Submitted*
- ☑ ***Torch Cutting***

Small Arms In Storage *(As of Feb. 95)*

Item	Issuable*	Non-Issuable**	Total Quantity	$ Value
Rifle, 7.62, M14 Series	241,118	329,733	570,851	79,997,288
Rifle, Cal 30, M1 Series	6,698	401,647	408,345	39,128,732
Rifle, 5.56, M16 Series	119,620	587,466	707,086	315,082,377
Carbine, Cal 30, M1 Series	5,068	3,906	8,974	690,998
Pistol, 45 Cal, M1911 Series	25,167	84,308	109,475	7,554,902
Rifle, 1903 Ceremony	3,759	184	3,943	421,901
Sub Machine Gun, Cal 45, M3 Series	14,838	14,988	29,826	5,967,250
Launcher, Rocket, M20 Series	266	0	266	26,866
Bar M1918A2	2,380	24,529	26,909	7,130,885
Rifle, 22 Cal Mossburg	17,242	205	17,447	645,539
Launcher, Grenade, M79 Series	990	13,517	14,507	10,445,040
Piston, Pyro AN-M8 Series	1,190	8,199	9,389	322,795
Machine Gun, Cal 50, M2 Series	5,136	7,913	13,049	111,088,941
Pistol, 9MM	5,829	2,827	8,656	2,960,352
Machine Gun, 7.62, M60 Series	4,636	10,684	15,320	89,069,919
Machine Gun, M85	1,113	2,123	3,236	18,137,296
Machine Gun, M249	57	1,016	1,073	1,503,273
Machine Gun Firing Port	487	5,712	6,199	3,099,500
Sub Total (Volume Items)	455,594	1,498,957	1,954,551	693,273,854
Other Items (Various)	233,244	404,732	637,976	250,351,740
GRAND TOTAL	688,838	1,903,689	2,592,527	943,625,594
PERCENT	27%	73%	100%	

* Condition Codes A, B, C, D, E, G
** Condition Codes D, F, H, M, P



STORAGE CAPABILITIES

ANNISTON ARMY DEPOT

Ammunition Operations Mission

- TO RECEIVE, STORE, PRESERVE, PACKAGE, AND ISSUE DEPOT (RETAIL) AND MISSION (WHOLESALE) AMMUNITION AND MISSILES.
- TO PERFORM RENOVATION, MODIFICATION, DEMILITARIZATION AND DISPOSAL OF MATERIEL AS REQUIRED.
- TO PROVIDE FOR INTERNAL MOVEMENT OF MATERIEL.
- TO PERFORM MAINTENANCE AND INSTALLATION OF AMMUNITION PECULIAR EQUIPMENT.
- TO PROTECT ANNISTON ARMY DEPOT'S WORKFORCE AND THE SURROUNDING COMMUNITIES AGAINST CHEMICAL AGENT RELEASE.

Size of Operations

- IGLOOS: 1,279
- TONS IN STORAGE: 249,485
  - Conventional 83%
  - Missile 17%
- DOLLAR VALUE $3,819,508,806
- SERVICEABLE: 65%
- UNSERVICEABLE: 35%
- STORAGE OCCUPANCY RATE: 85%

Missile Status as of Mar 95

	QUANTITY ON HAND	# OF IGLOOS STORED IN
TOW	89,632	72
DRAGON	11,262	12
SHILLELAGH	50,039	45
LANCE	135	4
HELLFIRE	23,604	47
MLRS	12,877	108

TOTAL IGLOOS UTILIZED TO STORE MISSILES - 288

Contingency Stock Rigged for Airdrop

- THE DEPOT HAS THREE PLANS:

  A. 75th Ranger Regiment, Ft. Benning, GA

  B. XVIII Airborne Corps, Ft. Bragg, NC

  C. Special Operations Command, Norfolk, VA

75th Ranger Regiment

- MISSION WAS ASSIGNED TO ANAD IN JULY 1975
- 108 PALLETS RIGGED IN A22 CARGO BAG WITH G12E PARACHUTES
- FORTY-FOUR (44) LINE ITEMS: 68 TONS, CLASS I, II, V, VIII
- PLANS CONSIST OF TWO IDENTICAL 54 PALLET INCREMENTS
- ALL PALLETS WERE SHIPPED DURING OPERATION JUST CAUSE
- PRIMARY APOE, LAWSON FIELD, FORT BENNING, GA. ALTERNATE, HUNTER ARMY AIRFIELD, FT. STEWART, GA.

XVIII ABN Contingency Plan

- MISSION WAS ASSIGNED TO ANAD IN AUGUST OF 1973
- THERE ARE 76 LINE ITEMS WITH A TOTAL WEIGHT OF 715 TONS CONFIGURED ON 774 PALLETS
- PALLET LOADS ARE RIGGED FOR AIR DROP UTILIZING THE A22 CARGO BAG AND G120 CARGO PARACHUTES
- AT PRESENT, THE PROJECT OCCUPIES 13 STORAGE LOCATIONS
- TOTAL PLAN WOULD REQUIRE APPROXIMATELY 86 VAN LOADS FOR SHIPMENT
- PARTIAL CALL FORWARD BY SPECIFIC PALLETS IS A POSSIBILITY
- THE TIMEFRAME CALLS FOR THE FIRST VAN LOAD TO REACH DOBBINS AFB, GA. WITHIN 10 HOURS AFTER THE CALL FORWARD IS RECEIVED
- THE ENTIRE PROJECT COULD BE LOADED AND DELIVERED TO DOBBINS WITHIN A 24 HOUR TIMEFRAME

Operational Project S-01-82A
Operations

- MISSION WAS ASSIGNED TO ANAD IN DEC 1962
- THE PLAN IS IN 2 PARTS - INITIAL SUPPLY AND RE-SUPPLY
- THE INITIAL SUPPLY CONSISTS OF 27 LINE ITEMS WITH A SHIPPING WEIGHT OF 30 TONS ON 120 CONFIGURED PALLETS
- TOTAL CALL FORWARD OF INITIAL SUPPLY WOULD REQUIRE 8 VANS
- THE TIMEFRAME FOR INITIAL SUPPLY IS 48 HOURS WIHIN A 600 MILE RADIUS
- 30 VANS WOULD BE REQUIRED IF THE TOTAL RE-SUPPLY PLAN WAS CALLED FORWARD
- CALL FORWARD BY SPECIFIC PALLETS IS A POSSIBILITY
- THE RE-SUPPLY PLAN CALLS FOR 120 PALLETS TO BE DELIVERED WITHIN 48 HOURS WITH BALANCE (120) IN 72 HOURS
- TOTAL PLAN HAS 3 OPTIONS ON DELIVERY:
    - POPE A. B., FT. BRAGG, NC
    - MAXWELL FIELD, MONTGOMERY, AL
    - ANNISTON CALHOUN MUNICIPAL AIRPORT, ANNISTON, AL

TOW MISSILE M.O.I.C.

MODIFICATION / CONVERSION PROGRAM

- THIS PROGRAM WAS INITIATED AT ANAD DURING JULY 1983
- THIS PROGRAM IS IN SUPPORT OF D.A. TRAINING REQUIREMENTS
- ANAD UNDER BID HUGHES AIRCRAFT CO. (HAC) BY $500,000.00 TO GET THE M.O.I.C. PROGRAM
- TO DATE 66,476 MISSILES HAVE BEEN PROCESSED
- THE INITIAL ANAD BID RATE ON THIS OPERATION WAS 9 MANHOURS PER MISSILE. THE BID RATE FOR THIS OPERATION IS NOW 4.5 MANHOURS PER MISSILE

TOW Missile Launch Motor Exchange Program

- THIS PROGRAM WAS INITIATED AT ANAD DURING JULY 1987 TO ENABLE DA TO RESUME COBRA HELICOPTER TRAINING WITH TOW MISSILES
  - The following Quantities / Configurations have been processed since program start up:

ARMY TRG	ARMY HEAT	NAVAIR TRG	NAVAIR HEAT	TOTAL
16,607	1,899	237	2,241	20,984

- REASON FOR LAUNCH MOTOR EXCHANGE - DURING THE FIRING PROCESS THERE WERE CIRCUMSTANCES OF LAUNCH MOTOR RUPTURES
- THE INITIAL BID RATE FOR THIS PROGRAM WAS 3.28 MANHOURS PER MISSILE. THE INITIAL BID RATE HAS PROVEN TO BE ACCURATE.

TOW Missile M.O.I.C. Installation & Launch Motor Exchange

CONCURRENT OPERATIONS

- DUE TO FACILITY CONSTRAINTS THE M.O.I.C. INSTALLATION AND LAUNCH MOTOR EXCHANGE OPERATIONS WERE PERFORMED SEPERATELY
- DURING FY 89 FUNDING WAS PROVIDED BY MICOM TO MODIFY THE TOW MISSILE FACILITY. THE MODIFICATIONS HAVE BEEN PERFORMED AND ALLOWS THE M.O.I.C. INSTALLATION AND LAUNCH MOTOR EXCHANGE OPERATION TO BE PERFORMED CONCURRENTLY
- THE CONCURRENT OPERATIONS STARTED 29 JAN 90
- THE ESTIMATED MANHOUR RATE FOR THE CONCURRENT OPERATIONS IS 5.5 MANHOURS PER MISSILE

cont.

TOW Missile M.O.I.C. Installation & Launch Motor Exchange *cont.*

CONCURRENT OPERATIONS

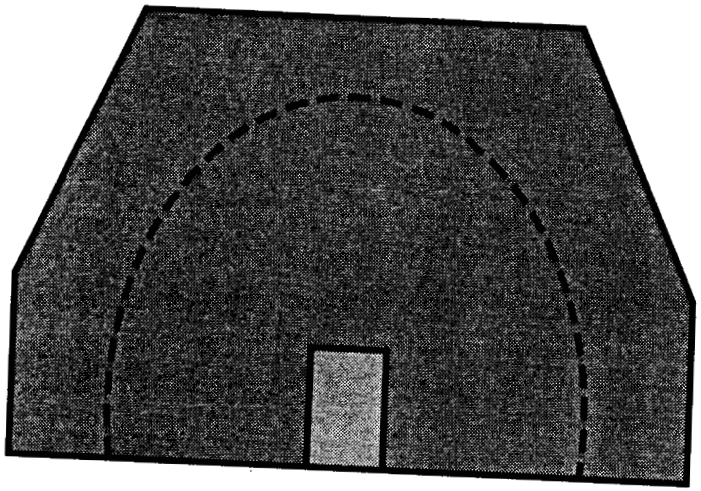
- A SUBSTANTIAL SAVINGS HAS BEEN REALIZED ON THIS OPERATION, BASED ON THE FOLLOWING:

ACTUAL RATE FOR M.O.I.C. INSTALLATION	4.50 MANHOURS PER MISSILE
ACTUAL RATE FOR LAUNCH MOTOR EXCHANGE	3.28 MANHOURS PER MISSILE
COMBINED TOTAL	7.78 MANHOURS PER MISSILE

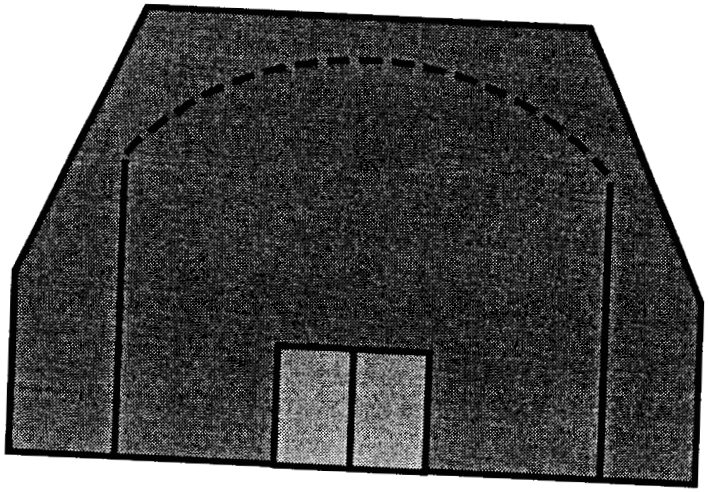
COMBINED TOTAL M/H'S PER MISSILE FOR SEPERATE OPERATIONS -	7.28
ESTIMATED M/H'S PER MISSILE FOR CONCURRENT OPERATIONS -	5.50
ESTIMATED MANHOUR SAVING PER MISSILE	2.28

QUANTITIY COMPLETED THRU 28 FEB 95 - 14,035

Ammunition Igloos



H TYPE IGLOO



"STRADLEY" IGLOO

CONTAINER HANDLING FACILITIES

- Two (2) Pads
  - 300' X 100'
  - STEEL REINFORCED CONCRETE SURFACE
  - LIGHTING TO FACILITATE 24 HOUR PER DAY OPERATIONS
- Utilized Since 1987
- Capabilities
  - RAIL & HIGHWAY CAPABLE
  - EACH PAD CAPABLE OF HANDLING 52 EA. 20' X 8' X 8 ' CONTAINERS SIMULTANEOUSLY
- Explosive Limits
  - NORTH PAD 250,000 LBS.
  - SOUTH PAD 150,000 LBS.

Operation Desert Shield/Storm
EXTRAORDINARY
ACCOMPLISHMENTS

- ✔ From 7 Aug 90 through 28 Feb 91, ANAD shipped a total of 38,757 short tons of Class V and Class V related material.

- ✔ During this period 2,271 truckloads and 372 rail cars were outloaded and shipped without a lost time accident related to this effort.

Operation Desert Shield/Storm...
ITEMS QUANTITIES & MODES OF TRANSPORTATION:

ITEM	*SHIPMENTS:* TRUCK LOADS	CAR LOADS
• MLRS	1,323	
• AT-4	27	
• 155MM PROP CHG	28	239
• TOW MISSILE	68	
• HELLFIRE MISSILE	86	
• ATACMS	12	
• SHILLELAGH	6	1
• CTG 81MM (IMPROVED)	23	44
• BOMB FIN ASSEMBLIES		29
• MILVANS (EMPTY)	63	19
• OTHER CLASS V MAT'L	635	37
TOTAL	2,271	372

SWA Retrograde Tonnage

FY 91	29,088
FY 92	46,790
TOTAL	75,878

Modes of Transportation for above

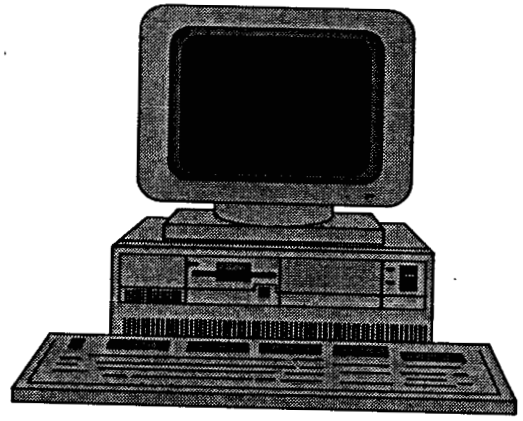
TRUCK	834
RAILCAR	939

AN ADDITIONAL 11,868 TONS WERE RECEIVED DURING FY 93 & FY 94

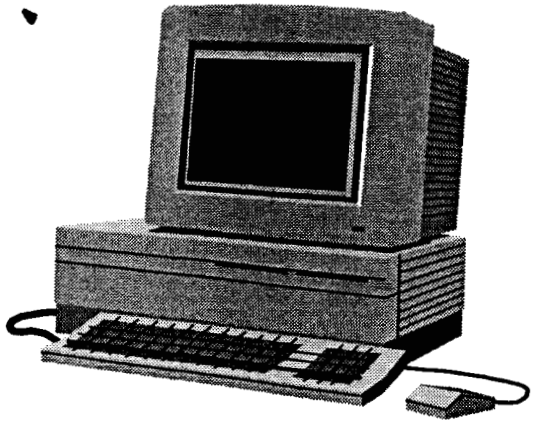
ANAD...Typical Flow for SWA Retrograde

- Receive & Place in Temporary Storage
  - PREPARE DOCUMENTATION
  - PICKUP ON RECORD AS MARKDED (PLUS Y INDICATOR)
- K-line
  - IDENTIFY
  - ASSURE SAFE TO STORE/HANDLE
  - CLEAN
  - ADD Y INDICATOR TO LOT/SERIAL NO.
- Store
  - INSPECT TO DETERMINE CONDITION CODE & MAINT RQMNTS
  - PREPARE COST ESTIMATES
  - RECEIVE MAINTENANCE FUNDING
- Maintenance
- Store/Ship to Customer

DOIM



D irectorate
O f
I nformation
M anagement



OUTLINE

- Personnel Resources
- DOIM Support
- Communications Initiatives
  - LAN
  - Fiber
  - Networks
  - Wide Area Networks
- Advanced Technology
  - Electronic Mail/Scheduler
  - Electronic Forms/Signatures
  - Multimedia Technology
  - Client-Server Technology
- Future Plans
- Summary

PERSONNEL RESOURCES

- Fields of Study:
  - Computer Science
  - Mathematics
  - Accounting
  - Electronics
- Eminent Scholars:
  - 53% of on-board Programmers (minimum 3.5 GPA)
- Average Programmer Experience Level: 12.5 years

DOIM SUPPORTS

- Standard Depot System - (SDS)
- Local Unique Systems
  - Excess Parts Management System
  - Hardware Management System
  - Depot Reorganization
  - Small Repair Parts System
  - **Automated Storage and Retrieval System (ASARS)**
- User Training
- ADPE Communications
  - Local Area Network
  - Fiber Optics
- ADPE Life Cycle Management
  - Requisition
  - Installation
  - Maintenance/Troubleshooting

ANAD DOIM SUPPORTS
(Higher Headquarters Initiatives)

Department of Defense

Department of the Army

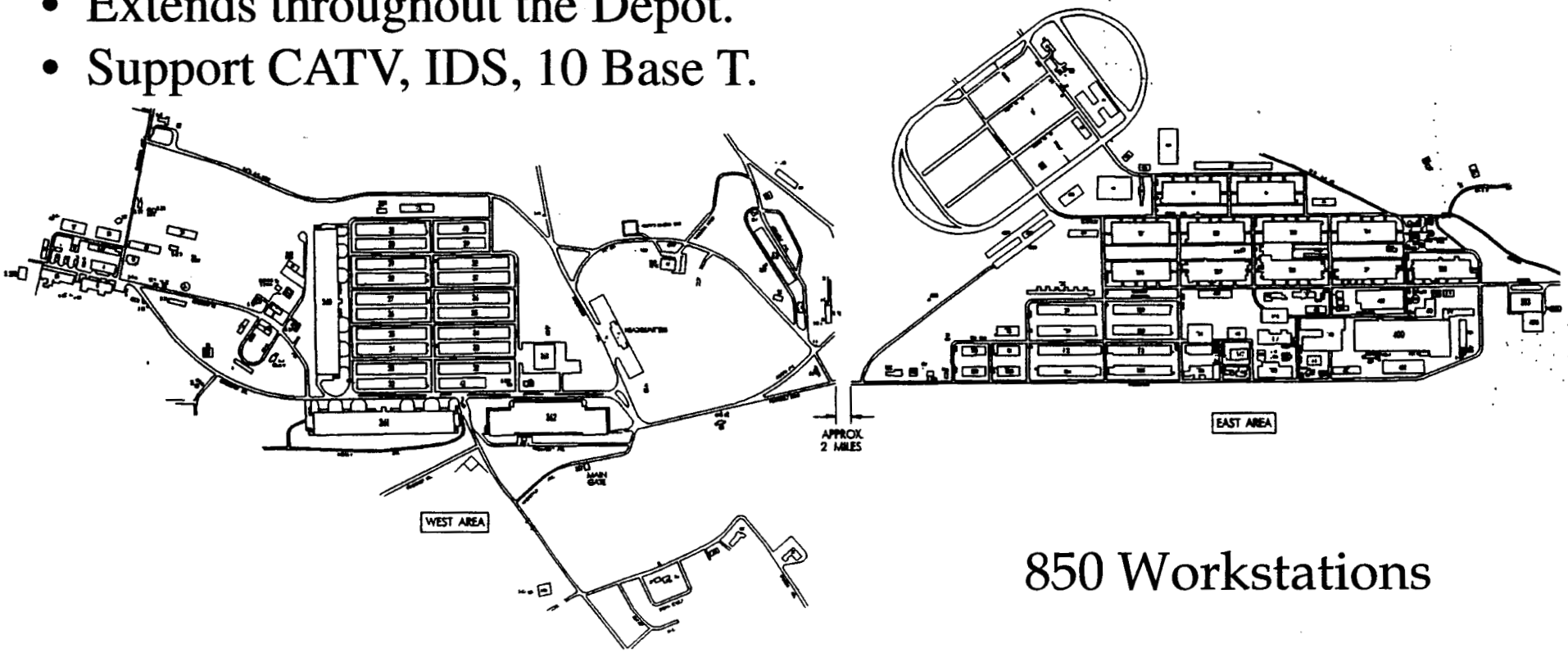
Army Materiel Command

DESCOM/IOC

Anniston Army Depot

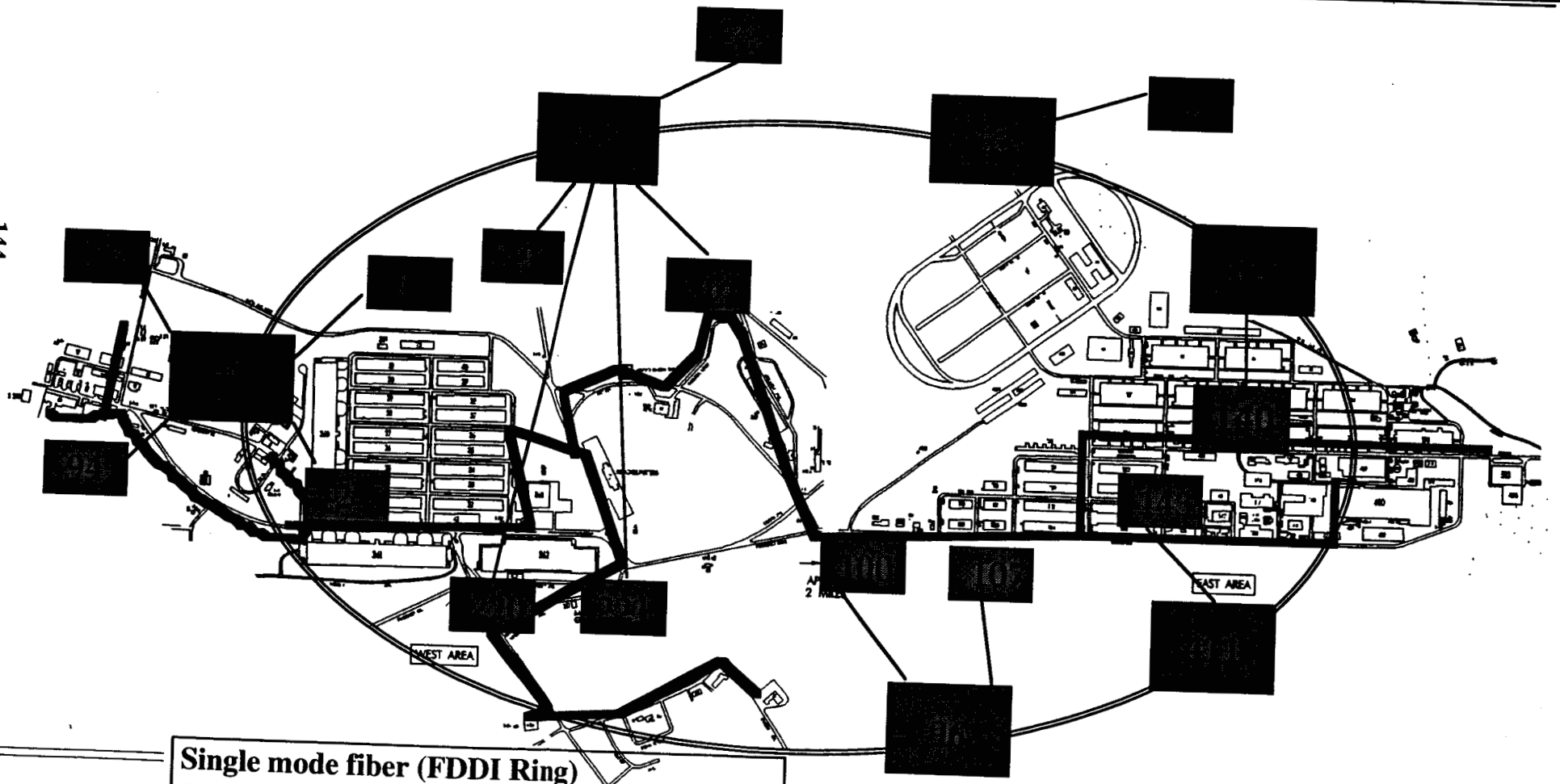
LOCAL AREA NETWORK

- Activated in 1985
- 106 Locations (Structured Premise Wiring - 24 locations.)
- Extends throughout the Depot.
- Support CATV, IDS, 10 Base T.



850 Workstations

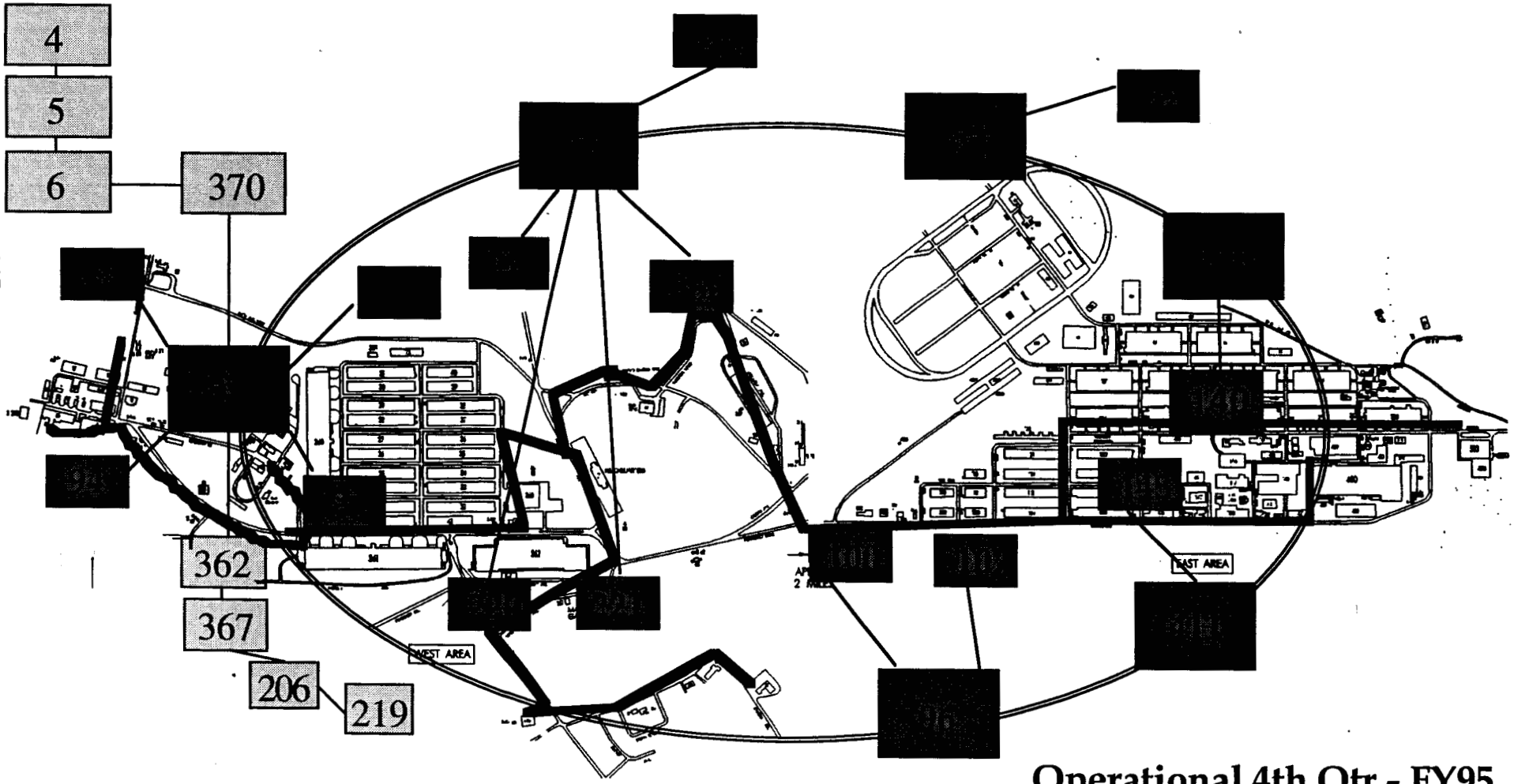
FDDI
(Fiber Distributed Data Interface)



Single mode fiber (FDDI Ring)
12 Strand Multi-mode fiber (10 MB Ethernet)

Two miles between East & West area.

OSCAR FIBER - PHASE II



Operational 4th Qtr - FY95

NETWORKS

- 405 Users Networked
- Email
- Document Sharing/Word Processing
- Electronic Forms
- Electronic Graphic Interface

WIDE AREA NETWORKS

- CSEPP (Chemical Stockpile Emergency Preparedness Program)
- CSDP/DMIL (Chemical Stockpile Disposal Program/Demilitarization Facility)
- DDN (Defense Data Network) -- DISNET (Defense Information Systems Network)
- MEDDAC (U.S. Army Medical Departmental Activity)
- DCA (DLA Communications Network)
- GDLS (General Dynamic's Land System) Connectivity to Private Industry

ADVANCED TECHNOLOGY
(Electronic Forms)

- 234 Electronic Forms (Standard & Local) Available
- All Network Users
- Electronic Transfer via Email

ADVANCED TECHNOLOGY
(Electronic Signatures)

- Distribute through E-mail
- Security incorporated
- Network Users
- Implement FY95

FORM

Alberta B. Freeman

FUTURE PLANS

- Desktop VTC - FY96
- Trunked Radio Network - FY96
- End User Building Fiber Connectivity - FY96
- Multimedia Computing

LOUISIANA MANEUVERS
PRAISE WARRIOR" EXERCISE
Tele-Maintenance Video Assisted Repair

DOIM SUPPORT

- DOIM/DM Coordinate Milestones
- Install ISDN Line - Bldg 411
- Install and Test Video PC with MICOM
- Participate in Video PC Training
- Provide On-site Support During Exercise

DOIM

Leading ANAD Into the Future

MULTIMEDIA

- Audio
- Video
- Hypertext
- Hypermedia

THE POSSIBILITIES ARE ENDLESS

- Interactive Databases
- Education/Training
- **Presentations**
- Electronic Conferencing
- Interactive Client/Server Applications

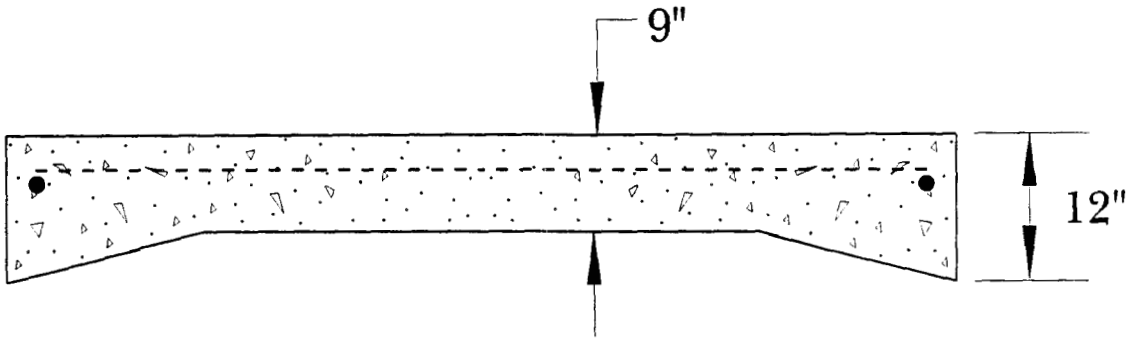
SUMMARY

- DOIM has evolved into a dynamic organization with responsive support to the Depot/Higher Headquarters/Community/Private Industry.
- Resources include well trained people...equipment that supports multi-faceted automation/multi-networks/client-server e-mail, DDN capabilities.
- Infrastructure for future growth/data and video transmission requirements with higher headquarters/off depot agencies.

DIRECTORATE OF INFORMATION MANAGEMENT

Leading the Way Toward Future Technology

SPECIAL CONCRETE PAVEMENT DESIGN



★ PAVEMENT DESIGNED TO ACCOMMODATE HEAVY INDUSTRIAL OPERATIONS INCLUDING:

- ☐ TURNING ACTIONS OF 60+ TON VEHICLES.
- ☐ HEAVY POINT LOADING OF VARIOUS TYPES OF TRANSPORT DOLLIES AND BUGGIES

★ ANNISTON ARMY DEPOT HAS OVER 300,000 S.Y. OF THIS SPECIAL TYPE CONCRETE PAVEMENT AT A REPLACEMENT COST OF APPROXIMATELY 6.8 MILLION DOLLARS.

★ ANNISTON ARMY DEPOT'S ROADWAYS ARE IN GOOD CONDITION. MAINTENANCE AND REPAIR PROCEDURES AND PROJECTS ARE WELL PLANNED AND COORDINATED. ENGINEERING AND FINANCIAL RESOURCES ARE SUFFICIENT AND AVAILABLE IN-HOUSE.

★ ROADWAY NETWORK WILL SUPPORT ANY TYPE OF INDUSTRIAL OPERATION FROM HEAVY TO LIGHT.

MAINTENANCE AND REPAIR OF DEPOT FACILITIES

- APPROXIMATELY 2100 BUILDINGS AND STRUCTURES PROVIDING 9,000,000 S.F. OF FLOOR SPACE.

- MAINTENANCE AND REPAIR PROVIDED BY APPROXIMATELY 31 CONTRACT PROJECTS AVERAGING 4.6 MILLON DOLLARS PER YEAR.

- EXAMPLES OF CONTRACT REPAIR WORK:
  - ROOF REPAIR
  - IGLOO WATERPROOFING
  - RAILROAD REPAIR
  - ELECTRICAL DISTRIBUTION SYSTEM REPAIR
  - CONCRETE & BITUMINOUS ROADWAY REPAIR
  - STEAM LINE REPAIR

- FACILITIES ARE WELL MAINTAINED. ENGINEERING AND FINANCIAL RESOURCES ARE AVAILABLE TO DETECT AND CORRECT ANY FACILITIES RELATED PROBLEMS.

ADDITION TO BUILDING 111

CONTRACT AWARDED —— NOVEMBER 1993

COMPLETION DATE —— JUNE 1994

CONTRACTOR —— GCAS, INC.
WEST PALM BEACH, FL

COST —— $ 130,000

PURPOSE:

ADDITION TO BUILDING 111 WILL BE USED TO STORE ELECTRONIC IN-PROCESS COMPONENTS FOR THE M1 AND M551'S SUCH AS THERMAL RECEIVER UNITS, FIRE CONTROL COMPONENTS, LASER RANGE FINDERS AND OTHER COMPONENTS PREVIOUSLY BEING STORED OUTSIDE.

ROOFING REPAIR AT BUILDING 133

CONTRACT AWARDED —— MARCH 1994

COMPLETION DATE —— DECEMBER 1994

CONTRACTOR —— JIMENEZ, INC., MOBILE, AL
8(a) MINORITY SET ASIDE

COST —— $ 478,000

PURPOSE:

REPLACE DETERIORATED BUILT-UP AND SHINGLE ROOFING WITH NEW STATE-OF-THE ART SINGLE-PLY EPDM (RUBBER) ROOF WITH A 30 YEAR LIFE EXPECTANCY. THE PROJECT ALSO ADDS INSULATION UNDER THE NEW ROOF.

ROOFING REPAIR AT BUILDING 128

PROGRAMMED FOR CONTRACTING IN FY 95

SIZE:	852 SQ.S 120 SQ.S
TYPE:	EPDM (RUBBER)
ESTIMATED COST:	$ 500,000

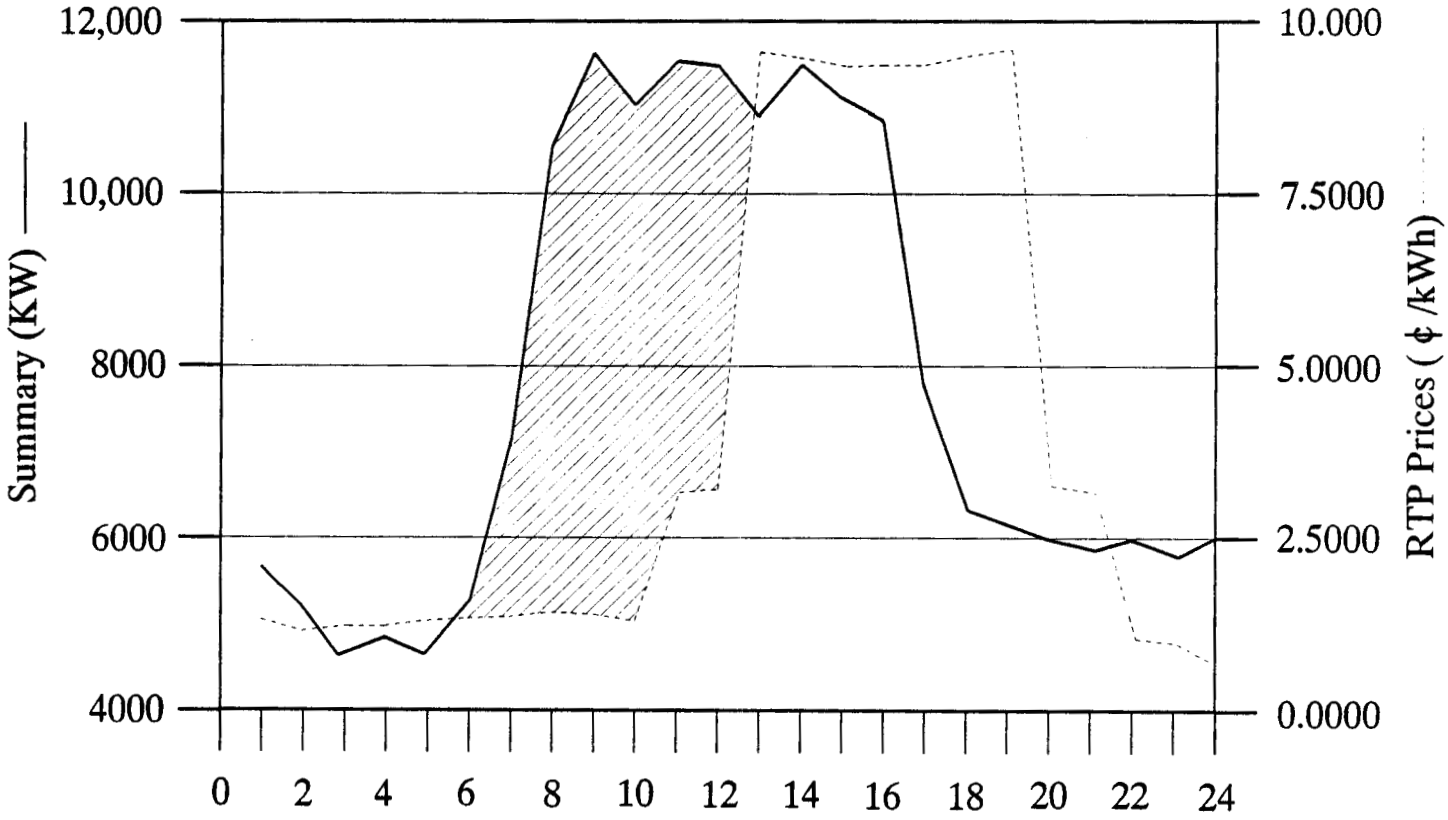
AAP:

PROJECT PROGRAMMED IN THE FY 95 ADVANCED ACQUISITION PLAN.

PURPOSE:

REPLACE DETERIORATED BUILT-UP AND SHINGLE ROOFING WITH NEW STATE-OF-THE ART SINGLE-PLY EPDM (RUBBER) ROOF WITH A 30 YEAR LIFE EXPECTANCY. THE PROJECT ALSO ADDS INSULATION UNDER THE NEW ROOF.

ANNISTON ARMY DEPOT

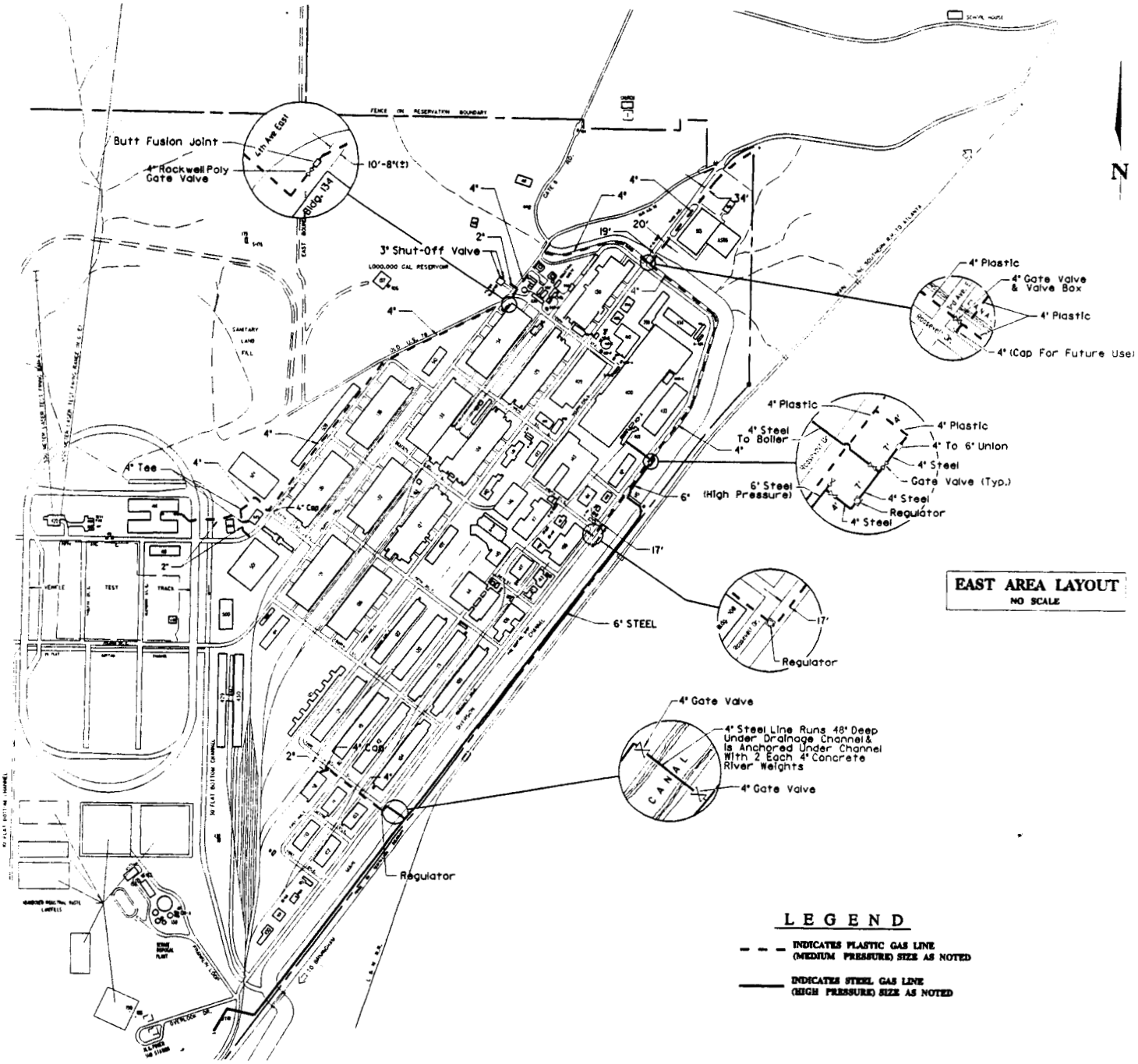


UTILITY RATE STRUCTURE

- Anniston Army Depot is a preferred customer of both Alabama Power Company and the Alabama Gas Corporation.

- As a result of the depot's relationship with the utility providers, we have been able to negotiate very competitive rates which have resulted in significant utilities cost savings.

> ✶ Real Time Pricing results in an annual savings of $500,000.00
>
> ✶ Purchase of natural gas on spot market results in lowest rates available.


Butt Fusion Joint
4" Rockwell Poly Gate Valve
10'-8"(±)
Bldg. 134
3" Shut-Off Valve
1,000,000 GAL RESERVOIR
4" Tee
4" Cap
2"
4"
19'
20'
34'
6"
17'
6" STEEL
Regulator
4" Plastic
4" Gate Valve & Valve Box
4" (Cap For Future Use)
4" Steel To Boiler
4" To 6" Union
4" Steel
Gate Valve (Typ.)
6" Steel (High Pressure)
4" Steel
Regulator
4" Gate Valve
4" Steel Line Runs 48" Deep Under Drainage Channel & Is Anchored Under Channel With 2 Each 4" Concrete River Weights
CANAL
N
EAST AREA LAYOUT
NO SCALE
LEGEND
INDICATES PLASTIC GAS LINE (MEDIUM PRESSURE) SIZE AS NOTED
INDICATES STEEL GAS LINE (HIGH PRESSURE) SIZE AS NOTED

SITE Z-1 REMEDIATION

- FORMERLY SITE OF SEVEN HAZARDOUS WASTE DISPOSAL TRENCHES.

- LANDFILLING OF HAZARDOUS WASTE CEASED IN SEP 1981.

- GROUNDWATER CONTAMINATION RESULTED IN:

  - PLACEMENT ON NATIONAL PRIORITY LIST

  - EXHUMATION AND REMOVAL
    - 62,000 TONS OF CONTAMINATED EARTH

    - RCRA CLOSURE IN 1983

    - GROUNDWATER TREATMENT

GROUNDWATER TREATMENT FACILITIES (DSN 003)

- DESIGNED TO MITIGATE AND CONTROL "HIGHLY CONTAMINATED POCKETS OF GROUNDWATER".
- THREE SEPARATE TREATMENT FACILITIES.
  - AVERAGE - 100,000 GAL/DAY EXTRACTION
  - TREATMENT: AIR STRIPPING AND CHARCOAL FILTRATION
  - SIXTEEN WITHDRAWAL WELLS IN 1990
  - PUMPING CAPACITY OF 600,000 GAL/DAY

OTHER ENVIRONMENTAL PROGRAMS

- ASBESTOS - ALL IDENTIFIED FRIABLE ASBESTOS HAS BEEN REMOVED

- RADON - SURVEY COMPLETED; ONE FACILITY REQUIRED REMEDIAL ACTION - COMPLETE

- WETLANDS - SURVEY UNDERWAY; NO SIGNIFICANT IMPACT ON INSTALLATION MISSION OR OPERATION

- NOISE - VERY LITTLE ZONE II OFF THE INSTALLATION - MOST FALLS ON PELHAM RANGE (FEDERAL PROPERTY); AREA AROUND BOUNDARY IS SPARSELY DEVELOPED

- HISTORICAL / ARCHAEOLOGICAL SURVEY - ONGOING; 5 POTENTIAL SITES IDENTIFIED (CAVE, HOMESITE, CEMETERIES)

- ENDANGERED / THREATENED SPECIES - SURVEY COMPLETED; IDENTIFIED TENNESSEE YELLOW - EYED GRASS. NO EFFECTS ON MISSION.

- DOD ENVIRONMENTAL / FELLOWSHIP - FORMED A CONSORTIUM WITH LOCAL UNIVERSITY FOR ENVIRONMENTAL PARTNERSHIP. ANAD TO PROVIDE WORK - BASED TRAINING FOR STUDENTS.

INDUSTRIAL WASTE TREATMENT PLANT

- RECEIVES WASTEWATER FROM:
  - WASH RACKS / STEAM CLEANING
  - METAL CLEANING / PAINT STRIPPING
  - ELECTROPLATING
  - PAINTING

- TREATMENT PROCESSES

	CAPACITIES (GAL/DAY)
- CYANIDE / CADMIUM	20,000
- OIL & GREASE REMOVAL	130,000 *
- GENERAL WASTE (ACIDS, BASES)	120,000 *
- CHROMIUM	60,000
- ~~PHENOL~~ (NOT IN USE)	~~20,000 *~~
TOTAL CAPACITY	270,000 *(GAL/DAY)
AVERAGE DISCHARGE	130,000
% OF CAPACITY	48%
IN COMPLIANCE	

- DISCHARGE TO SEWAGE TREATMENT PLANT
- PLAN TO ADD MICRO FILTRATION IN FY 96
- POLLUTION PREVENTION INITIATIVES WILL REDUCE DISCHARGES

POTABLE WATER

- PURCHASED FROM CITY OF ANNISTON
  - USE APPROXIMATELY 1.5M GAL/DAY
  - AVAILABLE SUPPLY 5.5M GAL/DAY
  - SOURCE: COLDWATER SPRING, AVERAGE FLOW 30M GAL/DAY
  - TREATMENT: CHLORINATION & FLUORIDATION ONLY
  - MONTHLY COST: $20K TO $25K

GROUNDWATER TREATMENT FACILITIES (DSN 002)

- DEWATERING SYSTEM INSTALLED TO PROTECT METAL FINISH FACILITY (BLDG. 114)
- TREATMENT INITIATED DUE TO GROUNDWATER CONTAMINATION
  - AIR STRIPPING
  - HEXAVALENT CHROMIUM REDUCTION/REMOVAL
    - PERMIT LIMIT - 150 ppb
    - TYPICAL DISCHARGE <4 ppb
  - CAPACITY 1.0M GAL/DAY

SEWAGE TREATMENT PLANT

- RECEIVES WASTEWATER FROM:
  - INDUSTRIAL WASTE TREATMENT PLANT
  - ALL SANITARY SOURCES
  - FOUR GROUNDWATER TREATMENT PLANTS

- TREATMENT PROCESSES

	CAPACITIES (GAL/DAY)
• INFLUENT HOLDING LAGOON	>700,000
• ACTIVATED SLUDGE TREATMENT SYSTEM	620,000
• EFFLUENT PUMPING STATION	1,900,000
TREATMENT CAPACITY	620,000
AVERAGE DISCHARGE	290,000
% OF CAPACITY	47%

- DISCHARGE TO CHOCCOLOCCO CREEK
- PLAN TO ADD UV DISINFECTION IN FY 95
- POLLUTION PREVENTION WILL REDUCE DISCHARGES

ENVIRONMENTAL SUMMARY

- HEAVY INDUSTRY RESULTS IN MANY VARIED ENVIRONMENTAL "OPPORTUNITIES"
- NAIVETE OR LACK OF AN AGGRESSIVE PROGRAM CAN RESULT IN AN ERRONEOUS SENSE OF COMPLIANCE
- IN COMPLIANCE - AIR, WATER, SOLID & HAZARDOUS WASTE
- EXCELLENT RELATIONSHIP WITH REGULATORS
- CAPACITY TO ABSORB ADDITIONAL WORKLOAD

CHART 1

HAZARDOUS WASTE GENERATION

CY	AMOUNT, LBS.	% REDUCTION
1990	12,718,038	BASELINE
1991	12,248,480	3.69
1992	7,805,610	38.63
1993	4,877,466	61.65
1994	6,313,848	50.36*

*MAJOR SUB-ASSEMBLIES PROCESSED INCREASED WHICH INCREASED HAZARDOUS WASTE GENERATION.

CHART 2

HAZARDOUS WASTE ACCOUNTABILITY

1. TRAINING
   A. INITIAL
   B. ANNUAL REFRESHER
2. PROPER GUIDANCE
3. TRACKING SYSTEM
   A. CONTROLLED LABELING
   B. SUPERVISION
4. WEIGH INDIVIDUAL DRUMS

CHART 3

HAZWOPER

1. OSHA 1910.120 - EMERGENCY RESPONSE
2. TRAINING IN-HOUSE
3. SPECIAL DEPOT ISSUES
4. ANNUAL SAVINGS - $60,000

CHART 4

POLLUTION PREVENTION - COMPLETED / INPROCESS

EQUIPMENT

1. IVD - $2 M
2. HIGH PRESSURE WATER CLEANING EQUIPMENT - $519,482.03
3. VEHICLE HULL ABRASIVE BLASTING UNIT - $1,537,000
4. HIGH PRESSURE WATER REMOVAL EQUIPMENT
5. HALON RECOVERY UNIT - $100K
6. ALKALI FILTRATION UNITS - $138,860
7. ELECTRODIALYSIS UNITS - $148,396
8. MACHINE COOLANT RECYCLING - $77,454
9. BLDG. 433 ABRASIVE DUST SYSTEM - $252,046
10. USE OF WATER SOLUBLE / BIODEGRAD - ABLE CLEANERS

CONTRACTS

1. SAFETY KLEEN PD - 680 SOLVENT RECYCLE $270,000
2. RAG RECYCLE $29,000

CHART 5

POLLUTION PREVENTION - FUTURE

1. CLOSED LOOP RECYCLE
   BLDGS. 409
   421
   130
   114
2. TOTAL ELIMINATION OF VAPOR DEGREASING (TRICHLOROETHYLENE)
3. ELECTRODEPOSITED COATINGS (Cr REDUCTION)
4. TOTAL ELIMINATION OF MECl BASED PAINT STRIPPING

CHART 6

WASTE OIL MANAGEMENT

1. **ABOVE GROUND TANKS - BLDGS. 4, 55, 400**
2. **BULK/DRUM STORAGE NEW OIL FACILITY**
3. **RECYCLE BULK OIL**

CHART 7

UST's

1. ORIGINAL NUMBER REGULATED TANKS (1988) _____ 43
2. UST's AT PROGRAMS END FY 96 _____ 9
3. WORK IN PROGRESS ON UST's _____ 5
4. OUTSTANDING ACTIONS _____ 5
5. NON-REGULATED _____ 33
6. MANAGE NON-REGULATED AS REGULATED

CHART 8

PCB SURVEY

1. PERFORMED IN-HOUSE
* 2. NO. OF TRANSFORMERS ON DEPOT IN USE _____ 869
  * SURVEY _____ COMPLETE
  NO. PCB BEARING STILL IN SERVICE _____ 86
3. PCB STORAGE FACILITY

CHART 9

EXAMPLE OF INITIATIVE TAKEN TO ADAPT HEAVY INDUSTRIAL OPERATIONS WITH ENVIRONMENTAL REQUIREMENTS

- TRANSFORMER STORAGE FACILITY

CONTRACT AWARDED _____ SEP 1993

COMPLETION DATE _____ MAR 1994

COST _____ $130,000

CONTRACTOR _____ TOM ROBERTS CONSTRUCTION CO. ANNISTON, AL

CAPACITY _____ 4,000 S.F.

FACILITY PROVIDES AN ENVIRONMENTALLY ACCEPTABLE STORAGE AREA FOR PCB FILLED ELECTRICAL TRANSFORMERS. UPON DISPOSAL OF THE PCB FILLED TRANSFORMERS THE FACILITY WILL CONVERT TO A TRANSFORMER MAINTENANCE AND STORAGE FACILITY.

CHART 10

● COAL STORAGE FACILITY

- 228' LONG X 100' WIDE COVERED FACILITY.
- CAPACITY: APPROXIMATELY 8,000 TONS.
- THIS FACILITY HAS ELIMINATED OPEN STORAGE OF COAL THUS ELIMINATING ENVIRONMENTAL PROBLEMS ASSOCIATED WITH COAL RUN-OFF.

● COAL HANDLING FACILITY

PROVIDES ANAD WITH RAILCAR UNLOADING FACILITY FOR COAL

BENEFITS INCLUDE:

- ABILITY TO RECEIVE COAL BY RAIL.
- FLEXIBILITY OF RECEIVING COAL BY TWO TRANSPORTATION MODES.
- COVERED STORAGE FOR APPROXIMATELY 5,000 TONS.

CHART 11

CAPABILITIES

1. DO MORE WITH LESS
2. INFINITE CAPABILITIES
3. EAGER PERSONNEL
4. EXPERIENCED

THE RAIL SYSTEM AT ANNISTON ARMY DEPOT PROVIDES THE FOLLOWING FEATURES:

- 46 MILES OF TRACK INCLUDING 4 SWITCH/ CLASSIFICATION YARDS AND 2 HOLDING YARDS.
- TRACK CONSTRUCTION AND MAINTENANCE EFFORTS CURRENTLY PERFORMED ENSURE A RAIL SYSTEM FULLY CAPABLE OF MEETING ALL PRESENT AND FUTURE MISSION REQUIREMENTS FOR A HEAVY INDUSTRIAL MISSION.
- MAINTENANCE PERFORMED BY CONTRACT.
- AVERAGE ANNUAL EXPENDITURE FOR TRACK MAINTENANCE APPROXIMATELY $1,000,000 PER YEAR.
- TRACK INSPECTED BY AN ON-STAFF U.S. ARMY CERTIFIED TRACK INSPECTOR WITH OVER 28 YEARS OF RAILROAD CONSTRUCTION EXPERIENCE.
- CONTINUATION OF CURRENT AND PROGRAMMED RAIL MAINTENANCE PROCEDURES WILL RESULT IN A FIRST CLASS RAIL SYSTEM INTO THE FUTURE WITHOUT A MAJOR ONE-TIME EXPENDITURE OF FUNDS.

ANAD RAIL SYSTEM

- 46 MILES OF TRACK
- 4 SWITCH/ CLASSIFICATION YARDS
- 2 HOLDING YARDS
- 215 SWITCH/ TURNOUTS
- 89 RAIL/ GRADE ROAD CROSSINGS
- 3 TRESTLES
- 1 RAIL/ CAR WEIGH SCALES
- 3 GENERAL MOTORS EMD LOCOMOTIVES
  10/ TON 2000 HP, PURCHASED 1991

RAILROAD REPAIR

COMPARISON OF $ DOLLARS SPENT PER MILE OF TRACK

NORFOLK SOUTHERN	$13,304	
ANNISTON ARMY DEPOT	$12,605	47 MILES
SANTE Fe RAILROAD	$11,740	
U.S. STEEL B'HAM	$14,000	60 MILES
* KANSAS CITY SOUTHERN	$27,197	1320 MILES

* FROM FEB. 94 ISSUE OF RAILWAY TRACK AND STRUCTURES. KANSAS CITY SOUTHERN WAS IN A 10 YEAR PLAN OF REHABILITATION.

RAILROAD TRACK STANDARDS

1–3 Track Categories

Track Categories		Types of Tracks
A	Full Compliance 30 mph Max	* Active main lines. * Operating speed exceeds 10 mph.
B	10 mph	* Active passing tracks, Loading tracks, Class yd. tracks and Storage tracks. * Tracks having an occasional use or a foreseeable need.
C	No Operation Maintain Switches Control Vegetation	* Inactive track with no current mission requirements.

INSPECTION FREQUENCIES (As a Minimum)

Category A & B Tracks

Two or more movements per week.	Inspect once every month. 17.219 x 12 = 206.62 miles/yr.
More than one per month but less than two per week.	Inspect every 2 months. 4.92 x 6 = 29.52 miles/yr.
Less than one movement per month.	Once every 6 months. 0.89 x 2 = 1.78 miles/yr.

Category C Track

Annually
24.00 x 1 = 24.00 miles/yr.

TOTAL TRACK TO INSPECT EACH YEAR = 261.91 MILES

★ TRACK INSPECTION FREQUENCIES ★
for
CATEGORY A & B TRACK

TRAFFIC FREQUENCY	MINIMUM REQUIRED INSPECTION FREQUENCY
TWO OR MORE MOVEMENTS PER WEEK	ONCE EVERY WEEK

TRACK	LENGTH (T.F.)
M.L.E.	14,150
STUFFING PAD YARD	4,051
SPUR 9 & 9-B	3,581
LOOP TRACK & DOCKS 619,620,621,622	10,701
TRACK NO. 2 & DOCKS 625,626,627	12,985
UPPER & LOWER HOLDING YARDS	9,784
BUNDLE BLDG. SPUR & 56, 58	3,347
SPUR 380	3,970
M.L.S.	11,048
TRACKS TO "CLYDE"	3,218
M.L.W. & BLDG. 10	6,530
BYNUM YARD	6,101
TURNER YARD	7,175
C.E.S. YARD	11,189
TOTAL T.F.	107,830

ADDITIONAL TRACK INSPECTION REQUIRED FOR TRACK NOT LISTED ABOVE (ONCE EVERY SIX MONTHS)

CATEGORY C TRACK IS REQUIRED TO BE INSPECTED ONCE PER YEAR

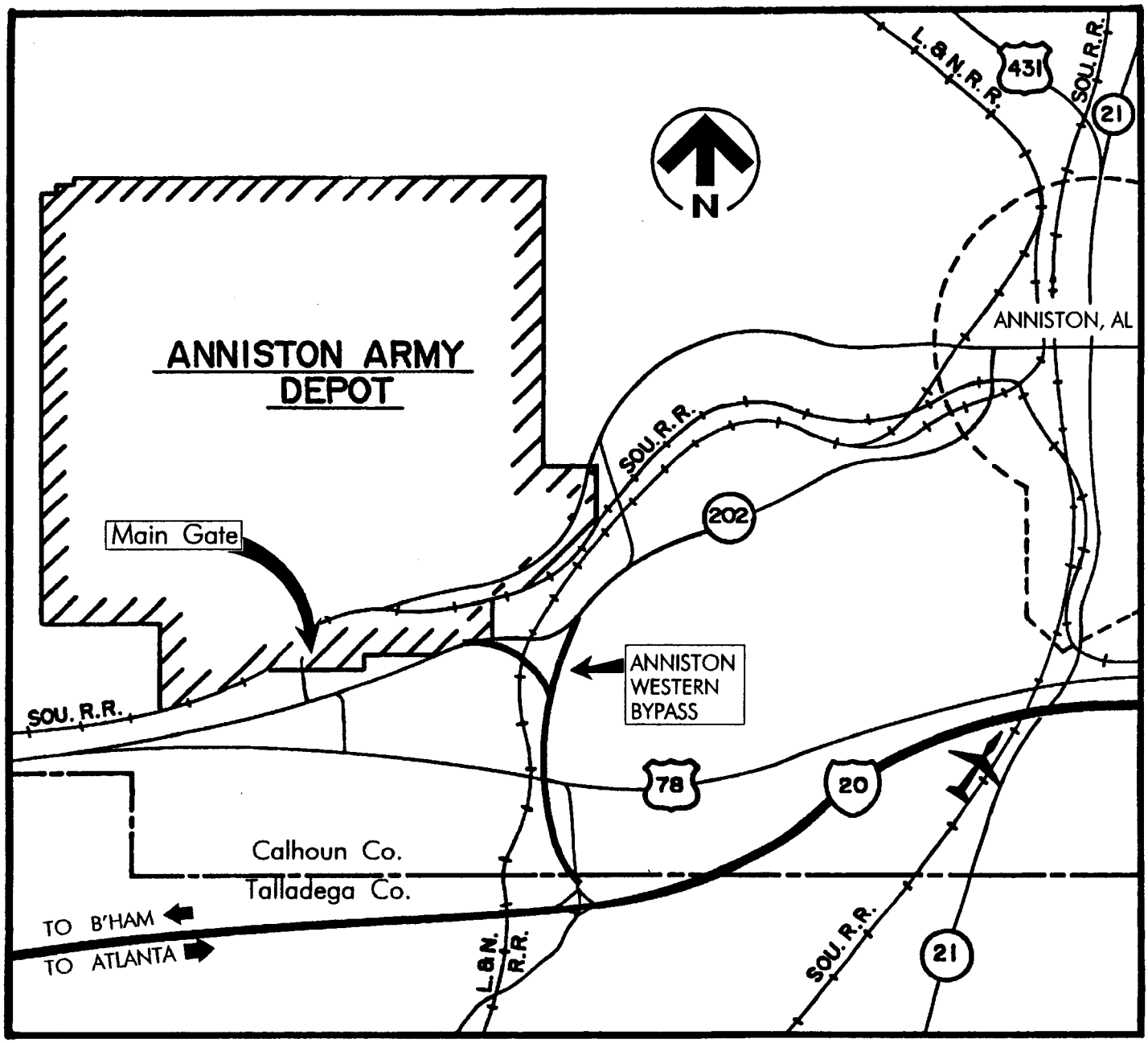
ANAD
RAILROAD REPAIR/MAJOR IMPROVEMENTS
SIX YEARS

CONTRACTOR YEAR	NEW TIES EA	NEW #115 SWITCHES EA	SWITCH TIE SETS EA	NEW #115 RAIL TF	ROAD X REPAIR TF	HB STAND TIES SET	S/L/T TF
ATLAS FY 87	3529	4	6	587	4(348)	?	12,640
ALA. CON. FY 88	2646	9	11	4512	3(72)	?	9,627
ANDREW FY89	4334	1	4	0	9(300)		13,197
ANDREW FY 90	2621	7	14	1554	3(124)	4	7,476
B.R. MOORE 90 MAINT	300		3			5	500
R.R. SERVICES FY 91	1656	4	3	5307	2(168)	2	7,908
	200 (Change Order)						
B.R. MOORE FY 91	1977	0	2	2700	2(54)		8,894
	50 (Change Order)						
VOLKMANN R.R. FY 92	1529	6	3	4030	6(391)	6	4,946
B.R. MOORE FY 92	1926	2	2	2042	2(80)	4	8,437
SYSTEM TOTALS:	20,768	33	48	20,732	31(1537)	21	73,625
	152,714	215	215	248,160	89(3000)	430	248,160
ESTIMATED TIME TO REPLACE SYSTEM (IN YEARS) BASED ON THE PAST SIX YEAR REPAIR PROGRAMS							
	44	39	26.75	71.80	11.7		20

★ ANAD RAILROAD REPAIR ★
and
MAJOR IMPROVEMENTS FOR NINE YEARS

CONTRACTOR & YEAR	NEW TIES EACH	NEW 115# SWITCH EACH	SWITCH TIE SETS EACH	NEW #115 RAIL T.F.	ROAD X-ING REPAIR T.F.	HB STAND TIES SET	S/L/T T.F.
QUEEN CITY FY 93	803	5	9	4,828	3(68)	6	4,636
BRASON FY 94	2,077	5	7	2,491	2(80)	4	11,223
BRASON FY 94	1,873	4	4	5,024	2(76)	4	10,609
AMERICAN R.R. FY 94	1,521	7	9	2,876	3(241)	2	7,823
B.R. MOORE FY 95	730	3	2	3,043	4(208)	3	13,727
AMERICAN R.R. FY 95	890	3	2	5,360	7(528)	2	6,298
TOTALS	28,662	60	81	44,354	2,738	38	127,941
ESTIMATED TIME TO REPLACE SYSTEM (IN YEARS) BASED ON PAST NINE YEAR REPAIR PROGRAMS.							
	48	32	23.8	50.3	12		17.5

ANNISTON WESTERN BYPASS

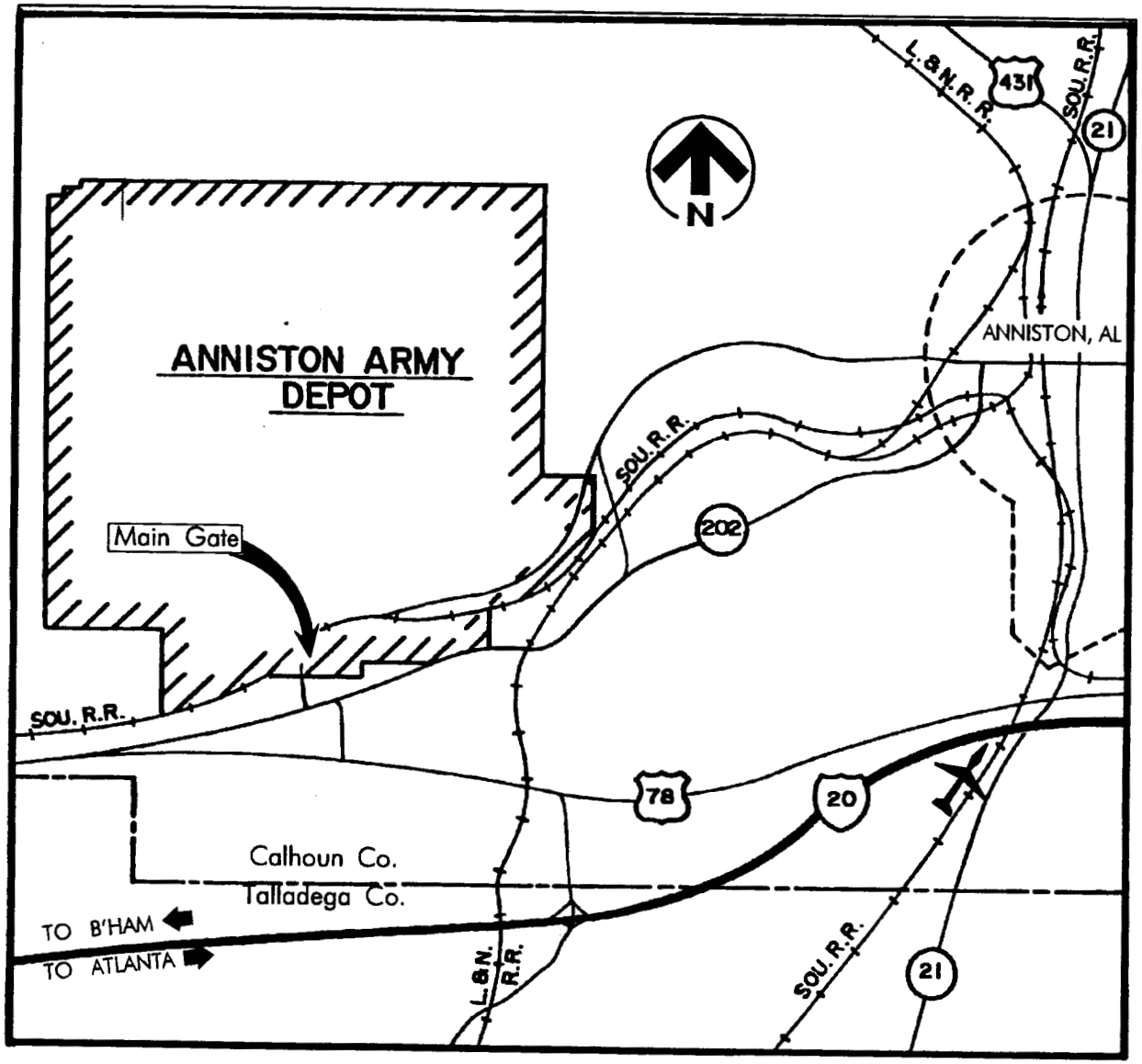


VICINITY MAP

0 1.5 3 4.5 6

Graphical Scale (Miles)

DEPLOYMENT NETWORK



VICINITY MAP

0 1.5 3 4.5 6

Graphical Scale (Miles)

DISTANCES:

INTERSTATE HIGHWAY	5 MILES
AIRPORT	11 MILES
RAILHEAD	0 MILES
SEAPORT	280 MILES (MOBILE, AL)

CAPACITY UTILIZATION INITIATIVES

Overtaken by

BRAC 95

LAY AWAY OF BUILDINGS AND EQUIPMENT

- WHY LAY AWAY ?
  - PROPERTY IS RETAINED AS PART OF DEFENSE BASE
  - BETTER CAPACITY UTILIZATION DURING PERIODS OF FLUCTUATING WORKLOAD
  - REDUCED COSTS TO CUSTOMERS... UTILITIES, MAINTENANCE AND DEPRECIATION EXPENSES REDUCED
- ANNISTON'S PLAN (MAR 94)
  - 17 BLDGS... 360,000 S.F. PLUS 103 PIECES OF PRODUCTION EQUIPMENT
  - COST REDUCTIONS... $450,000 ANNUALLY SAVED IN REDUCED MAINTENANCE / UTILITIES COSTS

    plus
  - DEPRECIATION EXPENSE REDUCED BY $300,000 ANNUALLY
  - TOTAL - $750,000 SAVINGS ANNUALLY
- OUR SELF IMPOSED SCHEDULE
  - EQUIPMENT ON LAY AWAY BY 25 MAY 94
  - FACILITIES ON LAY AWAY BY 1 OCT 94

LEASING OUT OF BUILDINGS AND EQUIPMENT

- PROVIDES SAME ADVANTAGES AS LAY AWAY

plus

- HELPS TO OFFSET LOCAL ECONOMY JOB LOSSES
- PROMOTES GOV'T / INDUSTRY PARTNERSHIPS

and

- GENERATES REVENUES

ANNISTON'S PLAN - WORK WITH THE LOCAL ECONOMIC DEVELOPMENT COUNCIL (EDC) TO OUTLEASE 8 BLDGS... APPROX. 150,000 S.F.

- BASED ON $2.75 / S.F., REVENUES WOULD AMOUNT TO $412,500 ANNUALLY

- REQUEST TO LEASE OUT THIS BLDG. (129) AND EQUIPMENT HAS BEEN FORWARD THROUGH CHANNELS FOR CG, AMC APPROVAL (APR 94)... IN PROCESS

INDUSTRIAL DEVELOPMENT PROPERTIES

- *RECEIVED REQUEST FROM EDC TO SURVEY OUR PROPERTIES FOR POSSIBLE USE IN INDUSTRIAL DEVELOPMENT*

- *OUR REVIEW IDENTIFIED APPROXIMATLY 136 ACRES (LESS 10 ACRES SET ASIDE FOR HISTORICAL HOLDING FACILITY) THAT WAS USED AS THE OLD WHERRY HOUSING PROPERTY*

- *THIS COULD BE USED FOR INDUSTRIAL DEVELOPMENT AND WE ARE CURRENTLY LOOKING AT EXCESSING THIS PARCEL*

- *ANNISTON'S ANSWER TO THE BASIC QUESTION IS THREEFOLD*

  - *LAYAWAY OF BUILDINGS AND EQUIPMENT TO INACTIVE STATUS.*

  - *OUT LEASING OF BUILDINGS AND EQUIPMENT.*

  - *INVESTIGATING POSSIBILITIES OF EXCESSING SOME PROPERTIES FOR INDUSTRIAL DEVELOPMENT.*

- *CHANGES IN GLOBAL CULTURE... SOCIO–ECONOMIC AND MILITARY*

HAVE CREATED A DOWNSIZED ENVIRONMENT

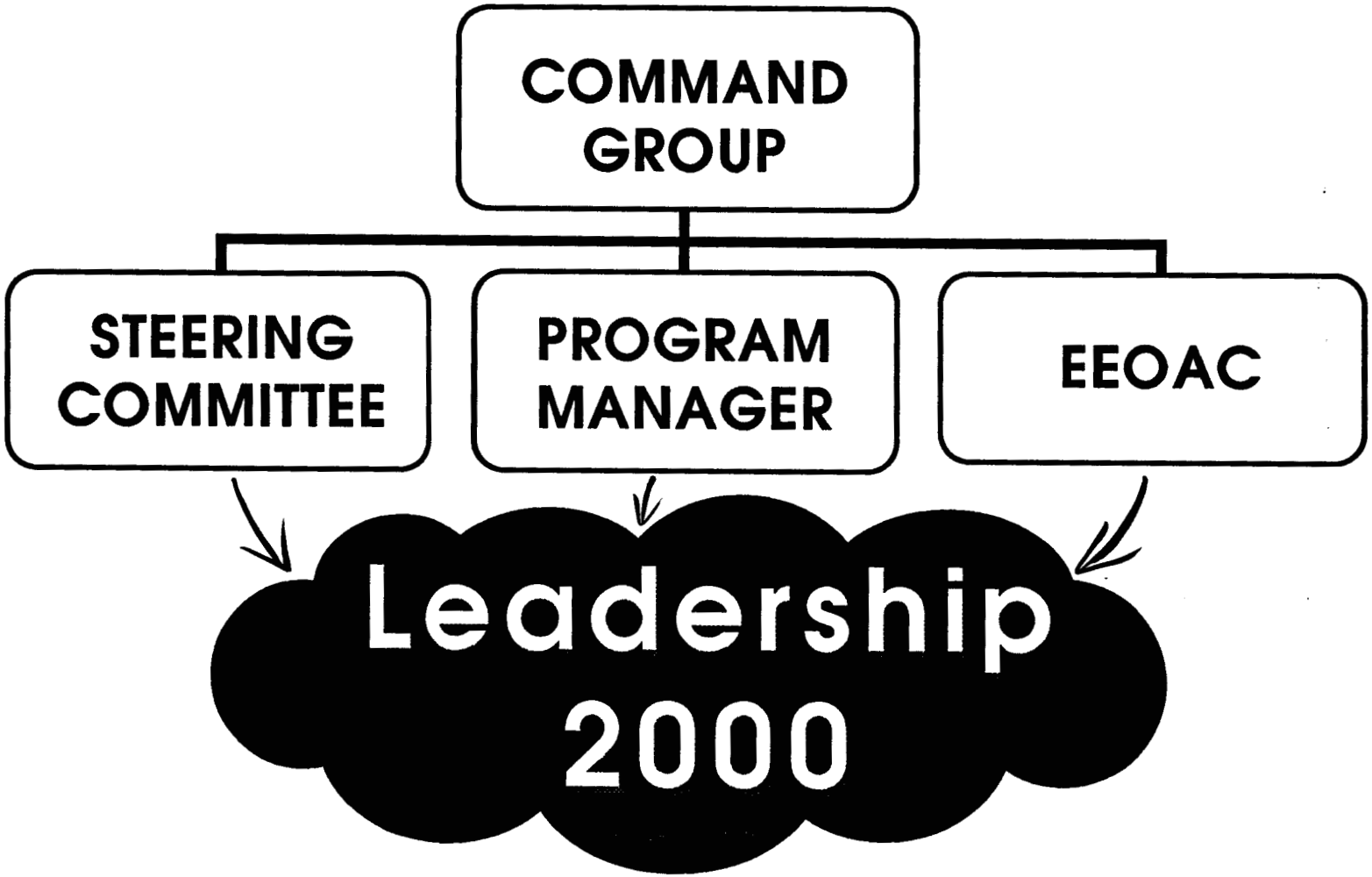
DOWNSIZING REQUIRES REDUCED COSTS AND MORE EFFECTIVE CAPACITY UTILIZATION WHILE STILL PROTECTING A MINIMALLY ACCEPTABLE INDUSTRIAL BASE LEVEL

BASIC QUESTION... WHAT DO YOU DO WITH VALUABLE NON–EXCESS FACILITIES, EQUIPMENT, AND PROPERTIES IN THIS ENVIRONMENT?

ANNISTON ARMY DEPOT

Leadership 2000

"Training for Today and Tomorrow"


COMMAND GROUP
STEERING COMMITTEE
PROGRAM MANAGER
EEOAC
Leadership 2000

- ✓ Began Mar 88
- ✓ Provide selecting officials w/ grads who possess critical skills/knowledge to become effective supervisors/leaders
- ✓ Primary emphasis - minorities/females (enhancing oppor for advancement within workforce)
- ✓ Graduated 13 classes (249 students)

PHASE I CLASSROOM INSTRUCTION

PHASE II SPECIAL PROJECTS

PHASE III OJT

* American Council on Education Awarded 12 Semester Hours of Undergraduate Credit

RESULTS/SUCCESSES

Permanent Promotions	71 (29 Supv)
Temp Prom/Details	121 (31 Supv)

IMMEDIATE

- ✓ Improved employee attitude toward mgt
- ✓ Dealings with co-workers have improved
- ✓ Improved communication skills

LONG RANGE

- ✓ Body of qualified applicants for leadership positions

Leadership Education And Development

Status OF LEAD at Anniston Army Depot

- ✓ 6 Facilitators (3 teams) Trained and Certified
- ✓ 23 LEAD Courses conducted
  - · 393 depot leaders trained
  - · 12 military supervisors trained
- ✓ 6 locally developed LEAD Refresher Courses conducted
  - · 105 depot leaders trained

Total Quality Management

for ANNISTON ARMY DEPOT

U.S. Army Management Engineering College TQM Program Implementation

- ✓ Pre-Training Consultation
- ✓ Executive Course
- ✓ Managers Course
- ✓ Process Action Team Course
- ✓ Trainer/Facilitator Course
- ✓ TQM Awareness Training
- ✓ Teaming

Hazardous Waste Operations Emergency Response (HAZWOPER) Training

- ✓ Satellite Education Network
- ✓ Automation Training
- ✓ Technical Training

'C' BAND SATELLITE SYSTEM

Sources of Broadcast

- ✓ AMERICAN MANAGEMENT ASSOCIATION
- ✓ PBS ADULT LEARNING SATELLITE SERVICE
- ✓ EMERGENCY EDUCATION NETWORK
- ✓ GEORGE WASHINGTON UNIVERSITY
- ✓ THE BUSINESS CHANNEL

Under KU Band System

STUDENTS TRAINED 1,095

COST SAVINGS ..... $1.96 M

LD2000/17

Automation Courses

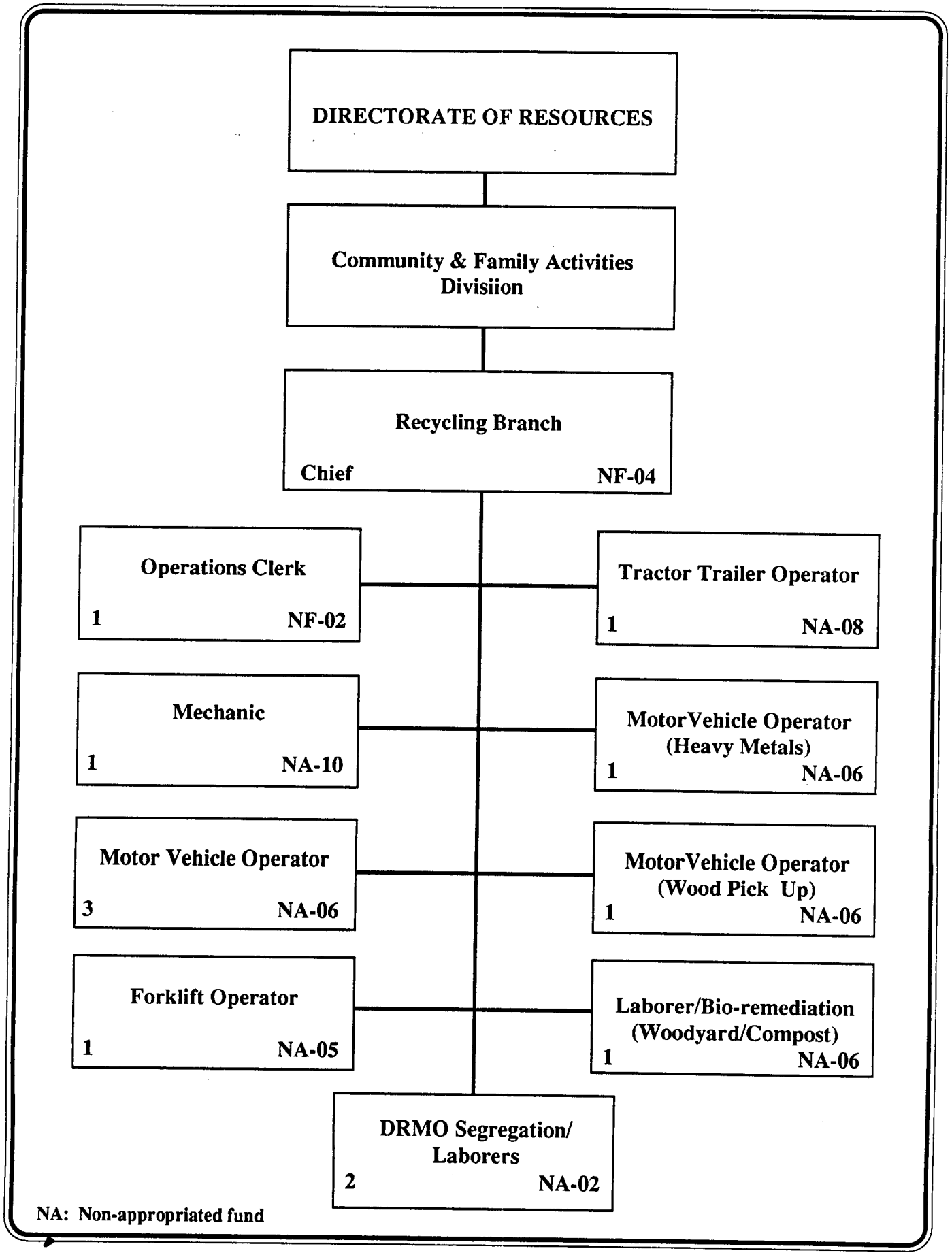
- ✓ INTRO TO PCs
- ✓ INTRO TO WINDOWS
- ✓ WORD FOR WINDOWS
- ✓ DBASE III
- ✓ WORD FOR DOS
- ✓ LOTUS 1 2 3
- ✓ EXCEL

Technical Courses

- ✓ SHOP MATH
- ✓ BASIC MATH FOR ELECTRONICS
- ✓ LASER OPTICS FUNDAMENTALS
- ✓ MICROPROCESSOR INTERFACE & MEMORY CONCEPTS

Morale Welfare Recreation

Recycling Program


DIRECTORATE OF RESOURCES
Community & Family Activities Divisiion
Recycling Branch
Chief NF-04
Operations Clerk
1 NF-02
Tractor Trailer Operator
1 NA-08
Mechanic
1 NA-10
MotorVehicle Operator (Heavy Metals)
1 NA-06
Motor Vehicle Operator
3 NA-06
MotorVehicle Operator (Wood Pick Up)
1 NA-06
Forklift Operator
1 NA-05
Laborer/Bio-remediation (Woodyard/Compost)
1 NA-06
DRMO Segregation/ Laborers
2 NA-02
NA: Non-appropriated fund

Background

- ☑ ***Established in 1982***

- ☑ ***Expanded in 1989***

  **Utilize NAF Employees*
  **Concentrate on Non-Metallic Recyclables*
  **50-50 Split of Revenue with DBOF*

- ☑ ***Recycling Potential***

  **200,000 Cu .Yds. of Industrial Waste/Yr.*
  **200,000 Cu .Yds . of Scrap Wood/Yr.*

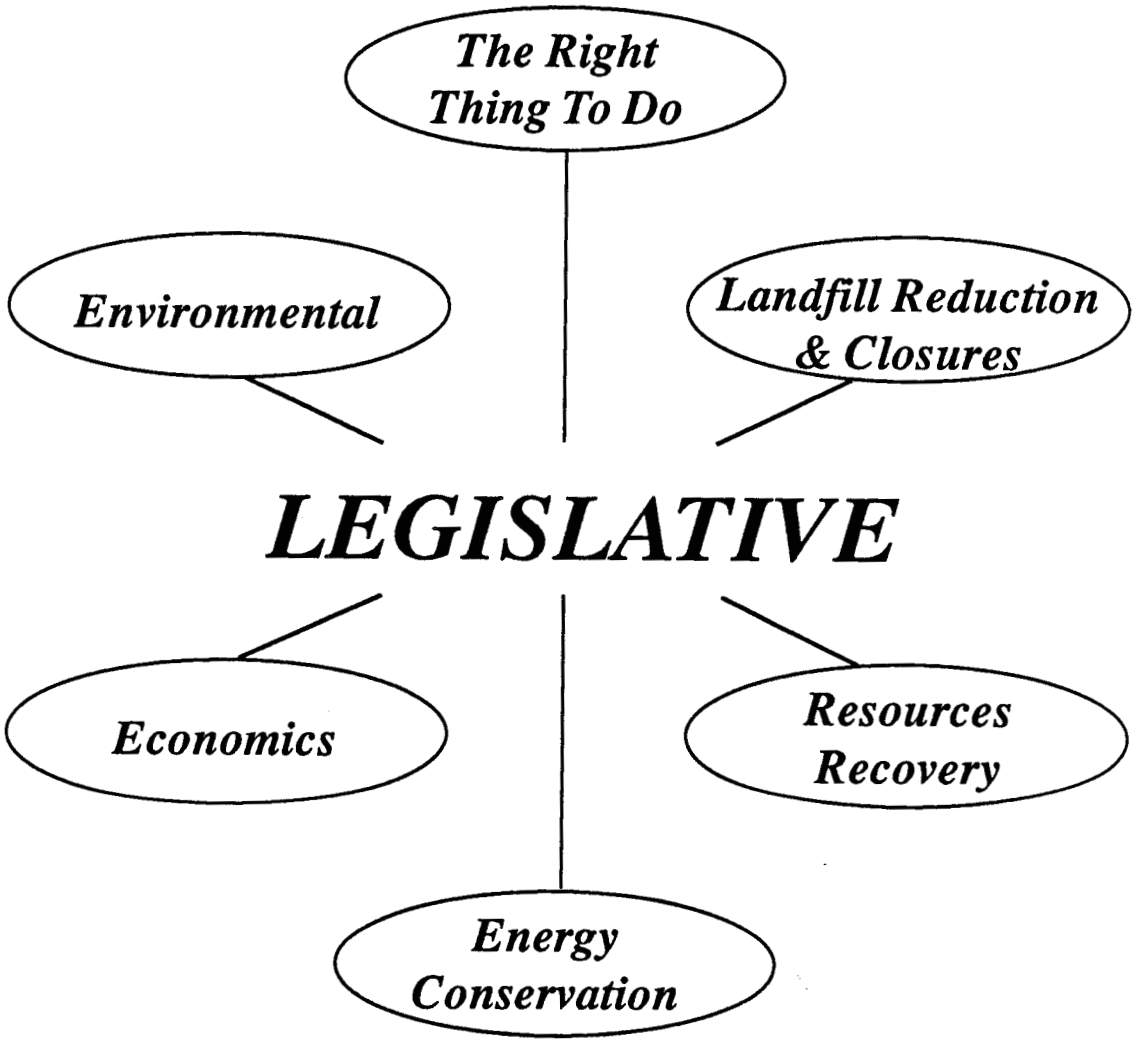
Present Day

- ☑ *Co-Alignment with Directorate of Resources and Directorate of Public Works*
- ☑ *Utilization of NAF Employees to Operate Program (13)*
- ☑ *Expansion into Non-Traditional as well as Traditional Recyclables*
- ☑ *50-50 Split of Revenue with DBOF*

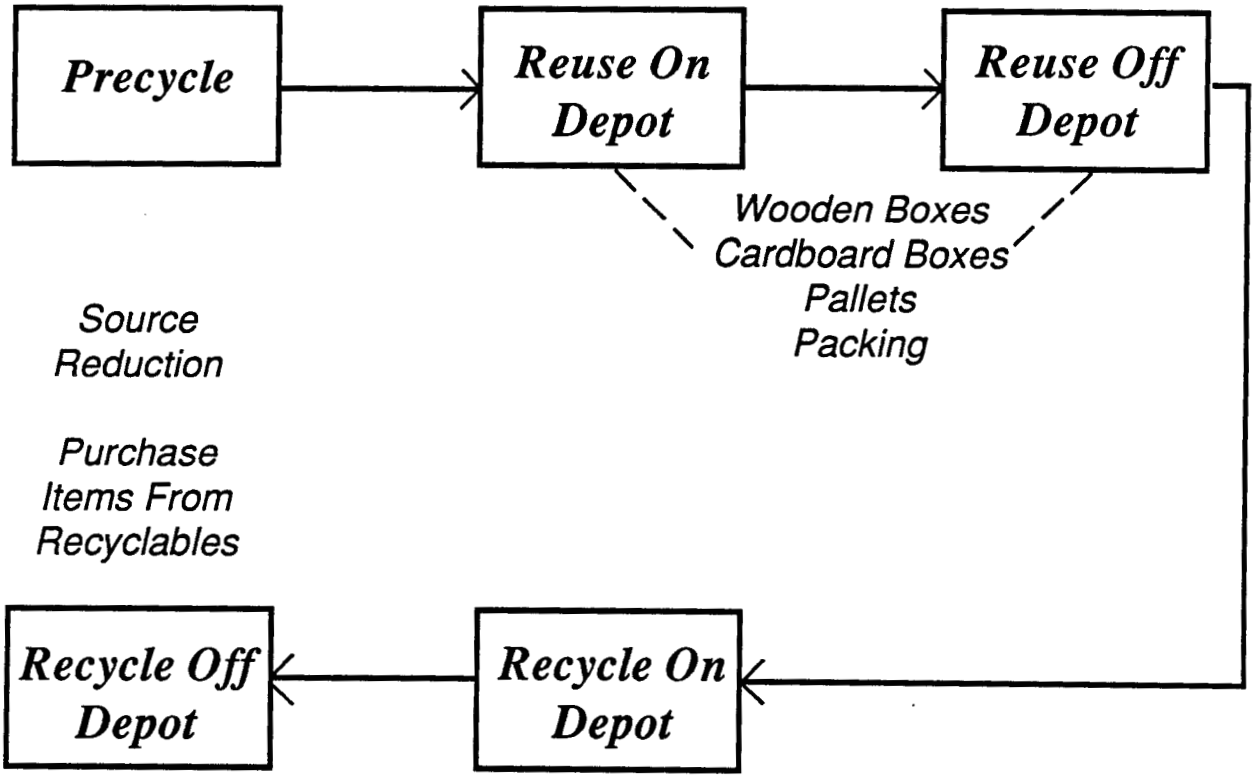
The Future

- ☑ *Waste - To - Energy (WTE)*
- ☑ *Composting*
- ☑ *Soil Erosion Maintenance*

Drivers of Recycling



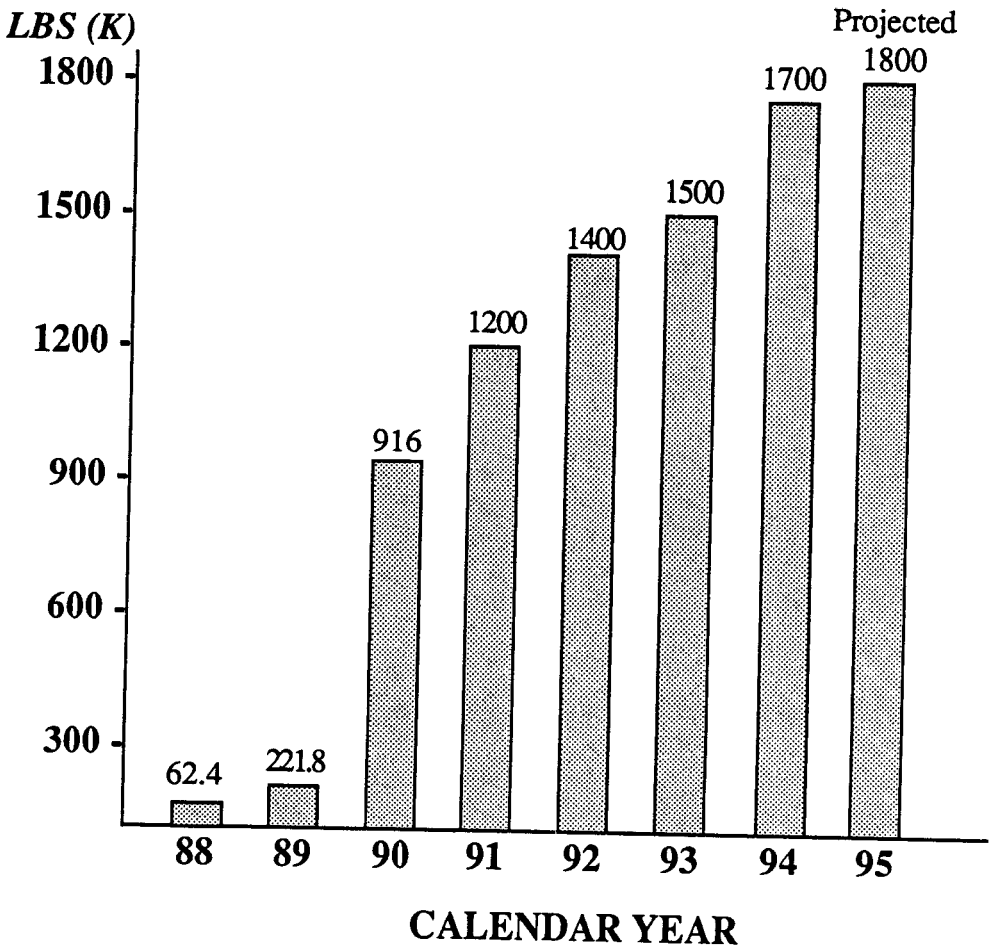
Recycling Process



*Paper Products
*Aluminum Cans & Foil
*Glass
*Scrap Wood/Chips
*Styrofoam
*Tin Cans

*Mixed Paper to Packing
*Bio-Compost
*Wood Chips
*Carbon Paper to Soil
*Recyclables from Home Program

Recycling

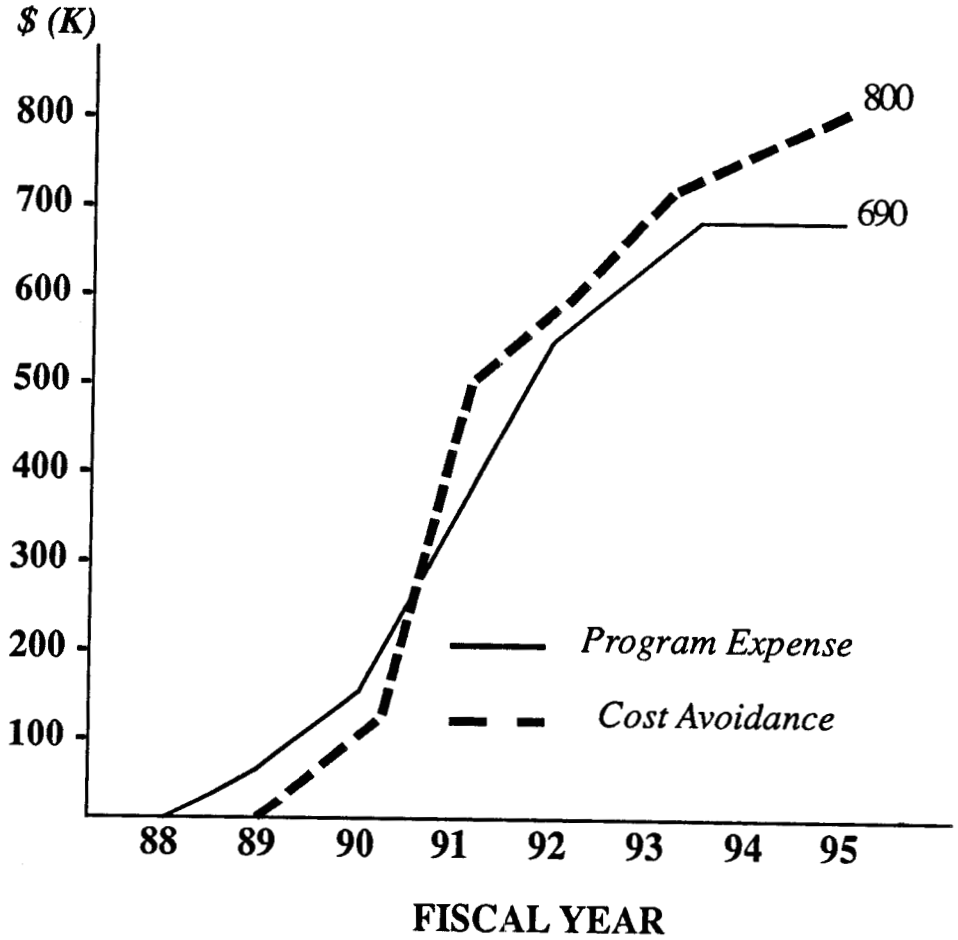
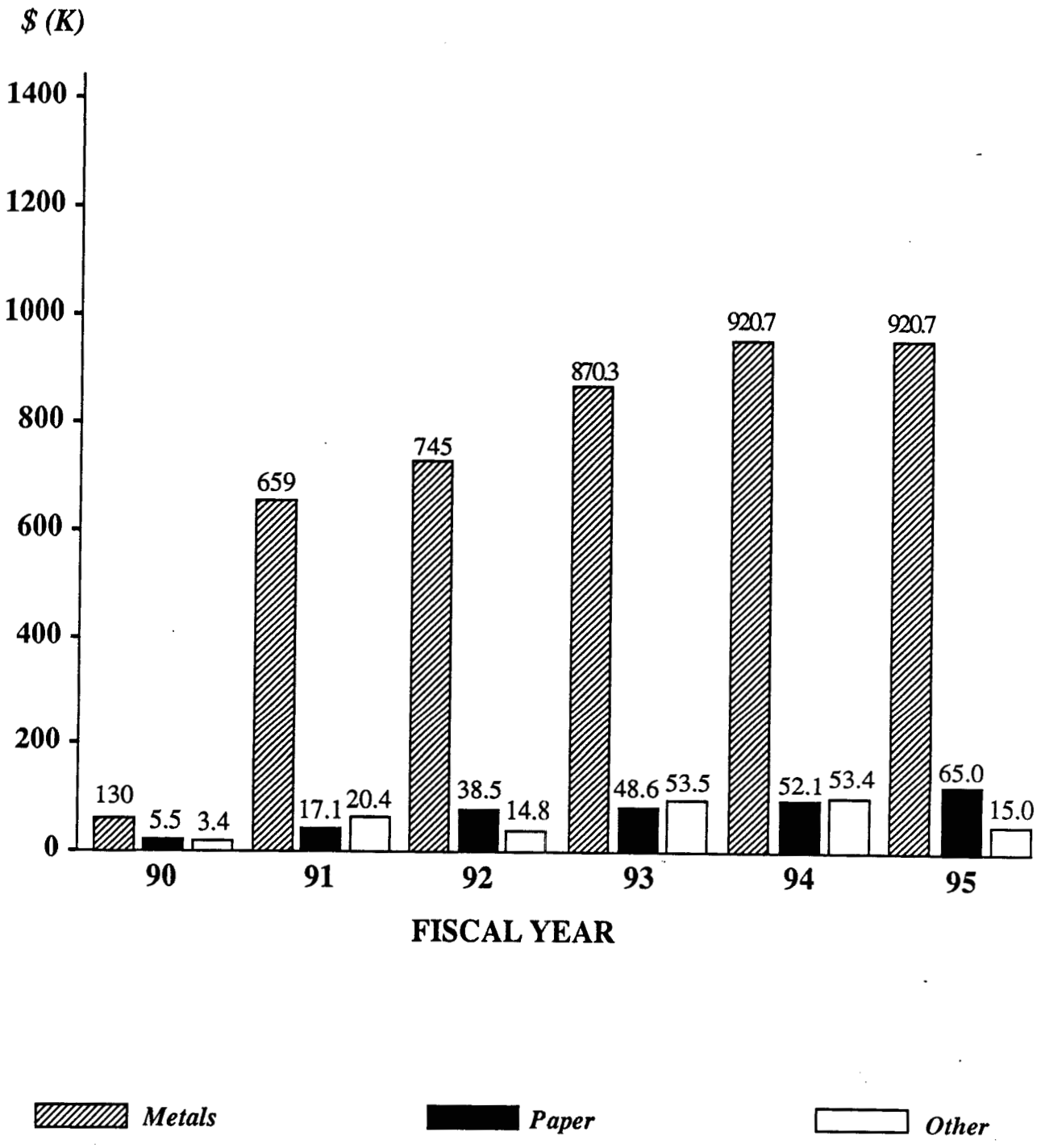

LBS (K)
1800
1500
1200
900
600
300
62.4
221.8
916
1200
1400
1500
1700
Projected
1800
88
89
90
91
92
93
94
95
CALENDAR YEAR

Other Materials

- ☑ *Aluminum Cans & Foil*
- ☑ *Compost/Wood Chips*
- ☑ *Pallets & Boxes*
- ☑ *Scrap Wood*
- ☑ *Plastics*
- ☑ *Glass*
- ☑ *Styrofoam*

NOTE: The depot also maintains a Recycling Relationship with Bynum Elementary School, the Federal Corrections Institute in Talladega and the City of Anniston.

Benefits vs. Expense (cum)



Projected Revenue