

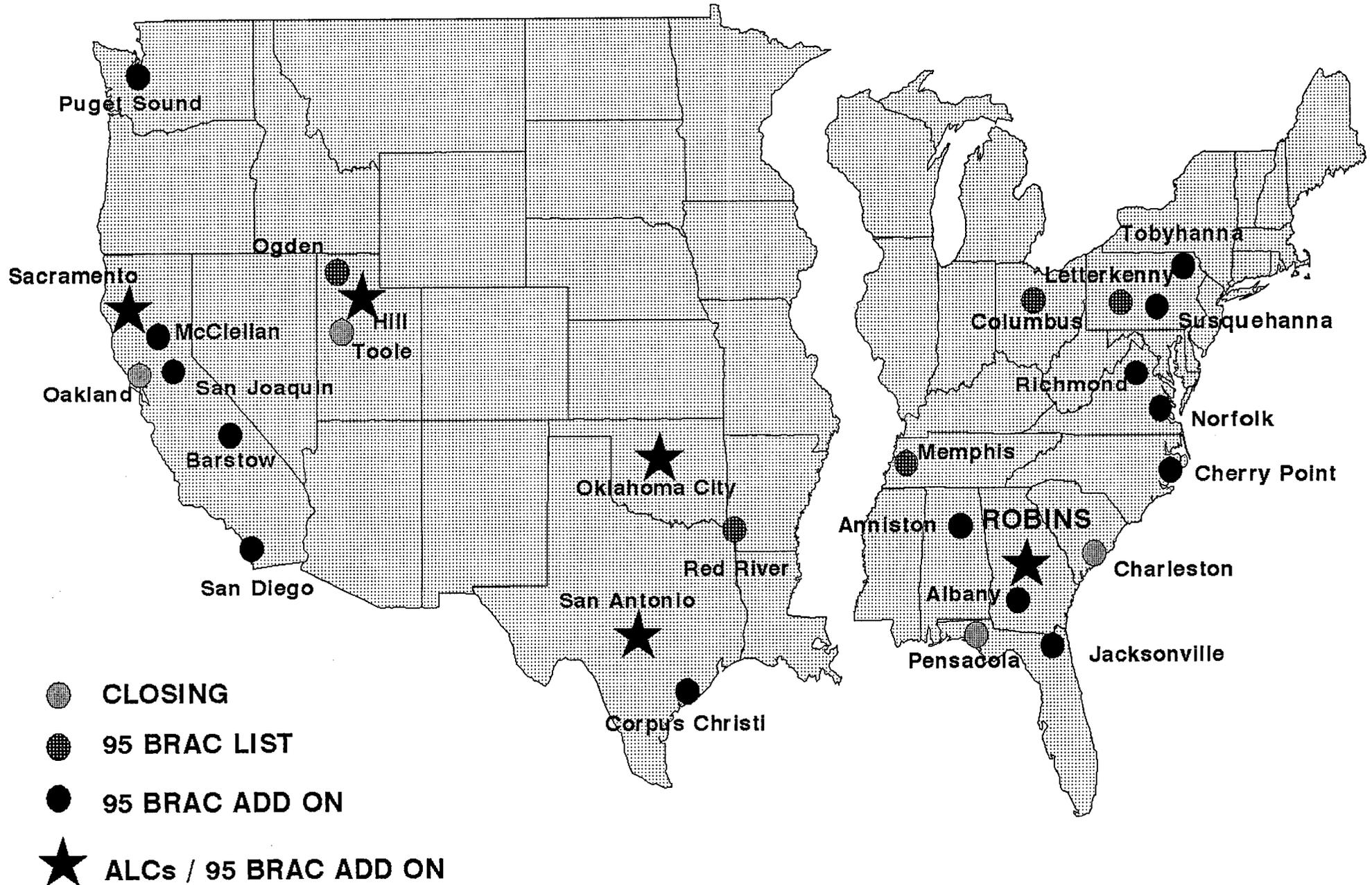
Defense Distribution Depot

Warner Robins Georgia

OVERVIEW

- **WHO WE ARE**
- **WHAT WE DO**
- **WHAT WE LOOK LIKE**
- **WHO OUR CUSTOMERS ARE**
- **PERFORMANCE SNAPSHOT**

DEFENSE DISTRIBUTION DEPOTS



DDWG MISSION

- **PROVIDE DISTRIBUTION SERVICES FOR MATERIEL LOCATED AT WARNER ROBINS AIR LOGISTICS CENTER**
- **WORLDWIDE SUPPORT OF ALL ARMED FORCES AND FOREIGN MILITARY**
- **DISTRIBUTION AND DELIVERY SERVICES FOR ON-BASE CUSTOMERS**
 - **DEPOT MAINTENANCE FOR F-15, C-130 & C-141**
 - **AVIONICS REPAIR CENTER**
 - **OPERATIONAL UNITS**

DISTRIBUTION SERVICES

- **KLUGH LETTER, 23 DEC 93, DEFINITIONS OF DISTRIBUTION DEPOT FUNCTIONS**
- **FUNDED BY BASIC UNIT COST RATE**
 - **\$29.71 PER LINE ITEM**
- **RECEIPT**
 - **TRAFFIC MANAGEMENT; OFFLOAD; TALLY; PRODUCT RECEIPT EVALUATION; DOCUMENTATION; STOW**
- **ISSUE**
 - **STOCK SELECTION; PACKAGE; CONTAINER FABRICATION; PROCESS DOCUMENTATION; TRAFFIC MANAGEMENT; LOAD/SECURE; SECOND DESTINATION TRANSPORTATION; DENIAL RESEARCH**
- **OTHER FUNCTIONS**
 - **REWAREHOUSING; DEPOT STOCK REPOSITIONING; INTRADEPOT MOVEMENT; CYCLIC INSPECTION; LOCATION SURVEYS; INVENTORIES; CARE OF STORAGE FACILITIES AND MATERIEL IN STORAGE; UNIT AND SET ASSEMBLY**

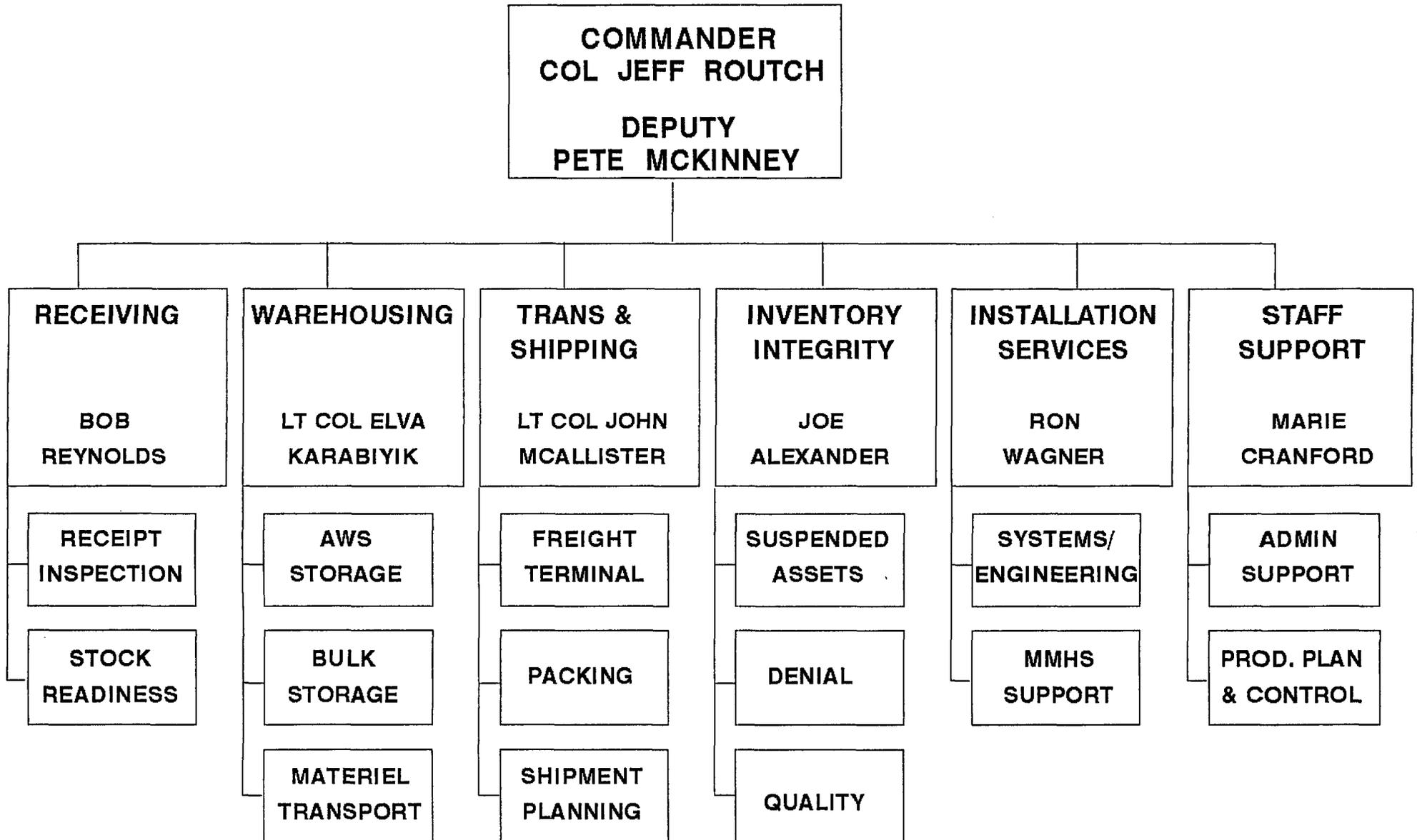
REIMBURSABLES

- **FUNCTIONS EXCLUDED FROM THE BASIC RECEIPT AND ISSUE UNIT COST RATE**
- **ACTUAL COST REIMBURSEMENT BY OWNER / CUSTOMER**
- **\$4,458,136 PROJECTED FOR FY95**

THINGS WE DO OUTSIDE UNIT COST

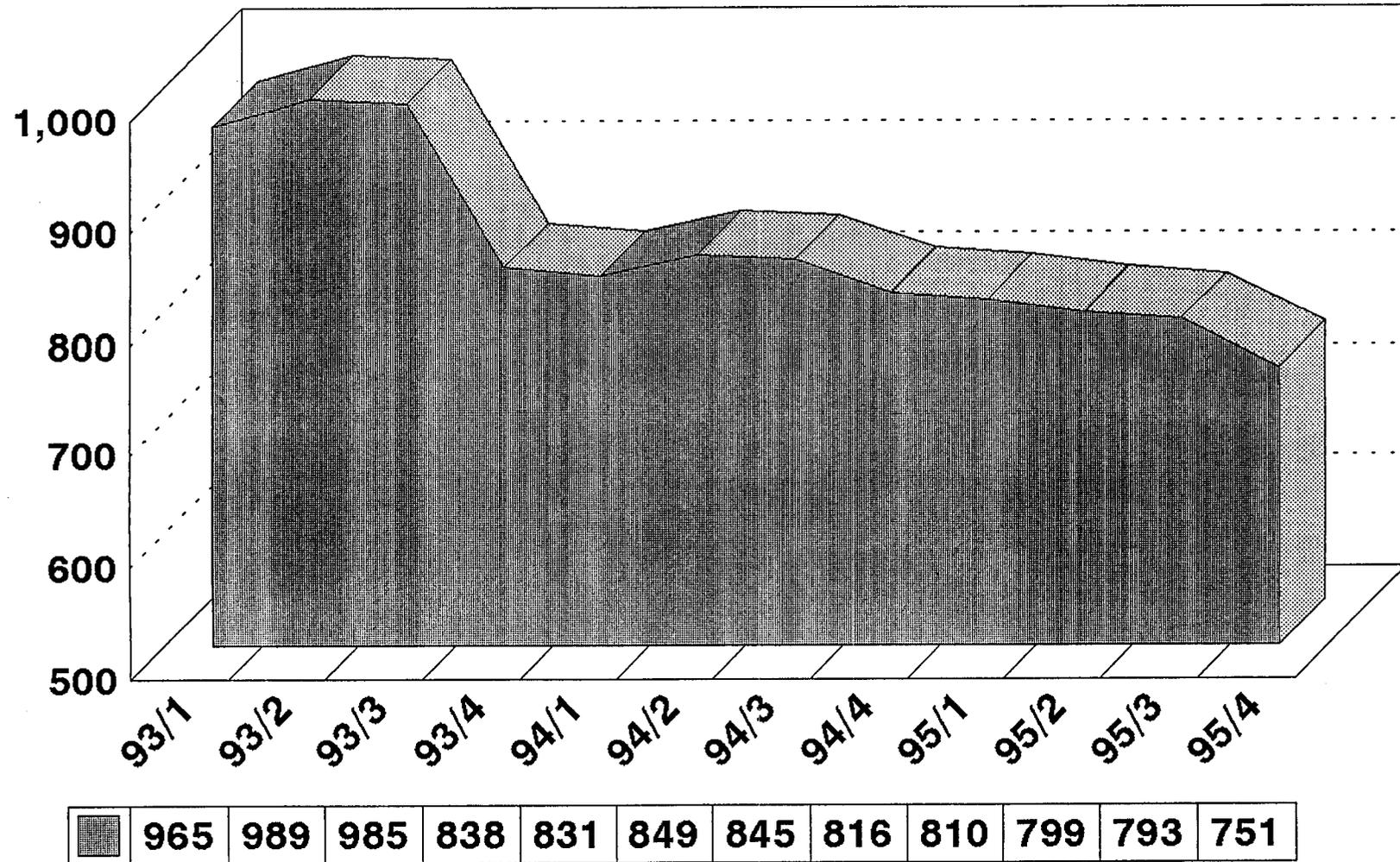
<u>TASK</u>	<u>#PEs</u>	<u>PROJECTED FY95 COST</u>
PPP&M	33.7	\$3,310,714
CONTAINER RECLAMATION	3.0	\$232,946
DEPACK	5.0	\$405,330
FMS	0.9	\$50,626
SPECIAL PROJECTS	3.6	\$424,716
MOBILITY (44 PEOPLE)	<u>0.6</u>	<u>\$33,804</u>
TOTAL	46.8	\$4,458,136

DDWG ORGANIZATION



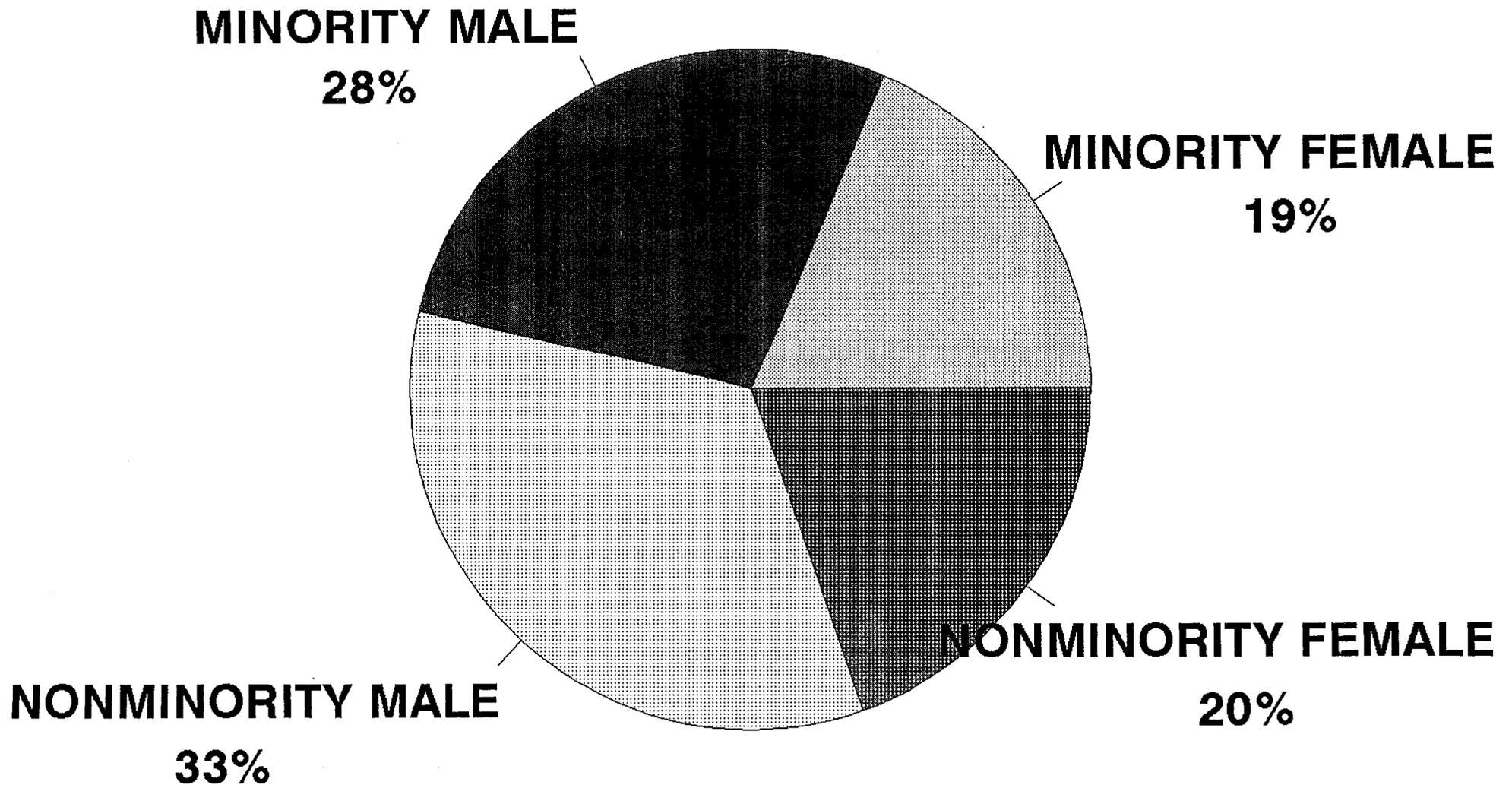
PERSONNEL

PERSONNEL ON BOARD



FISCAL YEAR/QUARTER

DDWG WORKFORCE DEMOGRAPHICS

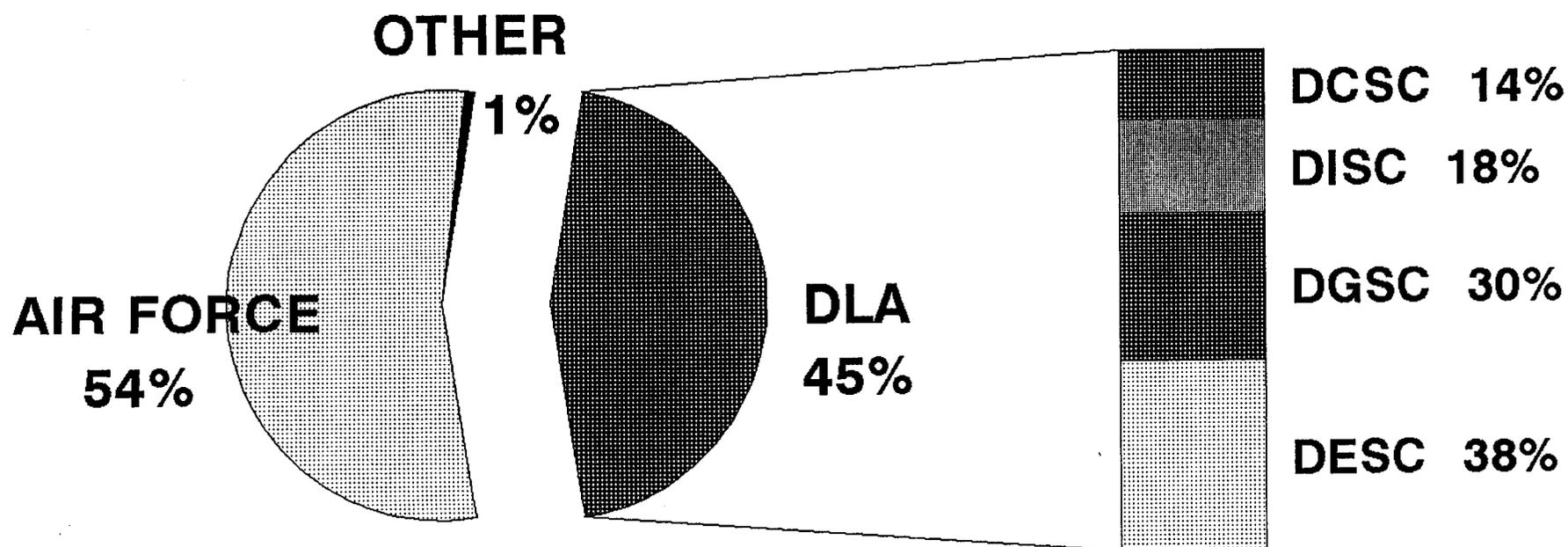


793 CIVILIANS + 4 MILITARY

COMMODITIES STORED

- **AIRCRAFT STRUCTURAL COMPONENTS**
- **AVIONIC & ELECTRONIC COMPONENTS**
- **ELECTRONIC WARFARE EQUIPMENT**
- **AEROSPACE GROUND SUPPORT EQUIPMENT**
- **BOMB RACKS**
- **WEAPONS**

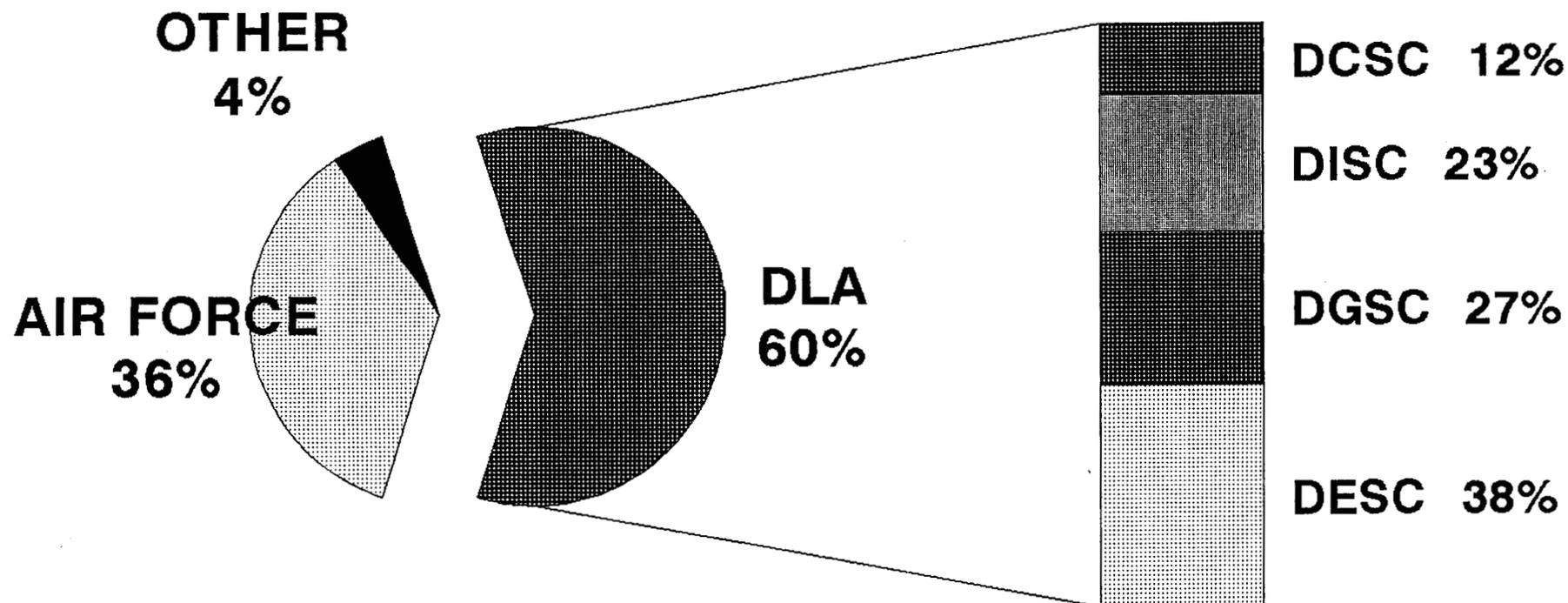
ITEMS STORED BY OWNER WHOLESALE & RETAIL



243,829 NSNs
\$12 BILLION INVENTORY

OTHER: ARMY, NAVY, MARINES, GSA

ITEMS STORED BY SOURCE OF SUPPLY WHOLESALE & RETAIL



OTHER: ARMY, NAVY, MARINES, GSA, LOCAL PURCHASE/MANUFACTURE

BUILDINGS / STORAGE SPACE

- **16 WAREHOUSES**
 - **1 MILLION NET SQUARE FEET**
- **4 ADMIN / SUPPORT BUILDINGS**
 - **36 THOUSAND NET SQUARE FEET ADMIN**
 - **621 THOUSAND NET SQUARE FEET SUPPORT**
- **SHARED SPACE / 4 SHARED BUILDINGS**
 - **136 THOUSAND NET SQUARE FEET**
- **4 COVERED SHEDS**
 - **168 THOUSAND NET SQUARE FEET**
- **5 PAVED LOTS**
 - **280 THOUSAND NET SQUARE FEET**

SPECIAL HANDLING CAPABILITIES

- **2 AUTOMATED WAREHOUSES**
- **MECHANIZED CONVEYOR BRIDGES**
- **CLASSIFIED / WEAPONS STORAGE**
- **HAZARDOUS STORAGE**
- **OVERHEAD CRANE OPERATIONS**

HOW WE SUPPORT CUSTOMERS

- **STOCK CONTROL & DISTRIBUTION SYSTEM (SC&D)**
 - D035A/B -- ITEM MANAGEMENT
 - D035K -- RECEIVING
 - D035L -- INVENTORY & STORAGE PROCESS
 - D035R/T -- TRANSPORTATION & SHIPPING
- **STANDARD BASE SUPPLY SYSTEM (SBSS)**
- **AUTOMATED WAREHOUSE SYSTEM (AWS)**
- **WAREHOUSE INVENTORY CONTROL SYSTEM (WICS)**

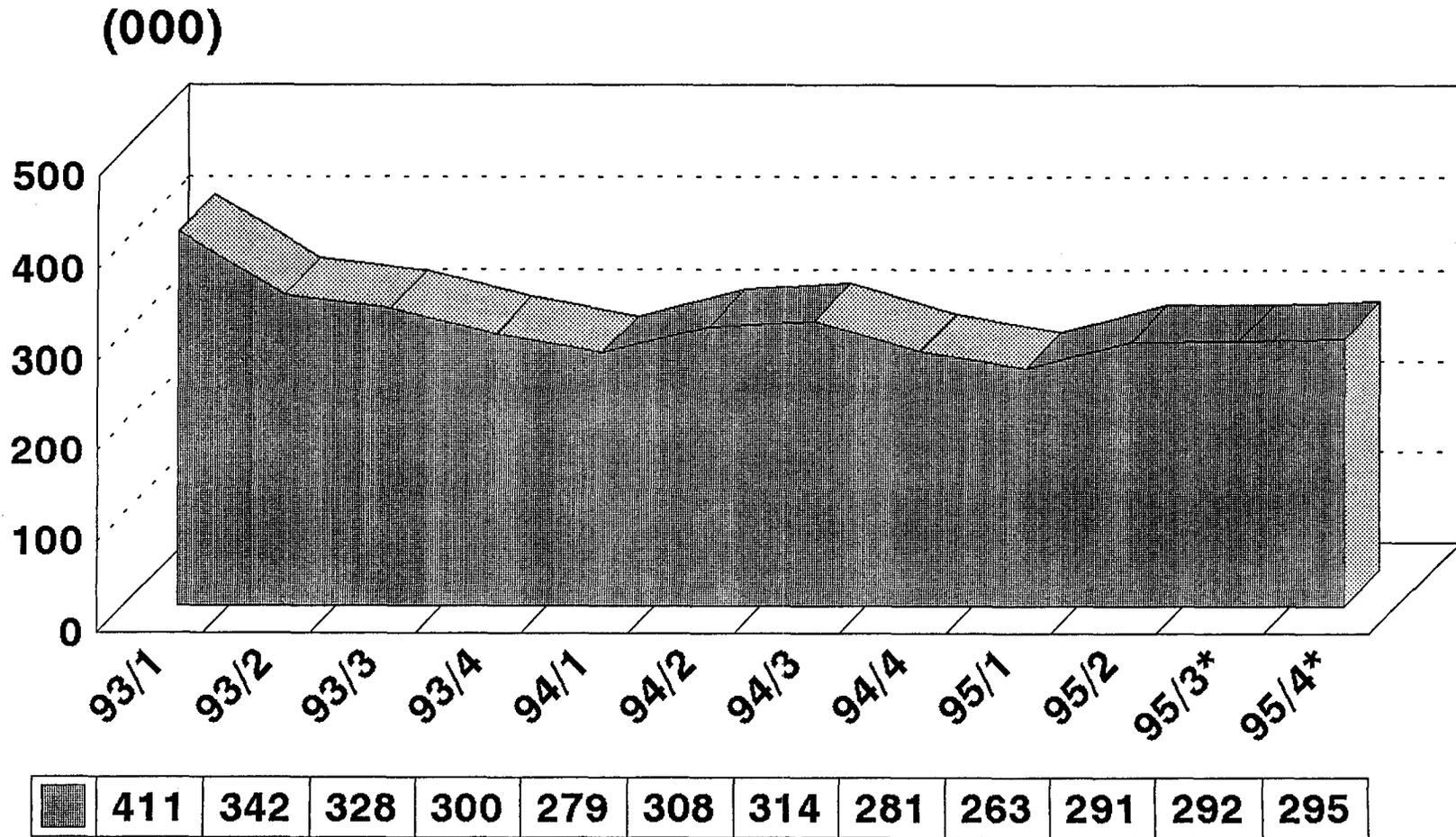
WR-ALC / ROBINS AFB

- **MAJOR CUSTOMER (57% OF ISSUES)**
- **CRADLE TO GRAVE LOGISTICS MANAGEMENT**
 - F-15, C-130, C-141
- **AVIONICS REPAIR CENTER**
- **LOGISTICS MANAGEMENT**
 - H-1, H-3, H-53, H-60 HELICOPTERS
 - AIRBORNE AVIONICS, ELECTRONIC WARFARE, COMMUNICATIONS, RADAR AND NAVIGATIONAL EQUIPMENT
 - SPECIAL OPERATIONS FORCES
 - VEHICLES; FIREFIGHTING EQUIPMENT
 - FIRE CONTROL & BOMBING SYSTEMS
- **OPERATIONAL UNITS**
 - AIR REFUELING WING (KC-135)
 - COMMUNICATIONS SQUADRON

OFF-BASE CUSTOMERS

- **43% OF ISSUES**
- **TOP TEN CUSTOMERS**
 - **DOVER AFB DE (APOE)**
 - **TINKER AFB OK (AWACS)**
 - **TRAVIS AFB CA (APOE)**
 - **HILL AFB UT (F-16)**
 - **EGLIN AFB FL (F-15, C-130, SOF)**
 - **HURLBURT FIELD FL (C-130, SOF)**
 - **BARKSDALE AFB LA (B-52)**
 - **SEYMORE JOHNSON AFB NC (F-15, KC-10)**
 - **CCP NEW CUMBERLAND PA (OVERSEAS)**
 - **CCP SHARPE / LATHROP CA (OVERSEAS)**

WORKLOAD CUMULATIVE LINES IN/OUT



FISCAL YEAR/QUARTER

* PROJECTED

PERFORMANCE SNAPSHOT

<u>PERFORMANCE STATISTIC</u>	<u>FY93</u>	<u>FY94</u>	<u>MAY 95</u>
ISSUE PROCESSING (AVG DAYS)			
HI-PRI (1)	1.40	0.72	0.38
ROUTINE (7)	4.90	1.70	0.72
RECEIPT PROCESSING (AVG DAYS)			
NEW PROCUREMENT & RETAIL (4)	1.00	0.68	0.70
RETURNS/RDOs (10)	1.30	0.76	0.98
LOCATOR ACCURACY (>99% ACCURATE)	99.10	99.70	99.70
DENIAL (<.80% DENIED)	0.69	0.63	0.57

() = GOAL

Document Separator

BRAC 95 COMMISSION: Clean Air Act
Conformity Requirements Associated
With Proposed Cecil Field F-18
Squadrons-Redirect to NAS Oceana

SUMMARY OF CLEAN AIR ACT CONFORMITY CONCERNS:
[DoD Recommended Redirect of Cecil Field F-18's to NAS Oceana]

- ◆ Air quality impacts of the proposed DoD redirect to NAS Oceana are a significant issue arising both under express BRAC Commission selection criteria and Clean Air Act conformity requirements.
- ◆ The Hampton Roads area, which includes NAS Oceana, presently is designated "marginal" nonattainment for ozone; EPA presently is contemplating elevation of this classification to the more serious "moderate" category.
- ◆ Combined impacts, direct and indirect, resulting from the proposed NAS Oceana redirect, coupled with expected growth surges associated with completion of the Lake Gaston Pipeline water project, likely would exacerbate an already significant air quality problem.
- ◆ The Navy concedes that, at the present time, essentially no air quality impact analysis has been performed for this proposed redirect.
- ◆ Regardless of whether the Navy is correct in asserting that its formal Clean Air Act conformity obligations are not yet ripe, by failing to provide the BRAC Commission with adequate information and analysis on significant air quality issues at NAS Oceana, the Navy has left the BRAC Commission vulnerable to legal attack for failure to comply with express provisions of the Base Closure and Realignment Act and/or the Clean Air Act.
- ◆ Unlike NAS Oceana, MCAS Cherry Point does not suffer from any nonattainment conditions and does not present significant Clean Air Act conformity problems in connection with assimilation of the Cecil Field F-18 squadrons.

value of each closure or realignment decision, such impacts are sufficiently important to merit express identification as one of only eight selection criteria to be applied by the BRAC Commission.

Many environmental impact concerns, such as underground storage tank leaks and landfill contamination are to varying degrees common to all DoD facilities. However, air quality impacts often are unique to a facility and the air quality of proposed receiving areas can be materially affected by realignment decisions by the BRAC Commission. For purposes of CAA compliance, acceptability of receiving area impacts is determined by answering whether the decision would comply with the conformity requirements of the 1990 CAA Amendments, 42 U.S.C. §§ 7401 et seq.

As can be seen from a review of summary environmental documentation for the proposed 1995 DoD BRAC 95 recommendations, analysis of air quality impacts is intended to be an integral part of the BRAC process. Prior to developing its recommendations to the President, the Commission is required to take into account, among other impacts, whether a proposed realignment will adversely affect air quality in the receiving area. In the present case, because the Commission is deciding between NAS Oceana and MCAS Cherry Point, comparative impacts of the pending choice on the air quality in the two candidate receiving areas must be analyzed before a defensible decision can be reached. As discussed below, the ultimate standard to be applied regarding air quality impacts is whether the proposed action conforms to the requirements of the applicable State Implementation Plan ("SIP").

Though environmental considerations play an important role in the BRAC decisionmaking process, decisions of the BRAC Commission itself are not subject to the formal EIS requirements of the National Environmental Policy Act ("NEPA"), 42 U.S.C 4321 et seq. Section 2905(c) of the Base Closure and Realignment Act exempts from NEPA the actions of the President, the BRAC Commission and the Secretary of DoD in reaching their respective BRAC decisions. However, once the BRAC process culminates in a final decision, subsequent federal actions to close an installation or relocate equipment and personnel from one installation to another are subject to NEPA. The fact that the actual relocation of the Cecil Field F-18 squadrons and support personnel to either MCAS Cherry Point or NAS Oceana may significantly affect the environment explains why the Navy has prepared internal draft EIS's discussing the proposed relocation to both potential receiving facilities.

CLEAN AIR ACT CONFORMITY REQUIREMENTS

The requirement that federal actions conform with SIPs first appeared in the 1977 CAA Amendments (P.L. 95-95). The CAA requirement is analogous to the consistency requirement contained in the federal Coastal Zone Management Act and the 401 Certification requirement contained in the federal Clean Water Act. The 1990 CAA Amendments

expanded the scope and content of the conformity requirement by defining conformity in relation to air quality, expressly linking conformity to an applicable SIP, and requiring the Environmental Protection Agency ("EPA") to promulgate procedures for making conformity determinations.

Statutory Provisions.

Section 176(c) of the CAA requires that all Federal actions conform to an applicable SIP. Specifically, § 176(c)(1) of the 1990 Amendments provides that:

No department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan after it has been approved or promulgated under 7410 of this title The assurance of conformity to such an implementation plan shall be an affirmative responsibility of the head of such department, agency or instrumentality.

42 U.S.C. § 7506(c)(1).

Conformity to a state's implementation plan is defined to mean:

(A) conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and

(B) that such activities will not--

- (i) cause or contribute to any new violation of any standard in any area;
- (ii) increase the frequency or severity of any existing violation of any standard in any area; or
- (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

Id.

The CAA's conformity requirements address two principal types of Federal actions:

- transportation-related activities, such as funding highway construction projects by the Department of Transportation ("transportation conformity"); and
- general actions of Federal agencies, such as construction of non-transportation Federal buildings and laboratories and miscellaneous other activities affecting air quality ("general conformity").

Base realignment and closure actions fall into the latter category.

Conformity Regulations.

Regulations promulgated by EPA to implement the general conformity requirements were published in the Federal Register on November 30, 1993 (58 FR 63214). The general conformity rule covers direct and indirect air emissions of criteria pollutants or their precursors that are caused by a Federal action, are reasonably foreseeable, and can practicably be controlled by the Federal agency through its continuing program responsibility. 58 FR at 63214.

Key Definitions.

"Direct emissions" are those that are caused or initiated by the Federal action and occur at the same time and place as the action. 40 C.F.R. § 93.152. In this case, such emissions would include jet exhausts, fueling operations, maintenance and repair, and painting operations.

"Indirect emissions" are those that are:

- (1) caused by the Federal action, but may occur later in time and/or may be further removed in distance from the action itself but are still reasonably foreseeable; and
- (2) the Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency.

Id. Examples of such emissions include automobile exhausts from base and employee vehicles, support facility construction emissions, and emissions from base facilities and residences resulting from personnel increases.

"Criteria pollutants or their precursors" includes any pollutant for which a National Ambient Air Quality Standard ("NAAQS") has been established [includes, inter alia, volatile organic compounds ("VOCs") and nitrogen oxides ("NOx"), which are the precursors of ozone or smog].

Id.

"Federal action" includes any activity engaged in by a department, agency, or instrumentality of the Federal government, or any activity that a department, agency or instrumentality of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves.

Id.

This definition is very broad and clearly encompasses the proposed relocation of the Cecil Field F-18 fighter squadrons and support personnel. Arguably, it also encompasses the BRAC decision itself, because the Commission is "approving", or at least "supporting" through its recommendation to the President, the specific activity of relocating the Cecil Field F-18 fighter squadrons and support personnel from Cecil Field to one or more specific receiving areas.

The preamble to the final conformity rule indicates that multiple Federal agencies may be required to make a conformity determination for a related project. See 58 FR at 63238, 63239. In such cases, the responsibility remains on each agency, but the rule gives flexibility in how the conformity analysis is conducted. An agency may either undergo its own analysis or it can rely on a proper analysis undertaken by another agency. Thus, it is arguable that the BRAC Commission itself may be subject to the CAA's conformity requirements; if so, it can either rely on an analysis of air quality impacts by the Navy, or undertake its own analysis. In either case, the analysis must be completed prior to the BRAC final decision.

Should it be determined (by litigation or otherwise) that the CAA does not require the BRAC Commission to perform a full conformity analysis prior to issuing its final decision, that conclusion would not relieve the Commission of its authority and responsibility to weigh and consider the relative Clean Air Act conformity merits of alternate receiving base candidates as part of the statutory BRAC decisionmaking process. Put another way, the BRAC statute itself and the implementing DoD criteria expressly require that the Commission consider the relative environmental impacts associated with MCAS Cherry Point versus NAS Oceana as receiving sites for the Cecil Field F-18 squadrons. With regard to air quality concerns, this environmental impact review requirement applies regardless of the timing of the formal conformity analysis required under the CAA and regardless of the timing of the formal NEPA EIS process.

CAA Conformity Exemptions.

Certain Federal actions are exempted from the conformity requirements, either categorically or due to their de minimis emissions impact. Categorical exemptions include:

(viii) routine movement of mobile assets, such as ships and aircraft, in home port reassignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul.

40 C.F.R. § 93.153(c)(2)(viii).

As apparently conceded by the DoD, permanent relocation of fighter aircraft squadrons from one station to another does not fall under this

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exemption. As discussed below, the Navy does not (and cannot) claim an exemption for the proposed relocation of the Cecil Field F-18 squadrons action under this CAA rule.

Federal actions are also exempt if the total of direct and indirect emissions caused by the action fall below certain specified de minimis emission levels. The levels vary by pollutant and the air quality status of an area. NAS Oceana is part of the Hampton Roads ozone nonattainment area (i.e., the area has been designated under CAA § 107 as nonattainment due to air quality monitoring data which shows a violation of the ozone NAAQS). The EPA has classified the area as a "marginal" ozone nonattainment area. Under the general conformity rule, the de minimis exemption level for a marginal ozone nonattainment area is 100 tons per year (tpy) of NOx or VOC.

If the Navy can show that the net emissions change within the Hampton Roads area resulting from the relocation of the squadrons to NAS Oceana would be less than 100 tpy of NOx and VOC, the proposed action would not require a formal conformity determination under EPA's general conformity rules. In the answer to Ms. Diedre Nurre's Question 5, contained in Mr. Charles P. Nemfakos' letter of May 19, 1995 (copy attached), the Navy has raised the possibility that net emission levels at Oceana could be below de minimis levels for NOx and VOC. Unfortunately, at the present time is that it is impossible for the Commission to reasonably weigh the relative impact of CAA conformity requirements on the DoD recommendation to move F-18's to Oceana because of the absence of any analysis or modelling of potential air quality impacts. What is clear, however, is that MCAS Cherry Point is located in an area that already is in full attainment status for all regulated air pollutants and, therefore, there are no CAA nonattainment hurdles to be cleared if the Cecil Field F-18 squadrons are directed to Cherry Point as recommended by the final 1993 BRAC Commission process.

Conformity Determination Substance and Procedures.

Emissions Budget. The essence of a conformity determination is that the emissions increase associated with a particular Federal action must be able to be accommodated within the "emissions budget" of the nonattainment area in question. An emissions budget is the level of emissions of each criteria pollutant for mobile (i.e., motor vehicles), stationary (i.e., buildings, factories), and area sources (i.e., small, numerous sources such as dry cleaners, auto body shops, etc.), which are necessary to meet CAA requirements to attain and maintain the applicable NAAQS.

According to Jim Sydnor, Director of Planning, Air Quality Section of the Virginia Department of Environmental Quality, the State of Virginia has not yet developed an emissions budget for the Hampton Roads area and other nonattainment areas. A budget is currently under development, as required by EPA. See 60 FR 21451 (May 2, 1995). Similarly, the State

is currently developing state conformity regulations to implement the Federal requirements. Public hearings are anticipated soon. A review of the draft rules suggests that state procedures will closely adhere to federal requirements.

It is important to note that the Navy's emission estimates to-date for the DoD-proposed transfer to Oceana appear to represent only a gross approximation of emissions over the FY 1995 - FY 2001 period. No effort has been made to break down an estimate for each year. Under the CAA, however, the State is required to develop an annual estimate of NOx and VOCs and set milestones for annual reductions in each pollutant. In addition, Virginia is required to demonstrate full attainment with the federal ozone NAAQS by no later than November 15, 1996. See 60 FR 3349 (January 17, 1995). Following attainment of the NAAQS, the State must demonstrate to the satisfaction of EPA that the NAAQS will be maintained for a period of at least 10 years. CAA § 175A. Thus, if emission increases will occur in the early years and decreases will occur only in the latter years, the Navy may be unable to demonstrate conformity with Virginia's SIP provisions to attain and maintain the NAAQS without documenting additional, costly on-or off-site improvements in other ozone pollution sources. In summary, without an emissions budget and a detailed year-by-year breakdown of emissions attributable to the proposed F-18 relocation to Oceana, it is virtually impossible for the Commission to determine whether and at what cost the proposed action will comply with CAA conformity requirements.

Computer Modeling. In the absence of an emissions budget, the Navy must demonstrate conformity through computer modeling analyses or an equivalent method. Through this method, the Navy might be able to demonstrate that the Oceana action will not violate or increase the number or severity of violations of the ozone NAAQS. Once again, the results of any such analysis are unknown at this time. Importantly, such an analysis could show that this proposed action, coupled with the increased development associated with the (anticipated) completion of the Lake Gaston water pipeline project and resulting Virginia Beach growth spurt, will cause additional or more severe violations of the NAAQS within the Hampton Roads area.

Emissions Offsets. An important component of the general conformity rule is that a Federal action must either offset emissions from within the project itself or offset emissions elsewhere within the nonattainment area in an amount equal to or greater than total direct and indirect emission increases. Thus, in order to demonstrate conformity for the proposed NAS Oceana decision, the Navy must at some point demonstrate that emission reductions equal to or greater than any potential increases will occur within the project or Hampton Roads area. According to the Nemfakos letter, the Navy projects that a total of 228 aircraft will be leaving NAS Oceana, whereas only 202 will be arriving, as a result of the BRAC closure recommendation. See Answer to Question 4. Thus, the Navy may be able to show that any emission increases will

be more than offset by decreases within the project itself. To satisfy conformity requirements, however, such increases cannot violate or increase the number or severity of an existing NAAQS violation, or delay the attainment of the NAAQS. Any decreases must be certain and fully mitigate the impacts of the emission increases. A BRAC decision to add squadrons and personnel to NAS Oceana without a binding commitment to remove other squadrons and personnel would not appear to satisfy CAA conformity requirements and, more importantly, may not satisfy the implicit requirement that the Commission have adequate environmental impact information on which to satisfy its own statutory and regulatory obligations.

Mitigation. Barring offsets within the activity, the conformity rule makes it clear that a Federal agency may take other measures to mitigate the impacts of any non-conforming Federal action. See 58 FR § 160. Thus, the Navy could adopt measures to reduce NOx and VOC emissions from various emission sources within the nonattainment area under the Navy's control. Examples include Navy employee car or van pooling, additional air pollution controls on existing sources at NAS Oceana or other nearby military installations, and implementation of staggered work schedules at Oceana to minimize rush hour emissions.

Alternatively, the State, in conjunction with the Hampton Roads District Planning Commission, could implement mitigation measures to "make room" within the emissions budget for any emissions increase associated with the BRAC decision. As with any Navy mitigation measures, mitigation measures implemented by other entities in the Hampton Road area must be identified and be the subject of written commitments from the entities involved. In short, to qualify mitigation measures must be concrete and enforceable.

Timing of Conformity Determination. One of the most problematic issues raised by the need to comply with CAA conformity requirements is whether a formal CAA conformity determination is required before or after the BRAC 95 decision is made. In Nemfakos' letter, the Navy asserts that a conformity determination prior to the final BRAC recommendation becoming law is premature. Regardless of the accuracy of this conclusion as to the timing of the formal CAA conformity analysis, it is obviously of concern that the Commission itself undertake its own air quality analysis before its decision is finalized. Otherwise, how can the Commission be said to have discharged its independent obligation to consider environmental impacts? Hence, the issue of adequate information and analysis on the issue of the timing and cost of CAA conformity requirements at Oceana may prove to be an important part of the BRAC 95 decisionmaking process.

The general conformity rule requires only that a determination be made prior to the Federal action being taken. The rule does not speak in terms of "prior to a final decision regarding the action." Action is not necessarily equated with the decision. Thus, the Navy's current

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position that a conformity determination is appropriate only after the BRAC decision is final, but prior to the actual relocation of aircraft and personnel, is not entirely unreasonable.

The Navy's position, however, also is arguably unreasonable and, more importantly, contrary to the independent obligations set forth in the Base Closure and Realignment Act that environmental impacts, including air quality impacts, of recommended decisions be fully and adequately evaluated by the Commission. If the Hampton Roads area cannot accommodate, or will have difficulty accommodating, the potential emissions increase associated with the Cecil Field F-18 squadrons, and there is inadequate information in the record on this issue, a final BRAC decision affirming the DoD's recommendation will be flawed. At the very least, the Commission must weigh this factor together with other factors to ensure that an appropriate decision is reached.

SUMMARY OF CONCERNS RE THE DOD PROPOSED RELOCATION TO NAS OCEANA:

1. The air quality of the Hampton Roads area is already poor; the redirection of the Cecil Field F-18's will only exacerbate the condition and make attainment of the ozone NAAQS more difficult.

The Hampton Roads area is already nonattainment for ozone, whereas eastern North Carolina is classified as attainment for all criteria pollutants. According to EPA Region III official Paul Winthrop, EPA has proposed to elevate the Hampton Roads area from marginal to moderate (a more severe category), due to continuing ozone problems. Mr. Winthrop recently stated via telephone communication with the author that such elevation by EPA may be imminent.

In a January 1995 Federal Register Notice (60 FR at 3350; copy attached), EPA stated that the Hampton Roads area has failed to demonstrate attainment with the ozone NAAQS by the November 15, 1993 deadline. According to EPA, eight exceedances of the standard were recorded in the 1991-1993 time period, with measured concentrations triggering potential reclassification of the Hampton Roads area to the more serious "moderate" nonattainment category. This information from EPA indicates that air quality in the area is not improving and, in fact, may be deteriorating with regard to ozone. Relocation of the Cecil Field F-18 squadrons into such an environment likely would make matters worse and certainly could trigger significant CAA conformity concerns.

2. The State of Virginia has not yet developed an emissions budget for the Hampton Roads area, and apparently no computer modeling has been conducted; thus, neither the Navy nor the BRAC Commission can determine whether the new F-18 squadrons can be accommodated without causing or contributing to further violations of the ozone NAAQS.

The BRAC decision process is running ahead of Virginia's efforts to develop an emissions budget and general CAA conformity rules. In the absence of computer modeling or other analyses, no one can determine whether the DoD recommended decision complies with Virginia SIP requirements on the issue of overcoming the present Hampton Roads ozone nonattainment status. At a minimum, the Commission should require a year-by-year analysis of ozone air quality impacts at Oceana before a final decision is made to locate significant new pollution sources within a growing metropolitan area that already is nonattainment for the priority pollutant ozone. In contrast, it appears that the air quality impacts of locating the Cecil Field F-18 squadrons at MCAS Cherry Point would be not raise similar informational or substantive concerns. The fundamental point with regard to NAS Oceana is that we know the area already is nonattainment for ozone; what we do not know is how the proposed permanent relocation of the Cecil Field F-18 squadrons into this nonattainment area would be accomplished, under what timeline CAA conformity would be documented, and at what cost.

3. The Oceana F-18 relocation proposal should be evaluated together with other growth impacts reasonably anticipated for the Hampton Roads area. The aggregate impacts of future development activity in the area may pose even more serious air quality problems in the near future.

The synergistic effect of the proposed NAS Oceana redirect and the construction of the Lake Gaston pipeline has apparently not been considered. For many years the Norfolk/Virginia Beach area has been under a virtual moratorium on development due to a chronic shortage of water. Now that a settlement agreement has been reached between North Carolina and the City of Virginia Beach, it is possible that the existing moratoria on new water connections will be lifted in less than three years, thus triggering a surge of development activity as long-pent-up demands for development are unleashed. The aggregate impact of growth induced by the relocation of the F-18 squadrons and thousands of associated personnel, and the growth spurt induced by a (partial) alleviation of chronic water shortages could be very significant. In sum, the DoD recommended NAS Oceana redirect arguably will result in unacceptable cumulative environmental impacts due to the already polluted and congested nature of the receiving area's air and the prospect for significant additional pollution sources, should the pipeline be completed.

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4. The Navy should make a conformity determination, or at least undertake a more detailed conformity analysis, prior to the BRAC decision. Without such information, a final BRAC decision redirecting the Cecil Field F-18's to NAS Oceana may be vulnerable to legal attack.

Potential air quality impacts are clearly an issue with respect to NAS Oceana. The final BRAC 93 Report to the President states that NAS Oceana has a "lower military value" than MCAS Cherry Point and environmental impact concerns played an important role in the decision to transfer the Cecil Field F-18 squadrons to MCAS Cherry Point. In the absence of a CAA conformity determination or analysis, the BRAC 95 Commission cannot document that it has fully discharged its mandate by, among other things, considering fully all material environmental impact criterion. The Navy's recent explanation that a formal CAA conformity determination for NAS Oceana is premature should be rejected as self-serving. Regardless of whether the Navy or the BRAC Commission have formal conformity obligations under the CAA, the decision-making process established by the Base Closure and Realignment Act itself requires that the BRAC Commission conduct an adequate analysis of all material environmental impact concerns in order to carry out its mandate. Once the BRAC Commission's decision on the Cecil Field F-18's is made, it will be too late to determine whether likely adverse air quality impacts at the receiving site are unacceptable in terms of time, costs and long term outlook. Without such documentation, numerous third parties with standing may be able to challenge any final BRAC 95 redirect to NAS Oceana on the grounds that the decision fails to comply with Base Closure and Realignment Act requirements and, possibly, with express Clean Air Act conformity requirements as well.

Attachment

WSMAIN/146540.

(T) Consent Order 23-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the McLouth Steel Company, Trenton Plant.

(U) Consent Order 24-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the Michigan Foundation Company, Cement Plant.

(V) Consent Order 25-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the Michigan Foundation Company, Sibley Quarry.

(W) Consent Order 26-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the Morton International, Inc., Morton Salt Division.

(X) Consent Order 27-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the National Steel Corporation, Great Lakes Division.

(Y) Consent Order 28-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the National Steel Corporation, Transportation and Materials Handling Division.

(Z) Consent Order 29-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the Peerless Metals Powders, Incorporated.

(AA) Consent Order 30-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the Rouge Steel Company.

(BB) Consent Order 31-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the Keywell Corporation.

(CC) Consent Order 32-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the St. Marys Cement Company.

(DD) Consent Order 33-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the United States Gypsum Company.

(EE) Consent Order 34-1993 effective October 12, 1994 issued by the MDNR. This Order limits the PM emissions for the Wyandotte Municipal Power Plant.

[FR Doc. 95-1067 Filed 1-13-95; 8:45 am]

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40 CFR Part 81

[VA37-1-6812a; FRL-5139-8]

Clean Air Act Promulgation of Reclassification of Ozone Nonattainment Areas in Virginia, and Attainment Determinations

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: This action reclassifies the Norfolk-Virginia Beach-Newport News (Hampton Roads), VA ozone nonattainment area from marginal nonattainment to moderate nonattainment. This action also determines that the Sussex, DE; Allentown-Bethlehem-Easton, PA-NJ; Altoona, PA; Erie, PA; Harrisburg-Lebanon-Carlisle, PA; Johnstown, PA; Lancaster, PA; Scranton-Wilkes-Barre, PA; Youngstown-Warren-Sharon, PA-OH; York, PA; and Greenbrier, WV ozone nonattainment areas classified as marginal have attained the ozone air quality standard by the November 15, 1993 attainment date. In addition, this action determines that the Kent and Queen Anne's Counties, MD marginal ozone nonattainment area attained the ozone standard by November 1994. These actions are based on monitored air quality readings for ozone during the years 1991-1994. This is not a redesignation action for these marginal areas for which air quality monitoring data indicates attainment of the standard. The Clean Air Act requires that a separate redesignation request be submitted by the appropriate states to EPA. Finally, this document sets forth the method which EPA will use throughout the country henceforth to notify the public that areas have attained an air quality standard. EPA is taking no action in this document regarding the Smyth County, VA nonattainment area.

DATES: This action will be effective March 20, 1995, unless notice is received by February 16, 1995 that someone wishes to submit adverse or critical comments. If the effective date is delayed timely notice will be published in the Federal Register.

ADDRESSES: Comments may be mailed to Thomas J. Maslany, Director, Air, Radiation, and Toxics Division, U.S. Environmental Protection Agency, Region III, 841 Chestnut Building, Philadelphia, Pennsylvania 19107.

Copies of the documents relevant to this action are available for public inspection during normal business hours at the Air, Radiation, and Toxics Division, U.S. Environmental Protection

Agency, Region III, 841 Chestnut Building, Philadelphia, Pennsylvania 19107.

FOR FURTHER INFORMATION CONTACT: Maria A. Pino, (215) 597-9337, at the EPA Regional office listed above.

SUPPLEMENTARY INFORMATION:

I. Background

A. Clean Air Act Requirements and EPA Actions Concerning Designation and Classification

Section 107(d)(4) of the Clean Air Act (the Act) required the States and EPA to designate areas as attainment, nonattainment, or unclassifiable for ozone as well as other pollutants for which national ambient air quality standards (NAAQs) have been set. Section 181(a)(1) (table 1) required that ozone nonattainment areas be classified as marginal, moderate, serious, severe, or extreme, depending on their air quality.

In a series of Federal Register documents, EPA completed this designation and classification process. See 56 FR 58694 (November 6, 1991); 57 FR 56762 (Nov. 30, 1992); and 59 FR 18967 (April 21, 1994). By these documents, EPA designated and classified all areas of the country for ozone.

Areas designated nonattainment for ozone are required to meet attainment dates specified under the Act. For areas classified Marginal through Extreme, the attainment dates range from November 15, 1993 through November 15, 2010. A discussion of the attainment dates is found in the General Preamble, 57 FR 13498 (April 16, 1992).

The Sussex, DE; Kent and Queen Anne's Counties, MD; Allentown-Bethlehem-Easton, PA-NJ; Altoona, PA; Erie, PA; Harrisburg-Lebanon-Carlisle, PA; Johnstown, PA; Lancaster, PA; Scranton-Wilkes-Barre, PA; Youngstown-Warren-Sharon, PA-OH; York, PA; Norfolk-Virginia Beach-Newport News (Hampton Roads), VA; Smyth County, VA (portion of White Top Mountain); and Greenbrier, WV areas were designated nonattainment and classified marginal for ozone pursuant to 56 FR 56694 (November 6, 1991). By this classification, their attainment date became November 15, 1993.

B. Clean Air Act Requirements and EPA Actions Concerning Reclassification

Section 181(b)(2)(A) requires the Administrator, shortly after the attainment date, to determine whether ozone nonattainment areas attained the NAAQS. This provision states:

Within 6 months following the applicable attainment date (including any extension thereof) for an ozone nonattainment area, the Administrator shall determine, based on the area's design value (as of the attainment date), whether the area attained the standard by the date.

This provision further states that, for areas classified as marginal, moderate, or serious, if the Administrator determines that the area did not attain the standard by its attainment date, the area must be reclassified upwards (bumped-up):

Except for any severe or extreme area, any area that the Administrator finds has not attained the standard by that date shall be reclassified by operation of law in accordance with table 1 of subsection (a) of this section to the higher of—

(i) The next higher classification for the area,

or

(ii) The classification applicable to the area's design value as determined at the time of the notice required under subparagraph (B).

Finally, subparagraph (B) of section 181(b)(2) mandates that the Administrator publish a document in the Federal Register identifying each area that failed to attain the NAAQS.

As quoted above, section 181(b)(2)(A) states that the determination of attainment status be based on the area's "design value". EPA interprets this provision generally to refer to EPA's methodology for determining attainment status. See generally, H Comm. Rep. 101-490 pp. 197, 232 (1990) (House Energy and Commerce Committee Report).

For ozone, EPA determines attainment status on the basis of the expected number of exceedances of the NAAQS over the three-year period up to, and including, the attainment date. See 57 FR 13506 (April 16, 1992) (the "General Preamble"). Under these requirements, for marginal ozone nonattainment areas, EPA reviewed air quality during the years 1991-1993 to determine whether the area met its attainment date.

II. Summary of Action

A. Determinations of Attainment

By this action, EPA is issuing a final rule that determinations under section 181(b)(2)(A) of whether an area attained the ozone NAAQS by its attainment date will be made on the basis of air quality monitoring data for the three-year period up to and including the attainment date. The air quality data relied on for these determinations must be consistent with 40 CFR part 58 requirements and other relevant EPA guidance and recorded in EPA's

Aerometric Information Retrieval System (AIRS).

If this rule takes effect, future EPA determinations of whether an ozone nonattainment area attained the NAAQS by its attainment date will be made solely by reference to AIRS data. EPA would not be required to publish a Federal Register document concerning areas that attained the ozone NAAQS. EPA would continue to be required to publish a Federal Register document for areas that failed to attain the ozone NAAQS and that are subject to reclassification. However, this notice would be a final action not subject to notice and comment under the Administrative Procedures Act, 5 U.S.C. 553(b). Instead, EPA will invoke the "good cause" exemption from notice-and-comment rulemaking, under 5 U.S.C. 553(b)(3). The "good cause" exemption applies when the agency "for good cause finds . . . that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest." This exemption applies to merely ministerial actions, and EPA takes the position that a reclassification based on air quality data amounts to a ministerial action.

The system described above would fulfill the requirements of section 181(b)(2) of the Act. EPA intends to undertake the same system for making attainment determinations with respect to areas that are nonattainment for carbon monoxide (CO) under section 186(b)(2). By this action, EPA is issuing a final rule to this effect, which will be effective March 20, 1995 unless notice is received by February 16, 1995 that someone wishes to submit adverse or critical comments. If the effective date is delayed, timely notice will be published in the Federal Register.

B. Region III Nonattainment Areas

EPA is today determining that the Hampton Roads nonattainment area in Virginia failed to demonstrate attainment by its attainment date of November 15, 1993. The Hampton Roads ozone nonattainment area is comprised of Chesapeake, Hampton, James City County, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, Williamsburg, and York County in Virginia. This determination is based on air quality monitors revealing exceedances of the ozone NAAQS during the three year period 1991-1993.

In order to attain the NAAQS for ozone, each monitoring site in a nonattainment area must average no more than 1.0 expected exceedance of the standard (0.12 parts per million (ppm) ozone) per year in a three-year

period. The number of expected exceedances is calculated by adjusting the number of actual monitored exceedances to account for missing data. Monitors in the Hampton Roads area in Virginia recorded eight exceedances of the ozone NAAQS in the three year period 1991 to 1993. In the Hampton Roads area, the Suffolk monitor (No. 5 800-0004) recorded five exceedances that time period. Consequently, the average annual expected exceedances for the Hampton Roads area was 1.7 for the 1991-1993 period. The ozone data measured during that same period for this area indicates a design value of 0.131 parts per million (ppm).

Monitoring data in the Hampton Roads area for the 1992-1994 period indicates that the expected number of exceedances remains 1.7 and the design value remains 0.131 ppm ozone. Therefore, the area did not attain the NAAQS for ozone by November 15, 1993 and continues to violate the ozone standard. Pursuant to section 181 of the Act, EPA is required to reclassify (bump-up) the area to moderate.

This document fulfills EPA's obligations under section 181(b)(2) to determine whether the Hampton Roads Virginia marginal ozone nonattainment area attained the ozone NAAQS by the attainment date, and to publish its determination in the Federal Register.

Under Section 182(i) of the Act, reclassifying the Hampton Roads, Virginia area to moderate means that Commonwealth of Virginia will be required to submit State Implementation Plan (SIP) revisions for this area appropriate for moderate areas under section 182(b). Section 182(i) further provides that deadlines provided under the requirements of section 182(b) remain applicable to these areas, except that the Administrator (or the Administrator's delegate) "may adjust any applicable deadlines (other than attainment dates) to the extent such adjustment is necessary or appropriate to assure consistency among required submissions." Accordingly, reclassification to moderate results in attainment date for the Hampton Roads area of November 15, 1996 under section 181(a)(1) (table 1).

However, EPA is exercising its authority to adjust the SIP submission schedule for the moderate area control. All SIP submissions required under section 182(b) must be submitted by November 15, 1995. All required controls and emission reductions must be implemented or achieved on a schedule that facilitates attainment by November 15, 1996 (the attainment date for marginal areas). This submittal will assure consistency in SIP subm

schedules and afford the States sufficient time to prepare the submittals, while also assuring that the required controls may be implemented by the attainment date. EPA cautions that because the determination of whether the areas attain the NAAQS by the end of 1996 must be based on air quality during the 1994-1996 period, the sooner the moderate controls are implemented, the more likely the area will reach attainment by the end of 1996.

In addition, this notice serves to announce EPA's determination that the Sussex, Delaware; Allentown-Bethlehem-Easton, Pennsylvania-New Jersey; Altoona, Pennsylvania; Erie, Pennsylvania; Harrisburg-Lebanon-Carlisle, Pennsylvania; Johnstown, Pennsylvania; Lancaster, Pennsylvania; Scranton-Wilkes-Barre, Pennsylvania; Youngstown-Warren-Sharon, Pennsylvania-Ohio; York, Pennsylvania; and Greenbrier, West Virginia marginal ozone nonattainment areas succeeded in demonstrating attainment of the ozone NAAQS by their attainment date of November 15, 1993. This determination is also based on ozone air quality data measured during the 1991-1993 period. All of these areas have average annual expected exceedances less than or equal to 1.0 for the 1991-1993 three year period.

Furthermore, EPA has determined that the Kent and Queen Anne's Counties area, Maryland did not attain the ozone standard by its attainment date, but has now attained the standard. During the 1991-1993 period, eight exceedances were monitored at the only monitoring site in the area, the Millington site (No. 24-029-0002). The average annual expected exceedances was 2.8 for the Kent and Queen Anne's areas in that period, and the design value was 0.133 ppm. However, data for the most recent three years period, 1992-1994, indicates that the area has now attained the ozone standard. Only two exceedance were recorded in that time period, making the average annual expected exceedances 0.66 and the ozone design value 0.121 ppm. (Because the ozone standard is 0.12 ppm ozone, design values ≤ 0.124 ppm, which are rounded off to ≤ 0.12 ppm, meet this standard. Design values ≥ 0.125 ppm do not meet the standard because they are rounded off to ≥ 0.13 ppm.) Since this area is no longer violating the ozone standard, reclassification to moderate is not warranted.

Although EPA has determined that the marginal nonattainment areas of Sussex County, DE; Kent and Queen Anne's Counties, MD; Allentown-Bethlehem-Easton, Altoona, Erie, Harrisburg-Lebanon-Carlisle,

Johnstown, Lancaster, Scranton-Wilkes-Barre, Youngstown-Warren-Sharon, and York areas, PA; and Greenbrier County, WV have attained the ozone NAAQS, they will continue to carry the designation of nonattainment and the classification of marginal. They are eligible to be redesignated to attainment under section 107(d)(3), if the criteria of that provision are met. A redesignation of an area to attainment must be a formal request by a State to EPA and include, among other things, a public hearing, all section 110 and part D requirements, and a ten year maintenance plan. EPA must review the request and follow the usual procedures of completeness review, a notice of proposed rulemaking, and a final action after reviewing public comments.

There was no ozone air quality monitoring in Smyth County, Virginia in the 1991-1993 period. Consequently, no determination can be made as to whether or not this area attained the ozone NAAQS. Therefore, EPA is taking no action in this notice regarding this nonattainment area. Smyth County's classification of marginal and rural transport will remain in place.

A detailed discussion of the air quality data used in EPA's attainment determinations is contained in the technical support document (TSD) prepared for this action. Copies of the TSD are available from the EPA Regional office listed in the ADDRESSES section of this document.

Final Action

In this action, EPA is promulgating a reclassification to moderate for the Hampton Roads, Virginia nonattainment area. Also in this action, EPA is notifying the public that future EPA determinations of whether an ozone nonattainment area attained the NAAQS by its attainment date will be made solely by reference to the AIRS data. EPA would not be required to publish a Federal Register notice concerning areas that attained the ozone NAAQS. Finally, this action serves to notify the public that the marginal nonattainment areas of Sussex County in Delaware; Kent and Queen Anne's Counties in Maryland; Allentown-Bethlehem-Easton, Altoona, Erie, Harrisburg-Lebanon-Carlisle, Johnstown, Lancaster, Scranton-Wilkes-Barre, Youngstown-Warren-Sharon, and York areas in Pennsylvania; and Greenbrier County in West Virginia have attained the ozone NAAQS. These areas will continue to carry the designation of nonattainment and the classification of marginal. These areas are eligible to be redesignated to attainment under section 107(d)(3) of

the Act, if the criteria of that provision are met.

This action is being taken without prior proposal because the changes are noncontroversial and EPA anticipates no significant comments on them. The public should be advised that this action will be effective 60 days from date of this Federal Register document. However, if notice is received within 30 days that someone wishes to submit adverse or critical comments, this action will be withdrawn and two subsequent documents will be published before the effective date. One document will withdraw the final action and another will begin a new rulemaking by announcing a proposal of the action and establishing a comment period.

Under section 307(b)(1) of the CAA, 42 U.S.C. 7607(b)(1), petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by March 20, 1995. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2) of the CAA, 42 U.S.C. 7607(b)(2).)

Under E.O. 12291, EPA is required to judge whether an action is "major" and therefore subject to the requirement of a regulatory impact analysis. The Agency has determined that the reclassification made final today would result in none of the significant adverse economic effects set forth in section 1(b) of the E.O. as grounds for a finding that an action is "major." The Agency has, therefore, concluded that this action is not a "major" action under E.O. 12291.

Under the Regulatory Flexibility Act, 5 U.S.C. 600 et. seq., EPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities. 5 U.S.C. 603 and 604. Alternatively, EPA may certify that the rule will not have a significant impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and government entities with jurisdiction over populations of less than 50,000.

Reclassifications of nonattainment areas under section 181 of the Act do not, by themselves, create any new requirements. Therefore, because this action does not impose any new requirements, I certify that it does not have a significant impact on small

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**Why Armstrong Laboratory, Human Systems Center, School of Aerospace
Medicine, and the Systems Acquisition School
Should be Consolidated
at Wright-Patterson AFB**

INTRODUCTION

The future of human flight in high performance aircraft will require a shortened acquisition process, an increased need for cross servicing capability and a total integrated focus on the human and machine interface.

Consolidating the Armstrong Laboratory, Human Systems Center, the School of Aerospace Medicine, and the Systems Acquisition School with Wright-Patterson's premier research and development activities makes good economic sense. This BRAC action will also maximize military value and reduce excess laboratory capacity within the Department of Defense.

- **Military Value** - Provides the enhanced man-machine integration required for new and evolving weapon systems.
- **Economics** - Makes the best business case in terms of annualized savings and long term payback.
- **Reduces Excess Capacity** - It offers the only option under consideration that reduces excess AF laboratory capacity while providing the best long term value for the DoD.

MILITARY VALUE

Realignment and consolidation at WPAFB maximizes military value by enhancing man-machine integration.

The Human Systems Center currently at Brooks AFB is composed of three key elements:

- **Human Systems Program Office (HSPO)** - an acquisition management and sustainment organization with projects centered on the health, safety and efficiency of the human weapon system operator.
- **Armstrong Laboratory (AL)** - a research and development laboratory focused on the basic and applied core technologies associated with human aspects of weapon system performance.
- **Air Force School of Aerospace Medicine (AFSAM)** - a medical education institution providing a flight surgeon residency program and training programs for medical technicians.

Consolidation of these elements at Wright-Patterson AFB would provide military benefit through the synergy resulting from having both the basic research and the development/acquisition of human centered technologies/equipment and the aeronautical weapon systems at one location.

- Aeronautical Systems Center (ASC) at Wright-Patterson has the mission of acquiring all aeronautical weapon systems (i.e., F-16, F-15, F-22, B-2, C-17, F-117, etc.) and associated training and support equipment. Human centered considerations are inextricable from the design and development of such systems. Additionally, man-machine interface issues are more efficiently resolved during the early stages (i.e. research, development, acquisition) of weapon systems management life cycle. Until 1989, the HSPO was located at Wright-Patterson with the weapon system program offices it served.
- Wright Laboratory (WL), the Air Forces largest 'super lab', is located at WPAFB. Its core technologies are flight dynamics, avionics, propulsion, and materials which are the leading edge technologies upon which advanced weapon systems are based. WL works closely with the AL divisions currently located at WPAFB in the joint cockpit office. It would forge stronger bonds with the remaining AL divisions, once collocated. There is a 50 year tradition of physiological research at WPAFB which started with the Aeromedical Research Lab which is the genesis of the current AL and the roots of the divisions of AL currently at WPAFB.
- The AFSAM would be sustained and enhanced within the WPAFB community. The local universities provide a wealth of education in the field of medicine. The region has a total of over 1600 full-time faculty, 1100 part-time faculty and 1800 full-time medical students. Wright State University School of Medicine, which is contiguous to WPAFB, has the only civilian school of aerospace medicine in the United States. Additionally, the AF's second largest medical center is located at WPAFB and currently services tri-service medical needs across a 10 state region. It provides direct access to clinical resources to complement the AFSAM curriculum. Moreover, there is a full complement of private medical facilities and biomedical research institutions in proximity of WPAFB.
- Brooks AFB has no ability to "accommodate contingency, mobilization and future total force requirements." However, WPAFB continues to be a principal part of these AF activities with considerable demonstrated potential to expand (i.e. every major class of AF aircraft has been operated from WPAFB at some time in the last 20 years--fighters, bombers, transports, tankers).

The military value of locating the HSC elements currently at Brooks AFB at WPAFB are derived from the synergistic benefit of co-locating the basic and applied research, as well as the development and acquisition, of both the weapon systems and the human centered technologies, upon which they rely. The AF can no longer afford the inefficiencies of maintaining separate infrastructures for these two inextricable facets of military capability -- the weapon systems and the humans which fly them.

ECONOMICS

Cost of relocation of Brooks AFB activities would save money with payback in six years.

- This is driven by the lower cost of operations at Wright-Patterson AFB. All COBRA analysis studies run by the Air Force and the San Antonio community agree that more efficient operations of facilities would be at Wright-Patterson AFB.
- The one time cost of closure of Brooks AFB is \$211.5M vs \$42.4M for cantonment. However, the cantonment should not be viewed as a true closure since most missions and facilities will remain. The one time costs of closure is offset by the higher annual savings of \$32.3M vs \$10.5M for cantonment. The site survey process has now refined the Air Force estimate for return on investment to 6 years (very desirable in BRAC terms). Note: It will take at least two years for the cantonment (with its lower military value) to "pay back" vs the immediate payback asserted in the San Antonio proposal.
- Consolation at WPAFB will save significant dollars by reducing base support management, oversight and Headquarters support functions now duplicated between Brooks and Wright-Patterson Air Force Bases.

The cantonment alternative proposed by the San Antonio community understates the true cost of that option.

- The proposed cost of other cantonment operations across DoD have been historically understated (Kirkland AFB and Rome AFB are examples).
- The Brooks cantonment plan closes no facilities or infrastructure as represented by that option (it sells land, but does not close physical plant).
- The city of San Antonio has provided estimated "cost and manpower implications" for the cantonment. This data as well as the data for the proposed closure has been updated. This data shows that closure eliminates almost twice as many people -- 506 vs 266 and moves four times as many, 2876 vs 689. From a cost standpoint, it is the elimination of positions which produce significant savings which more than offset one time moving costs.
- The updated Air Force COBRA analysis of the Brooks closure delineates "the extent and timing of potential costs and savings." Closure has a 43% greater net present value (\$172.1M vs \$119.7M) than cantonment. Thus, cantonment would cost the Air Force at least \$52M more than closure in constant dollars.
- The cantonment option does not result in like consolidations of laboratory functions. The cantonment option also fails to reduce DoD infrastructure which is a primary consideration of the BRAC process.

CONSOLIDATION

Realignment of Brooks AFB activities to Wright-Patterson AFB significantly contributes to accomplishment of DoD/Air Force goals for *laboratory consolidation*.

- Wright-Patterson has the highest concentration and diversity of research and development activities and is ranked as a Category one (1) Air Force Product Center (Best) by the DoD Joint Cross Service Group and the Air Force.
- Brooks AFB ranked lowest of nine (9) Air Force Product Center/Laboratories by the DoD Joint Cross Service Group and has no excess capacity to accomplish additional future taskings.

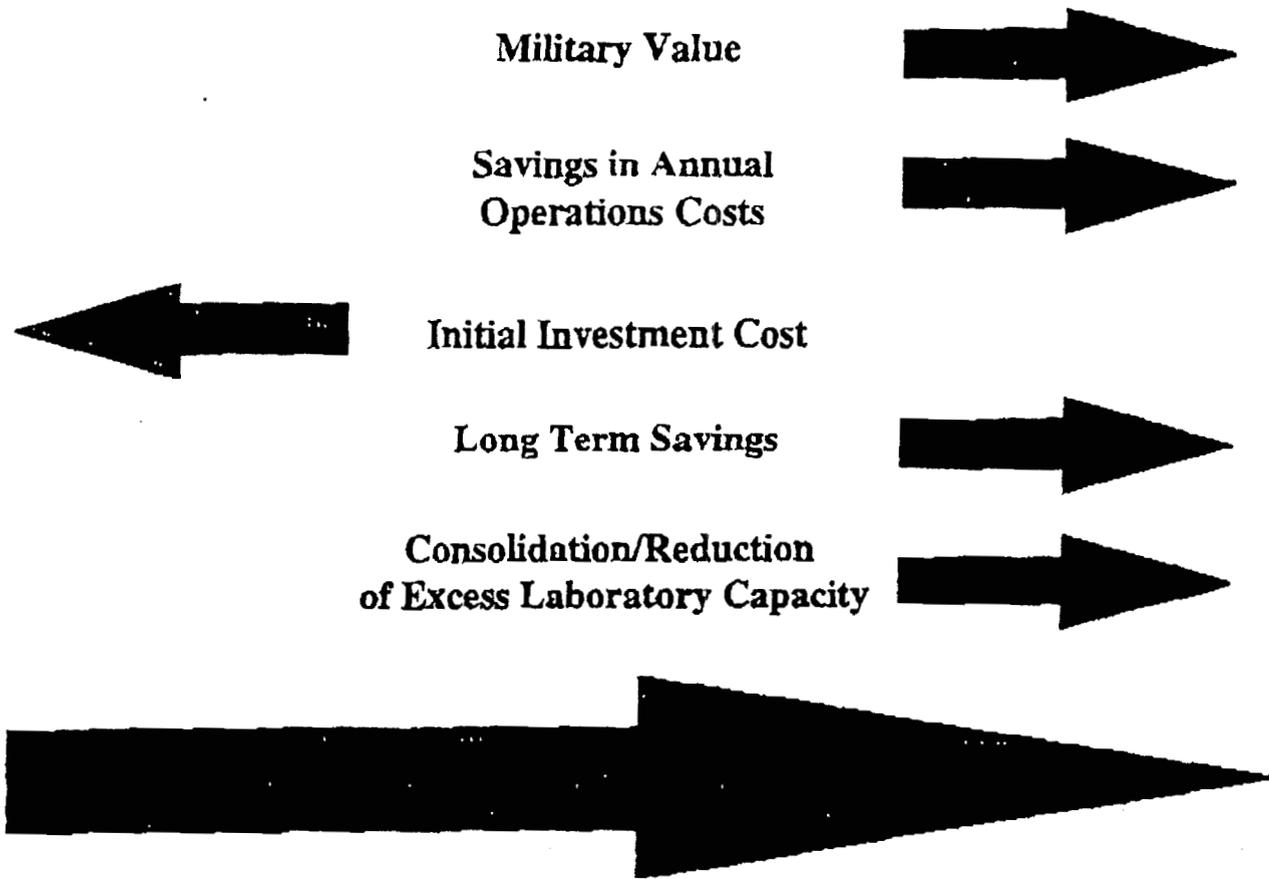
Consolidation also supports joint facility use, reduces infrastructure and overhead.

- There are highly effective and efficient support activities at Wright-Patterson AFB, i.e. a regional military housing and other necessary base operating support infrastructure.
- Collocation reduces infrastructure for base and headquarters support with 506 positions eliminated.
- Availability, affordability and quality of housing and educational opportunities, both on an off base are available at Wright-Patterson AFB and Dayton, Ohio.
- Movement of Brooks AFB activities to Wright-Patterson AFB provides synergistic effects with the collocation of similar and mutually dependent activities.
- WPAFB has available laboratory and office space capacity to support a critical mass of the transferring activities' needs.
- Complements research, development, education, and acquisition skill base readily available at Wright-Patterson AFB.
- A significant skill base for aerospace medicine and human factors engineering is also resident at Wright-Patterson AFB and the surrounding area.

SUMMARY

Cantonment

**Consolidation of Laboratories
to WPAFB**



Consolidation of Brooks activities to Wright-Patterson is the right answer. It meets all relevant BRAC criteria.

Relocation to Wright-Patterson is the right answer when viewed from three perspectives:

- **Military Value** - Provides total man-machine integration for all USAF weapon system management.
- **Economics** - Provides for best business case. The up front cost pays back in only six years.
- **Reduction of Excess Capacity** - Provides for reduction of excess capacities and promotes cross - servicing in weapon system man-machine endeavors.

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POINT PAPER
ON
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ISSUE

The city of San Antonio, Texas has proposed cantonment of the mission activities at Brooks AFB in lieu of the AF/DoD recommended closure of the base.

DISCUSSION

The Air Force does not support the cantonment option because the proposed closure of the base with relocation of the preponderance of the mission activities to Wright-Patterson AFB, Ohio (WPAFB) has greater military value (based on the first four BRAC 95 selection criteria) Atch 1 shows WPAFB to be a Tier I base (best) and Brooks AFB to be a Tier III base (good)-- i.e. the AF had no deficient installations in this category.

- Criteria 1: "Current and future mission requirements as well as the impact on operational readiness of the DoD's total force" will be enhanced by assigning the Human Systems SPO to Aeronautical Systems Center (ASC) at WPAFB and establishing a Human Systems Institute, comprised of the Armstrong Lab (AL) and the School of Aerospace Medicine (USAFSAM) at WPAFB.
 - The Human Systems SPO was previously assigned to ASC. Further, previous SPO/other qualified personnel remain assigned at ASC who could staff the SPO to mitigate against government personnel unwilling to transfer to WPAFB.
 - Relocation of AL to WPAFB would, for the most part, consolidate AL in one geographic location and continue its mission as an AF "super" lab. The AF has been committed to this process of consolidation for many years (Atch 2) and has taken every opportunity inside and outside of BRAC to consolidate labs and collocate labs with their "parent" product centers. ASC is by far the largest "customer" of AL technology for human systems.
 - USAFSAM relies for approximately half of its instructors on AL. Conversely, AL relies on the faculty and staff of USAFAM to conduct and support the research mission of the laboratory. This mutually beneficial and highly synergistic relationship would be preserved and continue at WPAFB since military instructors could be moved to WPAFB as part of the normal permanent change of station (PCS) process. Further, this relationship can be enhanced since Wright State University (contiguous to WPAFB) is the only civilian degree granting institution for aerospace medicine in the country. Also, the planned relocation of USAFSAM will draw heavily on shared use of facilities with the Air Force Institute of Technology (AFIT) located at WPAFB.
 - The San Antonio proposal lists San Antonio as a "one-of-a-kind biomedical community". Atch 3 shows that the Dayton region around WPAFB is also a "biomedical center of excellence".

- Criteria 2: The "availability and condition of land, facilities and associated airspace" shows that Brooks AFB has no useable runway or active duty forces based there. On the other hand, WPAFB is one of the Air Force premier operational bases and one of the very few proposed as a "receiving location" for additional operational forces in BRAC 95.
 - On base AF warfighting personnel will be invaluable to enhancing the ability of the HSI and Human Systems SPO to accomplish their mission.
 - ~~Revitalization~~^{REVITALIZATION} of existing acquisition technical and educational facilities at WPAFB to host HSI and SPO activity greatly reduces the AF's excess capacity in these areas. This collocation further enhances WPAFB as the largest Research, Development and Acquisition (RD&A) complex in the free world.

- Criteria 3: Brooks AFB has no ability to "accommodate contingency, mobilization and future total force requirements". However, WPAFB continues to be a principal part of these AF activities with considerable demonstrated potential to expand (i.e. every major class of AF aircraft has been operated from WPAFB at some time in the last 20 years--fighters, bombers, transports, tankers).

- Criteria 4: The city has provided estimated "cost and manpower implications" for the cantonment. This data as well as the data for the proposed closure has been updated (Atch 4). This data shows that closure eliminates almost twice as many people--506 vs 266 and moves four times as many, 2876 vs 689. From a cost standpoint, it is elimination of positions which produce significant savings which more than offset one time moving costs.

- Criteria 5 is the first of the non-military value criteria and deals with "the extent and timing of potential costs and savings".
 - Atch 4 shows that closure has a 43% greater net present value (\$172M vs \$120M) than cantonment. Thus, cantonment will cost the Air Force \$52M more than closure in constant dollars.
 - Although the one time cost of closure is \$211.5M vs 21.4M for cantonment, the cantonment cannot be viewed as a closure since most missions will remain (Atch 5). The one time costs of closure is much more than offset by the much higher annual savings \$32.3M for closure vs \$10.5M for cantonment. Atch 4 shows that the site process has now refined the AF estimate for return on investment to 6 years (very desirable in BRAC terms). Note it will take at least two years for the cantonment (with its lower military value) to "pay back" vs the immediate payback asserted in the San Antonio proposal (Atch 4).

- Criteria 6: The economic impact on the San Antonio area of closing Brooks AFB was 1.1% in the AF analysis. No adverse economic impacts for WPAFB as a receiver site were identified.

- Criteria 7: Both communities were deemed to have the infrastructure to support forces, missions, and personnel." Brooks color coded green, and WPAFB color coded green in the AF analysis.
- Criteria 8: No adverse environmental impacts were found for moving from Brooks AFB (coded red) to WPAFB (coded yellow).

RECOMMENDATION :

The high military value of WPAFB coupled with the high net present value and 200% greater annual savings of closing Brooks AFB (including the quick return on investment) very favorably supports the AF/DoD proposal to close Brooks AFB versus the community proposal to canton Brooks AFB..

actions could result in cost increases to other Federal departments and agencies, DoD found that these costs in most cases analyzed would amount to a small fraction of BRAC savings -- less than 2 percent -- and therefore would not be likely to alter BRAC decisions.

BRAC 95 Selection Criteria

In selecting military installations for closure or realignment, the Department of Defense, giving priority consideration to military value (the first four criteria below), will consider:

Military Value

1. The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.
2. The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.
3. The ability to accommodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.
4. The cost and manpower implications.

Return on Investment

5. 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

6. The economic impact on communities.
7. The ability of both the existing and potential receiving communities' infrastructure to support forces, missions and personnel.
8. The environmental impact.

UNCLASSIFIED

INDUSTRIAL/TECHNICAL SUPPORT - PRODUCT CENTERS and LABORATORIES Subcategory

ANALYSIS RESULTS at TIERING (20 Oct)

The following grades and data reflect the information on which the BCEG members based their tiering determination. Information in this chart was updated as the result of a number of factors between initial tiering and final recommendations.

Base Name	<i>Flying Operations</i>	<i>Product Center/ Lab Evaluation</i>	<i>Facilities and Infrastructure</i>	<i>Contingency and Mobility</i>	<i>Costs and Manpower Implications</i>	<i>Return on Investment</i>	<i>Economic Impact</i>	<i>Community</i>	<i>Environmental Impact</i>
Base Name	I.1	I.5	II	III	IV	V	VI	VII	VIII
Brooks AFB	Red	Yellow	Green -	Red +	246/-78	10	7,723 (1.2%)	Green -	Red +
Hanscom AFB	Red	Green -	Yellow +	Red +	421/-158	9	18,769 (1.0%)*	Green -	Yellow +
Kirtland AFB	Yellow +	Green -	Yellow +	Yellow	448/-469	6	20,364 (8.0%)	Green -	Green -
Los Angeles AFB	Red	Yellow +	Yellow	Red +	450/-142	10	22,935 (0.6%)*	Yellow	Green -
Rome Lab	Red	Yellow +	Green -	Red +	134/ 112	100+	10,931 (8.2%)*	Yellow +	Yellow +
Wright-Patterson AFB	Yellow +	Green -	Yellow +	Green -	1,567/ 834	49	52,399 (11.9%)	Green -	Yellow -

UNCLASSIFIED

UNCLASSIFIED

INDUSTRIAL/TECHNICAL SUPPORT - PRODUCT CENTERS and LABORATORIES Subcategory

TIERING OF BASES

As an intermediate step in the Air Force Process, the BCEG members established the following tiering of bases based on the relative merit of bases within the subcategory as measured using the eight selection criteria. Tier I represents the highest relative merit,

TIER I

Hanscom AFB
Rome Lab
Wright-Patterson AFB

TIER II

Kirtland AFB
Los Angeles AFB

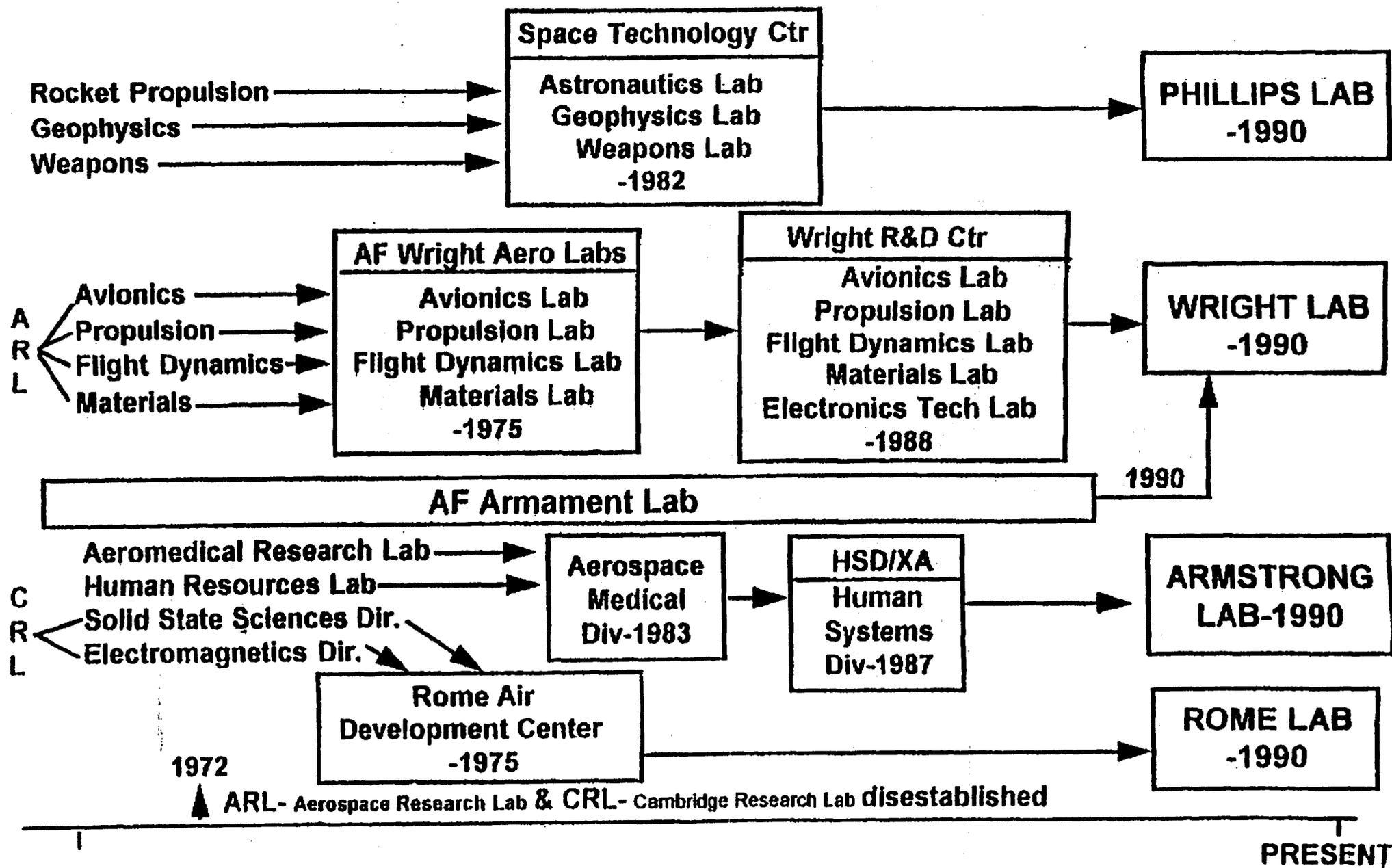
TIER III

Brooks AFB

UNCLASSIFIED

2574

AF LAB CONSOLIDATIONS



ATCH



BRAC '95

Dayton Region -- Biomedical Center of Excellence

- Academic

- Wright State University -- Only Civilian School of Aerospace Medicine
- Strong Medical Programs at Ohio State University and University of Cincinnati
- Dayton Area Graduate Studies Institute (DAGSI)

- Private Sector

- Kettering Heart Institute
- Hipple Cancer Institute
- Numerous Commercial Laboratories Specializing in R&D, Medical & Environmental Testing, and Biomedical Research



BRAC '95

Dayton Region -- Biomedical Center of Excellence (Continued)

- **Federal**

- **Tri-Service Regional Medical Center
(Covers 10 Surrounding States)**
- **Wright Technology Network**
- **Fitts Human Engineering Division, Armstrong Laboratories
(Wright-Patterson AFB)**
- **Regional Veterans Administration Medical Center**

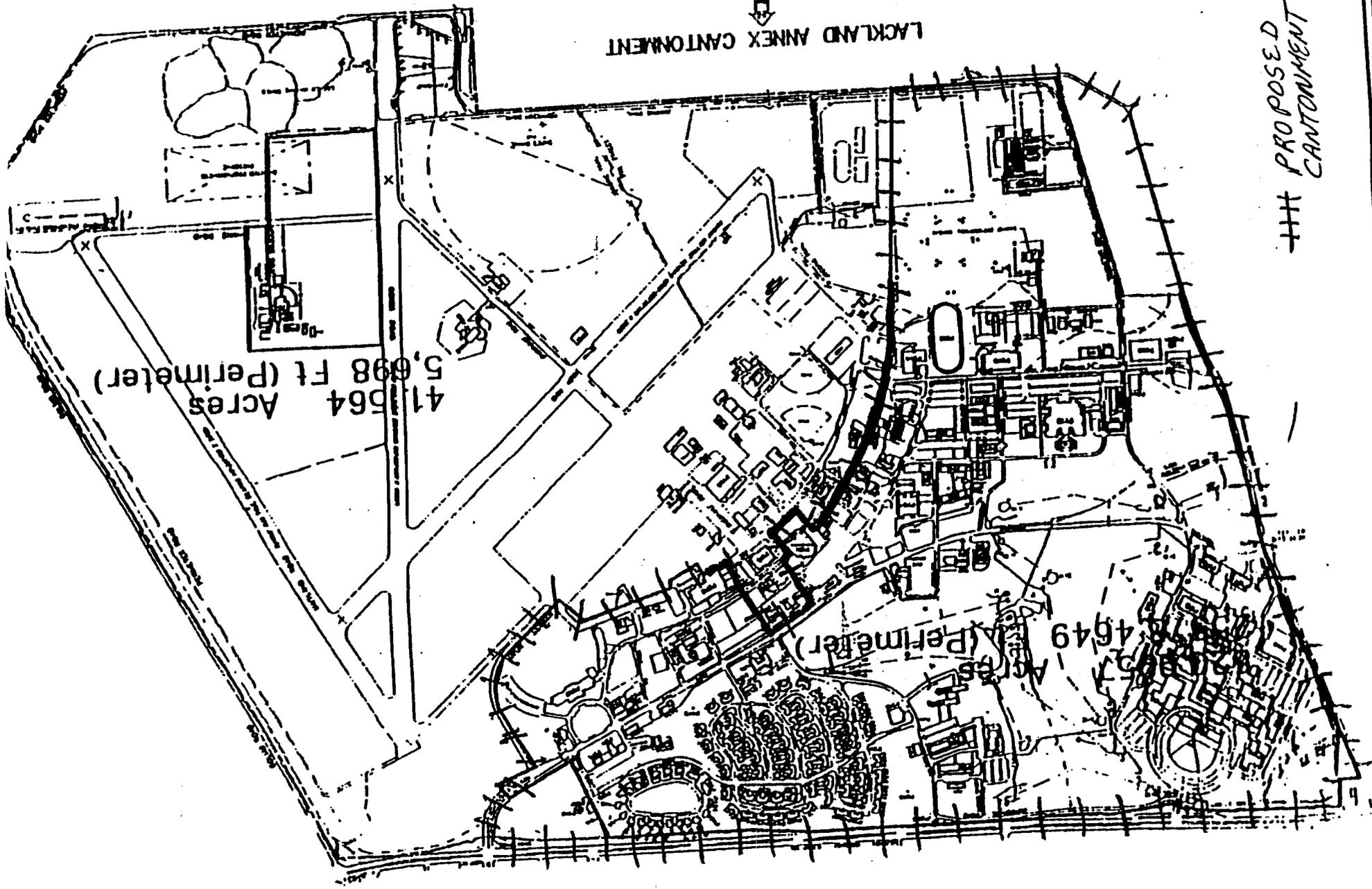


Brooks AFB COBRA Comparisons

BRAC '95

Scenario	<u>DOD Proposal</u>		<u>Alternative</u>	
	Relocate		Cantonment	
Brooks AFB	Close		Close	
People				
- Eliminate	391	506	391	266
- Relocate	3,228	2,876	518	689
One-Time Cost	\$185M	\$211.5M	\$11M	\$21.4M
Recurring Savings	27M	32M	---	11M
20 Year Net Present Value	(\$142M)	(\$172M)	(\$301M)	(\$120M)
Return on Investment	7 Yrs	6 Yrs	Immed	2 Yrs
Military Value (Installation)	High		Low	

ATCA 4



LACKLAND ANNEX CANTONMENT

41,564 Acres
5,698 Ft (Perimeter)

4649 Acres
(Perimeter)

+++ PROPOSED CANTONMENT

22 213 222

07045

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**BROOKS BEDDOWN AT WPAFB
BRAC SITE VISIT
6 JUNE 1995**

AGENDA

0930 - 1015 INBRIEF - BEDDOWN OVERVIEW (AREA C, BLDG 110, RM 109)
1015 - 1030 TRAVEL TO BLDG 262, AREA A
1030 - 1100 COURTESY VISIT TO AFMC/XP
1100 - 1115 TRAVEL TO AREA B
1115 - 1130 TOUR BLDG 32
1130 - 1140 TRAVEL TO EXECUTIVE DINING ROOM (EDR)
1140 - 1210 LUNCH (EDR)
1210 - 1220 TRAVEL TO BLDG 17
1220 - 1250 BLDGs 17, 57, TOUR FOR HSC/YA, SYSTEM PROGRAM OFFICE, BLDG 28 (TOUR FOR AL STAFF) & BLDG 33 (TOUR CENTRIFUGE FACILITY FOR CREW TECHNOLOGY)
1250 - 1300 TRAVEL TO BLDG 22
1300 - 1315 BLDG 22 (TOUR FOR AL/SD LIBRARY AND AL/OE OCCUPATIONAL ENVIRONMENTAL HEALTH)
1315 - 1325 TRAVEL TO BLDG 190
1325 - 1345 BLDG 190, 434, 79 (TOUR FOR AL/AO AEROSPACE MEDICINE)
1345 - 1355 TRAVEL TO BLDG 126
1355 - 1405 BLDG 126 (TOUR FOR AL/CFT CREW TECHNOLOGY)
1405 - 1410 TRAVEL TO BLDG 125
1410 - 1425 BLDG 125 (TOUR FOR SYSTEMS ACQUISITION SCHOOL)
1425 - 1435 TRAVEL TO BLDG 838
1435 - 1450 BLDG 838 & 839 (TOUR AL/OE OCCUPATIONAL ENVIRONMENTAL HEALTH VIVARIUM AND LABORATORY); BLDG 821 (TOUR FOR SCHOOL OF AEROSPACE MEDICINE)
1450 - 1500 DRIVE BY PROPOSED SITE FOR SCHOOL OF AEROSPACE MEDICINE
1500 - 1515 RETURN TO AREA C

OPTIONAL TOURS

BLDG 441
BLDG 450
BLDG 145

**6 JUNE 95 FACILITY REVIEW
178FG/BROOKS BRAC BEDDOWN****LIST OF ATTENDEES**

<u>NAME</u>	<u>ORGANIZATION</u>	<u>PHONE</u>
MR J. P. SUTTON	ASC/CD	785-3229
MR LEON GLASPELL	88 ABW/CA	787-3943
COL ROBERT "LANCE" MEYER	178 FG/CC	346-2178
MR CRAIG HALL	BRAC COMMISSION	226-0504/198
MR LES FARRINGTON	BRAC COMMISSION	226-0504/190
MR JOE VARALLO	BRAC COMMISSION	226-0504/190
MR FRED BRINKMAN	88 CEG/CECX	787-4804
MR WILLIAM F. STORM	BROOKS AFB	240-3464
MR BILL HUMES	BROOKS AFB	240-3446
MR JOHN FEDON	WRIGHT LAB/POME	785-4013
MR JAMES DAWSON	88 CEG/CECX	787-4804
MR JAMES HODGE	88 CEG/CECP	787-74427
LT COL GENE DEGRAPHENREID	HQ AFMC/XPX	787-6322
MR SKIP THIELEN	HQ AFMC/XPX	787-2622
MR NORM THOELE	AL/SDNL	785-6069
MR ED WOZNIAK	88 ABW/XPP	787-6291

**AIR NATIONAL GUARD BEDDOWN AT WPAFB
BRAC SITE VISIT
6 JUNE 1995**

AGENDA

- 0930-1015 INBRIEF - BEDDOWN OVERVIEW (AREA C, BLDG 110, RM 109)**
- 1015-1025 TRAVEL TO FLIGHTLINE**
- 1025-1040 TOUR FAC 144, BLDGS 136, 91, AND 93**
- 1040-1100 TOUR BLDG 101**
- 1100-1115 TOUR BLDG 268**
- 1115-1125 TOUR BLDGS 103 AND 106**
- 1125-1130 TRAVEL TO BLDG 259**
- 1130-1145 TOUR BLDG 259**
- 1145-1200 WINDSHIELD TOUR OF BLDGS 95, 255 AND 58**
- 1200-1230 LUNCH**
- 1230-1300 TRAVEL TO SPRINGFIELD ANG FACILITIES**

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BRAC Presentation

City of Ridgecrest

A unique place with a bright future

June, 1995

Ken Kelley, City Administrator

City Character

- ◆ "Secret City," surrounded by a 100 mile Sand Moat.
- ◆ Capitol of the East Sierra-Mojave Desert Region
- ◆ City of 30,000 persons, with plans and resources to sustain a future city of 75,000
- ◆ 24,000 residents here because of our largest employer China Lake, renowned RDT&E laboratory
- ◆ Exceptional population of scientists, engineers, technicians and support personnel
- ◆ 10% of adults have Graduate or Post Graduate Degrees
- ◆ 35% of adults have Bachelor's Degrees or Better.
- ◆ Patriotic, Religious, Educated, Conservative

◆ Gateway to Death Valley National Park & eastern Sierra Nevada's -- skiing, fishing, hiking, boating, nature

◆ Close to Los Angeles Metropolitan Area

◆ Transportation & Communications

◆ Highways 14 and U.S. 395, connections to I-5 and I-15

◆ Two Southern Pacific Railheads

◆ Commercial Aviation Airport

◆ Internet available to entire city population



◆ Resources and Infrastructure

- ◆ Substantial Water resources, 100 year supply. sound management....responsible conservation
- ◆ Wastewater treatment facilities for city of 50,000
- ◆ Electrical capacity more than adequate
- ◆ Ample natural gas pipeline capacity
- ◆ Infrastructure, municipal support, public services are available, community of 30,000...growth to 75,000
- ◆ Fiscally responsible, well managed city



◆ Quality of Life

- ◆ Low crime rate, safe neighborhoods
- ◆ Among highest rated school systems in state, top science and mathematics programs
- ◆ Community pride is high, a Quality of Life City
- ◆ Excellent quality, most affordable Housing in state
- ◆ Museum, libraries, Civic Center, concert organizations, art leagues, parks, organized youth activities.
- ◆ Excellent medical facilities staffed by generalists and specialists

Ridgecrest offers a unique, enjoyable way of life that is unsurpassed in California.

A supportive culture, adequate resources.

Outstanding environment, climate, technical people.

Outstanding educational and recreational opportunities

Infrastructure already in place.

Proud home of the Naval Air Weapons Station at China Lake.

Proud to support growth when our nation needs it.

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**Indian Wells Valley
2000 Committee**

IWV 2000
*PARTNERSHIP
FOR PROGRESS*

China Lake Presentation

IWV 2000 - Who We Are

- **Local grass roots organization supporting NAWC China Lake during BRAC '95**
- **Community and business leaders**
- **Former China Lake employees**

Retired civil service

Retired military

Engineering support contractors

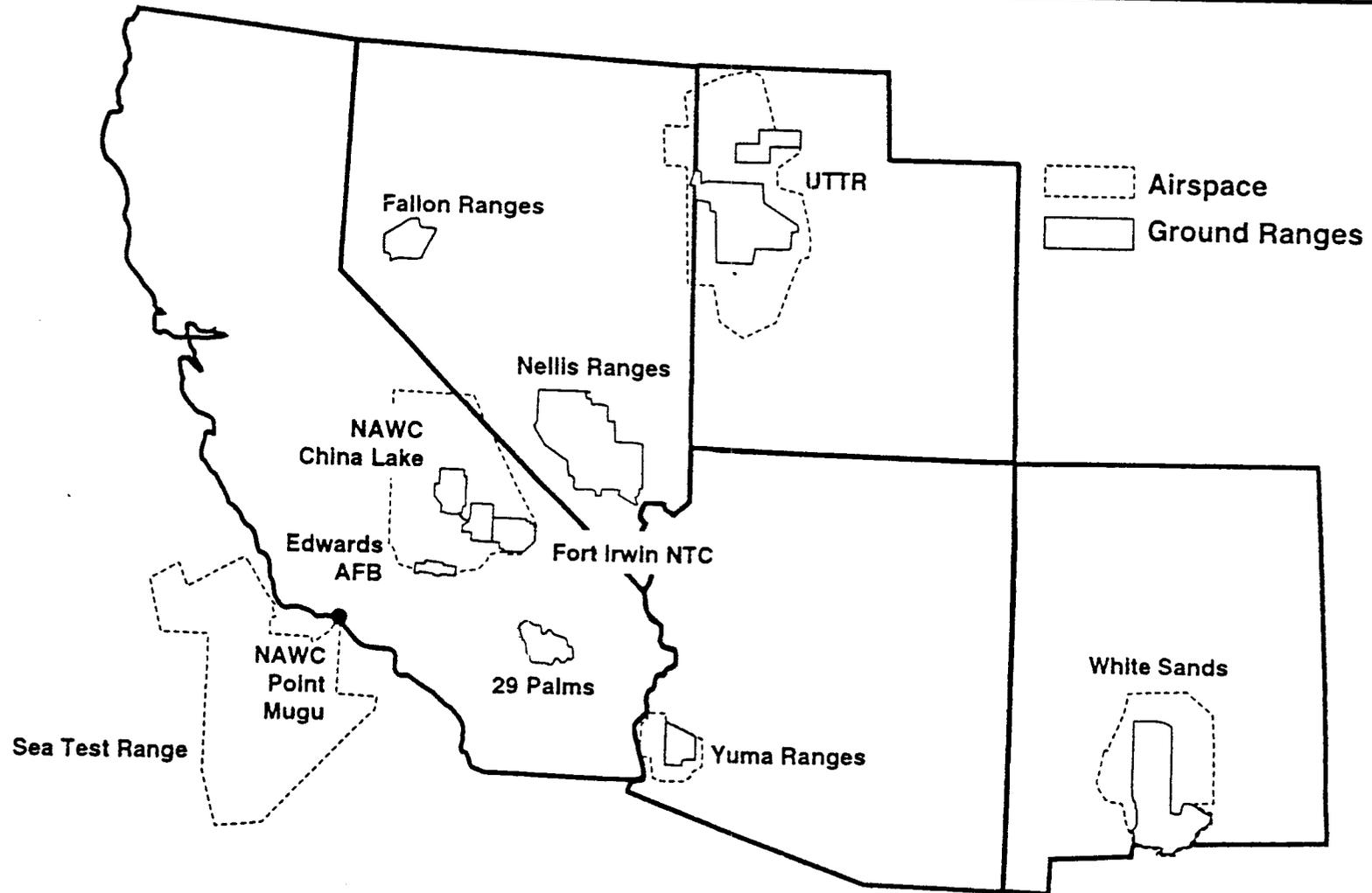
IWV 2000 - Why We Are Here

- **Support China Lake**
- **Provide community input on potential growth**
- **Comment on ability of community infrastructure to absorb growth**
- **Provide comments on Point Mugu/China Lake scenario**

IWV 2000 - What We Are Not Here To Do

- **Advocate closure of Point Mugu**
- **Disparage Point Mugu relative to China Lake**

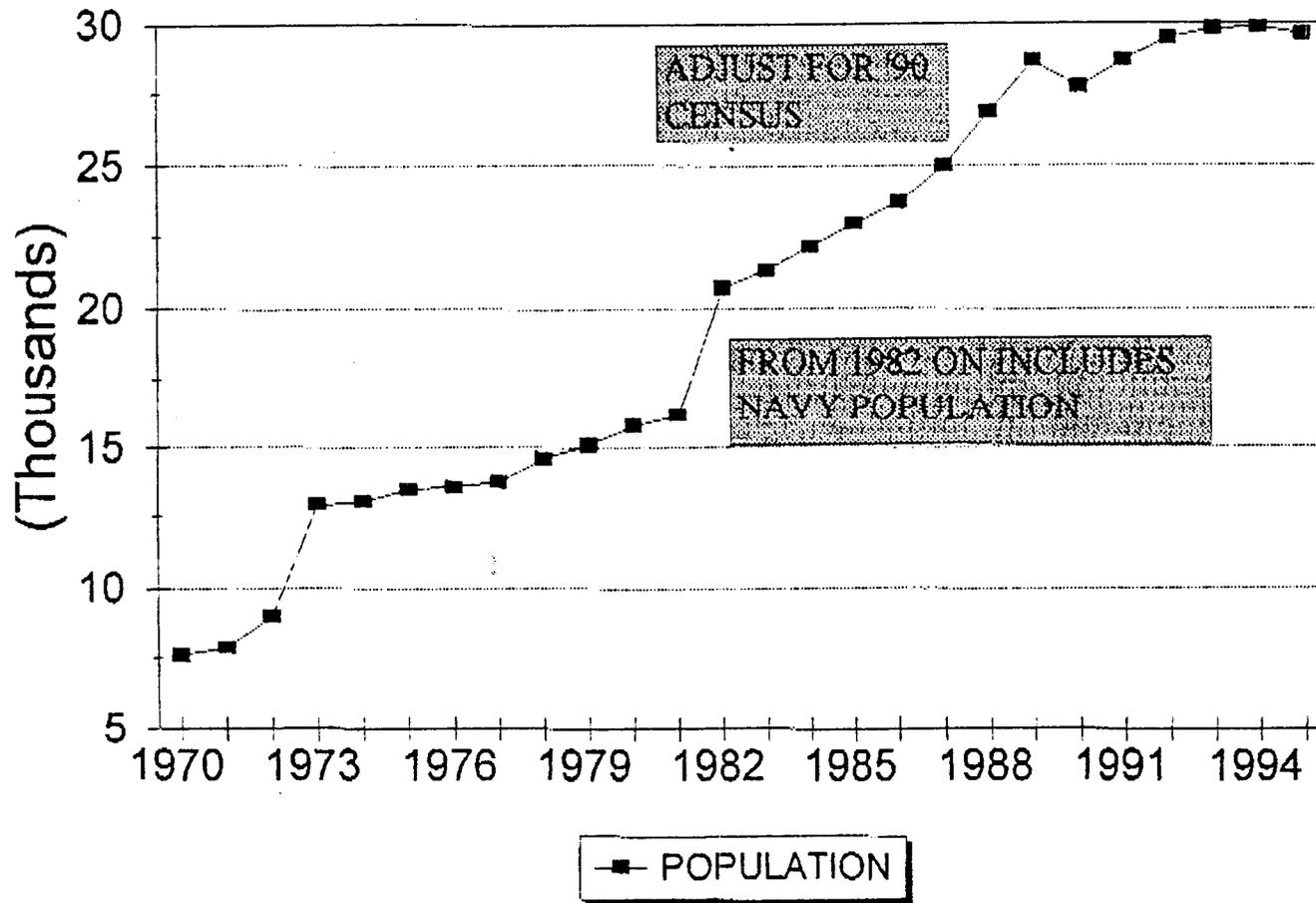
Southwest Air Systems RDT&E Complex



CHINA LAKE PERSONNEL TREND

	<u>FY 85</u>	<u>FY 94</u>	<u>FY 99 (est)</u>
CIV	5647	4624	3713
MIL	<u>962</u>	<u>558</u>	<u>448</u>
TOT	6609	5182	4161

CITY OF RIDGECREST POPULATION



CHINA LAKE POST BRAC PERSONNEL

	<u>FY 85</u>	<u>"POST BRAC"</u>	
CIV	5647	5662	
MIL	<u>962</u>	<u>1785</u>	
TOT	6609	7447	(113% FY 85)

CHINA LAKE FACILITIES

- **Virtually all FY 85 facilities intact**
- **Addition of:**
 - **Two major aircraft hangars with engineering facilities**
 - **MESA facility Jun 95**
 - **Numerous “subMILCON” office buildings**

FORCE STRUCTURE ISSUE

- NAWC manpower plan dated 24 Jan 95 plans Weapons Division civilian manpower losses as follows:

• FY 96	323
• FY 97	341
• FY 98	256
• FY 99	<u>275</u>
	1195

- Point Mugu force structure: -701 FY 96
- China Lake force structure: no change
- Apparently 494 civilian personnel unaccounted for

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Presentation to the BRAC Commission

9 June 1995

Goals of Realignment

- **“Realign NAWC Weapons Division Point Mugu to transfer Test and Evaluation missions to NAWC Weapons Division China Lake**
- **Retain the Sea Range**
- **Retain airspace and island instrumentation**
- **Close/mothball remaining facilities, runways, hangers**
- **Transfer all in service engineering functions to China Lake**
- **Provide support to remaining Point Mugu activities from Port Hueneme”**

Amplifying Assumptions

Retain

- **Sea Test Range current capabilities**
- **Instrumentation and facilities at Laguna Peak**
- **San Nicolas Island facilities**
- **Subscale aerial targets at Point Mugu**
- **Weapons Handling Function**

Amplifying Assumptions

Transfer to China Lake

- **Air Intercept Weapons T&E**
- **Strike Weapons T&E**
- **F-14 WSSA**
- **RCS chambers**
- **Environmental labs**
- **Tactical Air Electronics & Information Warfare**
 - **EA-6B WSSA**
- **Ready Missile Test Facility (RMTF)**
- **Weapons In Service Engineering**
- **Full-scale Targets and Threat Systems**
- **Point Mugu Test Squadron**

New Assumptions

- **Retain at Point Mugu those activities which:**
 - **Have large facility moving costs**
 - **support systems with limited life**
 - **facilities subject to obsolescence caused by rapidly advancing technology/threats**
- **Allow those activities/facilities that can be supported at China Lake or other DoD sites; or have declining forecasted workloads to realize their remaining useful life in place.**
- **Transfer to China Lake those activities that can be accomplished within existing capacity (or can be accomplished with relatively minor augmentation).**

Hardware in the LOOP (HWIL)

Scenario:

- Leave at Point Mugu**

Justification:

- high cost to move**

Impact:

- Reduce capital costs \$8,087,000.**
- 100 existing positions remain at Point Mugu**
- Utilize the MSEL**

RCS/Bistatic Chambers

Scenario:

- Leave at Point Mugu

Justification:

- Utilize existing facilities at Junction Ranch
- Limited workload
- Ample DoD capabilities.

Impact:

- Reduce capital costs \$23,549,000
- 10 existing civilian positions remain at Point Mugu
- 5 existing positions abolished
- Increase workload at Junction Ranch

WSSA EA-6B

Scenario

- Leave at Point Mugu**
- Modernize at China Lake in future**

Justification:

- High cost to move**
- Rapidly advancing technology**

Impact

- Reduce costs \$ 50,819,000.**
- 100 existing civilian positions remain at Point Mugu**

ECSEL

Scenario

- Leave at Point Mugu
- Modernize at China Lake in future

Justification:

- High cost to move
- Old technology
- Rapid growth in requirements
- EWTES partially meets requirements

Impact:

- Reduce capital costs \$ 68,367,000
- 100 existing civilian positions remain at Point Mugu

WSSA F-14 A/D

Scenario:

- Leave at Point Mugu

Justification:

- High cost to move
- limited life (F-14A), limited numbers (F-14d)

Impact:

- Reduce costs \$ 194,400,000.
- 250 existing civilian positions remain at Point Mugu

WSSA EA-6B

Scenario

- Leave at Point Mugu**
- Modernize at China Lake in future**

Justification:

- High cost to move**
- Rapidly advancing technology**

Impact

- Reduce costs \$ 50,819,000.**
- 100 existing civilian positions remain at Point Mugu**

Environmental

Scenario:

- Move function to China Lake**
- Utilize existing China Lake facilities**
- Utilize existing DoD facilities**

Justification:

- Decline in workload**
- Old equipment**
- All up testing in desert does not require Point Mugu approach**
- Quality of testing at China Lake is higher**

Impact:

- Reduce capital costs \$ 9,566,000.**
- Abolish 100 existing civilian positions at Point Mugu**
- Some equipment moves will be required**
- Utilize spare China Lake, DoD capacity**

Sea Range Operations

Scenario:

- Move Sea Range operations, control, and engineering functions to China Lake

Justification:

- Under utilized facilities and manpower at China Lake
- 80 miles same as 250 miles for data communications
- Recurring savings by combining
 - » data processing
 - » scheduling
 - » planning
 - » range engineering

Impact:

- Reduce 250 civilian positions at Point Mugu
- Some increase to backbone communications
- Some increase to computers, display equipment, and manpower at China Lake

Summary

				CL	PM	
	Unique	Moving	Milcon	Manpower Delta		
HWIL	3,440	2,575	2,072	-100	+100	8,087
RCS	500		2,511		-5	3,011
Bistatic	8,000			-10	+10	8,000
WSSA F-14A/D	185,600		9,100	-250	+250	194,700
WSSA EA-6B	50,319	500		-100	+100	50,819
ECSEL	61,639	688	6,040	-100	+100	68,367
Environmental	1,176	1,715	6,675		-100	9,566
Sea Range Ops					-250	
Total	310,674	5,478	26,398			
Grand Total	342,550			Net Delta		-355

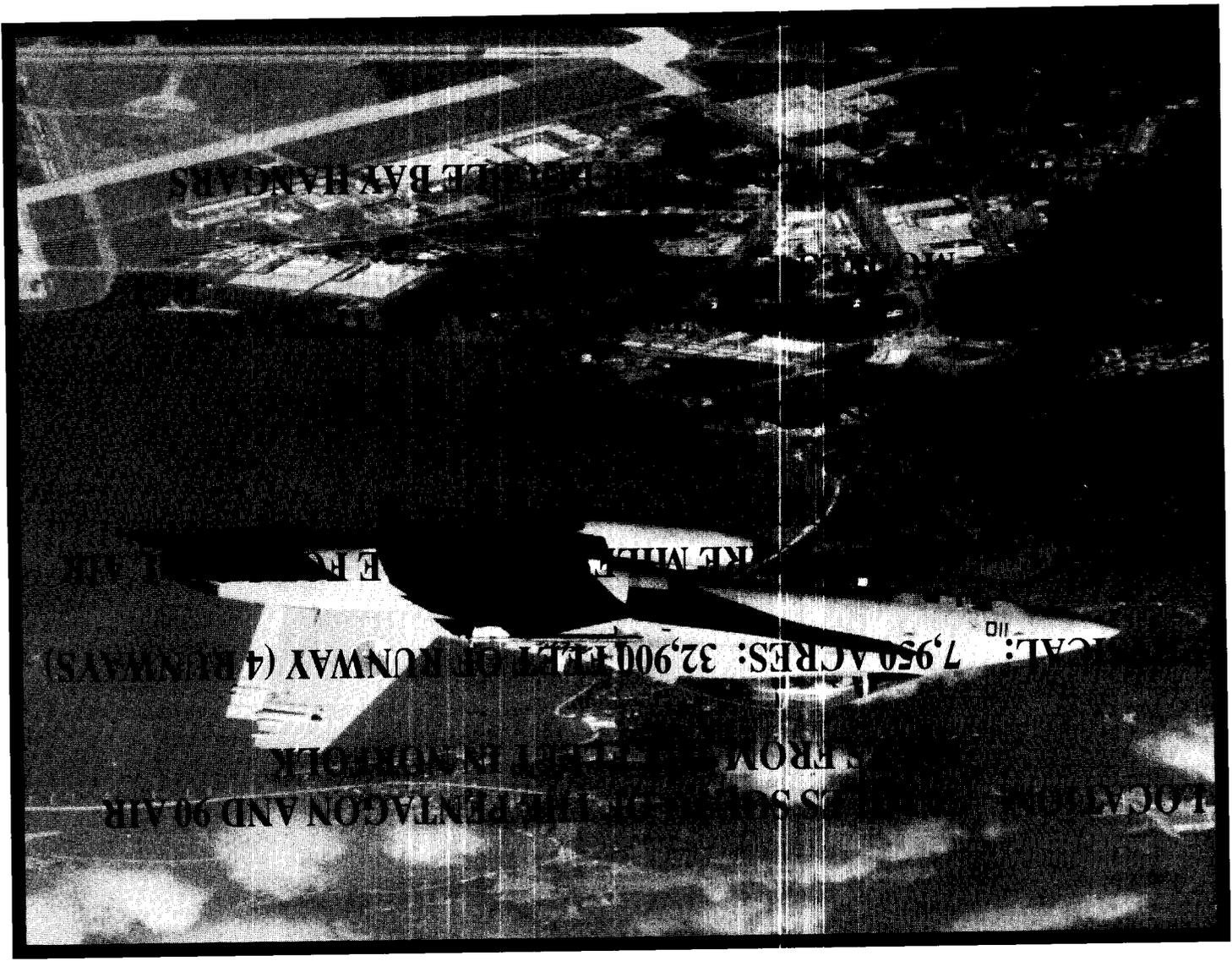
Other Potential Cost Savings

- **EATS**
- **ATIMS**
- **Seeker Lab**
- **Ordnance handling and storage**

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*Naval Air Warfare Center
Aircraft Division*





THE PATUXENT RIVER COMPLEX





PATUXENT RIVER FACILITIES

THE TEST AND EVALUATION ASSET

The Naval Air Warfare Center Aircraft Division (NAWCAD) Patuxent River is the Navy's principal air platform flight test and evaluation (T&E) activity. NAWCAD provides active participation in all phases of the aircraft system's life cycle, including support of technology demonstration and validation, engineering and manufacturing development (EMD), production and deployment, fleet operations, and fleet in-service engineering. Facilities and capabilities include a principal site for development T&E during EMD, as well as range facilities, flight and ground test support, technical and engineering support, and base support for Navy users and other DOD and government agencies.

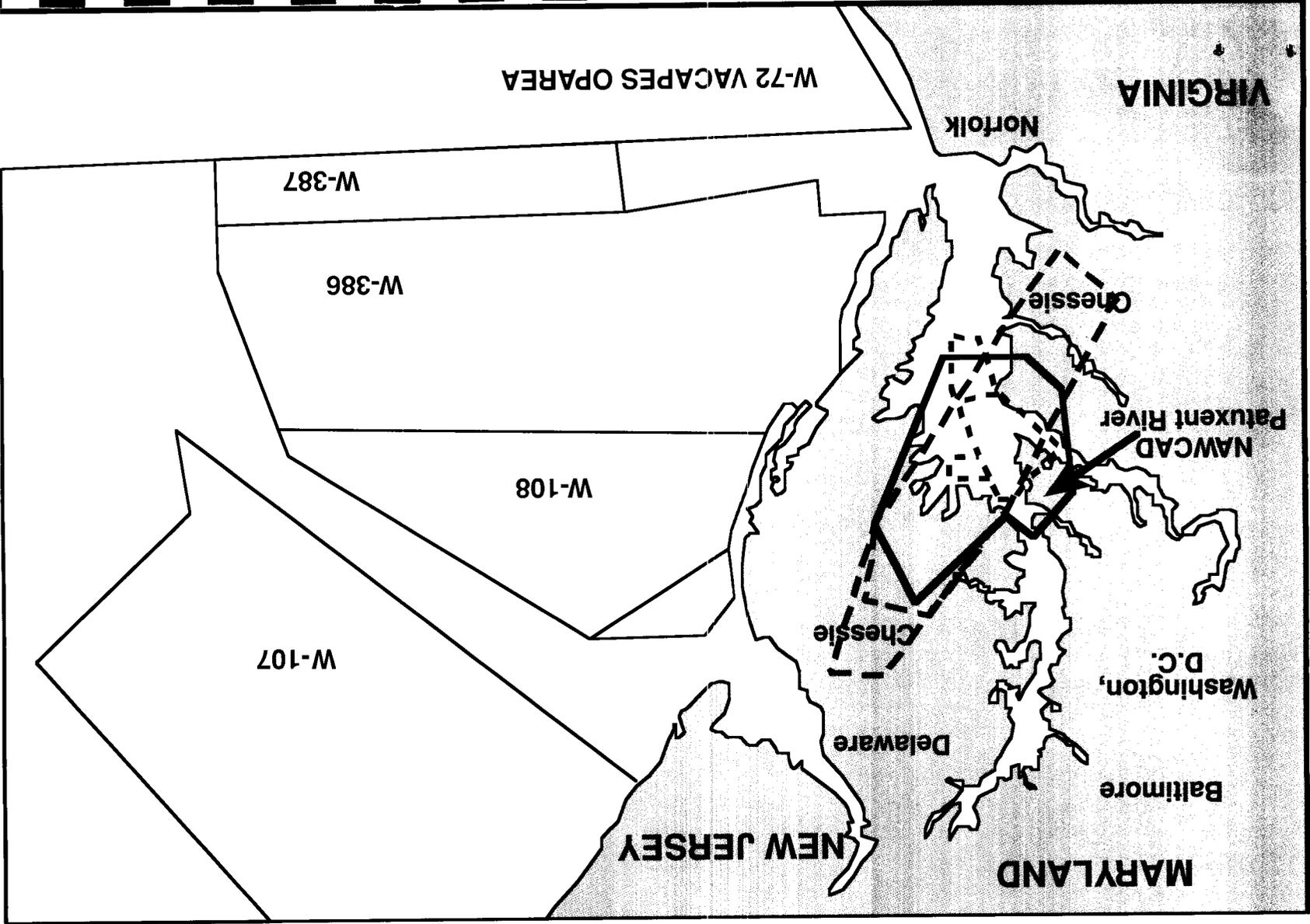
NAWCAD Patuxent River maintains and operates approximately 140 project test aircraft, including 40 assigned to the U.S. Naval Test Pilot School. The present inventory is comprised of 44 types (fighter, attack, electronic warfare, ASW, trainer, strategic communications, etc.) of both fixed and rotary wing aircraft, covering 29 models and 47 series. The inventory includes almost all aircraft in operational Navy and Marine Corps Air Wings. Most are instrumented for air vehicle and/or mission system evaluations. Specially configured aircraft are borrowed from fleet units for specific test requirements. A P-3 test bed aircraft provides test range support.

NAS Patuxent River provides common service support functions for NAWCAD Patuxent River, Air

TEST AIRCRAFT OPERATING FACILITIES

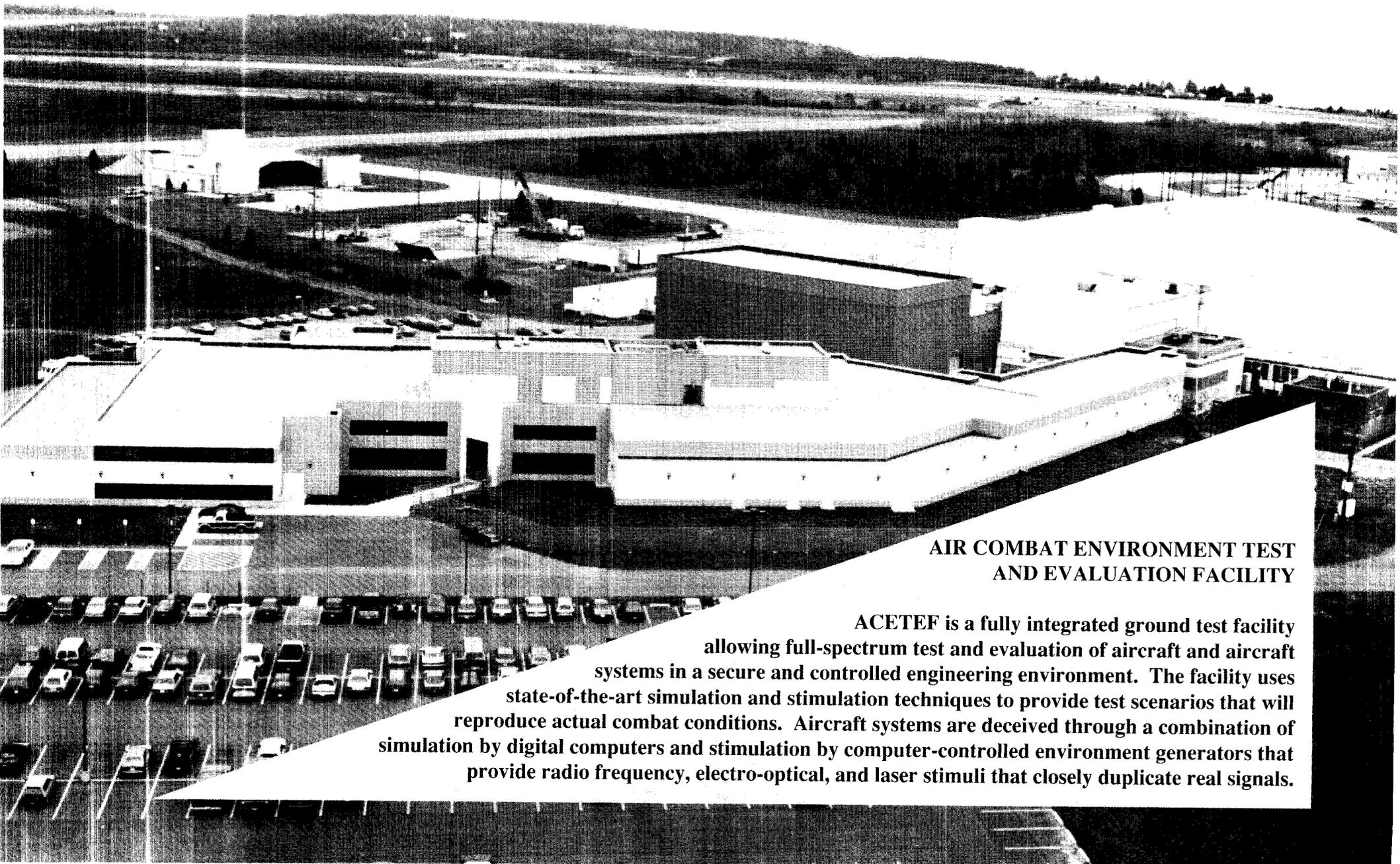
Test and Evaluation Squadron ONE (VX-1), Fleet Air Reconnaissance Squadron FOUR (VQ-4), a Naval Research Laboratory flight support detachment, and Oceanographic Development Squadron EIGHT (VXN-8). The all-weather sea level airfield has three heavy capacity runways 6,400, 9,700, and 11,800 ft long. Eleven hangars provide over 1.2 million square feet of space. Support facilities include a photographic laboratory, hospital, supply and contracting support buildings, and organizational and intermediate-level aircraft maintenance facilities. Test airspace covers 50,000 square miles and includes overwater supersonic areas. Dedicated test areas can be expanded by prearranged use of Virginia Capes, Cherry Point, and Charleston operating areas.

*SPECIAL
USE
AIRSPACE*



**PATUXENT RIVER
FACILITIES**

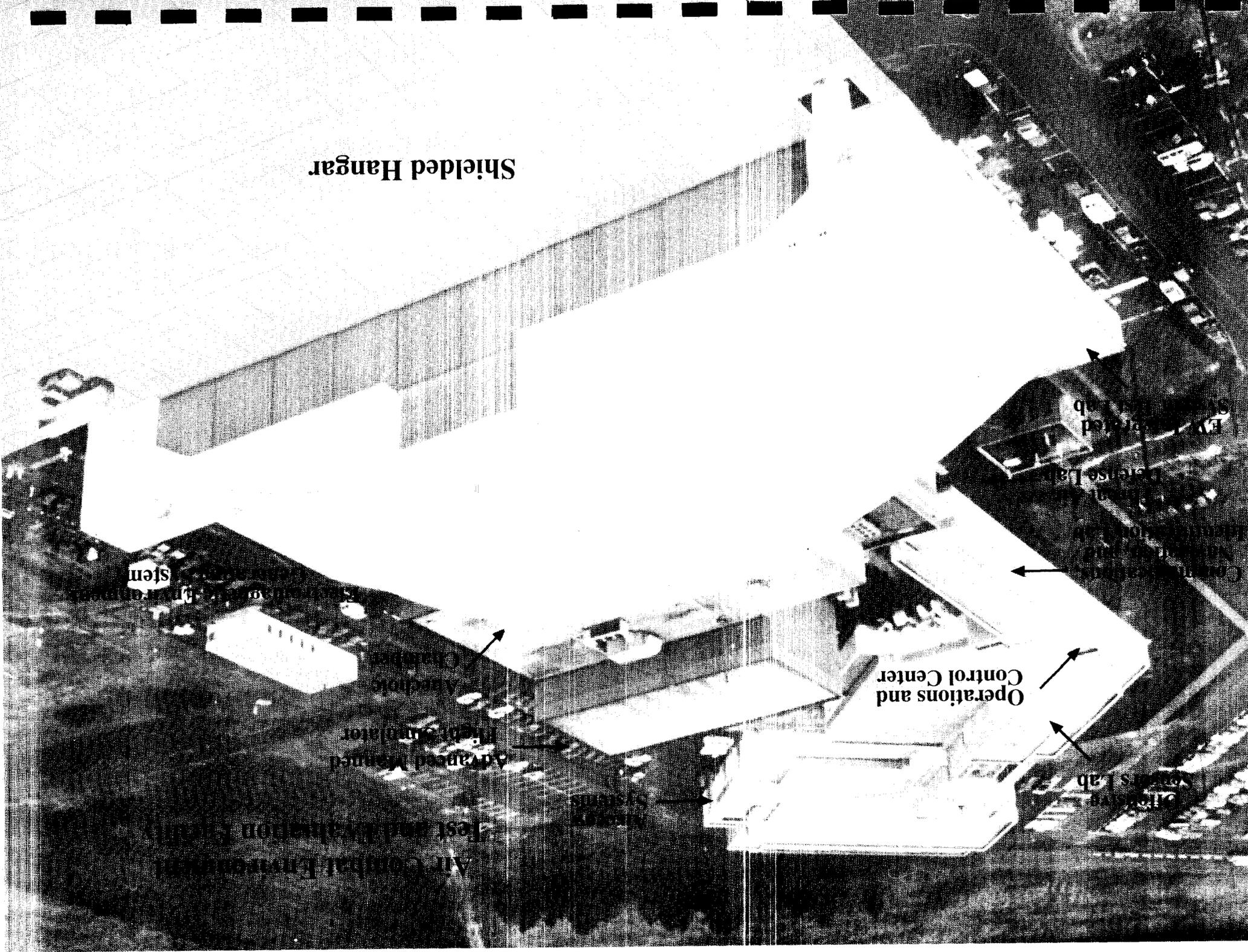




**AIR COMBAT ENVIRONMENT TEST
AND EVALUATION FACILITY**

ACETEF is a fully integrated ground test facility allowing full-spectrum test and evaluation of aircraft and aircraft systems in a secure and controlled engineering environment. The facility uses state-of-the-art simulation and stimulation techniques to provide test scenarios that will reproduce actual combat conditions. Aircraft systems are deceived through a combination of simulation by digital computers and stimulation by computer-controlled environment generators that provide radio frequency, electro-optical, and laser stimuli that closely duplicate real signals.

Shielded Hangar



Stem

Advanced Planned
Control Lab

Operations and
Control Center

Control Lab

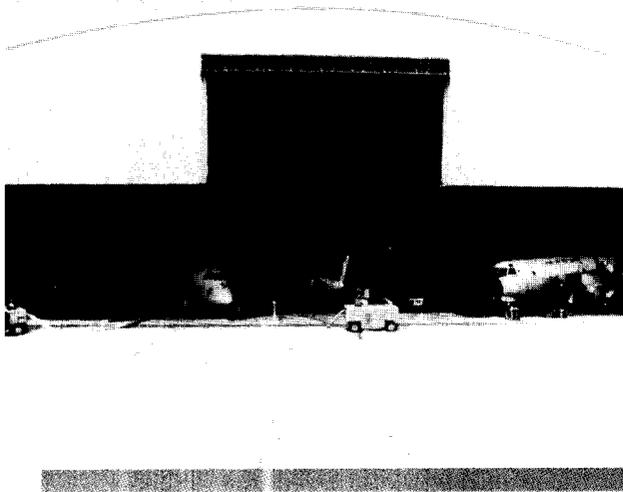
Control Lab

Control Lab

Air Control Environment
Control Lab



AIR COMBAT ENVIRONMENT TEST AND EVALUATION FACILITY



Shielded Hangar

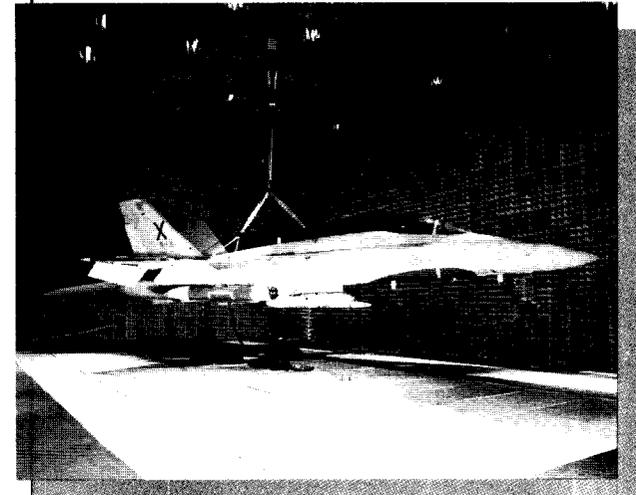
SHIELDED HANGAR

- 300 by 150 by 60 ft test area.
- Isolated electromagnetic environment for inter/intrasystem EMI/EMC tests.
- Preliminary tactical EW suite integration.
- TEMPEST and EW testing of large aircraft.
- Lightning, P-Static laboratory.

ANECHOIC CHAMBER

- Aircraft anechoic test facility.
- Provides a secure (over 100 dB) and realistic (anechoic, or “no echo”) test environment for system stimulation.
- Laboratories provide a multispectral stimulation and simulation environment for the aircraft and its systems that closely resembles actual combat.
- Tactical aircraft size chamber (100 by 60 by 35 ft).

Anechoic Chamber



Canadian F/A-18 in Chamber

- Aircraft or system under test is suspended in chamber in a configuration representing actual flight conditions.
- 30 ton traveling hoist.
- Approved as a temporary secure work area for highly classified programs.



AIR COMBAT ENVIRONMENT TEST AND EVALUATION FACILITY

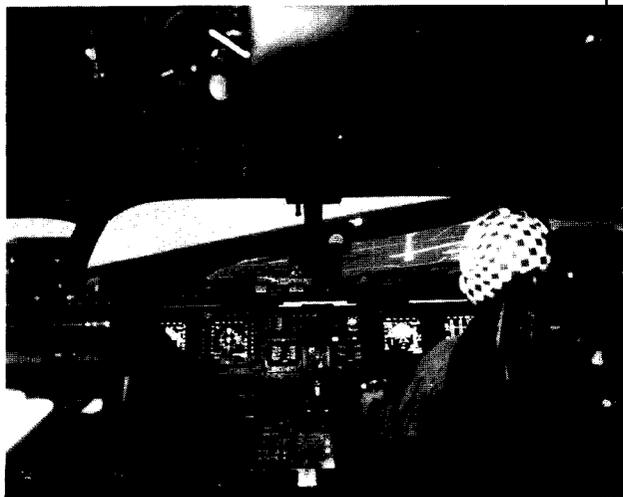
ADVANCED FLIGHT SIMULATOR

- Full-scale, man-in-the-loop simulation.
- Six-degree-of-freedom simulator.
- Roll-in-cockpit, easy reconfiguration.
- Simulation/stimulation of complete aircraft avionics suite.
- Verification of flight and mission system software.



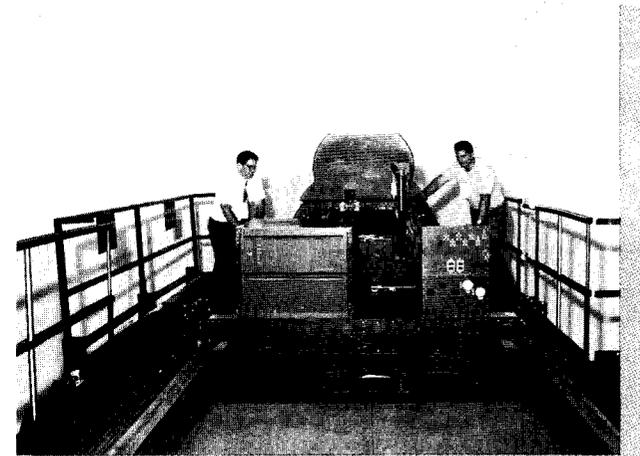
Advanced Flight Simulator Control Console

Simulated Flying in V-22 Cockpit.



Cockpit Installed in the Dome

- 40 ft diameter dome.
- Cockpit inventory includes V-22 F/A-18A, F/A-18C/D/E/F, F-14D front seat, AH-1W procedures trainer, multiple reconfigurable cockpits.





AIR COMBAT ENVIRONMENT TEST AND EVALUATION FACILITY

EW INTEGRATED SYSTEM TEST LABORATORY

- Tactical electronic warfare environment simulators.
- Threat environment with dynamic realism.
- Secure electronic warfare and communications system.
- Controlled environment for software DT&E.

Advanced Tactical EW Environment
Simulator Console



Enhanced Tactical EW Environment Simulator
Connected to an F-14

- Link with threat air defense laboratory to provide higher fidelity threat simulation.
- Portable threat simulators.
- Mobile support van for flight tests.

- Real-time data collection and display.
- Laser and ultraviolet stimulators.
- Radar target simulators.
- Signal verification.

Engineers Control a Simulated Threat Radar





AIR COMBAT ENVIRONMENT TEST AND EVALUATION FACILITY



Operations and Control Console

OPERATIONS AND CONTROL CENTER

- Scenario control.
- Test monitor and control.
- System under test instrumentation.
- Data reduction and analysis.
- Mission effectiveness.

COMMUNICATIONS, NAVIGATION, AND IDENTIFICATION LABORATORY

- Voice/data link, IFF, and navigation system-in-the-loop.
- Communication system instrumentation and space links.
- TEMPEST testing.
- Controlled environment.

OFFENSIVE SENSORS LABORATORY

- Air-to-air radar target generation.
- Multisensor correlation.
- Sensor performance T&E.
- Electro-optical/infrared/ultraviolet active sensor stimulation.
- Aircraft offensive weapons/avionics integration.

THREAT AIR DEFENSE LABORATORY

- Advanced weapon system simulation.
- Man/hardware/software-in-the-loop.
- ECM effectiveness.

Threat Air Defense Laboratory



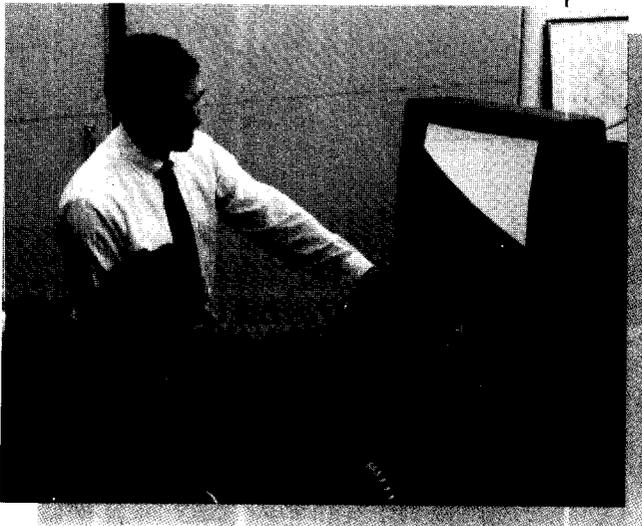


AIR COMBAT ENVIRONMENT TEST AND EVALUATION FACILITY

AIRCREW SYSTEMS EVALUATION FACILITY

- Aircrew systems T&E.
- Rapid prototype of displays and control logic.
- Aircrew workload analyses.
- Advanced control and display T&E.
- Artificial intelligence.
- Prototype reconfigurable display analysis tool for operational requirements (PREDATOR) system.
- Control and display specification development and refinement.

Aircrew Evaluates and Tailors a
Candidate Display Prototype



- Provides man-in-the-loop evaluation of dynamic cues early in design process.
- Provides environment for dynamic evaluation of head-up and head-down displays.
- Aircrew Systems Advisory Panel (ASAP) process used to refine candidate displays.
- Integrates helicopter flight controls.
- Improves hands-on controls (HOTAS).
- Connected to ACETEF SCRAMNET fiber optic network.
- Rapid prototyping provides relocation, resizing, and redesign of displays.
- Virtual Avionics Prototyping System (VAPS) software combined with local modifications.
- Advanced display design tools developed by engineers locally.
- Full-size displays for part-task evaluation.
- Models may be rehosted outside the VAPS environment.
- Closed-circuit TV to monitor crew actions.
- Scan conversation and video recording document refined display prototypes.



Evaluating Prototype Head-Up
Display in PREDATOR II

PREDATOR provides:

- Two Silicon Graphics (SGI) high-resolution, 1280 X 1024, color monitors.
- Two standard Sony monitors.
- High-resolution head-up display with correct viewing angle.
- Out-the-window display.
- Realistic flight-controls and HOTAS functions.
- Paradigm sound system.
- Voice warnings and tones available for evaluation of aural cues.



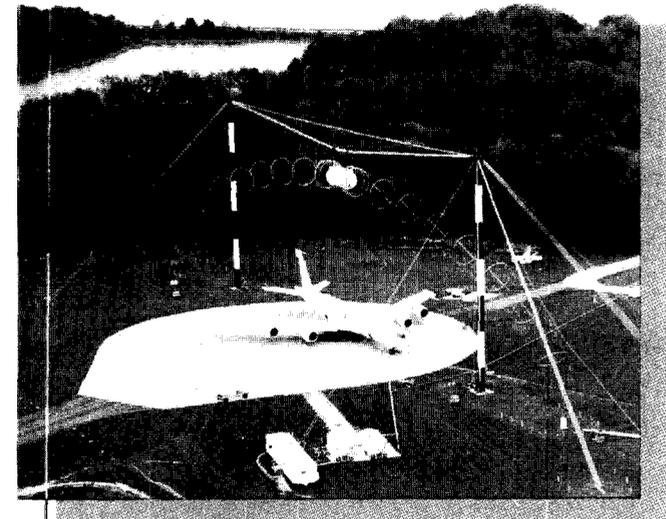
ELECTROMAGNETIC ENVIRONMENTAL EFFECTS (E³) TEST FACILITIES



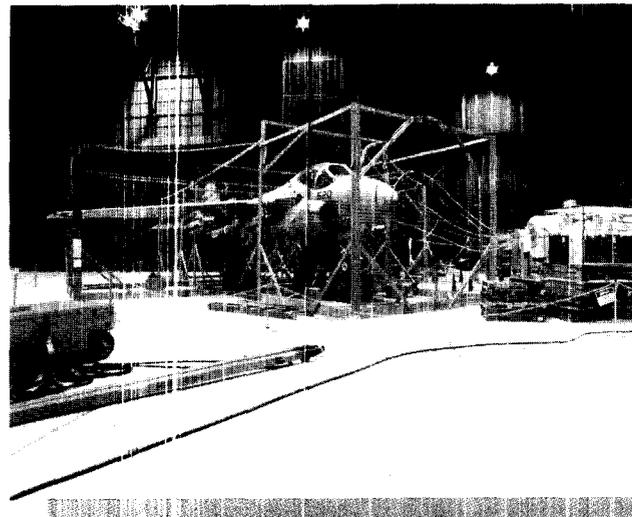
Aircraft TEMPEST Test Laboratory (Portable Unit)

The electromagnetic compatibility and electromagnetic interference test facility, electromagnetic pulse simulation facility, electrostatic effects facility, and TEMPEST test laboratory combine to form the E³ test facilities.

- EMC and EMI test facility is a shielded hangar that provides an isolated electromagnetic environment for inter/intrasystem testing of the total aircraft.
- EMP simulation facility consists of horizontal center-fed dipole and vertical monopole based antennas that provide capability to perform EMP vulnerability testing on aircraft. Pulse rise time is 7 nanoseconds. Peak amplitude is greater than 50 kV/m.
- Electrostatic effects facility has high (lightning) voltage and high-amperage generators that provide capabilities to test effects of and protection from lightning strikes/nearby discharge ESD. Also houses precipitation static testing capabilities.

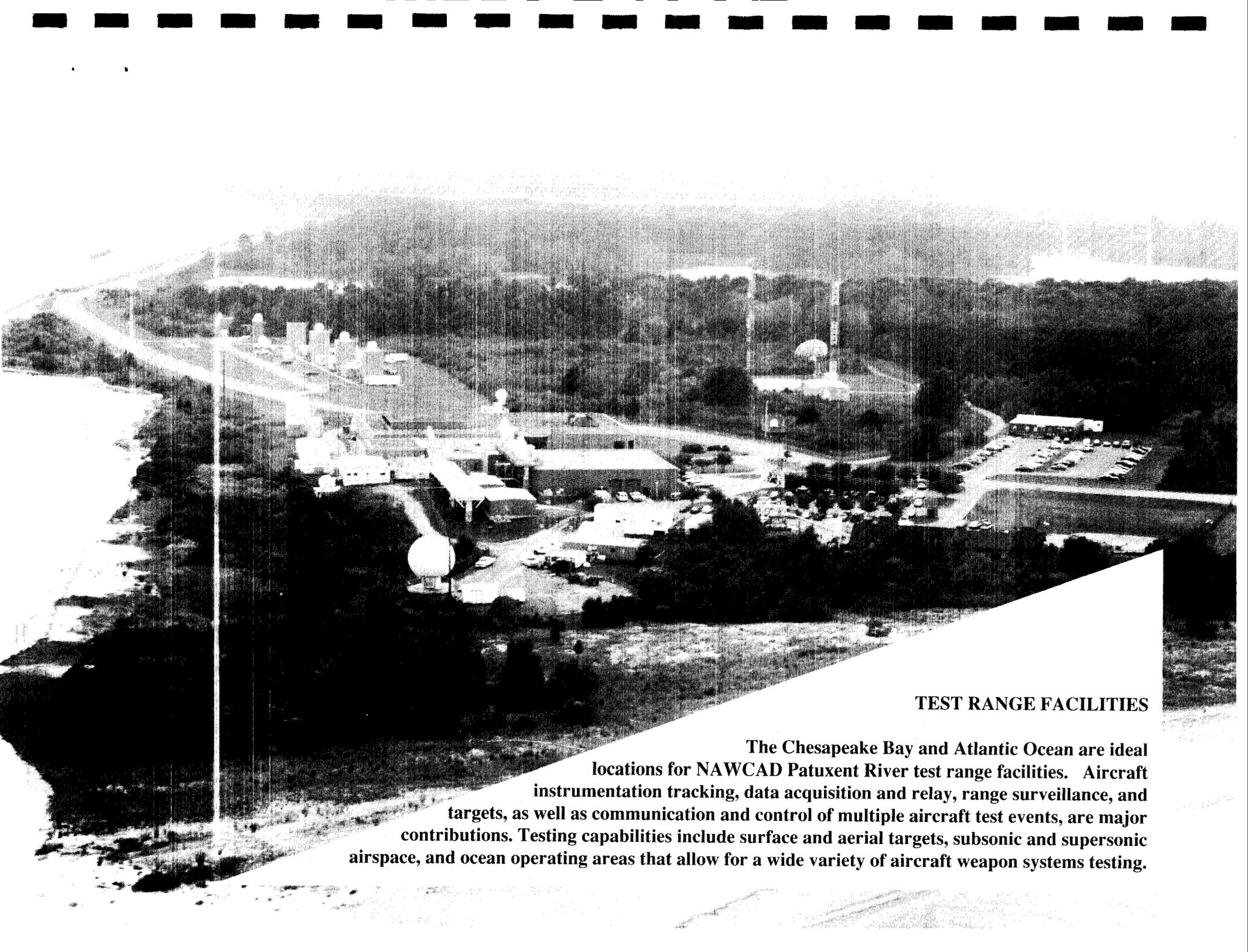


E-6A Undergoing Free-Field Tests at EMP Facility



Lightning Test at Electrostatic Effects Facility

- Electromagnetic Environment Generating System (EMEGS) provides simulation of high-intensity electromagnetic environments.
- Intersystem electromagnetic compatibility testing.
- Carrier vehicle electromagnetic environment compatibility testing.
- Realistic high-power emitter simulation.
- Automated control of high-power transmitter.
- TEMPEST test laboratory contains full suite of automated test equipment to perform requirements of NACSIM 5100A, NACSEM 5112, KAG-30A, and OPNAVINST 5510.93D.

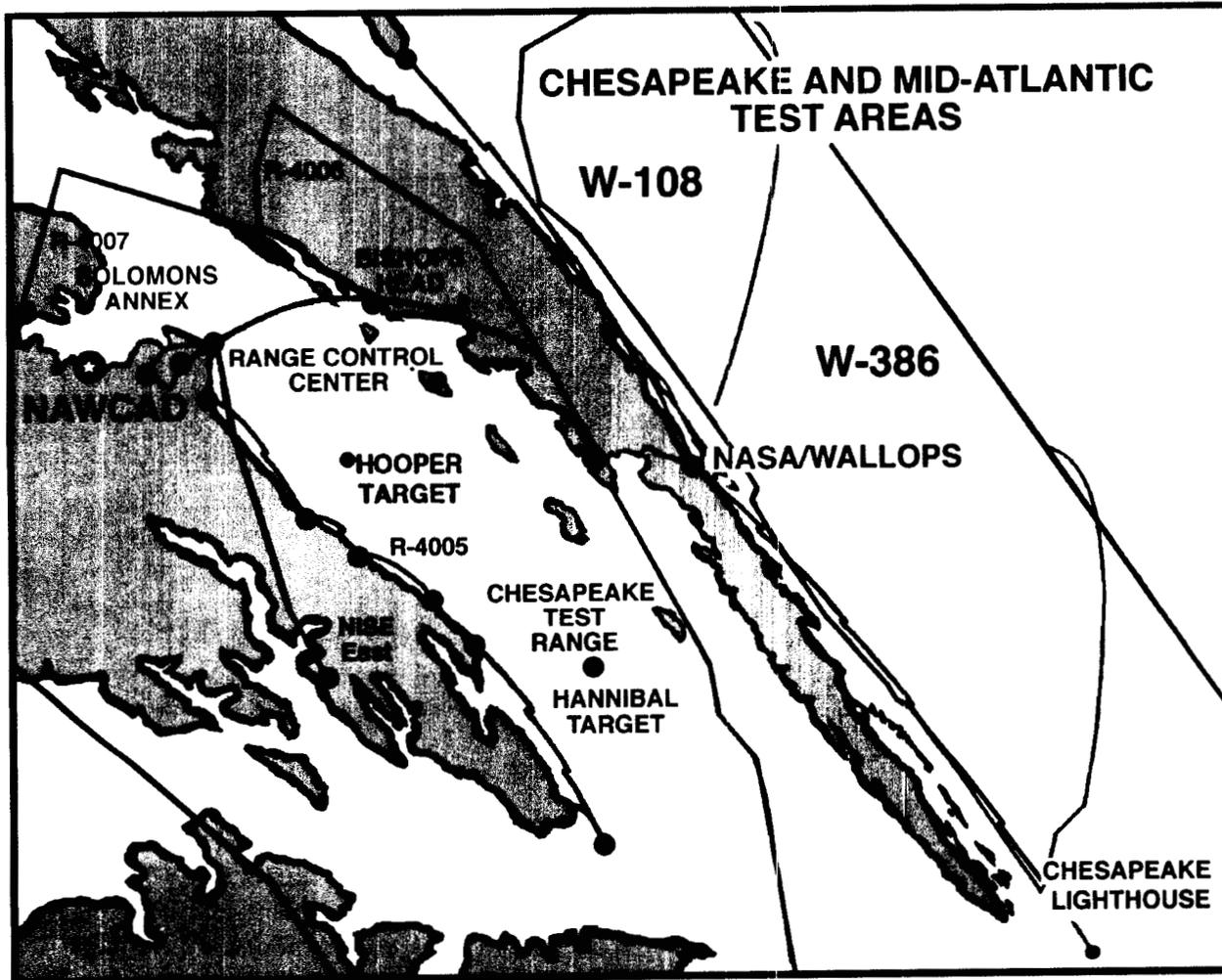


TEST RANGE FACILITIES

The Chesapeake Bay and Atlantic Ocean are ideal locations for NAWCAD Patuxent River test range facilities. Aircraft instrumentation tracking, data acquisition and relay, range surveillance, and targets, as well as communication and control of multiple aircraft test events, are major contributions. Testing capabilities include surface and aerial targets, subsonic and supersonic airspace, and ocean operating areas that allow for a wide variety of aircraft weapon systems testing.



TEST RANGE FACILITIES



SUPPORT CAPABILITIES

- Airspeed and altitude calibration.
- Flying qualities and performance.
- Weapons separation.
- Flight controls.
- Electronic warfare.
- Navigation.
- Shipboard/carrier suitability.
- Fleet training exercises.

SUPPORT FUNCTIONS

- Mid-Atlantic frequency coordination.
- Range safety (airspace and surface).
- Large instrumented test area (50,000 square miles restricted airspace on the Chesapeake Bay and off-shore operating areas in the Atlantic Ocean).
- Extended support capabilities.
 - NASA Wallops
 - Aberdeen Proving Grounds
 - FASTFACS VACAPES
 - Grumman Calverton
 - Hannibal Target
 - Webster Field
- Range instrumentation development.
- Secure operating environment.



TEST RANGE FACILITIES

TRACKING INSTRUMENTATION DIVERSITY

RADAR:

- Single and multiple object.
- Cooperative and noncooperative.
- Frequency and geographic diversity.

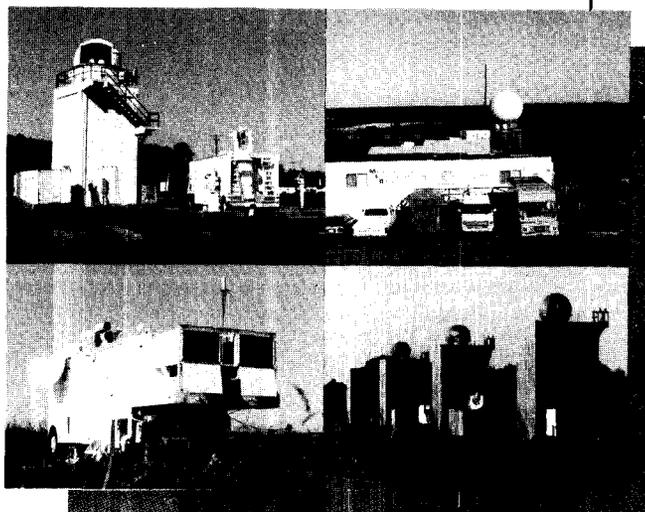
ELECTRO-OPTICAL:

- Video and film theodolites.
- Automatic Laser Tracking System (ALTS).
- Infrared (IR).



Range Control Center

Tracking Instrumentation



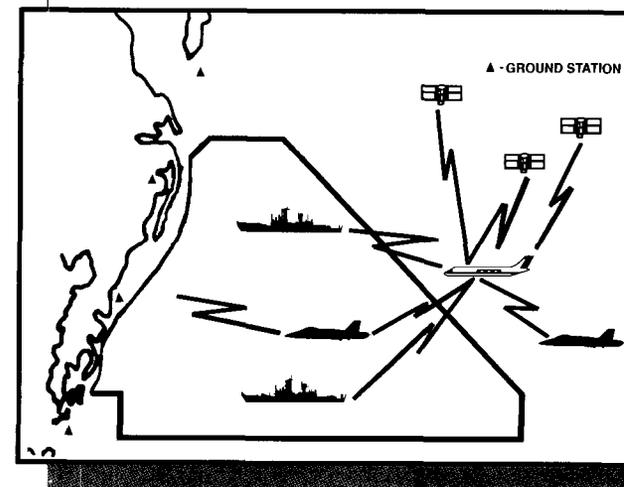
RANGE COMPUTATION AND CONTROL SYSTEM

- Real-time control and data processing of multiple test vehicles.
- Simultaneous mission support.
- Instrumentation diversity.
- Range safety (airspace and surface).
- Video, voice, and data communications diversity (radio, land-line, fiber optics, satellite communications).
- Meteorological data.
- Secure and nonsecure operations.

MULTILATERATION TRACKING SYSTEM

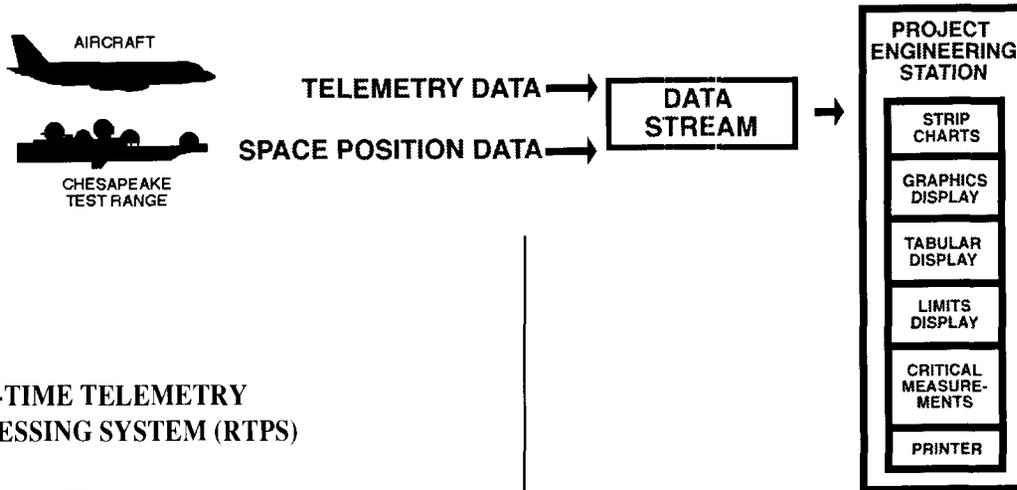
- Mid-Atlantic Tracking System (MATS).
- Global Positioning System (GPS).
 - Large area coverage.
 - Multiple participants.
 - Over-the-horizon.
 - Land, air, and sea coverage.

Multilateration Tracking System





TEST RANGE FACILITIES



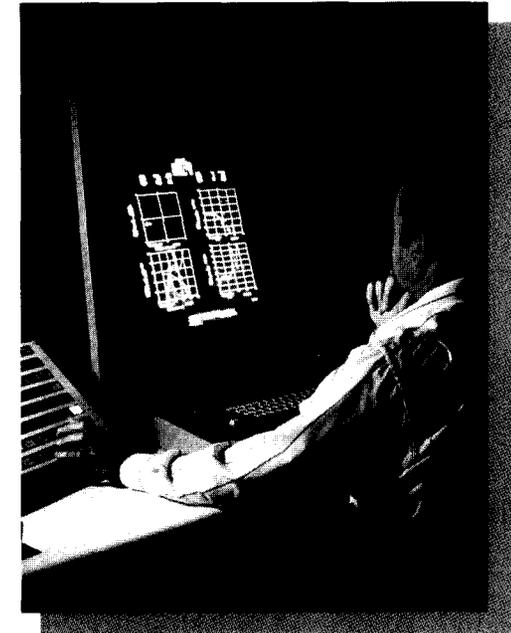
REAL-TIME TELEMETRY PROCESSING SYSTEM (RTPS)

MEASUREMENTS:

- Receive up to 2,007 independent data measurements from each of six aircraft operating simultaneously.
- Each channel samples data measurements at rates of up to 200K times per second.
- Operates from airborne recorded tapes or telemetered data at a receiving rate of 10M bits per second. Data are converted to corrected engineering units, subjected to safety-of-flight checks, and displayed in real time to project engineers on one of six separate project engineering stations (PES's).



Telemetry Data Computer Room



Graphic Display in a Project Engineering Station

REAL-TIME DATA OUTPUTS:

- Computer-driven graphics CRT with hard-copy unit.
- Critical parameter numerical readout.
- Communications network (aircraft, NASA, Chesapeake Test Range, Air Operations).
- Strip-chart recorders (80 channels).
- Audible limit alerts.



TEST RANGE FACILITIES



Operations and Control Console

FLIGHT TEST EMITTER SIMULATION DIVERSITY

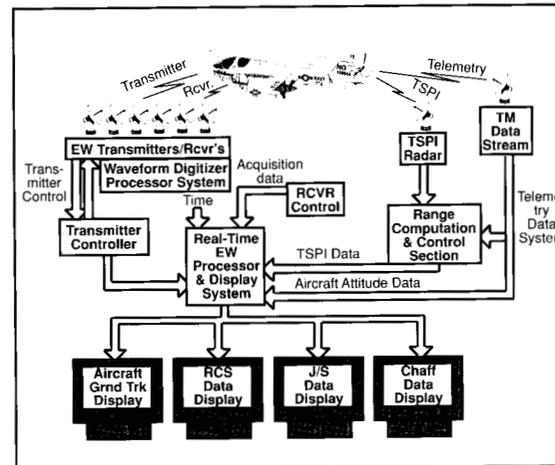
- HF, VHF, UHF, microwave, and MMW frequency coverage.
- Programmable emitter parametrics.
- High signal density.
- Real-time emitter monitoring and verification.
- Common EW data base (ACETEF).

ELECTRONIC WARFARE FLIGHT TEST FACILITY

- Integrated range facilities to provide real-time aircraft avionics flight testing.
 - Telemetry
 - Aircraft tracking
 - Range control
 - Emitter simulations
 - SLQ-32



EW Engineering Workstation



Radar Cross-Section Flight Test System

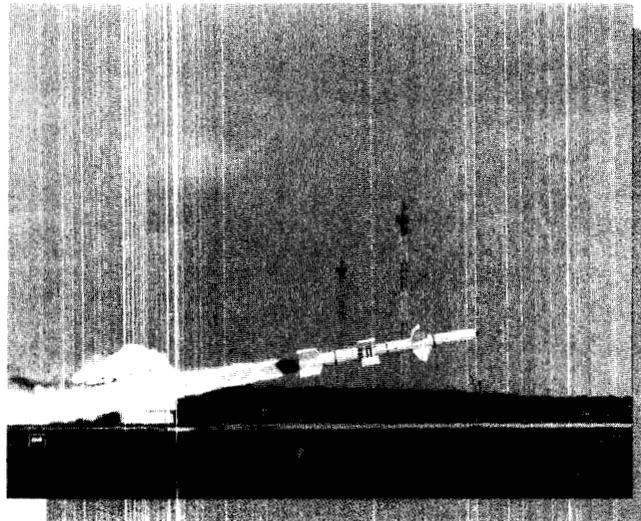
EW FLIGHT TEST MEASUREMENT

- Radar cross-section measurements.
- Jammer-to-signal ratio.
- Chaff and towed decoy characteristics.
- Direction-of-arrival accuracy.
- Receiver sensitivity.
- Aircraft receiver performance accuracy.
- Jammer technique analysis.
- Antenna pattern measurements.



TEST RANGE FACILITIES

Remote-Controlled Land Target

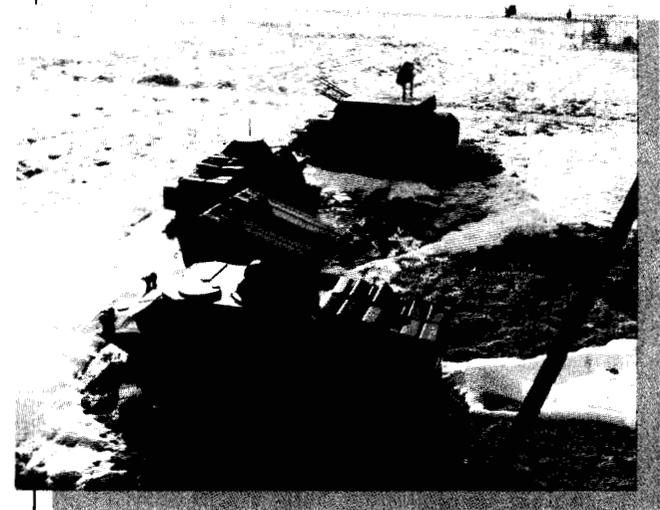


VANDAL Launch at Wallops Site

TARGET SUPPORT FACILITY

- Maintenance and operation of surface and aerial targets used in developmental and operational test and evaluation of aircraft mission system sensors, data processors, and displays.
- Aerial targets include tow targets, drones, aerostats, and an antiship missile presentation capability for Atlantic fleet ships using the VANDAL missile and a launch site at NASA Wallops Island.

Plastic Armored Vehicle Targets

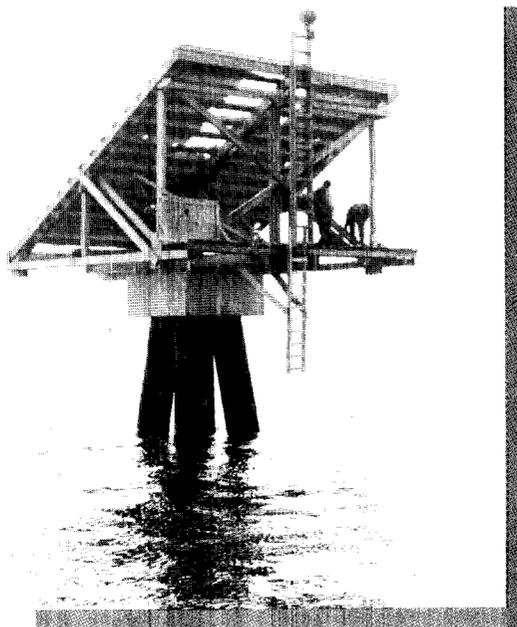
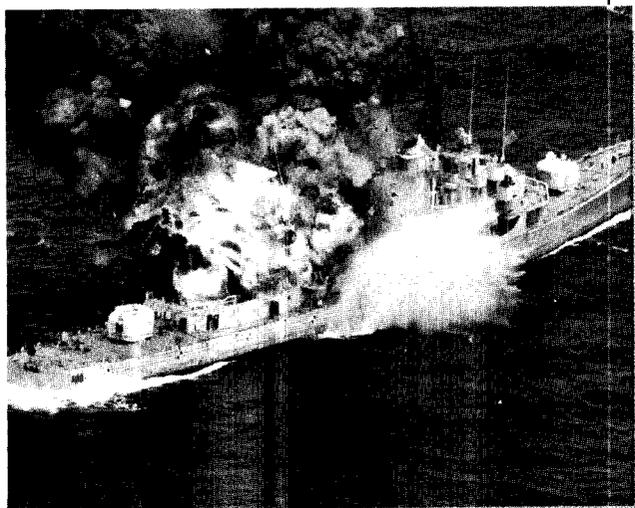




TEST RANGE FACILITIES

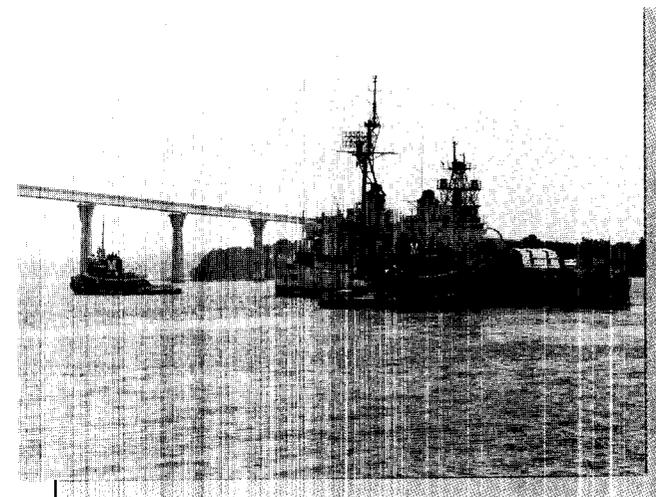
- Seaborne targets consist of fixed targets, remote-controlled boats, and ship hulks. Land targets include manned and remote-controlled ground vehicles and fixed targets at NAWCAD Patuxent River, Bloodsworth Island, and Aberdeen Proving Grounds test areas.

Target Ship Hit



Target in the Chesapeake Bay

- Support services include range control and surveillance, divers for test item recovery, target maintenance and repair, real-time impact scoring, laser designator operation, and design and fabrication of targets for special needs.



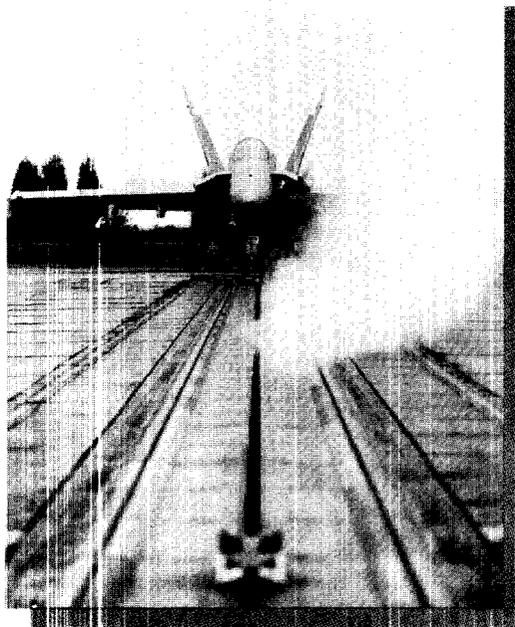
Target Hulk Towed into Position

- Deep-water port facilities at the Solomons Island Annex provide the capability to modify ship hulks with target augmentation devices, command and control, threat signature equipments, and data acquisition instrumentation.



CARRIER SUITABILITY TEST FACILITIES

Catapult Control Console



Steam Catapult

AIRCRAFT CATAPULT LAUNCH AND ARRESTED LANDING TEST FACILITY

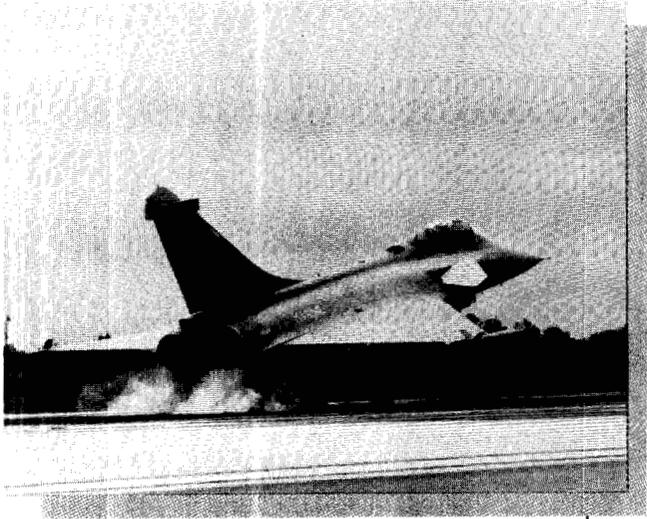
- Installed under and on a runway, permitting complete ship/aircraft launch/recovery testing.
- Integrated with real-time data processing system.
- Colocated with instrumented test aircraft.
- Colocated with landing systems test facility.

Ready for Launch





CARRIER SUITABILITY TEST FACILITIES

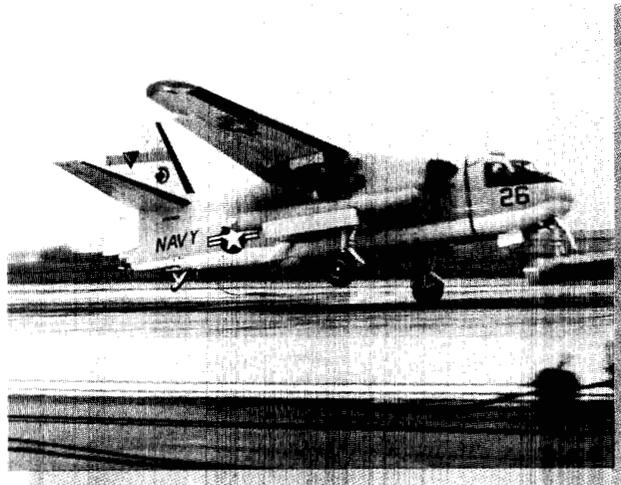


French Rafale Arrested Landing into
MK-7 Mod 3 Gear

- Representative of fleet shipboard catapult and arresting gear.
- Provides evaluation of catapult and arrest procedures.
- Determines suitability of ordnance fit and carriage during catapult and arrest.
- Determines installed engine compatibility during catapult.
- Internationally unique carrier suitability test facilities.



Retracting Arresting Gear



Argentina S-2 FMS Arrested Landing

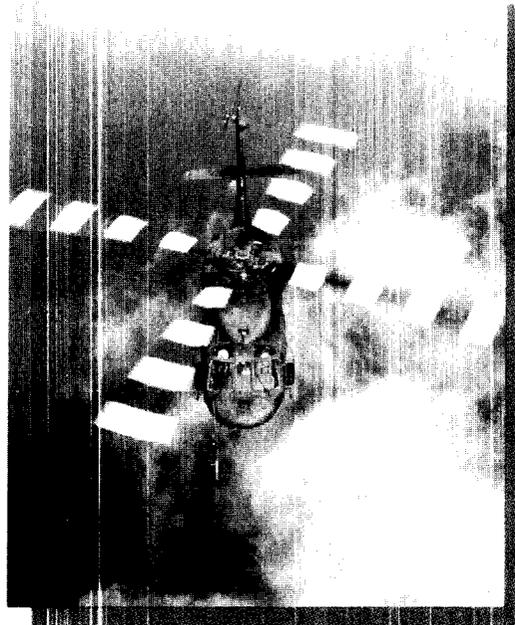


U.S. NAVAL TEST PILOT SCHOOL FACILITY

ARMY • NAVY • MARINES

- Unique educational program of considerable engineering depth and project variety, designed to prepare students for jobs in the RDT&E community.
- Formal instruction in academic studies, test flights, and test report preparation.
- Fixed-wing curriculum prepares pilots and engineers to test airborne mission systems, in addition to airplane flying qualities and performance.

Test Pilot School Asset



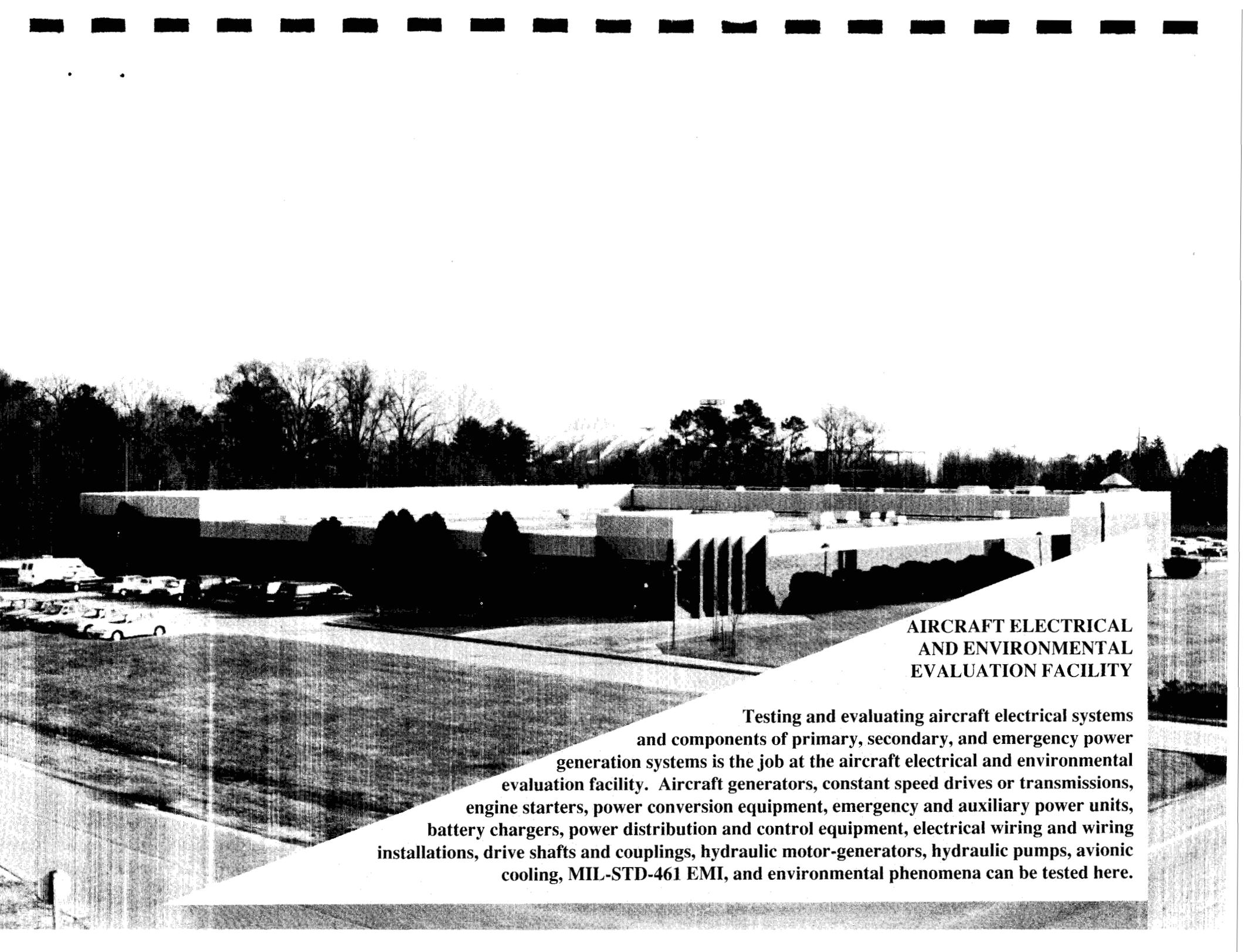
Army UH-60 Blackhawk Helicopter

- Rotary-wing curriculum prepares pilots and engineers for flying qualities and performance and airborne systems testing of primarily the helicopter and secondarily the airplane.
- Airborne systems curriculum prepares flight officers and engineers to test airborne mission systems.

- Maintains and operates 40 aircraft of 12 types to provide variance in air vehicles and airborne systems capabilities necessary to train an efficient test pilot/engineer.
- Only source of helicopter test pilots in the U.S. government or industry.
- Investigates and develops new flight testing techniques.
- Conducts special test projects.

Airborne Systems Laboratory



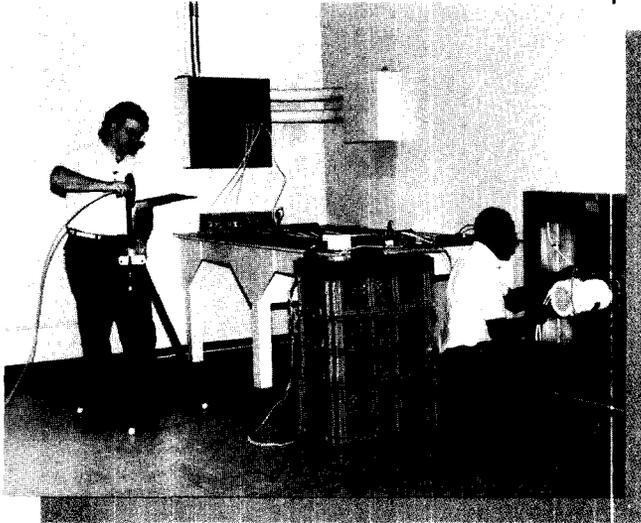


**AIRCRAFT ELECTRICAL
AND ENVIRONMENTAL
EVALUATION FACILITY**

Testing and evaluating aircraft electrical systems and components of primary, secondary, and emergency power generation systems is the job at the aircraft electrical and environmental evaluation facility. Aircraft generators, constant speed drives or transmissions, engine starters, power conversion equipment, emergency and auxiliary power units, battery chargers, power distribution and control equipment, electrical wiring and wiring installations, drive shafts and couplings, hydraulic motor-generators, hydraulic pumps, avionic cooling, MIL-STD-461 EMI, and environmental phenomena can be tested here.



AIRCRAFT ELECTRICAL AND ENVIRONMENTAL EVALUATION FACILITY



Electromagnetic Interference Test Facility

- Electromagnetic interference facility is the site for MIL-STD-461/462 narrowband and broadband, emissions, and susceptibility testing. Two shielded enclosures, one interfaced with a 200 HP drive, filtered power, load sources, CSS 750 computer-controlled spectrum surveillance system to analyze and record from 10 kHz to 18 GHz, RS03 to 200 V/meter.

- Wind tunnel allows various component equipment testing, including emergency electrical/hydraulic power packages, open circuit subsonic wind tunnel, 12 to 230 knots, cylindrical test section 3 ft diameter and 6 ft long.



Wind Tunnel Facility



Combined Environmental Test Facility

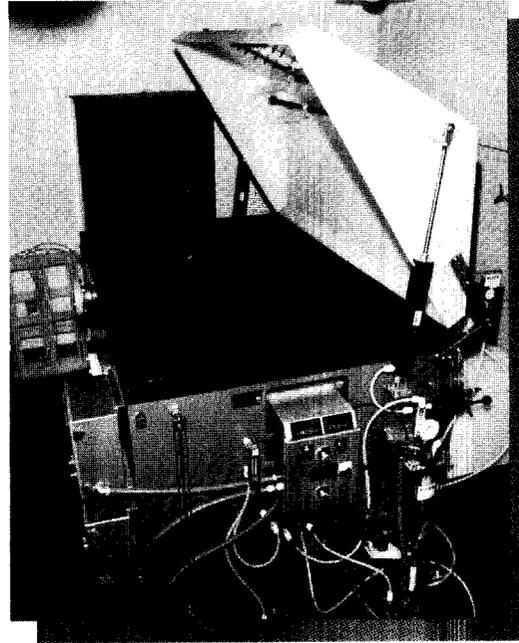
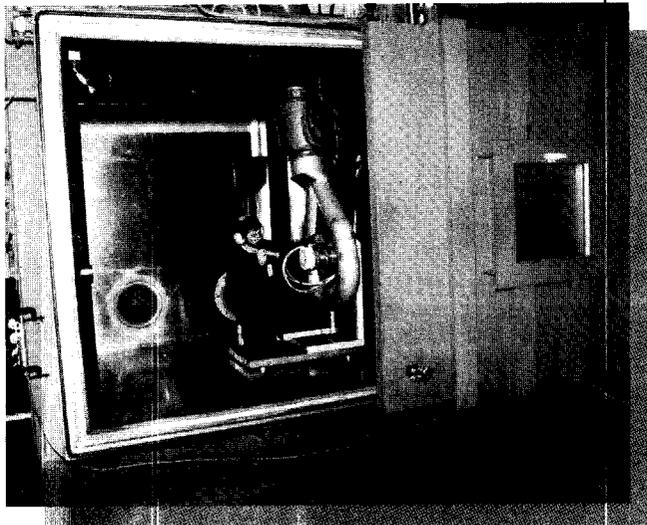
- Jet engine simulator provides jet engine simulation of various engine drag torque versus speed profiles for testing electric starter and starter generators.
- Combined environmental test facility consists of two 64 cubic foot chambers capable of providing programmable temperature, humidity, cooling air, and vibration conditions.



AIRCRAFT ELECTRICAL AND ENVIRONMENTAL EVALUATION FACILITY

- Temperature/altitude facilities house 10 chambers with work space up to 343 cubic feet, and sea level to 150,000 ft and -73 to 177° C. Large walk-in chamber (343 cubic feet) has interfacing with a 300 HP component drive stand and provisions for up to 40 lb/min of conditioned equipment cooling air.

Large Environmental Test Facility

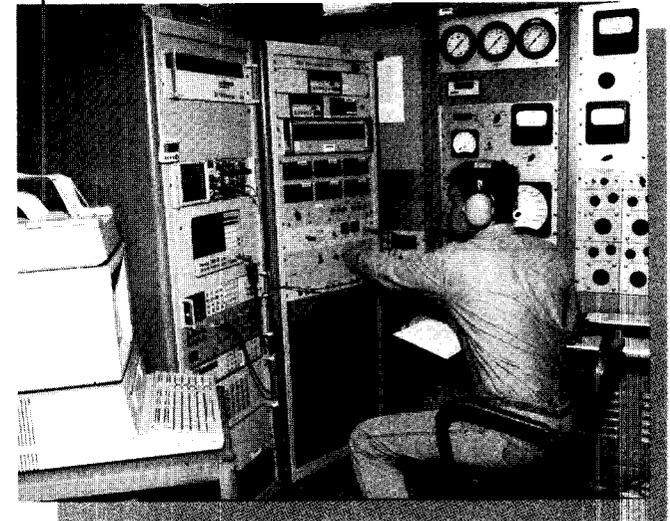


Salt Fog Environmental Facility

- Environmental facilities with salt fog/all salinities; 73 cubic foot chamber; sand, dust, fungus, relative humidity 20 to 100 percent.
- Dynamic test facilities can produce vibration forces up to 24,000 lb force sine/random, 5 to 2000 Hz with sine on random and gunfire capabilities. Shock facilities for 350 lb test articles, 3 to 30 milsec, half-sine, or sawtooth and trapezoidal pulses.

- Mechanical interface test facilities have capability to perform fatigue and wear testing of drive couplings up to 1.525 inch pitch diameter at torque to 0.5 deg and at 28,000 RPM.
- Thirteen accessory drive stands with loads to 150 KVA, speeds to 30,000 RPM, accelerations/decelerations to 1,800 RPM/sec, power to 300 HP, oil or air-conditioning interface, and programmable operations.

Drive Stand Test Console

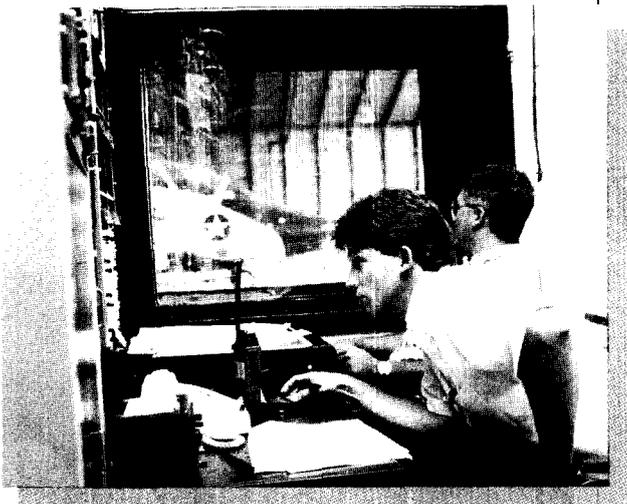




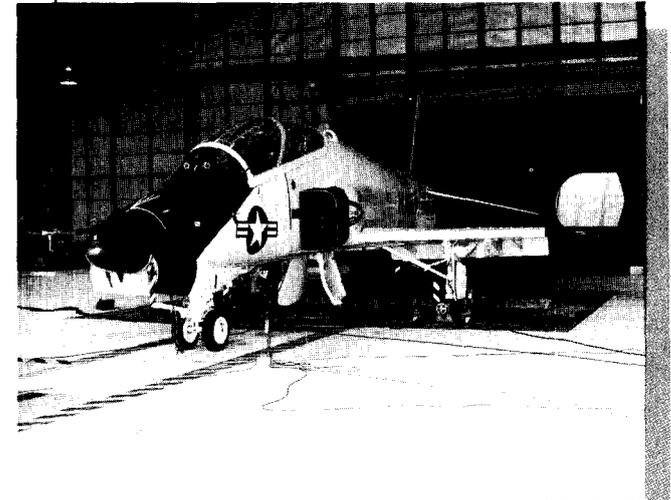
AIRCRAFT TEST AND EVALUATION FACILITY

- Enclosed, engine-run “hush house,” permitting all-up systems test on aircraft power.
- Integrated with real-time data processing system.
- Environmentally safe. Aircraft can be subjected to solar radiation (heat soak), rain, and wind and blowing rain at speeds up to 40 knots.

Monitoring T-45 Testing

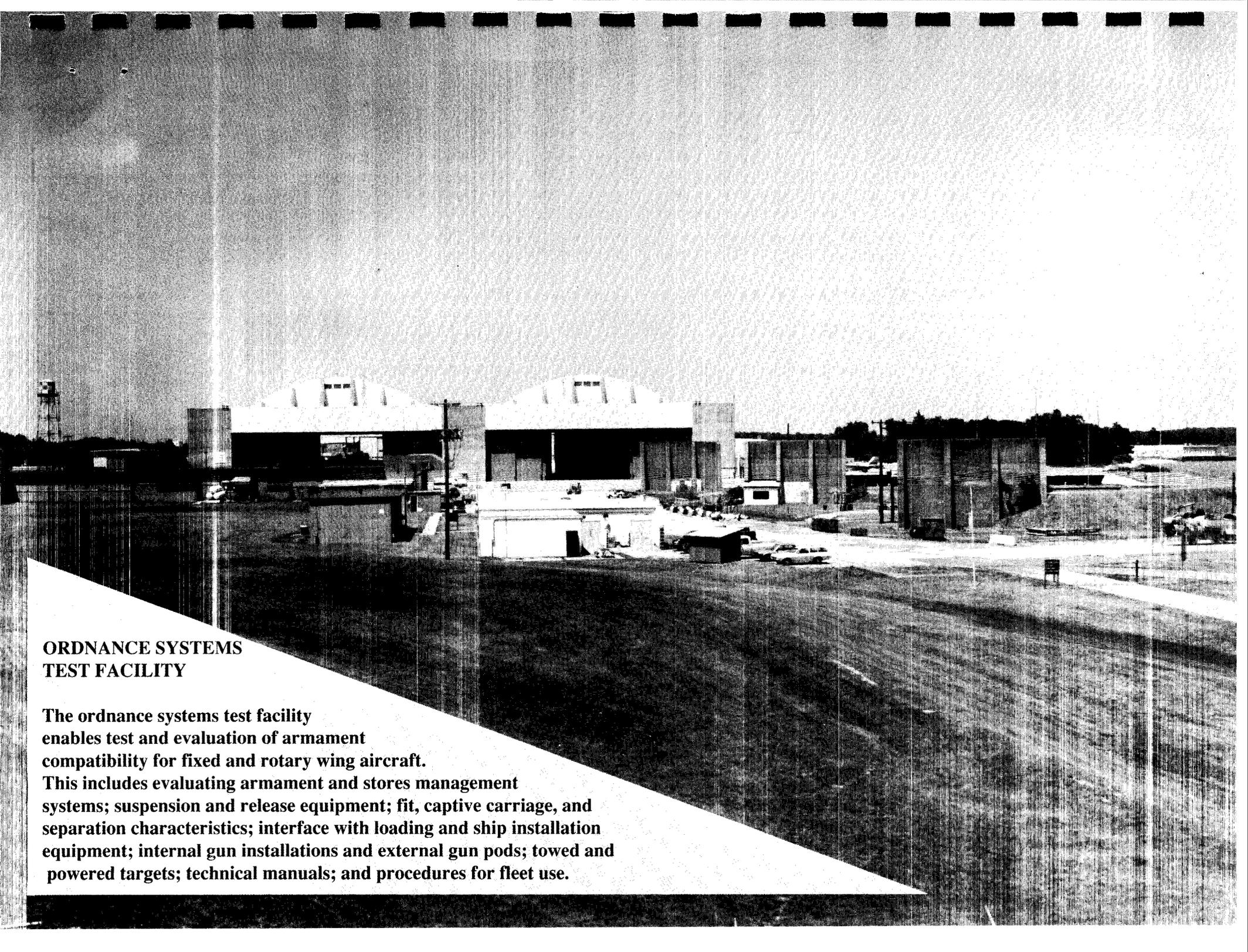


- Optimal test space for many static operations, including weight and balance, fuel calibrations, night vision, X-ray, and other test programs requiring special support or a restricted operating environment.



Conducting Engine Performance Testing

- Dynamic tests requiring engine operation include trim runs; thrust; electrical, hydraulic, and fuel system checks; and general engine and system performance tests.
- Equipped with a complete computer monitoring, recording, analysis, and playback system.
- Provides a direct telemetry and UHF communications link with the real-time telemetry processing system.
- Provides in-flight monitoring capabilities.



**ORDNANCE SYSTEMS
TEST FACILITY**

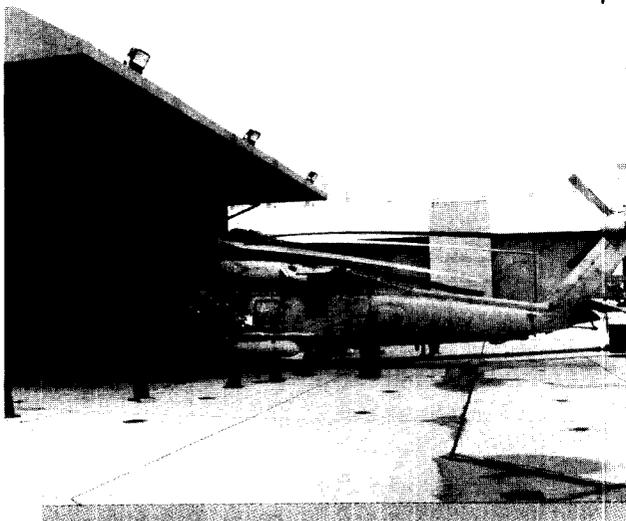
The ordnance systems test facility enables test and evaluation of armament compatibility for fixed and rotary wing aircraft. This includes evaluating armament and stores management systems; suspension and release equipment; fit, captive carriage, and separation characteristics; interface with loading and ship installation equipment; internal gun installations and external gun pods; towed and powered targets; technical manuals; and procedures for fleet use.



ORDNANCE SYSTEMS TEST FACILITY

GUN FIRING TUNNELS

- Dual, fully enclosed facilities 300 by 40 by 25 ft high, and 300 by 22 by 25 ft high.
- Muzzle velocity.
- Cyclic rate.
- Dispersion patterns.
- Boresight procedures and retention.

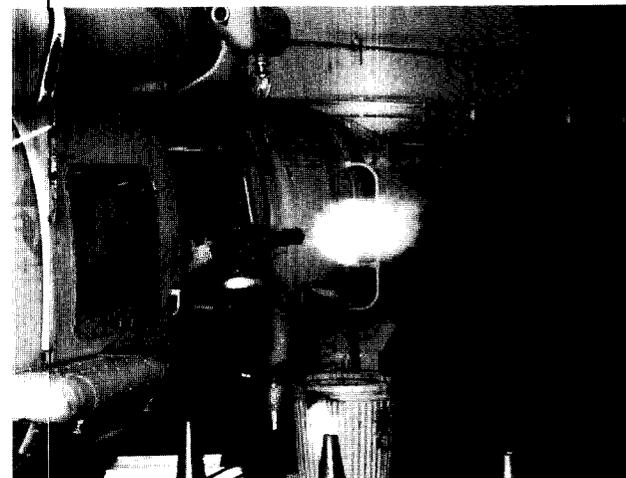


HH-60H Helicopter Entering Firing Tunnel

This facility is used to determine safe flight and weapon release envelopes, as well as ballistic characteristics of rockets, guns, and bomb ordnance. The delivery, firing, and safe escape data are then compiled into tactical manuals for fleet use.



F-14 MAU-61 Gun Test



GAU-17 Gun Fire Test

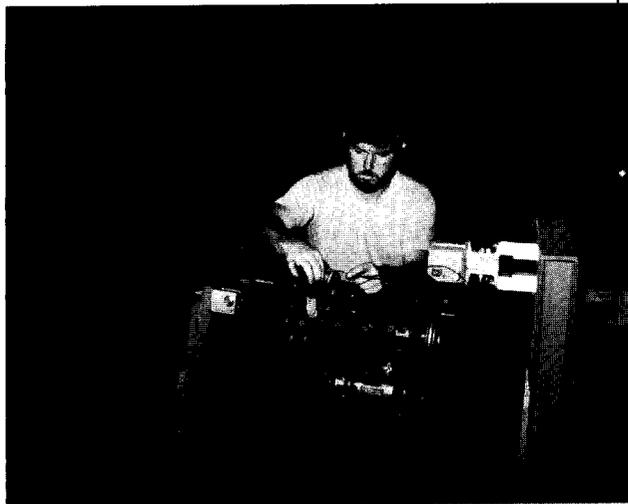
- Gun gas concentration.
- Feed and ejection system evaluation.
- Aircraft/gun structural evaluation.
- Internally and externally mounted aircraft guns up to 30mm.



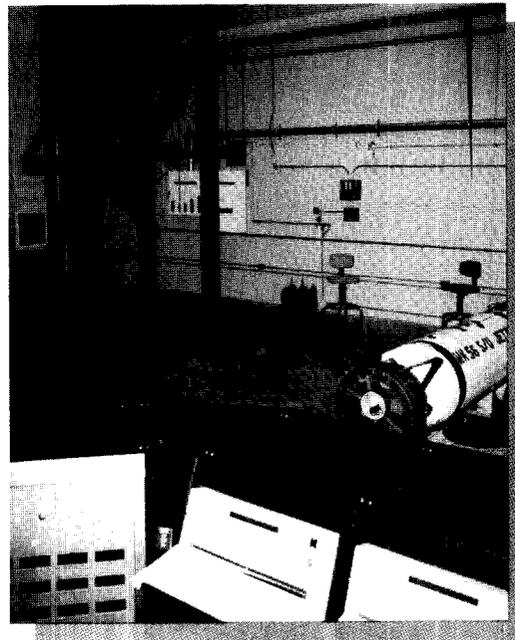
ORDNANCE SYSTEMS TEST FACILITY

ORDNANCE ELECTRIC LABORATORY

- Complete simulation of input/output for weapon release systems.
- Intervalometers and fuze functions.
- Custom telemetry systems for weapon/store separation.
- First movement of weapon from aircraft.
- Cable and weapon/store harness manufacturing.



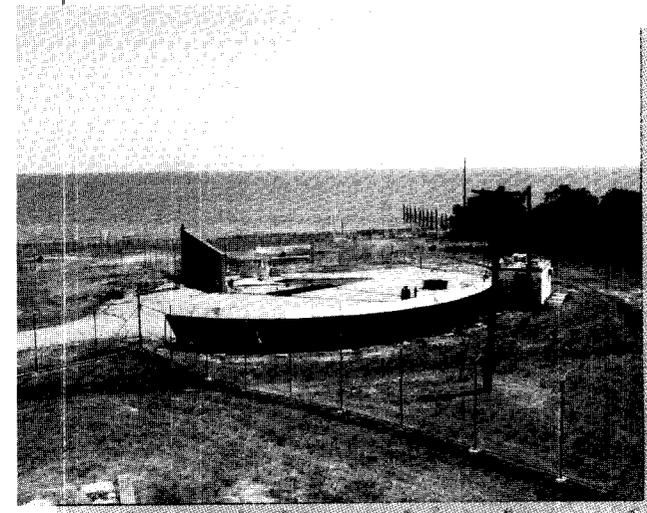
Gun Mount



Indoor Test Stand

ROCKET FIRING FACILITY

- Provides an instrumented ground/static firing stand for individual pod-mounted rockets.



Static Rocket Firing Facility

INDOOR TEST STAND

- All-weather, temperature-controlled.
- Photography friendly.
- Advanced electronic control console permits expeditious setup and reconfiguration of tests.
- Capable of measuring mass moment of inertia (roll, pitch, and yaw) on all classes of weapons.
- Static ejection stand capable of 40 cycles per day.



CALIBRATION, ENGINEERING, AND TEST INSTRUMENTATION FACILITY



Instrument Calibration

LABORATORY INSTRUMENTS AND STANDARDS FACILITY

This facility provides unique capabilities that link aircraft system requirements directly with Navy primary standards or the National Institute of Standards and Technology. In all measurement areas, traceability to these higher echelon laboratories is always maintained.

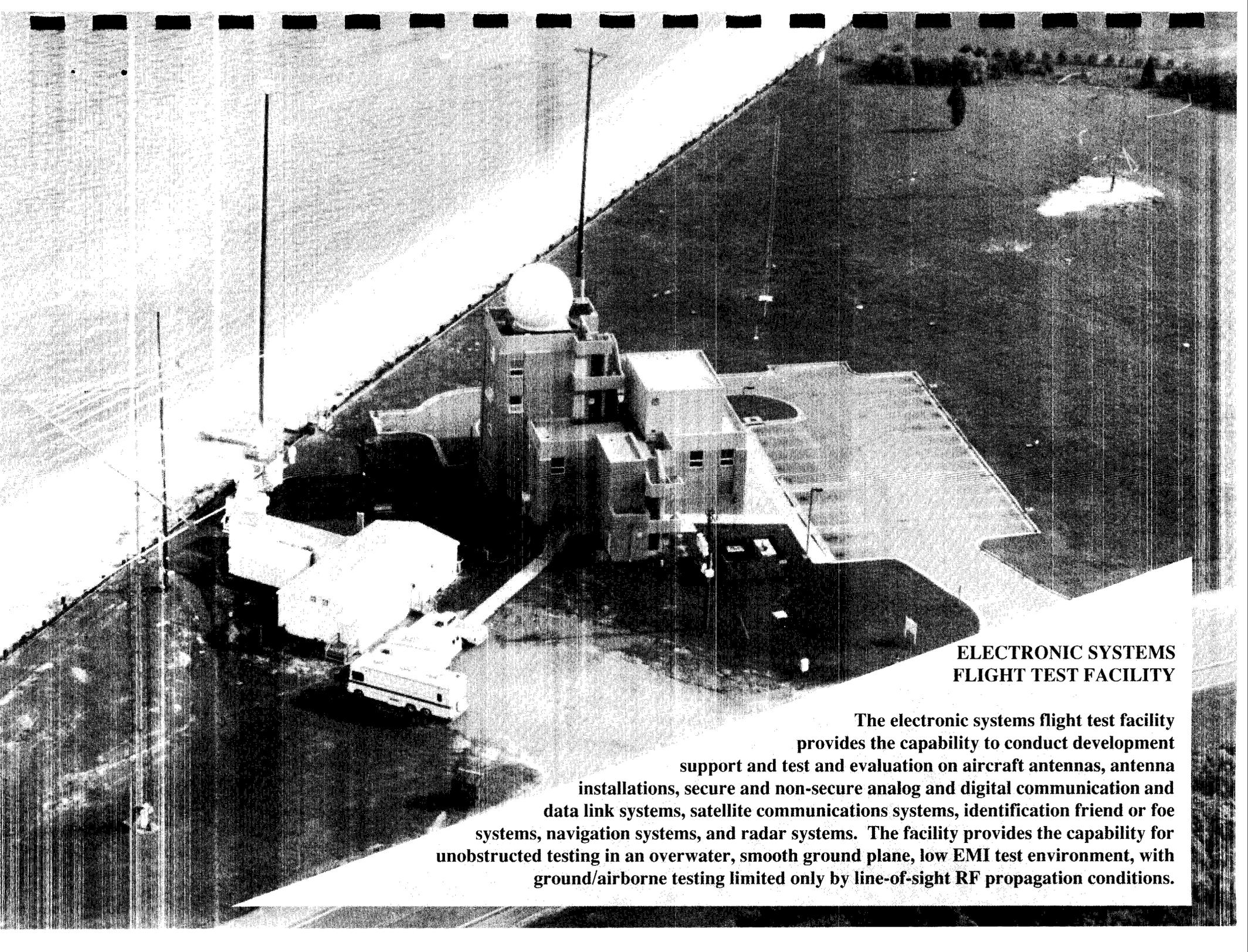
- Provides electrical/electronic and physical standards traceability and services.
- Instrumentation design and development, test and evaluation and maintenance of standards, and calibration support for all peculiar and general-purpose electronic test equipment.
- Engineering, technical documentation, test instrumentation, design/development/fabrication, calibration support and procedural verification, standards acquisition, and computer firmware/software development.
- Precision automated calibration systems.
- Microwave frequency calibration system.
- Wattmeter automated calibration system.
- Transducer/accelerometer systems.
- Computerized pressure calibration and environmental chambers.

Calibration capabilities include:

- Electrical/electronic system parameters.
- Shock/vibration.
- Fluid flow.
- Pressure.
- Temperature/humidity.
- Acceleration.
- Strain.
- Ready pool of standard airborne instrumentation.



Instrument Calibration



ELECTRONIC SYSTEMS FLIGHT TEST FACILITY

The electronic systems flight test facility provides the capability to conduct development support and test and evaluation on aircraft antennas, antenna installations, secure and non-secure analog and digital communication and data link systems, satellite communications systems, identification friend or foe systems, navigation systems, and radar systems. The facility provides the capability for unobstructed testing in an overwater, smooth ground plane, low EMI test environment, with ground/airborne testing limited only by line-of-sight RF propagation conditions.



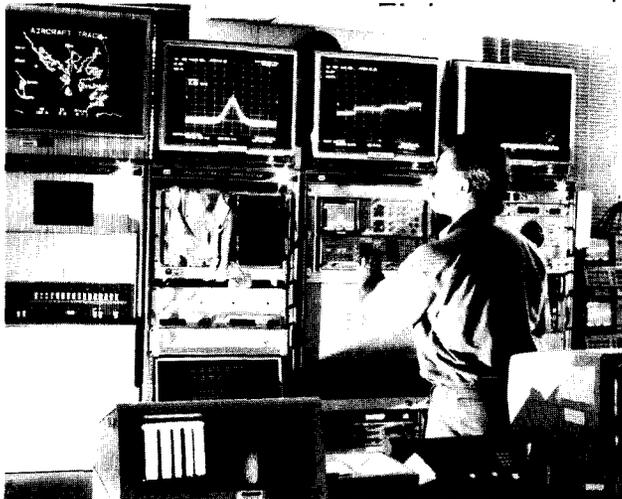
ELECTRONIC SYSTEMS FLIGHT TEST FACILITY

ANTENNA TESTING LABORATORY AUTOMATED SYSTEM (ATLAS)

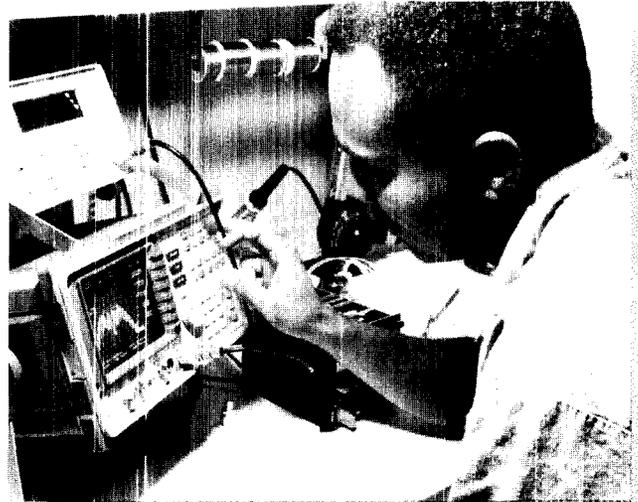
- In-flight antenna pattern measurements from 2 MHz to 18 GHz.
- Patterns referenced to isotropic source.
- Analytical antenna computer prediction capabilities.
- Antenna data analysis tools.
- Effective radiated power (ERP) measurements.

COMMUNICATIONS FLIGHT TEST AND EVALUATION LABORATORY

- Unique capability for testing airborne communications systems operating in the HF, VHF, UHF, and L frequency bands in an unobstructed overwater environment.



ATLAS



Communications Flight Test and Evaluation Laboratory

- Plain, secure communications.
- Satellite communications (non-DAMA and DAMA).
- Susceptibility of communication systems against ECM systems.
- Interoperability tests for SATCOM DAMA, Singca's, JTIDS, and Have Quick.

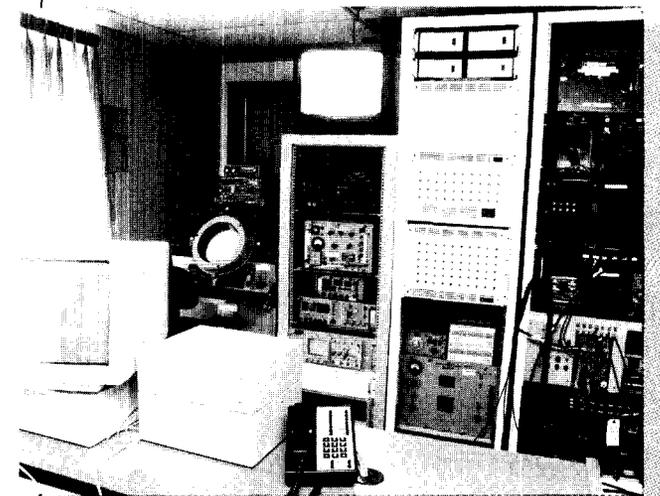
NAVY IDENTIFICATION FRIEND OR FOE TEST AND EVALUATION LABORATORY

- Automated and instrumented interrogator and transponder systems.
- OL-483/AP, AN/APX-76, AN/APX-100, AN/APX-72, TEC-60, commercial air traffic control.
- Adaptable to incorporate additional identification systems as required, including data collection.
- Test standard for repeatability and test data integrity.

MISSION PLANNING SUPPORT SYSTEMS LABORATORY

Fleet-representative/developmental versions of mission planning/support systems [Tactical Aircraft Mission Planning System (TAMPS), Tactical EA-6B Mission Planning System (TEAMS), etc.] for development testing and/or testing support.

- Preparation of digital transfer media for automatic upload to aircraft/avionics/weapons systems.
- Testing of new/revised software for preflight/postflight automated support to aircraft/avionics/weapons systems.
- General-purpose planning of aircraft test flights and missions.



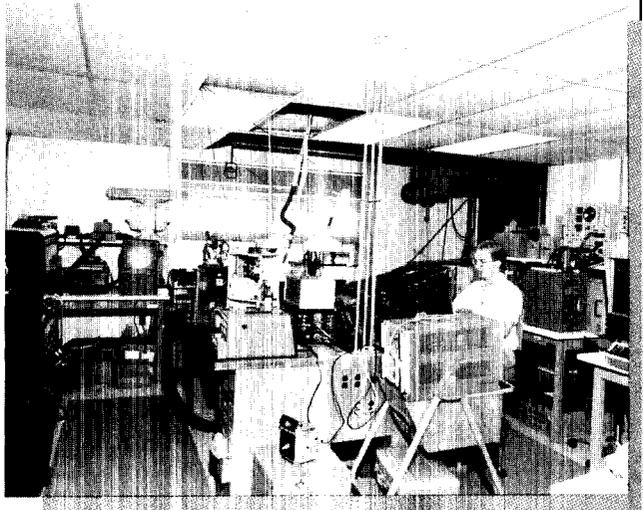
IFFT&E Laboratory



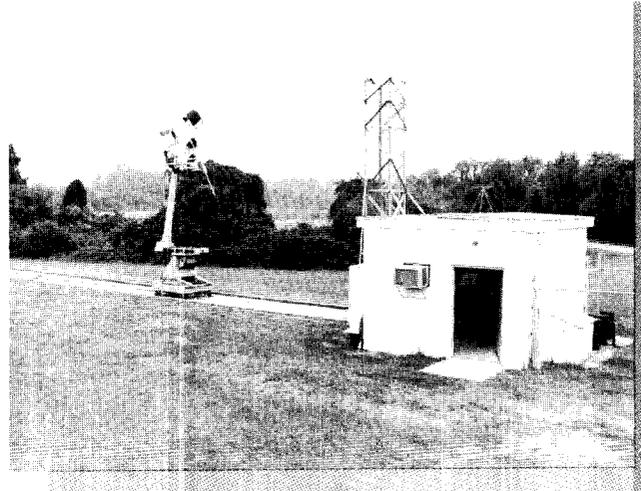
ELECTRONIC SYSTEMS FLIGHT TEST FACILITY

SURVEILLANCE AND TOPOGRAPHICAL ANALYSIS OF RADAR SYSTEMS (STARS) LABORATORY

- Test and evaluation of ocean surveillance, terrain-following, and weather detection radars.
- 500 square foot facility.
- 18 ft environmentally protected radome -10 MHz to 18 GHz.
- Overwater test location free of obstruction with 360-degree field of view.



STARS Laboratory



GRATF

GROUND RANGE ANTENNA TEST FACILITY (GRATF)

- Fully automated antenna measurement system.
- 200 MHz to 18 GHz frequency range.
- Aircraft, shipboard, ground station, and unmanned air vehicle antenna testing.
- Radome transmissivity measurements.
- 400 lb weight-handling capacity, 500 ft test track.

DATA LINK DATA ANALYSIS SYSTEM

- Classified data processing facility.
- Multiflight, multiplatform, and custom flight test data base.
- Time-aligned analyst queries of in-flight platform parameters.
- Flexible data reporting and test report production support.

COMBAT IDENTIFICATION SYSTEMS DATA ANALYSIS CENTER

- Multiple source data fusion and reduction.
- Performance prediction and analysis tools.
- Detailed analysis customized for specific program requirements and schedules.
- Flexible computer hardware architecture.
- Approved for classified data processing.



Combat Identification Systems



BATTLE GROUP DEFENSE TEST LABORATORIES AND STRATEGIC COMMUNICATION TEST FACILITY

AIRBORNE STRATEGIC COMMUNICATION ENGINEERING AND TEST FACILITY

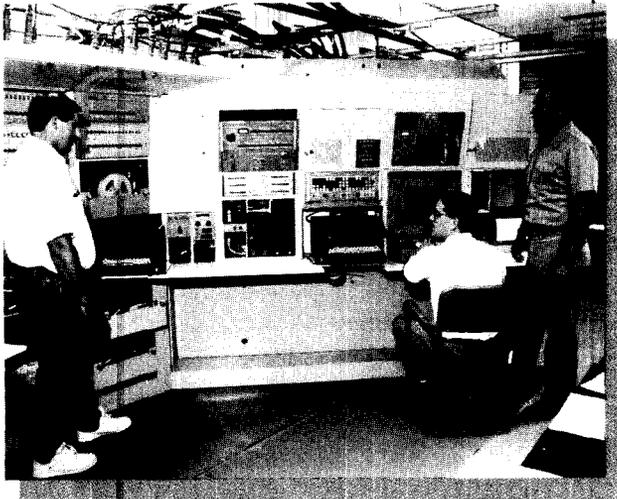
- Command, control, communications, computer, and computer resources test and evaluation.
- Enhanced VLF/LF transmit/receive systems.
- VLF/LF power amplifier/coupler and dual trailing wire antenna system.



VLF TX/RX Cabinets

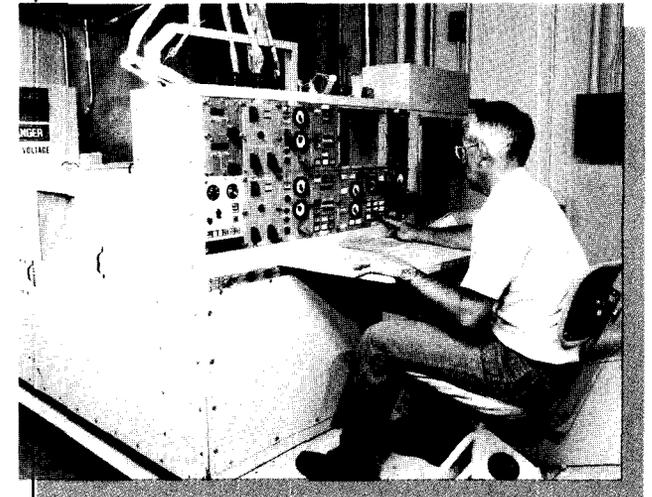
UPGRADES IN PROGRESS:

- High-power transmit set (HPTS).
- MILSTAR (Strategic/Tactical Satellite Terminal).
- Enhanced message processing system (EMPS).



Communications Central (Message Processing)

- HF radio systems and terminals.
- Fleet satellite communications (UHF).
- Air Force satellite communications (UHF).
- TACAMO message processing system (TMPS).



Long Trailing Wire Antenna Console



BATTLE GROUP DEFENSE TEST LABORATORIES AND STRATEGIC COMMUNICATION TEST FACILITY



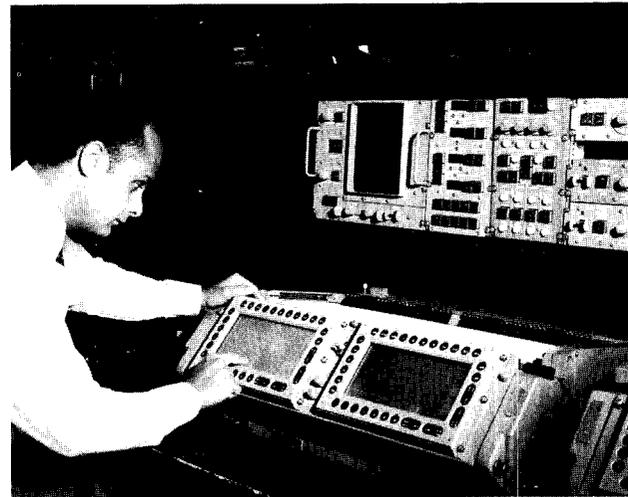
E-2 Systems Laboratory

E-2C SYSTEMS TEST AND EVALUATION LABORATORY

- Aircraft instrumentation.
- Mission planning.
- Data analysis.
- Mission reconstruction.
- Man-in-the-loop command and control simulation via Link 4A.
- Link 11 analysis.
- Operations training.

ACOUSTIC TEST FACILITY

- P-3C and S-3B ASW acoustic processing systems test laboratories.
- Simulated or taped sonobuoy acoustic data:
 - 64 sonobuoy RF channels.
 - 32 acoustic data channels on PAX broadband net.
 - Honeywell 96 and 101 wideband tape recorders.
 - Hi-fidelity simulated underwater environment for testing of acoustic sensors, sonobuoys, and acoustic processing systems.



ASW Acoustic Test Facility



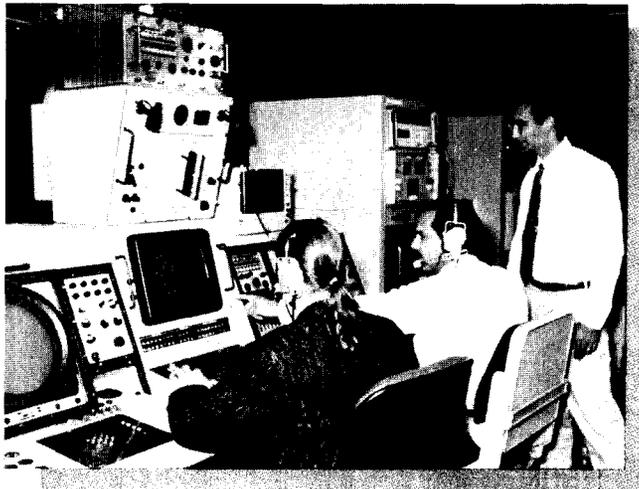
Mobile Acoustic Test Van

MOBILE ACOUSTIC TEST VAN

- Instrumentation for calibration of air ASW acoustic processing systems.
- Takes ASW acoustic testing to the fleet.
- Fleet proficiency workups.
- Joint Navy/contractor test programs.



SHIP GROUND STATION FACILITY



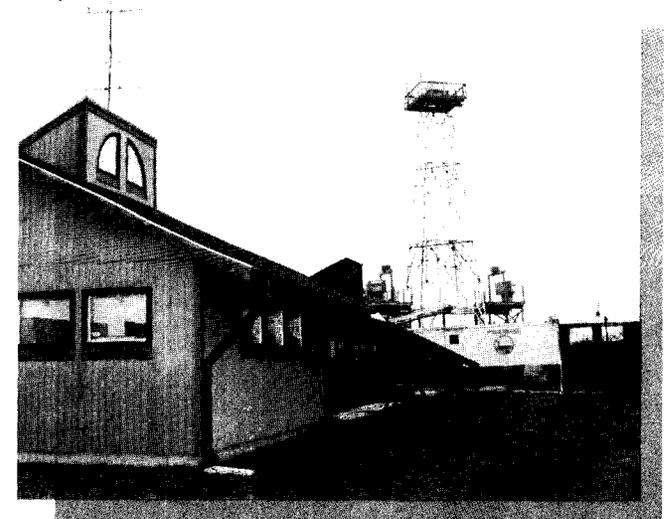
Combat Information Center

SHIP GROUND STATION FACILITY

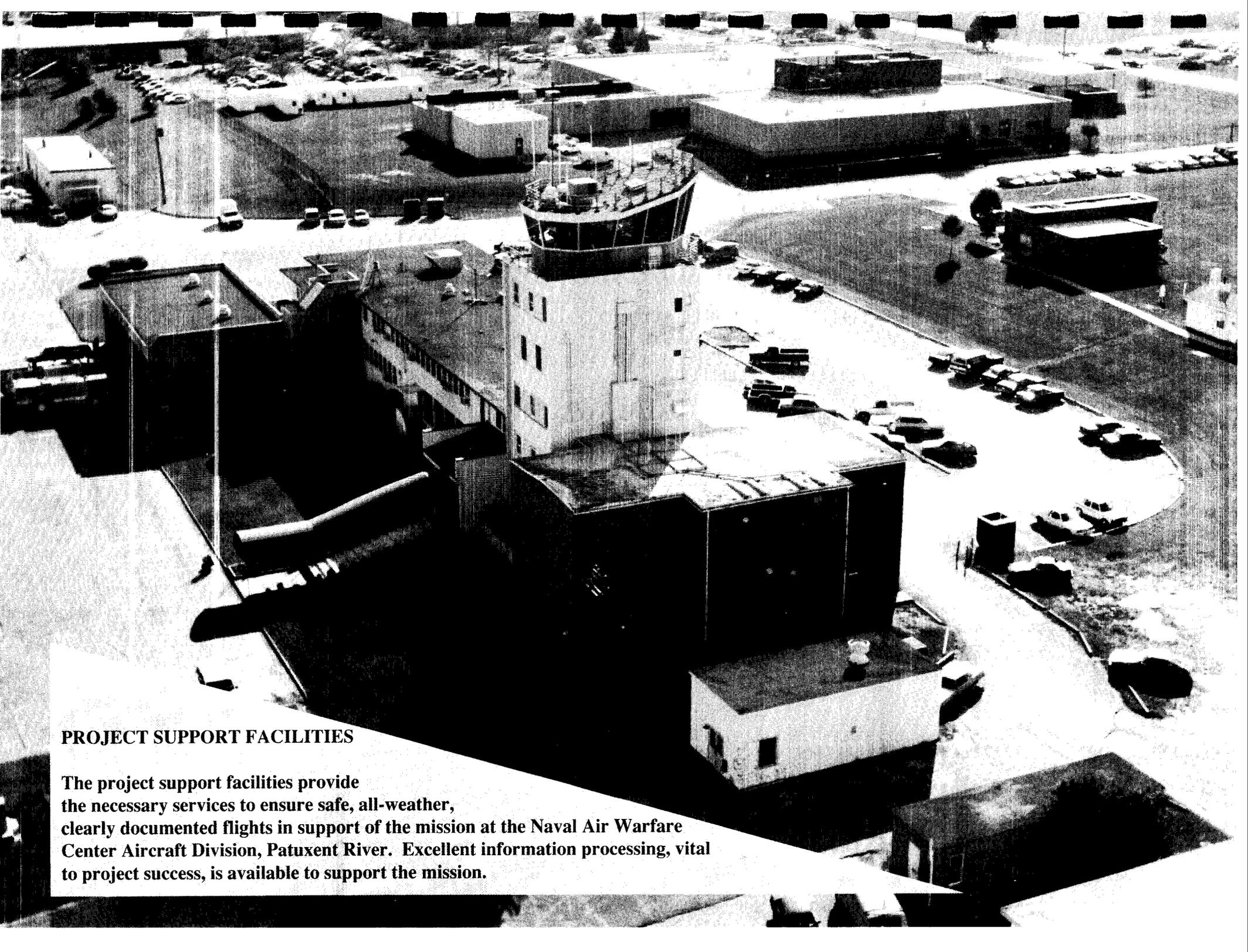
The ship ground station operates the resident shipboard electronics to support the test and evaluation of integrated ship/air weapons systems associated with small surface combatants. In conjunction with NAWCAD fixed and rotary wing aircraft, testing at the site is facilitated by extensive data extraction and the ASW/electronic warfare simulation and stimulation capabilities resident in-house and at the NAWCAD complex.

- Supports operation of ship/air integrated systems in a stimulant-rich and scientifically controlled environment.
- Supports quantitative assessment of subsystem and system level performance with emphasis on data extraction from shipboard, airborne, and range sources.
- Provides Naval Tactical Data System message tracking, extraction, and verification from ship/air interface data busses.
- Defines quantitative performance while employing fleet-representative procedures and operators.
- Hosts both FFG-7 and DD-963 combat direction system.
- Operates the LAMPS MK III subset of the AN/SQQ-89 surface ASW system.
- Operates LAMPS data links with the AEGIS Combat System Center (ACSC), Wallops Island, Virginia.
- Major equipment assets:
 - AN/SQQ-28(V) Sonar Signal Processing System.
 - AN/SLQ-32(V) Electronic Support Measures Set.
 - AN/SQQ-89(V) On Board Trainer.

- AN/UYK-7(V) Data Handling Group.
- AN/UYA-4(V) Data Display Group.
- AN/SPA-50G TACNAV/Radar Terminal Set.
- AN/SQR-17A(V) Sonar Signal Processing Set.
- HP-9000 series 750 Tactical Advanced Computer (TAC-3).
- AN/SKR-4B(V) Telemetric Data Receiver.
- Naval Tactical Data System Link II.
- Mini-signals and data processing.
- Digital Equipment VAX 4000G.
- Minicomputer.



LAMPS and SLQ-32 Antenna Towers

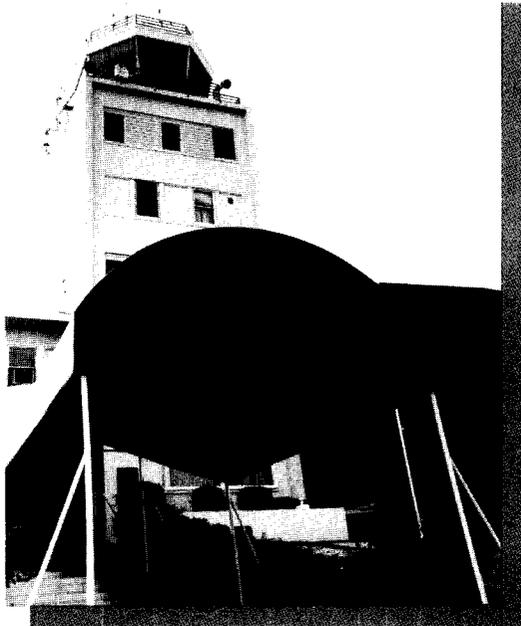


PROJECT SUPPORT FACILITIES

The project support facilities provide the necessary services to ensure safe, all-weather, clearly documented flights in support of the mission at the Naval Air Warfare Center Aircraft Division, Patuxent River. Excellent information processing, vital to project success, is available to support the mission.



PROJECT SUPPORT FACILITIES



Air Terminal

AIRFIELD FACILITIES

- Four runways up to 11,800 ft long.
- Helicopter facilities.
- Arresting/abort gear.
- Optical landing system.
- 518 paved acres of runways, taxiways, and aprons.
- Turbojet aircraft static thrust calibration stand.

- Ordnance loading/arming areas.
- Air terminal.
- Hot refueling area.
- High-power turnup area.
- VSTOL landing pad.
- Surrounded by water on three sides.
- All-weather/available 365 days a year.



Air Traffic Control Tower



Air Traffic Control Radar Room

AIR TRAFFIC CONTROL RADAR ROOM

- Terminal radar traffic control facility with 11 operational positions.
- Manages restricted airspace for NAWC aircraft test and evaluation.
- Provides radar monitoring advisories and containment services to all restricted area participants.
- Controls all instrument traffic operating at Patuxent and 14 satellite airports.
- Integral portion of the national airspace system providing tower enroute control to six other approach control facilities.



PROJECT SUPPORT FACILITIES



Flight Support Office

FLIGHT SUPPORT OFFICE

Manages and coordinates aircraft operations for transporting passengers and cargo for NAWCAD. This office also supports the Naval Surface Warfare Center, Dahlgren, Virginia, and has supported NAVAIR, NAVSEA, and NISE-EAST.

NAVAL ATLANTIC METEOROLOGY AND OCEANOGRAPHY DETACHMENT

Outfitted and staffed 24 hours/day, 7 days/week to provide aviation meteorology and oceanography (METOC) support to NAWCAD, NAS Patuxent River, and the flying tenant commands. NAVLANMETOCDET is collocated with NAS Air Operations. State-of-the-art equipment includes:

- National Weather Service WSR-88D Doppler radar.
- Naval Oceanographic Data Distribution System for METOC data.
- Shipboard-designed SMQ-11 satellite receiver network.
- Navy's world climatology of surface meteorological observations.

- Tactical Environmental Support System for Navy system METOC predictions of system performance.
- Mark III version 3.0 Electro-Optic Tactical Decision Aide for infrared and optical performance predictions.
- Navy Interactive Refractive Effects Predictions System for atmospheric refractivity predictions for U.S. and foreign national emitters.
- Connectivity to the National Weather Services Automated Surface Observing Systems at Patuxent River, Webster Field, and the continental U.S.



Thunderstorm Watch on WSR-88D Doppler Weather Radar



PROJECT SUPPORT FACILITIES



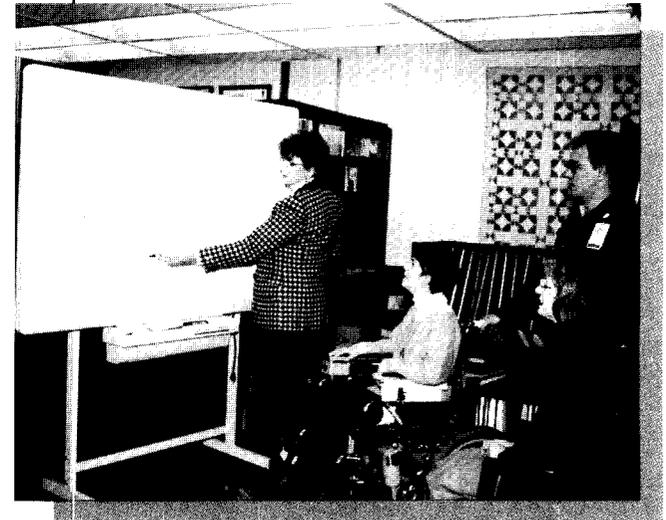
Video Teleconferencing Center

PHYSICALLY SECURE FACILITIES

- Perimeter fencing.
- Land/air/sea perimeter control.
- Island security enclaves.
- Protected facilities and bunker.
- Secure conference room for 144 persons.

PHOTOGRAPHIC LABORATORY

- Full photographic services.
- State-of-the-art equipment.
- Color and black-and-white printing.
- Photographic library.
- Negative duplication.
- Studio, copy, and off-site photographic services.



Facilitated Business Information Modeling

TECHNICAL INFORMATION SERVICES FACILITY

- Original audiovisual productions, including scripting, recording, editing, and replication.
- Video teleconferencing center, including secure interactive video teleconferencing and high-resolution graphics.
- Visions television network.
- Scientific and technical information program management, including report writing guidance, public release approval, technical reports library, and professional paper processing.
- Marketing support (brochures, exhibits, and presentations).



Photographic Laboratory

CENTRAL SCIENTIFIC COMPUTER FACILITY

- Corporate information systems development and maintenance.
- Information engineering.
- Business analysis and requirements definition.
- Development of interfaces to and feeder systems for Central Design Agency systems.
- Client/server environment support.
- Local area network administration and management.
- Facility backbone network administration and management.
- Navy messages processing.
- Secure classified processing area.

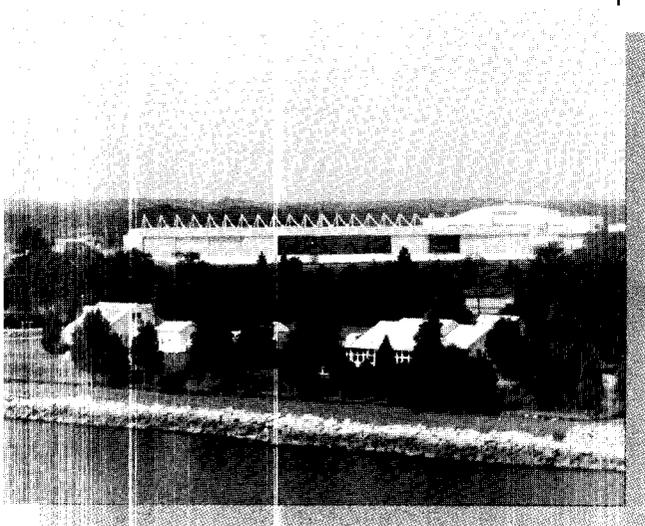


CAPTAIN STEVEN A. HAZELRIGG FLIGHT TEST FACILITY

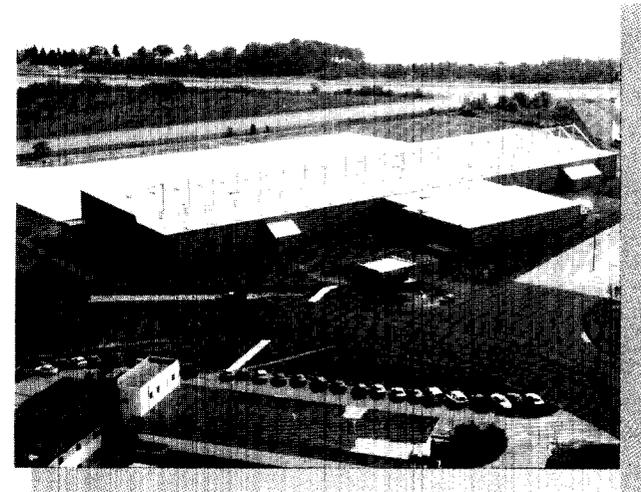
CAPTAIN STEVEN A. HAZELRIGG FLIGHT TEST FACILITY

The concept of the Captain Steven A. Hazelrigg facility is to efficiently combine the diverse hangar, laboratory, shop, and office spaces needed to support an engineering and manufacturing development program.

Hazelrigg Facility (Hangar View)



- Supports Navy and contractor efforts during an engineering and manufacturing development program in a single location with a secure environment.
- 60,000 square feet of hangar space, 50,000 square feet of engineering offices and laboratories, and an 11,000 square foot warehouse. Four acres of adjoining parking.
- Distinctive facility features include suspension truss roof providing 600 by 100 ft of uninterrupted hangar space, indoor aircraft wash rack, electrically operated hangar doors, aqueous film forming foam fire protection system, and special light reflective coatings on the floor to improve visibility for aircraft maintenance.



Hazelrigg Facility (Office View)

- Special provisions for modern avionics and other advanced equipment include laboratories equipped with uninterrupted power, emergency power, and overhead hoist systems; one laboratory isolated from electromagnetic emissions; and jet engine shop, machine shop, and organization-level maintenance spaces.



FUTURE PATUXENT RIVER FACILITIES

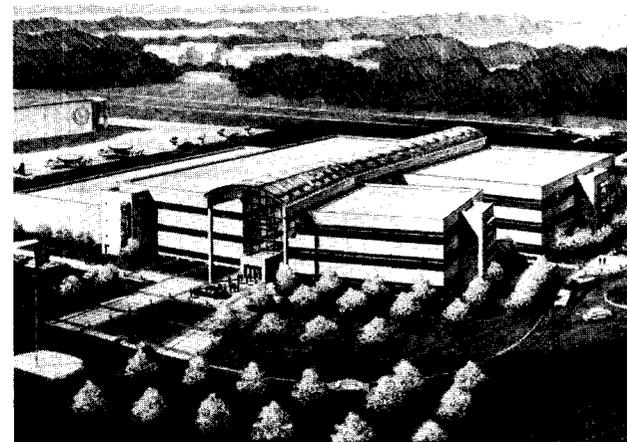


South Engineering Center

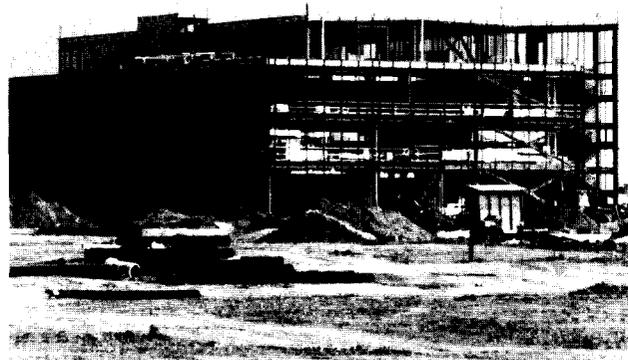
Four major new buildings are planned or under construction to accommodate consolidation efforts within the Navy.

Under construction are the Aircraft Technologies Lab (65,000 square feet), North Engineering Center (252,000 square feet), and South Engineering Center (455,000 square feet). Occupancy of the Aircraft Technologies Laboratory, proposed to be named the Robert N. Becker Technical Center, is scheduled for summer 1995, while both engineering centers are scheduled for summer 1996. These three buildings will house approximately 1,300 people being relocated to Patuxent River.

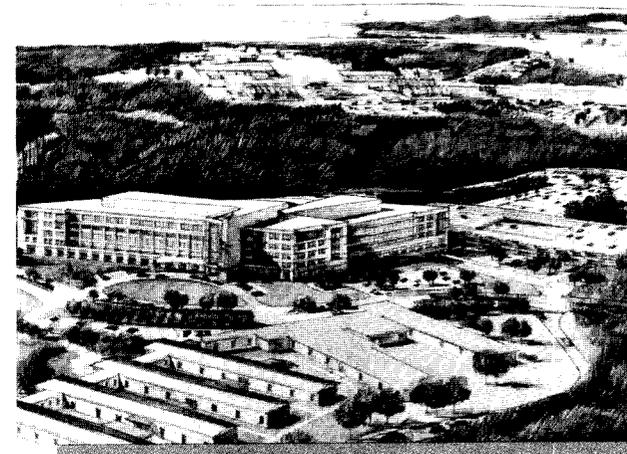
Under design for the relocation of Naval Air Systems Command is the Integrated Project Team Building (460,000 square feet). The building is planned for summer 1997 occupancy and will house approximately 2,700 people.



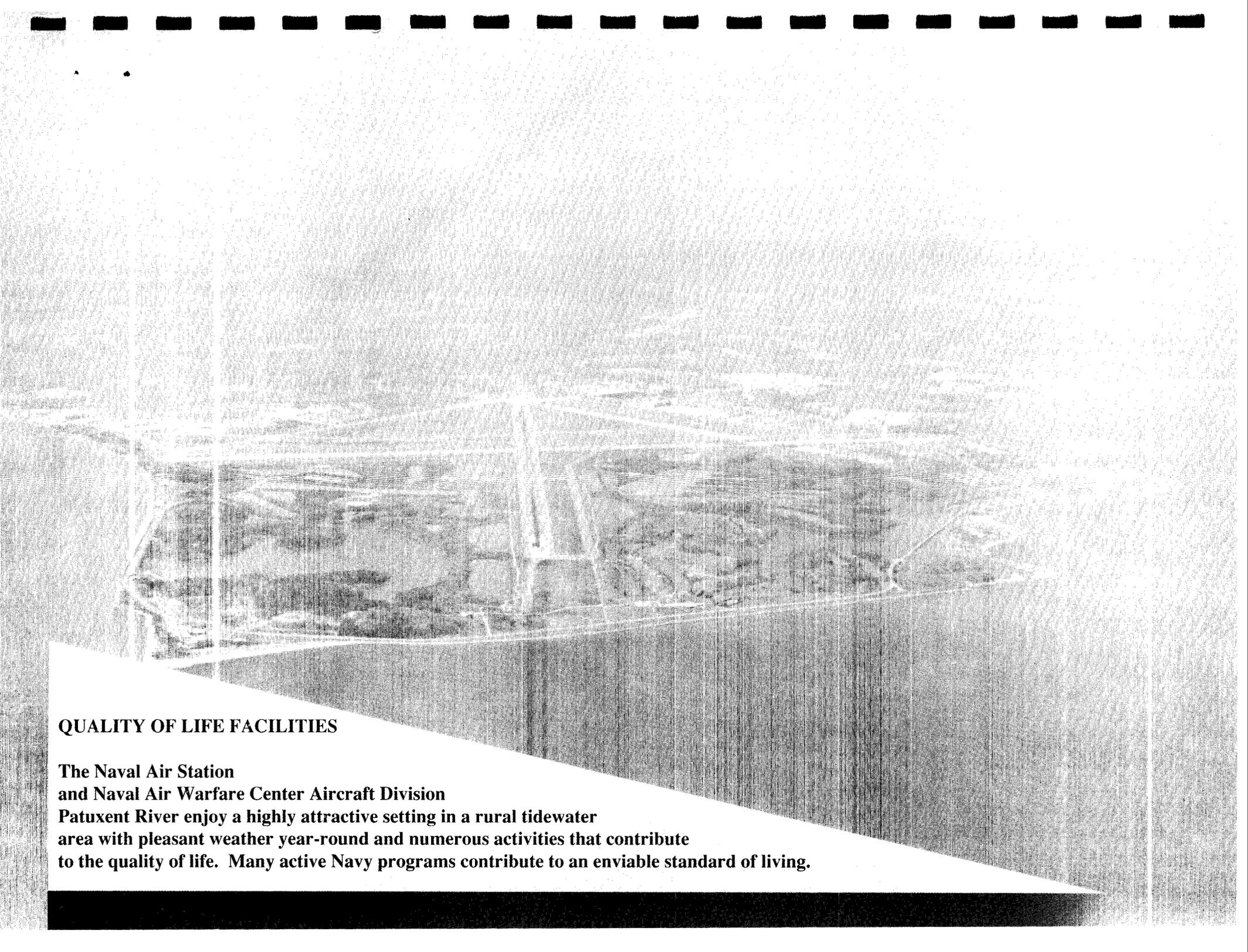
North Engineering Center



Aircraft Technologies Laboratory
(Robert N. Becker Technical Center)



Integrated Project Team Building



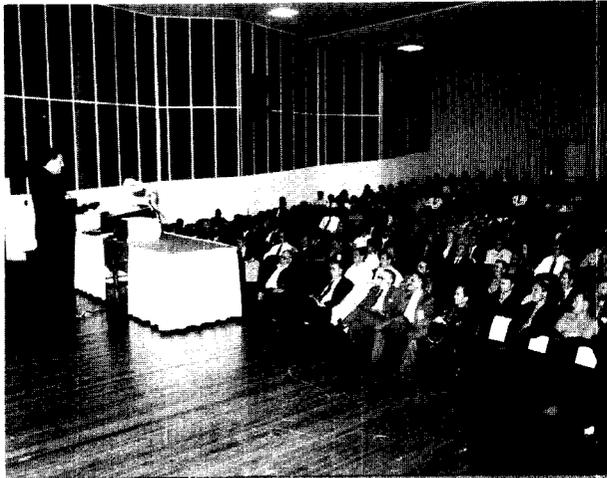
QUALITY OF LIFE FACILITIES

**The Naval Air Station
and Naval Air Warfare Center Aircraft Division**

**Patuxent River enjoy a highly attractive setting in a rural tidewater
area with pleasant weather year-round and numerous activities that contribute
to the quality of life. Many active Navy programs contribute to an enviable standard of living.**



QUALITY OF LIFE FACILITIES



Movie Theater with 504 Seats

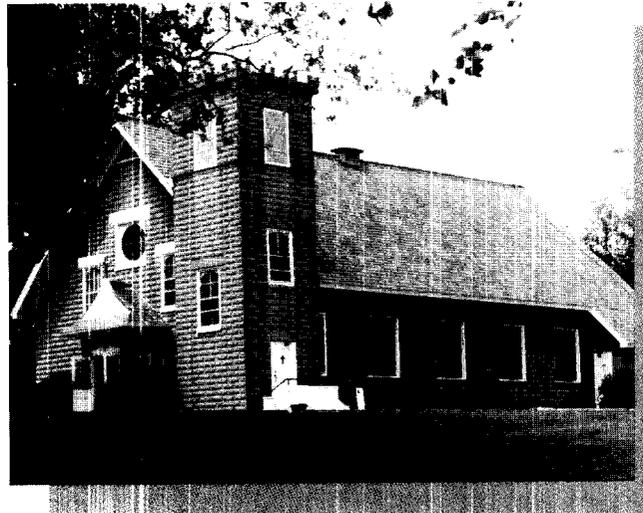
HEALTH CARE

- Modern, well equipped hospital.
- In-patient care.
- Emergency care for military and civilian personnel.
- Maternity care.
- Dental care.
- Occupational health for military and civilian personnel.

COUNSELING SERVICES

- Drug and alcohol abuse counseling for military and civilian personnel.
- Psychiatric and family counseling.
- Multidenominational chaplain staff.
- Job placement services for spouses.

St. Nicholas Chapel



Commissary

SHOPPING AND RELATED SERVICES

- Full-service Navy Exchange.
- New \$7 million commissary.
- National bank and federal credit union (two locations).
- Post Office.
- Service station.
- Award-winning galley.
- Delicatessen.
- Fast-food restaurant.
- Club dining facilities.



QUALITY OF LIFE FACILITIES

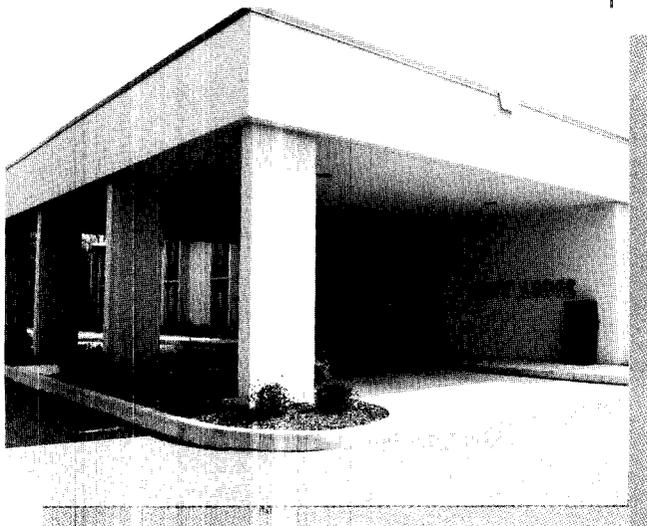
CHILD CARE

- Child development center for military and civilian day care.
- After-school day care. Summer camp for military and civilian dependents.

HOUSING PROGRAMS

- 857 Navy housing units.
- Bachelor quarters for 1,255 personnel.
- Modern Navy Lodge for transient visitors.

Navy Lodge



18-Hole Golf Course

MORALE, WELFARE, AND RECREATION SERVICES

- Profitable and separate officers' club and enlisted clubs.
- Athletic fields.
- Gymnasium with aerobics and nautilus equipment.
- Five swimming pools (two indoor).
- Tennis courts.

- Fishing and hunting areas.
- 18-hole golf course.
- Campgrounds.
- Movie theater with 504 seats.
- Library.
- Hobby shops.
- Bowling alley.
- Jogging trails.
- Marinas with rental slips, and motor and sail boats.
- Scheduled tours and travel opportunities.

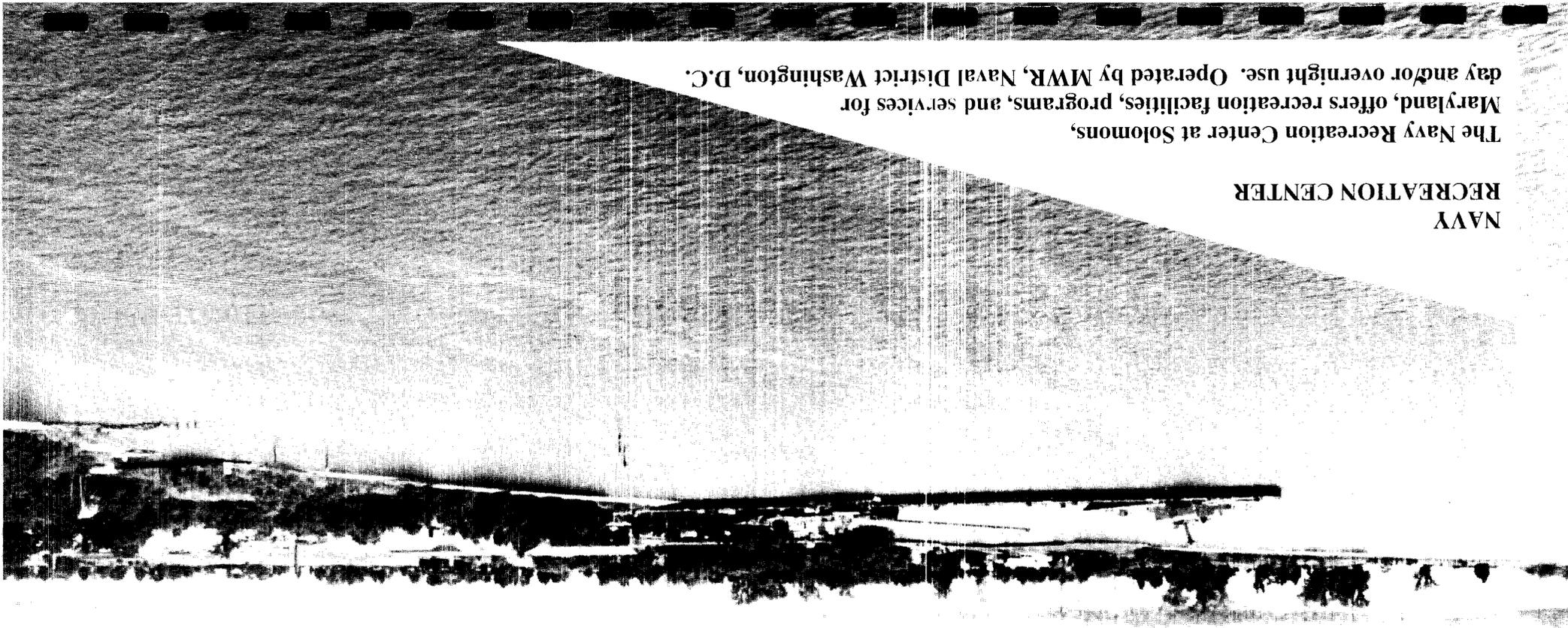
Officers' Club



NAVY

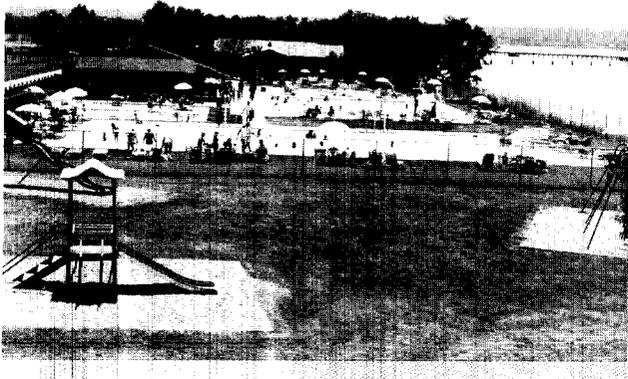
RECREATION CENTER

The Navy Recreation Center at Solomons,
Maryland, offers recreation facilities, programs, and services for
day and/or overnight use. Operated by MWR, Naval District Washington, D.C.





NAVY RECREATION CENTER AT SOLOMONS



Swimming Pool Complex

Recreational Facilities

- Beach.
- Boat ramp.
- Marina.
- Swimming pool complex.
- Racquetball courts.
- Basketball courts.
- Ballfields.
- Tennis courts.



Rental Cottage

Recreational Programs

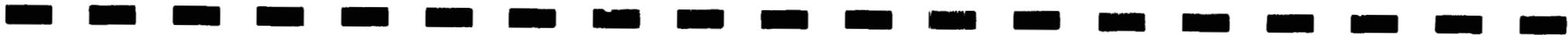
- Boat rentals.
- Boat/camper storage.
- Picnic/party planning.
- Special events.
- Family activities.
- Outdoor equipment issue.
- Children's programs.



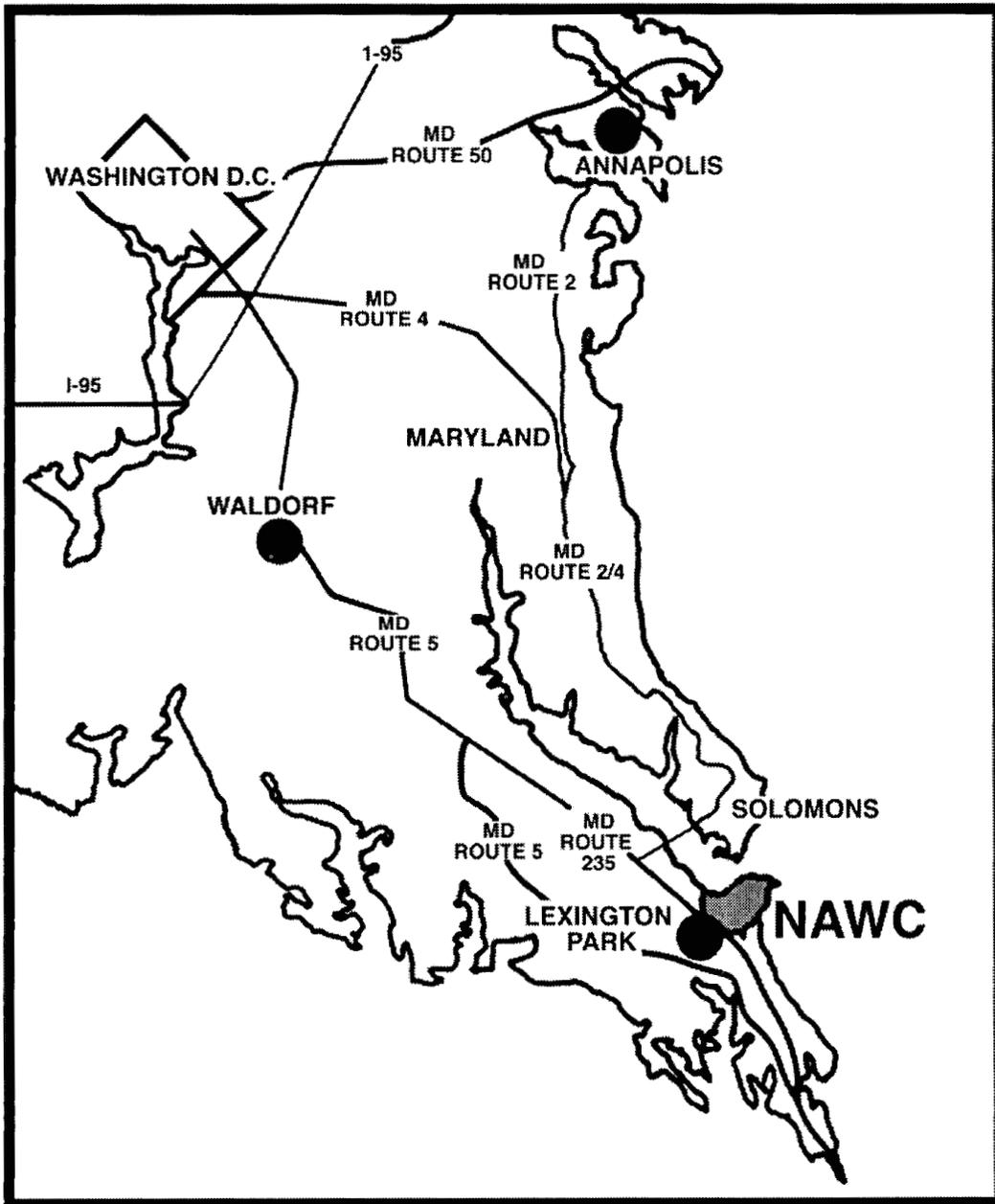
Maryland Blue Crabs

Overnight Accommodations

- Recreational vehicle sites.
- Cottages.
- Bungalows.
- Apartments.



2



For More Information, Contact:
Corporate Planning
(301) 826-1133
DSN 326-1133

Technical Information Department
Naval Air Warfare Center Aircraft Division,
Patuxent River, MD

TID

Public release authorized;
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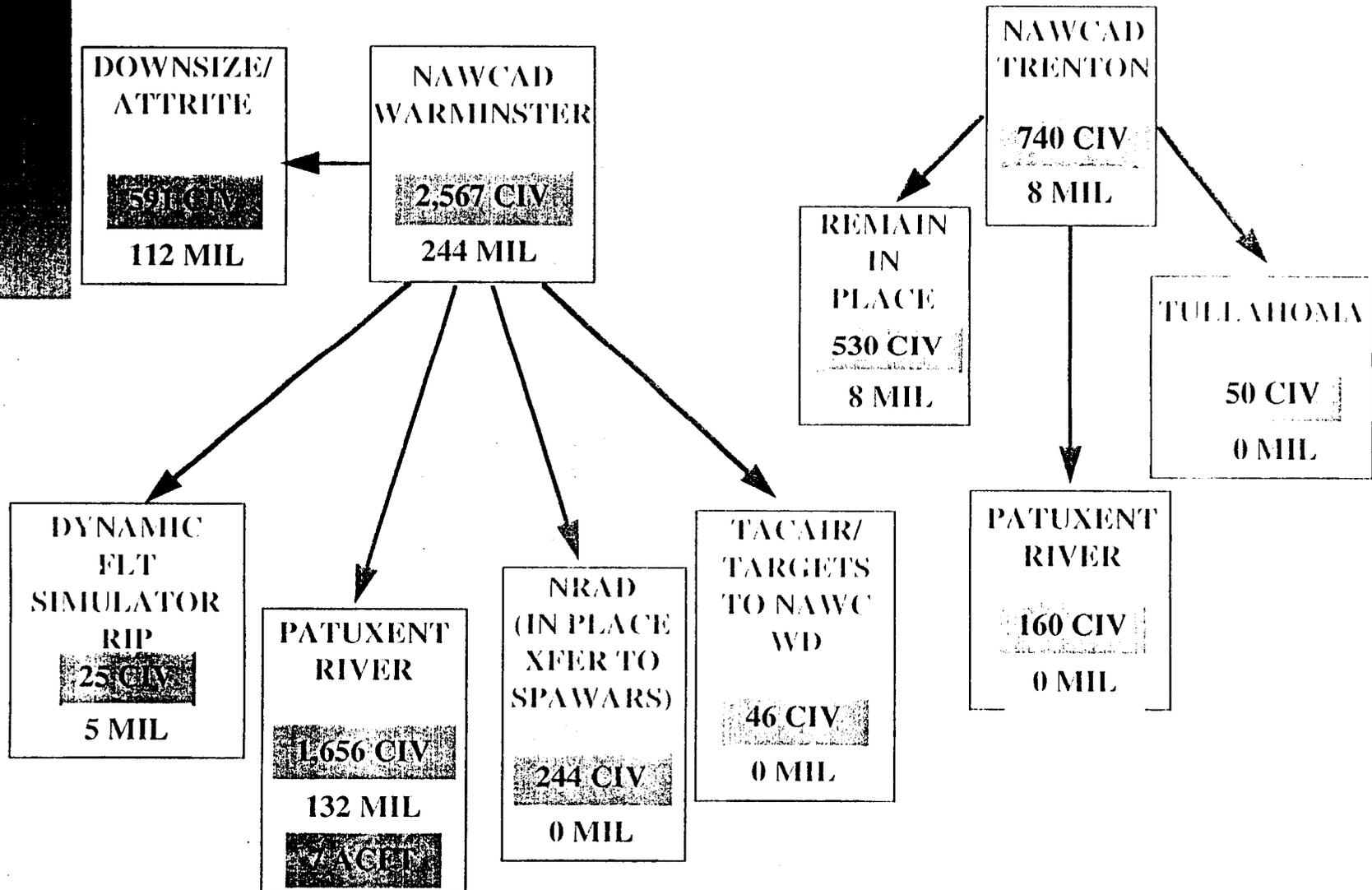


PATUXENT RIVER BRAC OVERVIEW

**Naval Air Warfare Center, Aircraft Division
Patuxent River, MD**

8 June 95

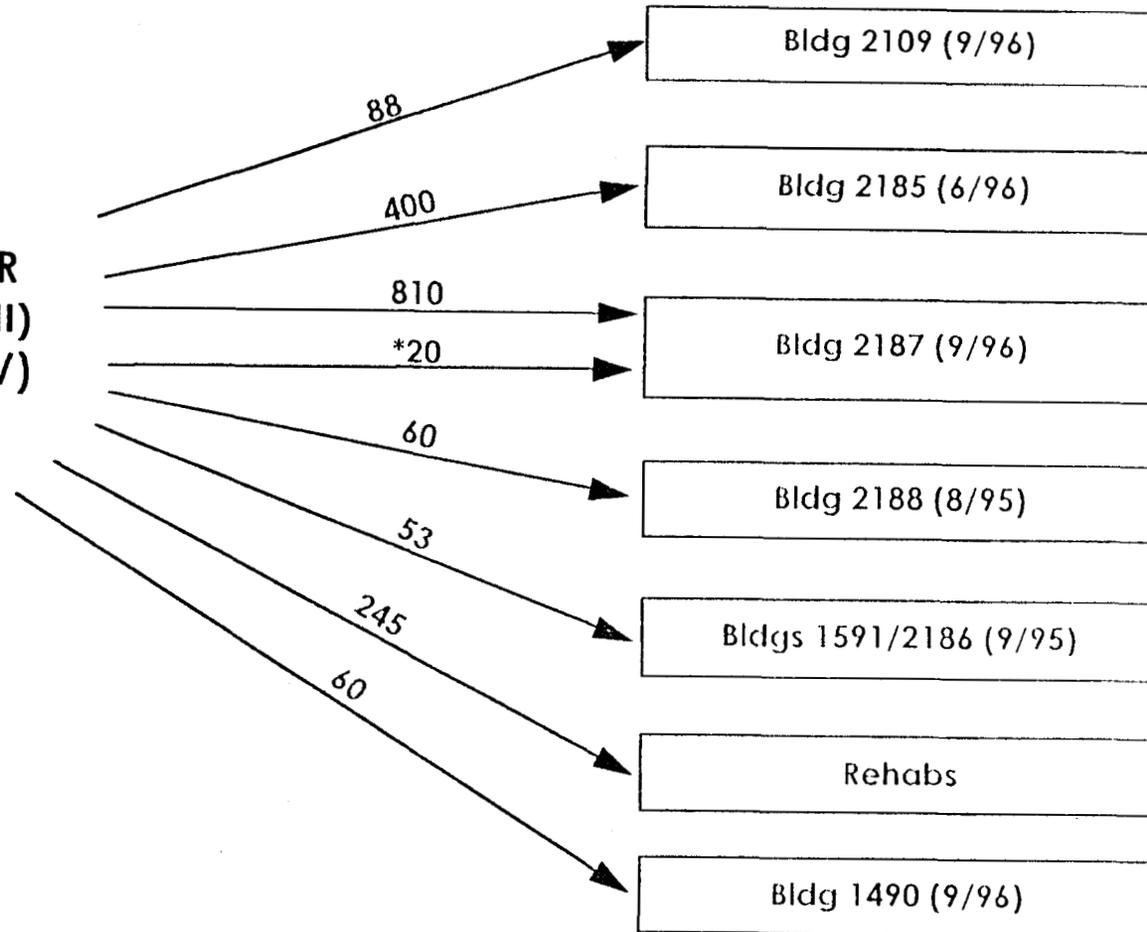
BRAC 91 CREATED NAWC & AD



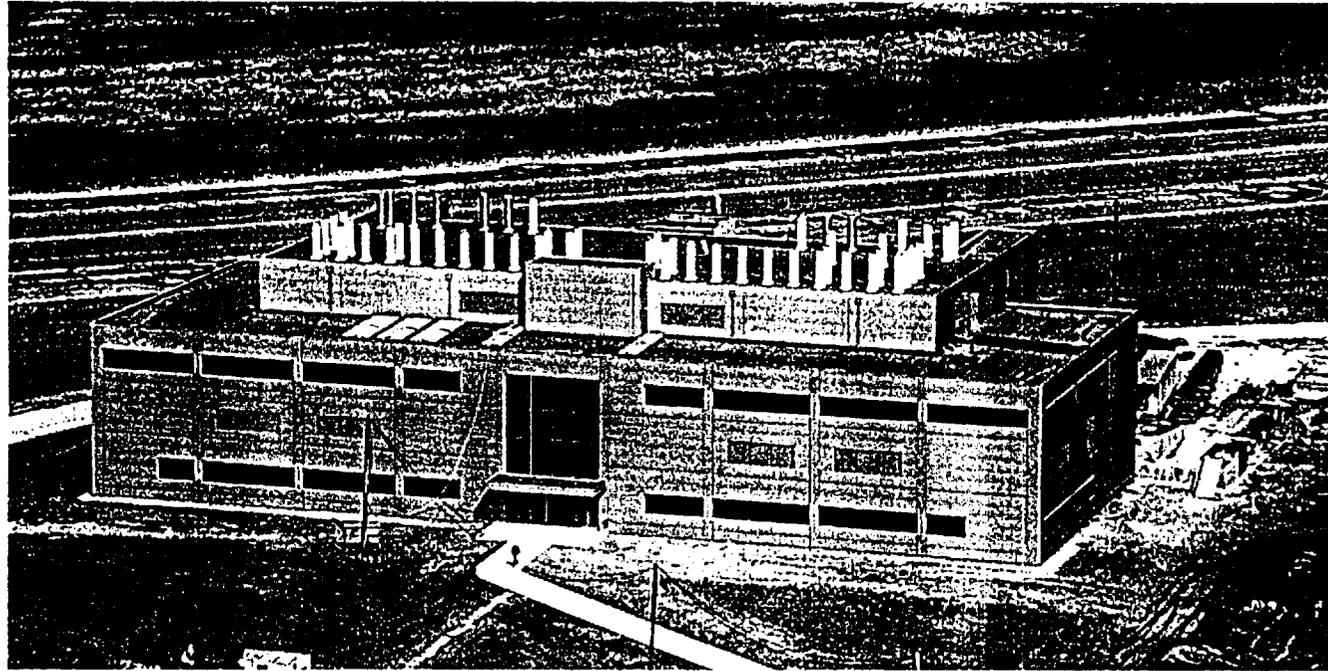
BRAC BILLET DISTRIBUTION BY BUILDING



WARMINSTER
1716 (BRAC II)
*20 (BRAC IV)



Robert Becker Lab



65,000 SF

Gov't Accepted 4/28

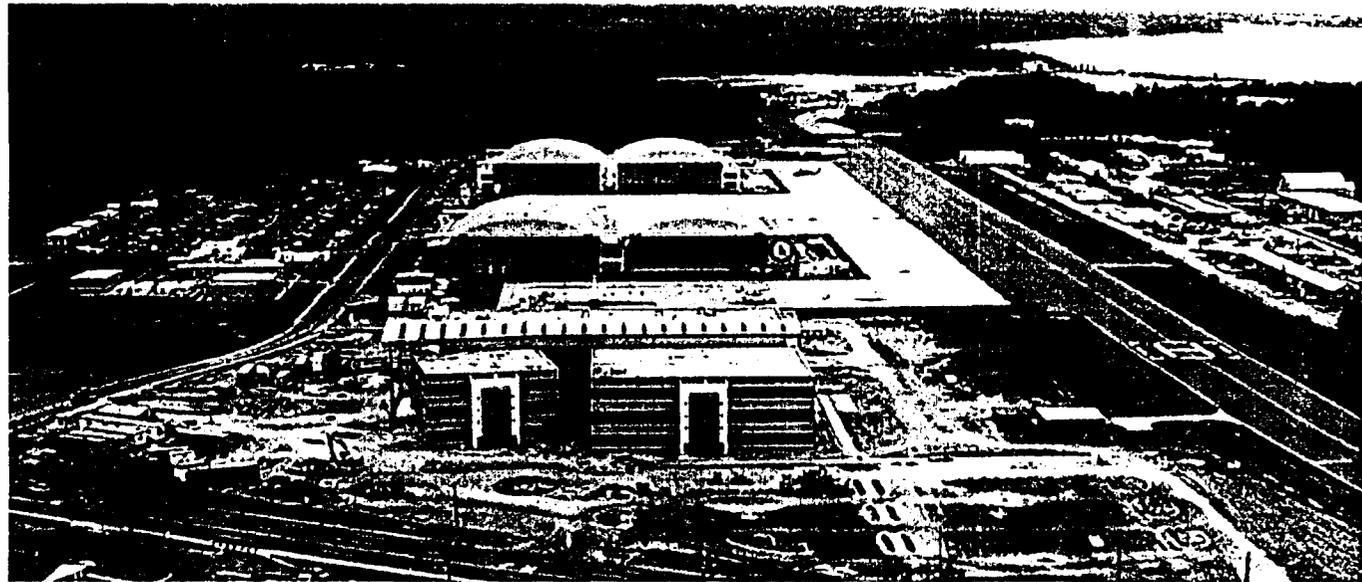
Outfitting Started

Polymers Labs

Composites Labs

Coatings Labs, 60 people

North Engineering Center



240,000 SF, 65% Labs

75% Complete

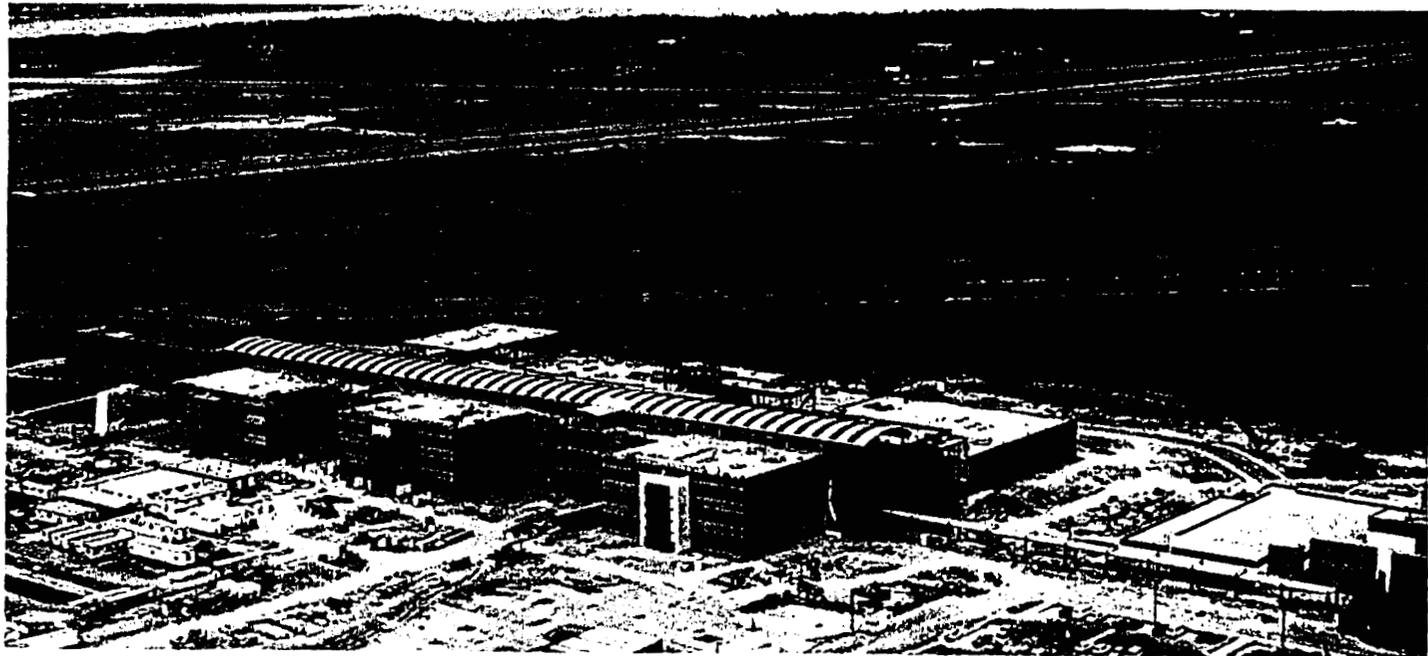
Summer 96 Occupancy

AASW Software Support

Avionics & Sensor Dev.

400 people, VTC

South Engineering Center



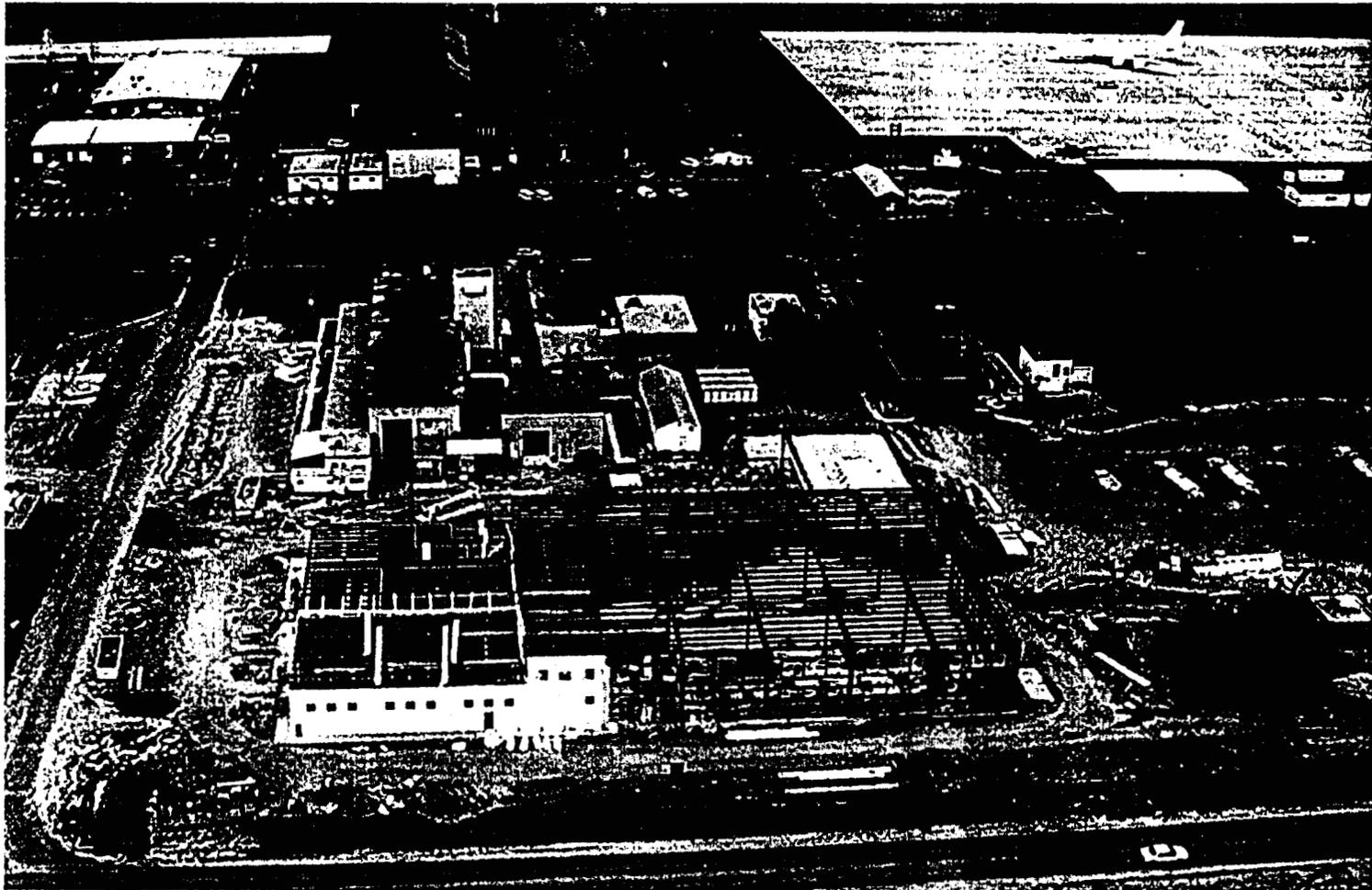
455,000 SF, 65 % Labs

62% Complete

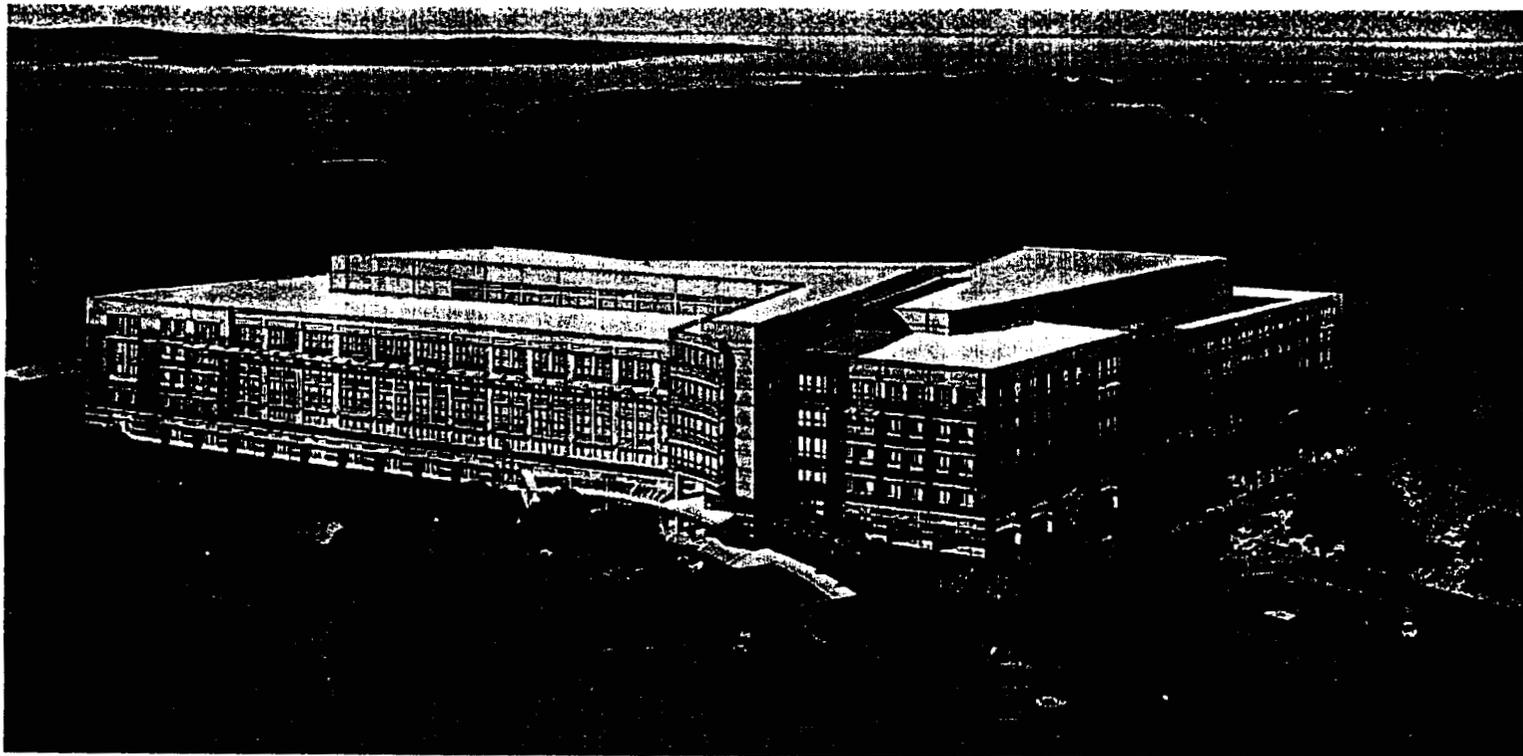
TACAIR, Crew Systems, Air

Vehicles, Avionics & Computer

AIRCRAFT MODIFICATIONS BUILDING



NAVAIR IPT Building



460,000 SF

Awarded Jan 95

Summer 97 Occupancy

Parking Garage, Cafeteria,

Secure Project Spaces

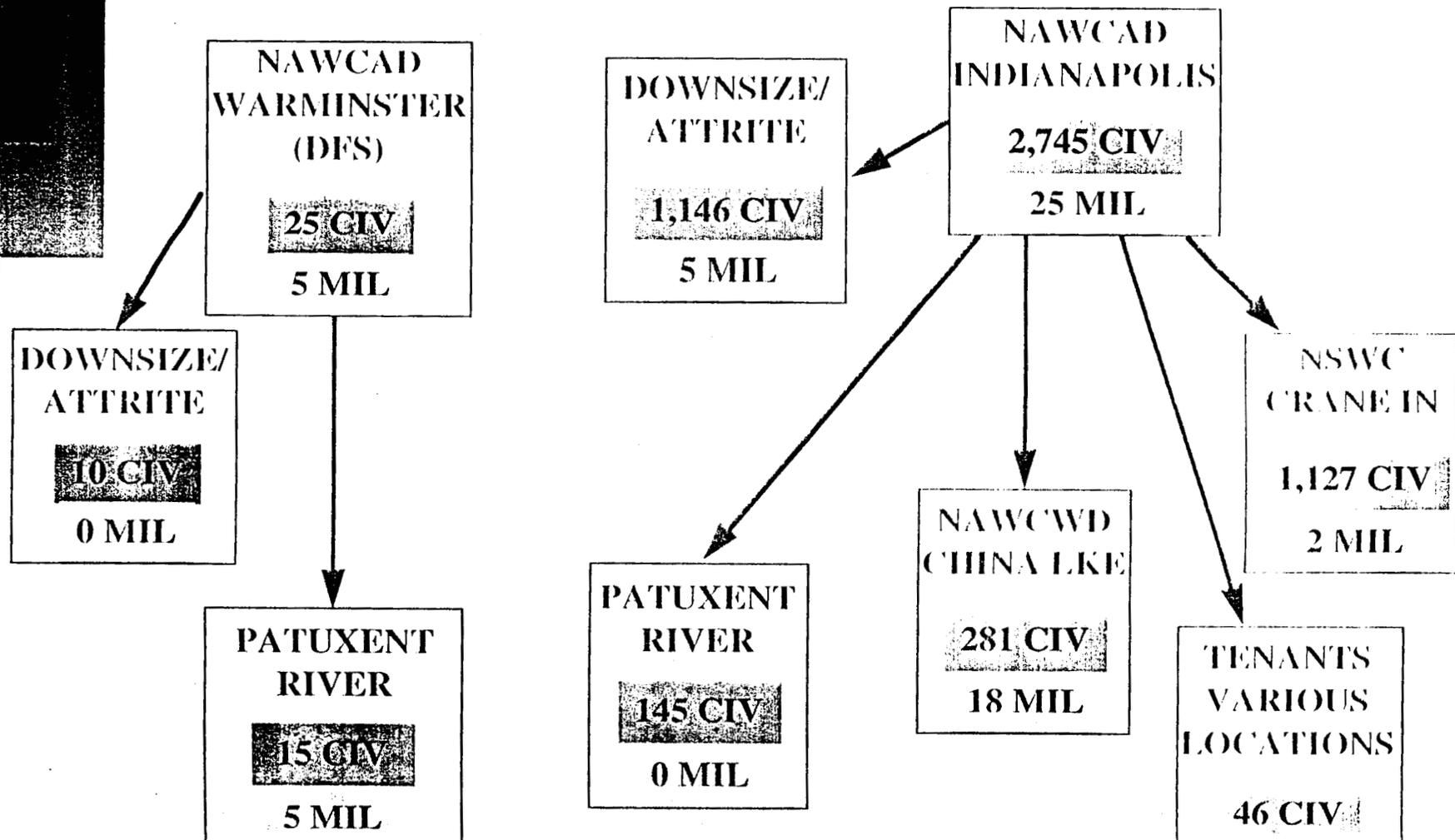
1- VTC's, 2100-2200 people

Propulsion Support Engineering Facility

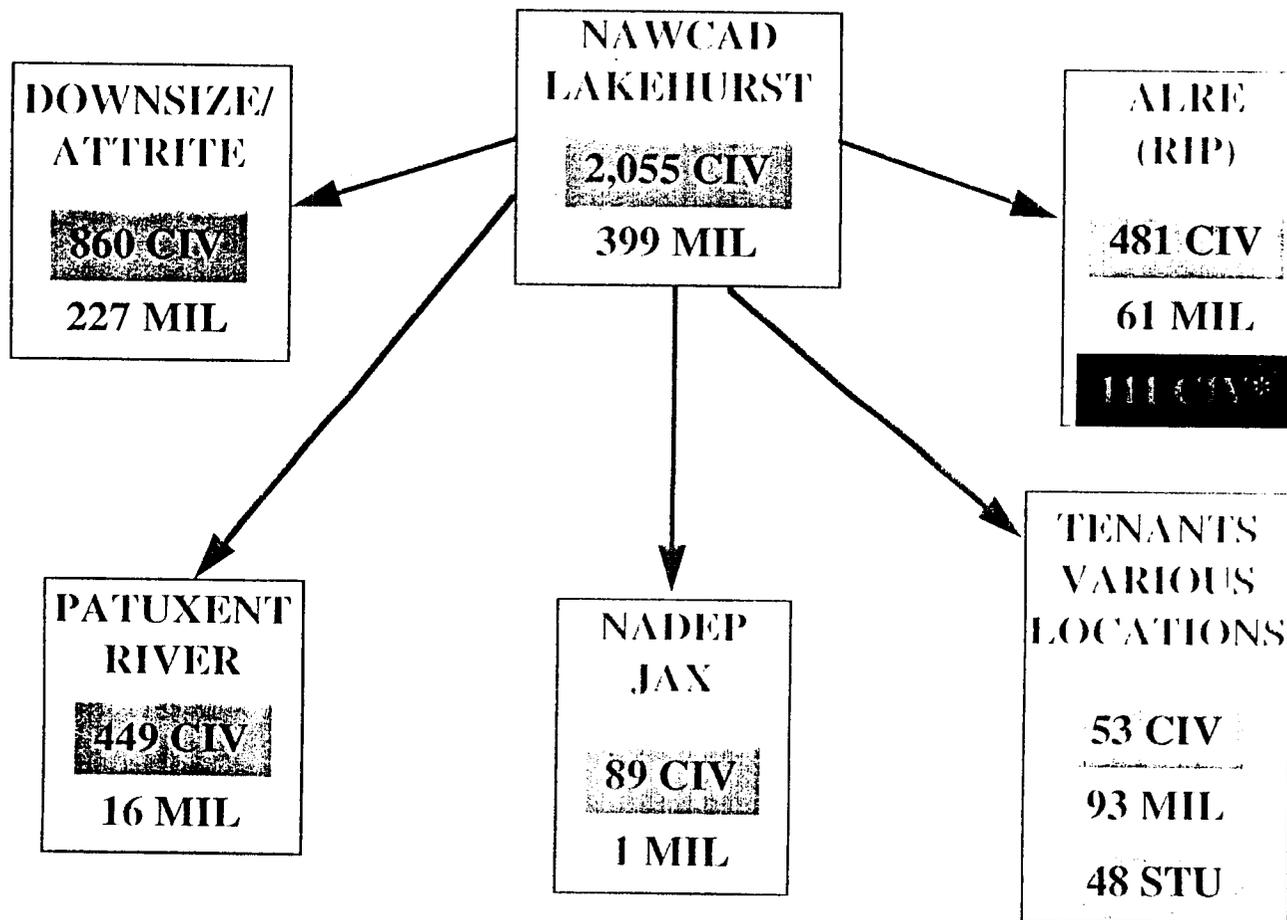


- BRAC 93, TRENTON
- 77,000 SF
- Final Design in 12 May 95
- Projecting November 95 Award
- Summer 98 Occupancy
- Supports:
 - Small Engine Test
 - Accessories Test
 - Fuels/Lubes
 - 116 People
- Includes
 - 2 Small Test Cells
 - Rotor Spin Labs

PROPOSED BRAC 95 WARMINSTER - INDIANAPOLIS



PROPOSED BRAC 95 LAKEHURST



* DETACHMENTS WORLDWIDE CIVILIANS

PROPOSED BRAC 95 IMPACT AT NAS PAX



LAKEHURST

MILCON REQUIRED

465 PERSONNEL

99,400 SQ FT

MODULAR FURNITURE

LAN/WAN/TELEPHONE VIA
FIBER OPTIC DUCT

LOCATIONS UNDER EVAL

START CONST 1Q FY97

OCCUPY 3Q FY99

INDIANAPOLIS

REHAB EXISTING STRUCTURE

145 PERSONNEL

24,310 SQ FT

MODULAR FURNITURE

LAN/WAN/ TELEPHONE VIA
T-1 LINE TO PAX

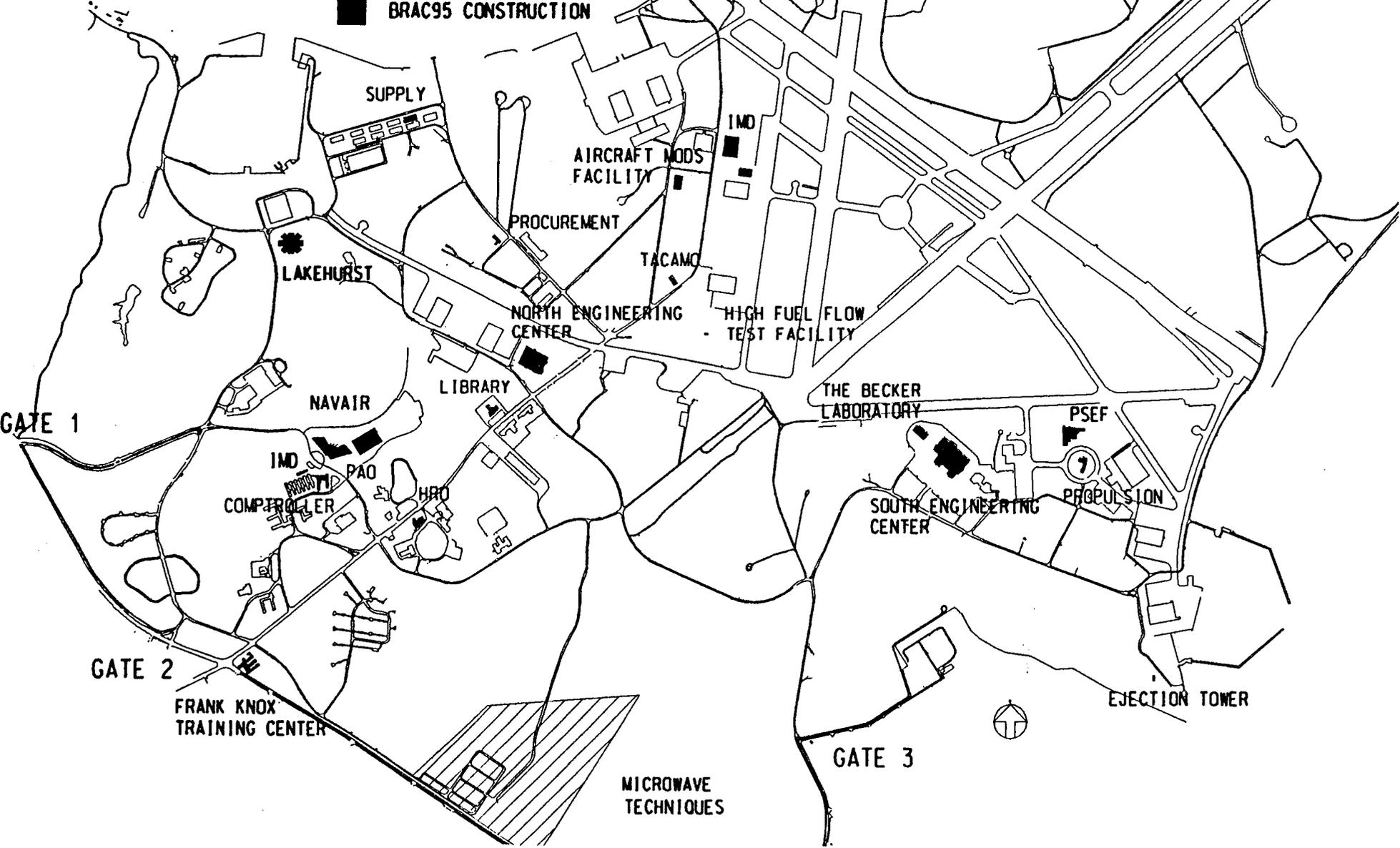
ST INIGOES, BLDG 185

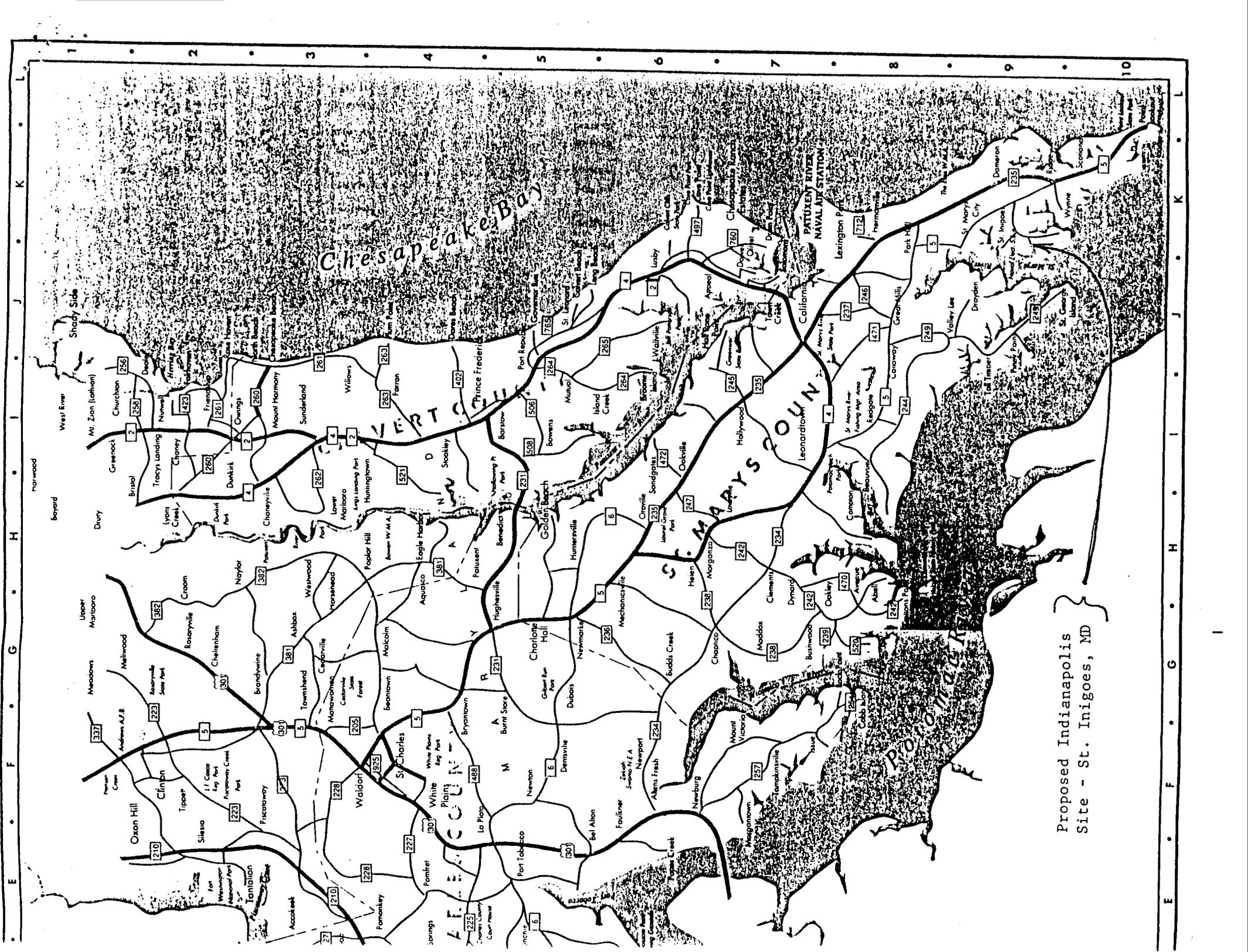
START REHAB 2Q FY98

OCCUPY 4Q FY99

NAVAL AIR STATION PATUXENT RIVER, MD

- BRAC91 RENOVATIONS
- BRAC91 CONSTRUCTION
- BRAC93 CONSTRUCTION
- BRAC95 CONSTRUCTION





Proposed Indianapolis
Site - St. Inigoes, MD