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*BCH*  
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 Chief, Technical Systems Branch  
 Albert F. Simpson Historical  
 Research Center



RETURN TO  
MEDICAL  
SERVICES  
ANWELL AFB AL 36112

# HISTORY

1 JULY 1975 - 30 JUNE 1976

1012649

RCS: HAF-CHO(A)7102



UNCLASSIFIED

AFSHRC  
RETURN TO  
MAXWELL AFB AL 36112

HISTORY OF THE USAF CLINIC HICKAM

1 JULY 1975 - 30 JUNE 1976

BY

MSGT E. K. MILLER, JR.

HISTORIAN

X

APPROVED BY:

*Joseph M. Threadgill*  
JOSEPH M. THREADGILL, Colonel, USAF, MC  
Commander

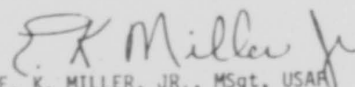
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FORWARD

The USAF Clinic Hickam was designated on Special Order 6-148, Headquarters, Pacific Air Forces, APO San Francisco 96553, dated 25 August 1972. The USAF Clinic Hickam, formerly designated as the 6486th USAF Dispensary and later the USAF Dispensary Hickam, has maintained its initial mission as the prime medical support agency for the Air Force and related activities in Hawaii and throughout the Central Pacific.

The primary mission of the USAF Clinic Hickam is to provide professional and concerned medical care to military personnel and their dependents. During the past year, the Clinic has compounded its efforts toward this endeavor by the initiation of several new changes in patient scheduling in the General Therapy Clinic. A flexible, new appointment system was formulated, and a centralized appointment scheduling further enhanced the management of the clinics and provided convenient as well as quality medical care. With the culmination of "Baby Lift" and "New Life," the USAF Clinic Hickam was able to utilize the professional staff to its utmost and with the assistance of nurse practitioners and physician assistants, efforts continue to be fulfilled in promoting better health care.

  
E. K. MILLER, JR., MSgt, USAF  
Historian

INTRODUCTION

Colonel Joseph M. Threadgill assumed Command of the USAF Clinic Hickam on 27 August 1975 and remained Commander throughout this period.

During the past year, the USAF Clinic Hickam has been in full force of initiating and improving new programs and new ideas in military medicine. During the critical period of physician shortage in August of 1975, the Physician Extender Program has enabled many more patients to be seen. Under this new concept in military medicine, enlisted medical technicians were continuously trained and ably assisted physicians in patient care. By careful evaluations and training, nine qualified physician extenders were added to the staff.

In April of 1976, in conjunction with this program and for the first time in the Clinic's history, two Physician Assistants joined the staff. The qualified noncommissioned officers received their rigorous special training at Sheppard AFB, Texas, and assisted physicians in diagnosing and treating injuries and diseases.

The arrival of nurse practitioners and a community health nurse further enhanced the professionalism of the USAF Clinic Hickam. In their commitment to provide quality as well as concerned medical care, the staff established and organized special clinics and classes to assist parents in child care. Counseling sessions to assist parents with the health care of their children have been continuously scheduled after duty hours.

The arrival of a Pediatric Nurse Practitioner in September of 1975 has made possible the formation of the Adolescent Clinic in the Pediatric Clinic where adolescents between the ages of 13 and 17 are now seen. New procedures in the appointment scheduling were also instituted. Services continue to be provided in the Family Planning Clinic with an additional OB-GYN practitioner assigned in the past year.

The professional staff in the Dental Clinic has been busy throughout the year providing dental health care in the military community. Programs such as Children's Preventative Dentistry, Dental Health, and the Plaque Control Center have been vigorously initiated, and the efficacy of dental health remains a continuous on-going program.

On 1 March 1976, military sick call became a thing of the past at the USAF Clinic Hickam. A full appointment system was initiated for military personnel that has proven to be quite effective. The creation of a centralized appointment system for the Optometry and Pediatric Clinics has added to the management of improved health care.

The USAF Clinic Hickam continues to provide training programs for medical and dental technicians. After much planning with the Hawaii State Department of Health and Tripler Army Medical Center, a new Emergency Medical Technician (EMT) training program will begin in September of 1976. For the first time, the Clinic will

be awarding certifications to medical technicians upon successfully meeting the requirements of the program. The administration of the Cardio-Pulmonary Resuscitation Training Program is another on-going training program to better prepare personnel in emergency situations.

The accomplishments of the USAF Clinic Hickam have far surpassed the goals set forth in the past year. The period of changes of the past year continue to be effective and rewarding in meeting the mission requirements of the USAF Clinic Hickam.

CHAPTER I

COMMAND, ORGANIZATION, AND MISSION

COMMAND

Colonel Joseph M. Threadgill, 491-38-9057FR, USAF Clinic Hickam

Under the leadership of Colonel Threadgill, the USAF Clinic Hickam has continued in its efforts to provide quality health care. New programs and innovations were instituted which have contributed greatly to the improvement of patient care. With a spirit of dedication and a well qualified staff, the USAF Clinic Hickam continues to progress in meeting the mission requirements.

ORGANIZATION

(U) The USAF Clinic Hickam is a staff organization under the Commander of the 15th Air Base Wing (PACAF), APO San Francisco 96553.

MISSION

Provide medical and dental care, except hospitalization, for Air Force, Army, Navy, and Marine Corps personnel stationed at Hickam AFB.

Provide medical care, except hospitalization, and emergency dental care for dependents of military personnel residing on or assigned to Hickam AFB and for all eligible personnel transiting through Hawaii.

Perform employment physical examinations and provide treatment of on-job injuries and illnesses for Federal Civil Service employees.



Provide health services, as required, for U.S. Air Force personnel and employees stationed on other Hawaiian Islands and on Central Pacific installations listed in PACAF Regulation 23-2.

Provide ambulance service and crash coverage for the Hickam AFB/Honolulu International Airport complex.

Conduct a flight medicine program in support of air crew personnel assigned in or transiting the Hawaiian area.

Provide environmental health service to include occupational health program, preventive medicine program and community environmental health surveillance program. Provide guidance and consultation regarding medical aspects of nuclear, chemical and biological warfare. Provide environmental health service support as required by support agreements.

Conduct port-of-entry medical quarantine inspections at Hickam AFB.

Provide independent duty medical technicians and medical supplies for surface recovery units on operational and training missions.

Operate a facility at Wheeler AFB to provide medical and dental services, except hospitalization, for all authorized categories of personnel residing on or assigned to Wheeler AFB.

Provide medical administrative liaison for U. S. Air Force patients hospitalized at Tripler Army Medical Center.

Provide veterinary services to include food inspection at Hickam AFB and Wheeler AFB, Commissary Cold Storage Facility at Pearl City, inspection of MAC contract aircraft, operation of a Zoonosis Control Clinic, support for the Military Working Dog Program, participation in the Armed Forces Sanitary Inspection Program for the Hawaiian Islands, and support for the veterinary aspects of the Environmental Health Program. Provide veterinary assistance support as required by support agreements.

Determine requirements for, procure, store, and issue medical material, including medical war readiness material used by Air Force medical units and certain other activities in the Central Pacific.

Provide medical support for base disaster control plans. Conduct training for medical aspects of disaster casualty control.

Provide guidance and training for all Air Force Reserve mobilization augmentees assigned to this medical facility.

Provide medical and dental support to special projects as directed.

MANNING

Our manning picture on 30 June 1976 was as follows:

	<u>AUTHORIZED</u>		<u>ASSIGNED</u>	
	<u>30 Jun 75</u>	<u>30 Jun 76</u>	<u>30 Jun 75</u>	<u>30 Jun 76</u>
Medical Corps	18	17	15	14
Dental Corps	17	17	15	16
Veterinary Corps	2	2	2	3
Medical Svc Corps	3	3	3	3
Nurse Corps	6	6	6	6
BioMedical Science Corps	6	8	7	8
Medical AFSC	121	123	183	139
Dental AFSC	34	34	36	38
Non-Med/Den AFSC	2	2	2	2
<b>TOTAL</b>	<b>209</b>	<b>212</b>	<b>269</b>	<b>229</b>
<u>CIVILIANS</u>				
Physicians	5	5	4	4
Nurses	1	1	1	1
Dentists	2	2	0	0
Other Medical	31	31	24	28
Other Dental	11	11	9	9
<b>TOTAL</b>	<b>50</b>	<b>50</b>	<b>38</b>	<b>42</b>

ANNUAL OPERATIONS OPERATING BUDGET

FY 76

Total Annual Budget Authorization \$1,222,400  
 30 Jun 76 - Obligations Incurred 1,221,575

FUNDS OBLIGATED BY CATEGORY

<u>EEIC</u>	<u>DESCRIPTION</u>	<u>4TH QTR 76</u>	<u>4TH QTR 75</u>
391	Civilian Overtime	\$ 1,026	
392	Civilian Pay & Benefits	653,645	\$424,248
407	TDY (MAC)	7,532	3,819
408	TDY (Commercial)	9,272	9,131
409	TDY (Per Diem)	5,670	5,311
473	Office Equipment Rental	3,104	2,354
480	*Utilities	19,700	
492	*Communications	27,976	
531	*Custodial	37,400	
533	*Other Civil Eng Svcs	8,800	
549	*Purchases from other DOD Services	12,893	
569	Purchases Maint. of Equipment	4,387	3,684
592	Misc Contract Svcs	14,301	15,388
596	*Medical Transfers	23,766	
604	Medical Supplies	343,299	319,697
605	Services Sup SF		31
608	Clothing		259
609	Non-Medical Supplies	21,927	16,832
624	Medical Equipment	16,291	35,165
628	Non-Medical Equipment	8,319	10,786
396	Lump Sum Pay	2,267	680
	TOTAL	\$1,221,575	\$847,385

In FY 75 this facility was funded under Major Force Program 2 in which the base funded \*EEIC's. Effective FY 76 the USAF Clinic Hickam was funded under Major Force Program 8 in which the Clinic was responsible for funding these EEIC's.

USAF CLINIC EXPENSE DISTRIBUTION  
THRU FY 75

<u>SERVICE</u>	<u>TOTAL</u>	<u>OUTPATIENT</u>	<u>DENTAL</u>	<u>OTHER</u>
Med/Staff Physicians	344,029	315,375		28,554
General Clinic Services	808,468	741,365		67,103
Pharmacy	257,317	257,317		
Radiology	120,159	120,159		
Clinic Laboratory	93,132	93,132		
Registrar	260,268	237,104		23,164
Linen Service	38,510	34,659	3,081	770
Common Spt Svcs	406,813	192,423	126,518	87,872
Dental Svcs	773,159		773,159	
Dental Laboratory	99,562		99,562	
Other Med Activities	439,061	127,328		311,733
<b>TOTAL</b>	<b>3,640,478</b>	<b>2,118,962</b>	<b>1,002,320</b>	<b>519,196</b>

THRU FY 76

General Clinic Services	1,196,587	1,172,466		24,121
Pharmacy	286,380	286,380		
Radiology	127,799	127,799		
Clinic Laboratory	77,708	77,708		
Registrar	258,170	250,166		8,004
Linen Service	27,232	24,508	2,179	
Housekeeping Svcs	37,400	34,408	1,870	1,122
Common Spt Svcs	502,952	240,409	178,549	83,994
Dental Svcs	868,109		868,109	
Dental Laboratory	105,556		105,566	
Other Med Activities *	503,639	141,173		362,466
<b>TOTAL</b>	<b>3,991,532</b>	<b>2,355,017</b>	<b>1,156,263</b>	<b>480,252</b>

\* Medical/Staff Physicians expenses are now included in General Clinic Services. Under Force Program B, Housekeeping and Communications Expenses are also included in the expense distribution. Other Medical activities include Veterinary and Environmental Health Services.

SOURCE: RCS:HAF-ACF(Q) 7146, Medical Expense Report

ANALYSIS OF UNIT COSTS

Average costs consist of these unit costs (Salaries, Supplies, Equipment, Travel and Contract Service Expenses) applied to a functional area divided by the total units of work accomplished in that functional area. It is the cost of accomplishing the total work units divided by the number of work units divided by the number of work unit done. (Source: HAF-ACF (Q) 7146, Medical Expense Report)

<u>AREA</u>	<u>FY 75</u>	<u>FY 76</u>
Outpatient Visits	14.34	15.94
Prescriptions	1.52	1.64
X-Ray Film Exposed	2.91	2.96
Lab Procedures	.85	.66
Dental Clinic Procedures	2.94	3.79
Dental Lab Procedures	.99	1.22

ANALYSIS OF SUPPLY COSTS

Average supply cost is the cost of medical supplies applied to a functional area divided by the total units of work accomplished in that area. (Source: HAF-ACF (Q) 7146, Medical Expense Report)

<u>AREA</u>	<u>FY 75</u>	<u>FY 76</u>
Outpatient Visits	2.16	1.80
Prescriptions	.89	1.01
X-Ray Film Exposed	.42	.54
Lab Procedures	.10	.10
Dental Clinic Procedures	.18	.20
Dental Lab Procedures	.22	.19



EQUIPMENT

Major items of equipment were purchased for various sections of the Clinic. The following list identifies the major items purchased this period:

1	EKG Cart for Medical Maintenance
1	Semiconductor Curve Tracer for Medical Maintenance
1	Dual Trace Storage Oscilloscope, including Battery Tektronix Model 214 for Medical Maintenance
2	Chair, Rotary Type II for Pharmacy
4	Chair, Rotary. Color: Kelly Green for Flight Surgeon's
1	Chair, Rotary, Type I, Class 2, Style A for Administration
3	Chair, Drafting for Pharmacy
2	Closed Shelving - 8 shelves for Pharmacy
2	Add-On, Closed Shelving - 8 shelves for Pharmacy
2	Typewriter, Selectramatic, 1 for Flight Surgeon's; 1 for Business Office
2	Sealing Iron, 1 for Medical Supply; 1 for AF Clinic
1	Vacuum Cleaner for Plant Management
2	ANPDR #43 Radiac Set for Bio-Environmental Health
1	Desk Attachment, Left Side Typing for Flight Surgeon's
1	Desk, Flat Top, Right Ped. for Flight Surgeon's
2	Cabinet, File 2 Drawer w/o lock for Medical Maintenance
1	Bulletin Board for Administration
1	Littman ECG Mounting System for Flight Surgeon's
1	ECG Generator/Calibrator for Medical Maintenance
3	Handpiece, Contra-Angle for Dental Clinic
4	Ritter Starlite for Dental Clinic
2	Cabinet for Ultrasound UT4300A for Physical Therapy
2	Sterilizer, Surgical for Dental Clinic
1	Table, Examination, Cabinet Base Style for Flight Surgeon's
1	American Optical Lensometer for Wheeler Medical Services
1	Image Intensifier for X-Ray
1	Unichair Duo for Dental Clinic
4	Chair, Den-Tal-EZ V13 for Dental Clinic
1	AutoField I Automated for Laboratory
2	IBM Tone Input System for Administration
1	Hemoglobinometer, Coulter for Laboratory
1	Projector, Bausch & Lomb for Optometry
1	Processing Machine, X-Ray for Wheeler X-Ray

DISASTER PREPAREDNESS

The disaster preparedness programs received much attention to upgrade various aspects during the period.

The disaster preparedness NCO was newly appointed and attended the Medical Disaster Preparedness Course conducted at Brooks AFB, Texas, in November 1975. The Clinic disaster casualty control plan was completely revised to interface with the Base OPlan 355 and the new format recommended. The recall plan underwent concept modification and was proved to be operational. Numerous classes and training sessions were conducted on the disaster plan.

A walk-through training exercise was conducted on 5 May 1976 with eight casualties and involving all Clinic personnel except the Dental Clinic. Several changes in the plan were made and tested. On 18 May 1976, a mass casualty exercise involving 30 casualties was conducted which involved all Clinic personnel. Finalization of the changes is contingent on the completion of the revision of Base OPlan 355.

The final Clinic disaster casualty control plan is expected to be published in the quarter following this period. The Administrator represented the Clinic on the State of Hawaii Health Services Coordinators Committee. The Clinic participated in the mass casualty exercise staged at Honolulu International Airport involving the civilian hospitals and other civil organizations in the area.

TRAINING AND EDUCATION

The USAF Clinic Hickam graduated eight individuals from the PACAF NCO Leadership School during this period: SSgt Mark Vanderlinden, SSgt Walter Josh, SSgt Terry L. McLean; and Sgt Al Traylor, Sgt Donna Ekow Dietz, Sgt Mary Hogan, Sgt Rebecca Rounds, and Sgt Victoria I. Silva.

Two members successfully completed the Management Course for Air Force Supervisors: Sgt Sharon Craft and Sgt Oscar Blair.

The Clinic was allocated several quotas for the PACAF Senior NCO Course. The following members attended: MSgt Walter Kantorowski, MSgt Peter Kloock, MSgt Allen Teele, MSgt Ken Kuriowa, MSgt Everett B. Nailey, MSgt George Sakurai, and MSgt L. E. Jones.

The General Therapy Clinic arranged for four individuals to attend CPR Instructor Training: TSgt Frank McManamy, SSgt Gordon Fujii, SSgt Santos Salinas, and Mrs. Beatrice Borges. SSgt Fujii, Sgt Robert L. Garrison, and AIC Lisa M. Kershaw also attended the Emergency Medical Technician Course during this period.

The Clinic Social Worker attended a conference on Successful Treatment of Sexual Disorders.

The following FY training quotas were allocated to this unit for formal school courses listed in AFM 50-5:

3AZR90870-1	Veterinary Statistical Procedures
3AZR90870-2	Medical Aspects of Food Handling
3AZR91570-0	Medical Materiel Supervisor
3AZR98170-1	Dental Supervisor
3OZR9100	Chap & Child Advocacy Course
5OZY9256	Optometry Seminar
5OZY9300-3	Medical Emergency Disaster Preparedness
5OZY9246	Pharmacy Seminar
5AZY907X0-003	Hearing Conservation

IAW AFR 50-49, Annual Weight Checks on all personnel were conducted during November and December 1975. Eight members were placed on the Overweight Control Program.

Annual Aerobics testing for all applicable personnel were conducted in November and December 1975; satisfactory results were obtained for all examinees.

There were a total of ten OJT upgrades accomplished; one to the 3 skill level; six to the 5 skill level; three to the 7 skill level. The average overall monthly training load was 17. There were no personnel in excessive training status during this period. Twelve supervisors have completed OJT Trainer/Supervisor Course 4AJF75000-30 during this period.

AWARDS AND DECORATIONS

The following personnel were recognized or awarded for their contribution to the mission of the Clinic:

AIR FORCE COMMENDATION MEDAL:

Maj Ben Tadano  
Capt Dian J. Davis  
TSgt Robert Brady  
SSgt Mark E. Vanderlinden  
SSgt Charles Heimerdinger  
Sgt Lemuel D. Terrell  
Sgt Richard Quillen  
Sgt Deborah L. Whitney  
AIC Frederick M. Craft

OUTSTANDING NCO/FTA OF THE QUARTER:

TSgt Walter J. Johnson  
TSgt Ronald F. Banks  
SSgt Mark E. Vanderlinden  
SSgt Arthur M. Morimoto (Also Base NCO of the Quarter)  
Sgt Steven R. Caldwell  
Sgt Richard A. Quillen  
AIC James E. Strawbridge  
AIC Luton R. Major

CHAPTER II

AEROSPACE MEDICINE

Physical and Mental Health of Flying Personnel

There are 934 personnel on flying status representing a loss of approximately 150 flying personnel in the past year.

Flying Safety and Equipment

The Flight Surgeon's Office received 414 calls on emergency aircraft (273 - military and 141 - commercial). All calls required crash ambulance response.

An aircraft physiological incident occurred when a 24-year old SSgt rigger had his O<sub>2</sub> line accidentally become disconnected. The patient became hypoxic, but did not lose consciousness. He was reconnected to another line as soon as others in the back of the C-130 became aware of his problem.

A 43-year old master navigator was found to have developed a heart murmur on his annual medical exam. Cardiology evaluation including echocardiogram revealed a prolapse of the posterior leaflet of the mitral valve consistent with Barlow's Syndrome.

On 3 Aug 1975, the pilot of the Commander in Chief of the Pacific was injured in a glider crash at Dillingham Airfield. He suffered severe injuries to both ankles but is progressing satisfactorily at this time.

One Flight Surgeon was involved in the air evacuation of two seamen who were injured in a boiler room explosion and the resultant fire.

Training, Administration and Research

Numerous exercises were responded to during this period and the results were satisfactory.

There were 10,589 outpatient visits to the Flight Medicine Clinic during this period.

A total of 1155 physical examinations were performed during this period.

Two of our technicians became nationally certified as EMT technicians during this period.

A joint civilian/military disaster exercise was conducted during this period. The scenario involved a 747 crashing on the Honolulu runway and was used to test the ability of the State to respond to a disaster situation. Approximately 200 "victims" were used in the drill.

The Flight Medicine Section is currently conducting a study to detect medullary necrosis indicating occult dysbarism caused by continual exposure of the Test Gp Paramedics to changes in pressure caused by repeated diving and flying. Long bone x-rays will be done semi-annually. Additionally, x-rays will be obtained of all incoming and outgoing paramedics.

The Aerospace Medicine Council meetings were held monthly during the period. This frequency insures that all personnel are aware of the current status of the Aerospace Medicine Program.

During the report period, our Flight Surgeons attended and gave briefings at Base flying safety meetings.

Environmental Health Services

a. Environmental Health Service Workload:

Total Water Samples Analyzed	1006
Film Badges Issued	1175
Sanitary Inspections	5007
Special Projects Received	32
Special Projects Completed	29
Vehicle Mileage	18403 (POV 1153)
Construction Drawings Reviewed	163
Remote Sites Visited	3

b. Medical Port Quarantine Station Workload:

Total Aircraft from West	2525
Crew Checked	23849
Passengers Checked	34389
Aircraft Sanitary Inspections	2113
Aircraft Remands	5

c. Occupational Health:

(1) Personnel evaluated through the Hearing Conservation Program totaled 1140. Eight of these individuals were placed on the detailed follow-up program. They were removed from hazardous noise areas and are waiting consultation at the Diagnostic Hearing Center at TAMC.



(2) A total of 294 individuals were evaluated through the Occupational Medicine Program. Personnel evaluated in the program were routinely exposed to toxic materials and/or chemicals. No significant abnormalities were found.

(3) Food handlers totaled 599 with four of these having significant abnormalities which required follow-up medical consultation.

(4) Occupational Health Surveys were performed at Hawaii Regional Exchange (HRE) facilities at Hickam and Wheeler AFBs to identify and correct occupational health hazards to which HRE patrons and employees may be exposed. Storage areas, service stations and cafeterias were surveyed with emphasis on ventilations, lighting, insect and rodent control, industrial waste disposal and safety. Results and recommendations were forwarded to the local exchange office for corrective action.

(5) Coordination with the Army Environmental Health Service has been established by this section in matters of mutual interests such as isolated site surveillance on Oahu, communicable disease control and industrial hygiene. Cooperation by both agencies in these areas of concern will increase the effectiveness of our operations and the accomplishment of our missions.

(6) An Environmental Survey was accomplished at the Punamano Communication Site. Recommendations were made in areas to increase present illumination and one hazardous noise operation was identified in the emergency generator room when generators are operating. Present potable water system at the site is considered unsatisfactory. Although bacteriological samples have been negative, the chlorinator is in a constant state of malfunction resulting in no chlorine residuals in the drinking water and both the storage tank and pressure tank are badly rusted. Water samples taken to determine the water quality provided the site indicates that chlorides and total dissolved solids are above levels recommended by the U. S. Public Health Service. Although the chloride and total dissolved solids levels do not constitute grounds for rejection, they are not desirable due to their adverse effect upon taste. The present water should not produce any illness. It was recommended to the Wheeler Civil Engineers that a new water system should be installed at the Punamano Site to include filtration of chlorides and total dissolved solids, and that chlorination be provided at the well pump house to allow for greater contact time. The present system chlorinates at the pressure tank. The Engineering Section, Hickam AFB Civil Engineering, has evaluated the situation and anticipates forwarding a project in the immediate future to the Program Section for funding.

(7) An x-ray protection survey was accomplished at the USAF Postal and Courier Service, Australia District, by the Bioenvironmental Engineer. This survey was performed at the request of the USAFPCS, Pacific Region (Hq Comd, USAF). A Victoreen Ionization Chamber survey meter, Model 440, was used on this survey. The x-ray unit being used is a Dynafluor II Fluorescopic Inspection Unit, Mfg by Torr X-ray Corp, Los Angeles, California. Radiation leakage measurements were taken at 150 KVP; PCS personnel indicated the unit is normally operating at 85 KVP. No radiation leakage during operation was detected and the door interlock system functions correctly. There were no radiation dosimetry devices on hand for personnel using this unit. Radiation dosimetry film badge service for the personnel was initiated by Environmental Health Service, USAF Clinic Hickam.

(8) A Dennis & Miller Engineering, Inc., Baggage X-ray Inspection System, Model C-2, was installed in the MAC Terminal, Hickam AFB, by the contractor. Per instructions from the USAF Radl Health Lab, 73 Kodak AA 14 x 17 sheets of industrial film were placed on the unit for 13 hours and 10 minutes to determine if the unit emitted any leakage. Only minimal leakage was noted on 7 films. The areas where leakage was noted on the film were then surveyed using a Victoreen Ionization Chamber survey meter, Models 666 & 440. No significant leakage was noted in these areas. Environmental Health Service initiated action to place all personnel who operate and load/unload baggage on the film badge service program. They were also advised of the potential side effects of ionizing radiation.

(9) On 21-22 Jan 76, Capt Barnes, Bioenvironmental Engineer, USAF Clinic Hickam, performed an Environmental Health Assistance Visit at the USAF Nurrunger Site, Woomera, Australia. The survey was conducted in compliance with a USAF Host-Tenant Support Agreement between the 15th Air Base Wing/PACAF and the 5th DSCS/ADC which requires an annual Bioenvironmental Engineering/Environmental Health survey. The main items of interest during the survey were noise, ionizing radiation, water supply and illumination. Sewerage treatment, entomology, toxicology and occupational medicine were also investigated. Comments and recommendations were forwarded to the proper authorities for appropriate corrective action.

d. Preventive Medicine:

(1) Epidemiology. One active case of tuberculosis was discovered during this period. A 36-year old dependent wife/Navy who is employed in the NCO Club received a IPPD skin test which was positive. This was followed up by a PA and Lordatic chest x-ray which showed signs of active TB. The patient was admitted to

Tripler Army Medical Center 23 Sep 75 and discharged on 29 Sep 75. She is now on isoniazid chemoprophylaxis and ethambutol hydrochloride for one month. This will be followed up by a pulmonary function exam due one month after discharge from the hospital. The Navy medical facility is administering the follow-up procedures for this patient. Twenty-two people working in close contact with the patient at the Club have received a tuberculin skin test or PA and Lordatic chest x-rays when past positive skin tests were known. These people will be followed up with the same tests in one month. No convertors were recognized after tests were completed.

(2) Entomology. Mosquito counts on and off base have decreased as has been the incidence of complaints of mosquito bites from personnel. Lower mosquito populations can probably be attributed to the successful control of mosquito breeding areas on Waipio Point. As a result, recommendations were made to reduce the frequency of fogging for adults with the possibility of eliminating the fogging operation completely if the decreasing mosquito population trend continues.

(3) An average non-effectiveness rate of 1.15 was obtained for this reporting period as compared with a rate of 1.25 for the similar period in 1975.

Number of man days lost in period x 1000

Average daily strength x number of days in period

(4) Throat cultures totaled 13,631 for the period of which 1012 were positive beta hemolytic strep, a rate of approximately 7%.

(5) During this reporting period, three C-141 aircraft was placed under quarantine after rodents were reported on the aircraft during flight.

(a) On 9 Jun 76, C-141, Tail #50230, arrived from Clark AB, P.I., via Anderson AFB, Guam, and was placed under 24 hours quarantine after passengers reported seeing a rodent. Traps were placed on board, however, no rodents were caught. The aircraft was released to Travis AFB, CA, under Provisional Pratique.

(b) On 25 Jun 76, C-141, Tail #38088, arrived from Clark AB, P.I., via Kadena AB, Japan, and was placed under 24 hours quarantine after the crew reported seeing a rodent during flight. Traps were placed on the aircraft; one rodent caught. Aircraft was placed on an additional 12 hours quarantine with negative results. The aircraft was released to Travis AB, CA, under Free Pratique.

(c) On 27 Jun 76, C-141, Tail #50242, arriving from Misawa AB, Japan, via Yokota AB, Japan, was placed under 24 hours quarantine after the crew reported seeing a rodent during flight. Traps were placed on the aircraft with negative results for rodents. The aircraft was released to Travis AFB, CA, under Provisional Pratique.

e. Community Environment:

(1) Some flooding in the 61 Area housing was experienced during heavy rains over the Thanksgiving Holiday period. During the flooding, a sewage lift station overflowed and a potable water line broke in close proximity to the contaminated flood water. Families, which had their homes flooded, were quartered in local hotels. When the storm water receded, CE personnel dug down to the broken water main and repaired the pipe. Families which were served by this main were notified to boil all drinking water until the system was tested and approved for use. Water samples and cultures were taken throughout the area for three consecutive days and results showed no contamination. Recommendations were forwarded to CE regarding the reoccupancy of flooded quarters.

(2) A noise analysis was performed at the proposed site for the canine kennels. Noise levels were recorded at the time of peak traffic at Hickam AFB/Honolulu International Airport. Considering the siting criteria of 75 dBA for canine kennels, only six excursions above 75 dBA were noted during the survey time frame and all those were momentary in nature. When the reef runway becomes operational, aircraft will use that runway for takeoffs and the distance to the reef runway combined with the prevailing trade winds should preclude noise levels any higher than presently existing. Relocation of the power check pads, both Air Force and Hawaii Air National Guard in the near future will reduce noise levels at the site from these sources.

(3) Paint chip samples collected from random base housing units and analyzed by the McClellan Environmental Health Laboratory showed lead to be present in all samples, although 76% of the samples contained less than 0.5% lead. Lead levels of 0.5% is the criteria determined by the Chairman of the Consumer Product Safety Council as safe for all paints to be used in family housing. As was expected, lead levels in the paint samples was lowest in the newer housing. Even though paint lead levels in the older quarters is slightly greater than 0.5%, it should not be considered hazardous as the paint chip samples were taken down to base surfaces and, consequently, represented numerous layers of paint, the bottom layers being older and containing the majority of lead found in the samples.

(4) Personnel witnessed several fire training exercises at the burning pit in compliance with the variance to Chapter 43, Hawaii Department of Health, State of Hawaii. Actual burning time, smoke density and weather conditions at the time of the exercise were noted.

(5) A noise level survey was performed at the Hickam Elementary School to evaluate noise intrusion into the classrooms as a result of dumpster unloading activities adjacent to the school. Noise generated at the unloading area mainly affects two buildings which are approximately 200 and 300 feet respectively from the unloading dock and whose windows face the unloading area. There are no structures/objects which act as a noise buffer between these two buildings and the unloading dock. These two school buildings act as a buffer and reduce noise levels in the other school sections. The classrooms at Hickam Elementary School are not air conditioned, and rely on natural cross ventilation provided by open doors and windows. Continuous ambient noise levels in classrooms should be below 48 dBA to provide good listening conditions. The ambient background noise level in the classrooms was well below 48dBA. Dumpster unloading is continuous throughout the day. Each dumpster unloading operation results in 3-5 excursions of noise in the classroom above 48 dBA, these are normally in the 57-65 dBA range. The maximum noise level recorded was 75 dBA. Noise levels in the classroom with the windows and doors closed were also measured with doors and windows closed. Normal dumpster unloadings measured less than 44 dBA with only a few momentary excursions above that to a maximum of 52 dBA. Intermittant intrusions of noise into the classrooms from the dumpster operation will at times interfere with verbal communication and also be disruptive to those conditions conducive to the learning process. Data collected from this survey was given to Hickam Elementary officials. They, in turn, will meet with Naval Public Works at Pearl Harbor to discuss corrective action to be taken.

(6) Due to the requirement for a taxiway through the Hawaii ANG's engine test pad, a relocation of the pad was necessary. The relocation was based upon the condition of HANG using effective sound suppression at the new test pad because of the proximity of inhabited work areas. Studies during engine run-up on the new pad were conducted to determine if nearby facilities would be adversely affected. The J-57 engine tested is used in the HANG F-102 aircraft, but a transition to the F-4, which uses the J-79 engines, will be finalized in the next few months. Although a blast deflector is installed, it provides little sound attenuation and noise levels are extremely hazardous in the GSA warehouses area and Hawaii Regional Exchange-AAFES beverage storage area.

Personnel in both areas have ear protection. A J-79 sound suppressor programmed for the HANG test pad has slipped until Spring 1977. Until then, work areas in the vicinity of the pad will be alerted when engine test runs are to be accomplished. Also, HANG will try to schedule engine test runs Saturday morning whenever possible; if not, the engine would be run before 0900 hours on weekdays, so as not to expose unprotected GSA patrons. The Hickam Environmental Protection Committee considers that engine testing without adequate sound suppression of the relocated pad constitutes an environmentally unacceptable condition. A recommendation was made to officials of the National Guard Bureau to expedite procurement and installation of the sound suppressor system.



CHAPTER III

PROFESSIONAL SERVICES

OUTPATIENT CARE

Effective 1 March 1976, the Hickam Air Force Base Clinic put into effect a new appointment system which eliminated the old custom of military sick call. This new system has increased our appointment capability by 200 appointments per week thus eliminating wasted manpower hours by eliminating the need for active duty military members to "sit and wait their turn" to see a physician. When military active duty members call into the Clinic, they are given an appointment for that same day and they are given a specific time in which to report to the Clinic to see a physician.

The new appointment system also enables the Clinic to see patients beginning at 0730 hours decreasing the time lost from school and employment by military dependents and retired military personnel. Further, supervisors can easily determine the whereabouts of subordinates who complain of medical problems.

During the month of May 1976, the Hickam Air Force Base Clinic received two new Physician Assistants. The Physician Assistants function as an extension of the regular staff physicians. They provide medical care under the direction of the physicians to all military personnel and dependents. Due to the addition of the two new Physician Assistants, the USAF Clinic Hickam is able to see more personnel and are able to give more medical attention to all.

During the month of September 1976, the USAF Clinic Hickam is initiating an EMT Course which is designed to produce a paramedic who can function outside the Clinic to secure and evaluate emergencies. The course will run for six weeks and it is approximately 150 hours in duration. This course will provide exceptional emergency medical care to the entire base and the civilian communities. The course will be a continuing course year round and will qualify the personnel attending for passing the National Registry Test in EMT.

PHARMACY SERVICES

The Pharmacy supplies authorized and required medications to clinics for use in treating outpatients and to personnel and their dependents who are eligible for care in uniformed services medical treatment facilities.

During the months of August, October, and November 1975, the Pharmacy lost three enlisted members; April 1976 received one enlisted member on terminal assignment status; and in June 1976, lost another enlisted member. In August 1975, a tri-service agreement was initiated between the pharmacies at Hickam, Tripler, and Pearl Harbor to facilitate the filling and refilling of prescriptions and to place the pharmacies' regulations and requirements in accord. Tri-service meetings occur whenever there is a need, and the chairmanship is rotated among the three Chiefs of Pharmacy, which has opened better communications, relationships, and understandings. Return of medications from Tripler normally took up to seven days and now takes a maximum of one day with most medications returning in the afternoon if they are sent in the morning.

In November 1975, the Pharmacy initiated a system for diabetic patients to receive their medication refills easily by maintaining a card file on each patient which is kept on file for one year. During the 11th month, the patient is notified that he will require a new prescription and the procedure will then be reaccomplished. During March 1976, the dispensing area was remodeled to move the typist away from the front window to eliminate distractions, and to create an easier flow movement for receiving and dispensing.

In April 1976, the Pharmacy once again went into the process of remodeling the compounding and storage areas with new shelving and repainting needed areas. The new shelving relieved most of the clutter and cramping.

In May 1976, the Pharmacy saw the installation of the distilling apparatus which was requested the 25th of November 1974 which will also eliminate the need for pharmacy personnel to carry water from the third floor.

In June 1976, after nearly two months of planning, researching, typing, filing, inventorying, and many long hours of work, a system for checking expiration dates utilizing IBM and medical supply printouts was instituted. The system will eliminate the need to check each individual shelf item throughout the pharmacy to weed out expired items.

#### FAMILY PLANNING CLINIC

The mission of the Family Planning Clinic is to provide the female military personnel and dependents with family planning assistance and cancer screening.

Services Provided: Certified OB/GYN Nurse Practitioners perform routine GYN examinations which include the breast exam, pap smear and pelvic, and treat minor GYN problems. Routine lab work, chest x-rays and glaucoma tests are available annually. Contraceptive counseling and methods such as the oral contraceptive, diaphragm and IUD are available. Patients desiring sterilization are referred to Tripler Army Medical Center. The backlog for appointments was less than one week. Urgent cases were handled as walk-ins the same day.

PHYSICAL THERAPY SERVICE

Personnel: SSgt Shirley A. Lee was reassigned to Keesler AFB, Mississippi; MSgt Carroll W. Kelley, Jr., was reassigned to Carswell AFB, Texas, 28 Jul 75; MSgt Thomas A. Zeak reported on 25 Aug 75, and AIC David K. Parker reported on 20 Aug 75.

The following personnel are being resubmitted for recommendation to the Joint Service Commendation Medal for actions relative to Operation Baby Lift and New Arrival Life:

Sgt Charles E. Atwell  
Sgt Paula S. Overstreet

Personnel in the Physical Therapy Clinic assisted with school physicals.

MSgt Thomas A. Zeak passed the Hawaiian State Board of Massage and was licensed a practitioner of Medical Massage.

Equipment: New equipment received include a new Tru Trac Traction machine and pole attachment for vertical traction.

PERSONNEL ELIGIBLE FOR MEDICAL TREATMENT

	<u>30 Jun 75</u>	<u>30 Jun 76</u>
Hickam Personnel	6447	5909
Wheeler Personnel	742	497
Total Air Force Personnel	7189	6406
Dependents of Air Force Personnel	<u>22320</u>	<u>19218</u>
TOTAL ELIGIBLE	28756	25624

## FY 76 MEDICAL STATISTICS FOR THE PERIOD

Hickam and Wheeler

	<u>TOTAL</u>	<u>MONTHLY AVERAGE</u>
Prescriptions Filled	173,809	14,484
Lab Specimens Processed	118,200	9,850
X-Ray Film Exposed	43,133	3,594
Immunizations	25,083	2,090
Flight Physicals	1,155	96
Other Physical Exams *	3,357	280
Electrocardiograms	2,457	205
Refractions	9,189	766
Dental Patient Visits	56,975	4,743
Dental Clinic Procedures	262,855	21,905
Dental Lab Procedures	100,899	8,408

\* Includes annual school physicals

## FY 76 CLINIC WORKLOAD - HICKAM AND WHEELER

	<u>TOTAL</u>	<u>MONTHLY AVERAGE</u>
General Practice	51,039	4,253
Emergency Room	25,415	2,118
Pediatrics	21,753	1,813
Physical Therapy	13,905	1,159
Flight Medicine	10,589	882
Psychiatry	3,942	328
Allergy	2,583	215
Family Planning Clinic	(1,475)	(122)
Gynecology	7,505	625
Other Surgical Clinics	10,674	889
Internal Medicine	<u>321</u>	<u>27</u>
TOTAL OUTPATIENT VISITS	147,726	12,310

NOTE: Prior to November 1975, Family Planning and Gynecology workload were counted as Family Planning. They are now counted as two separate clinics; however, Family Planning is not included in total outpatient visits.

Internal Medicine workload is now counted separate from General Practice as of April 1976.

## FY 76 MEDICAL STATISTICS FOR THE PERIOD

## HICKAM AND WHEELER

<u>INPATIENT</u>	<u>TOTAL</u>	<u>MONTHLY AVERAGE</u>
Admissions to Tripler AMC	547	45
Inpatient Days at Tripler AMC	4,672	389
Medical Boards Processed	37	
<u>VETERINARY</u>		
Dollar Value of Food Inspected	\$18,874,947	\$ 1,572,912
Base Food Serving Facilities Surveyed	1,334	111
Off Base Food Plants Surveyed	54	5
Zoonosis Immunizations	8,614	718
<u>ENVIRONMENTAL HEALTH</u>		
Film Badges Collected	1,075	89
Health Surveys/Inspections	5,116	426
Occupational Health Exams *	1,238	103
Aircraft Surveillance	2,525	210

\* Includes food handler, industrial health, and audiometric exams until April 1976 when food handler was taken over by Physical Exam and no longer included in the total.



WORKLOAD FOR PERIOD - HICKAM

	<u>TOTAL</u>	<u>MONTHLY AVERAGE</u>
PRESCRIPTIONS FILLED	148,891	12,408
LAB SPECIMENS PROCESSED	106,844	8,904
X-RAY FILM EXPOSED	39,762	3,313
IMMUNIZATIONS	22,365	1,864
FLIGHT PHYSICAL EXAMS	1,155	96
OTHER PHYSICAL EXAMS *	3,357	280
ELECTROCARDIOGRAMS	2,384	199
REFRACTIONS	5,607	468
DENTAL PATIENT VISITS	50,696	4,225
DENTAL CLINIC PROCEDURES	233,515	19,460
DENTAL LAB PROCEDURES	100,479	8,373

\* Includes annual school physicals

FY 76 MEDICAL STATISTICS FOR THE PERIOD

WHEELER

	<u>TOTAL</u>	<u>MONTHLY AVERAGE</u>
PRESCRIPTIONS FILLED	24,918	2,076
LAB SPECIMENS PROCESSED	11,356	946
X-RAY FILM EXPOSED	3,371	281
IMMUNIZATIONS	2,718	226
ELECTROCARDIOGRAMS	76	6
REFRACTIONS	3,582	298
DENTAL PATIENT VISITS	6,279	523
DENTAL CLINIC PROCEDURES	29,340	2,445
DENTAL LAB PROCEDURES	420	35

CLINIC WORKLOAD - HICKAM

	<u>TOTAL</u>	<u>MONTHLY AVERAGE</u>
GENERAL PRACTICE	37,448	3,120
EMERGENCY ROOM	23,971	1,998
PEDIATRICS	21,728	1,811
PHYSICAL THERAPY	13,905	1,159
FLIGHT MEDICINE	10,589	882
PSYCHIATRY	3,942	328
ALLERGY	2,329	194
FAMILY PLANNING CLINIC	(931)	(76)
GYNECOLOGY	6,714	559
OTHER SURGICAL CLINICS	6,114	509
INTERNAL MEDICINE *	<u>321</u>	<u>27</u>
TOTAL OUTPATIENT VISITS	127,061	10,588

\* Internal Medicine is now counted as a separate function beginning April 1976; it was previously counted in General Practice.

CLINIC WORKLOAD - WHEELER

GENERAL PRACTICE	13,591	1,133
EMERGENCY ROOM	1,444	120
PEDIATRICS	25	2
ALLERGY	254	21
GYNECOLOGY	791	66
FAMILY PLANNING CLINIC	(544)	(46)
OTHER SURGICAL CLINICS	<u>4,560</u>	<u>380</u>
TOTAL OUTPATIENT VISITS	20,665	1,722

REGISTRAR

During this period, the Registrar's Office processed 23 Medical Boards for the Physical Evaluation Board at Randolph AFB resulting in 8 medical retirements and 2 discharges with severance pay.

A CHAMPUS briefing was presented to Operation Wise Wife which was attended by 300 personnel, and CHAMPUS counseling was given during Base Family Orientation which was attended by approximately 500 during the year. Individual counseling was also given to approximately 100 military and dependents.

New office furniture has been ordered and approved for the Registrar's Office. Records shelving for outpatient records has also been ordered and approved.

CHAPTER IV

DENTAL SERVICE

MISSION

The mission of this dental service is to provide complete dental care for all authorized military personnel assigned or attached to Hickam Air Force Base, Hawaii.

DENTAL SERVICES PROVIDED FOR MILITARY PERSONNEL AND THEIR DEPENDENTS AND FOR RETIRED MILITARY PERSONNEL

Complete dental care is provided for all authorized active duty military personnel assigned or attached to Hickam AFB. Specialties provided are: Examination and Treatment Planning, Routine Operative, Oral Surgery, Endodontics, Prosthodontics (fixed and removable), Periodontics and Preventive Dentistry. Dependents of active duty military personnel are provided emergency treatment. Limited dental care is provided for dependent personnel requiring oral surgery or dental x-rays. Retired personnel are provided emergency care and limited dental care; dependents upon the availability of personnel and services. This dental service accomplished 228,633 dental clinic procedures and 86,272 dental laboratory procedures during this period.

MANNING

Authorized officer strength is 17 with 16 currently present. Colonel Leonardi, Base Dental Surgeon for the past five years, departed on 28 May 76 for Barksdale AFB, LA. Colonel Derricotte has replaced Col Leonardi as Base Dental Surgeon. Enlisted authorized strength is 34 with 37 present. Fifteen civilian positions are authorized, but only 12 are currently filled. Two of the positions not filled are not required for mission accomplishment. The remaining position was vacated by the mandatory retirement of Mrs. Rose Mossman. Mrs. Mossman retired on 30 Jun 76 after serving the Hickam Dental Clinic for 27 years. Efforts are currently underway to hire a replacement.

EQUIPMENT

Seven new dental units, four dental chairs, and nine dental lights have been installed to replace worn-out equipment. Portable steam autoclaves have been replaced with four new chemiclaves. A severe problem exists with the air system to the dental clinic. Large volumes of water collect in the air

lines due to an inadequate compressor and dehydration system. Although a new refrigerated dehydrator was installed early in the year, it has not been able to cope with the increased air demands of the newly installed units. A new, larger compressor which was expected to alleviate the problem was received damaged beyond repair. Another compressor is currently on order.

FACILITIES

There have only been two changes in facilities during the past year. A ventilator has been installed in the porcelain room of the dental laboratory allowing dust-free porcelain work. A storage shed for the custodial services has been constructed in the east stairwell which freed the dental utility closet for normal use.

## CHAPTER V

VETERINARY SERVICES

The Veterinary Service provides a comprehensive food inspection program, a food service sanitation inspection system, food service sanitation training courses, medical support for military working dogs, and a limited zoonoses control clinic for privately-owned animals which is supported by the Central Base Fund. Inspections and services are provided to Hickam AFB, Wheeler AFB, Bellows AFS, and various other units and installations as determined by support agreements.

FOOD INSPECTION SERVICE

Food products valued at \$18,584,628 were inspected for wholesomeness and other contractual requirements. Close liaison is maintained with other government agencies to insure a coordinated surveillance program.

As a result of a routine receipt inspection (Class 4) by Veterinary personnel in July 1975, abnormal cans of pimientos produced in Spain, were identified and removed from sale. Through subsequent coordination with the FDA, this office was credited with the initiation of a national recall of these items by the FDA.

Major Mohri and AIC Tolmachoff were TDY to Wake Island during October 1975 to inspect and evaluate excess subsistence leftover from Operation New Life. Current plans call for the return of the food items, valued at approximately \$133,000 to Hickam for disposition through the commissary.

On 24, 29, and 31 January 1976 and 8 February 1976, freezer failure occurred at the new Commissary Sales Store. As a result of this problem, food items valued at \$1,964.07 were salvaged, \$2,014.86 were force issued to the Dining Hall, and \$10,370.88 were recommended for sale at reduced price to preclude loss.

Excess subsistence leftover from Operation New Life, valued at approximately \$133,000, was returned to Hickam for disposition through the commissary sales store. All food items returned from Wake Island were thoroughly evaluated at time of receipt and appropriate recommendations made. All stocks of frozen subsistence have been sold and only bulk canned goods remain on sale. Veterinary personnel have and will continue to closely monitor the condition of remaining canned goods.



VETERINARY MEDICAL SERVICE

The number of procedures in the Zoonoses Control Clinic has shown an increase. There were 3,230 rabies immunizations, 5,388 other immunizations, 1,568 laboratory procedures, and 1,710 treatments provided at the clinic.

The first three military working dogs arrived at Hickam AFB on 29 July 1975; two additional animals were received in early October 1975. All are currently confined/housed in the Hawaii Animal Quarantine Station completing the mandatory 120 day quarantine or awaiting completion of construction of appropriate kennels on Hickam AFB.

Planning and design of the military working dog facility was completed and approved in September 1975; however, due to nonavailability of adequate monies, the initiation of construction has been severely delayed. At what time monies will be made available and construction completed is not known as of this writing; but the problem of providing suitable housing for these animals once released or forced out of the Quarantine Station is real and a solution is not immediately available.

Veterinary Service personnel provided support to the Indonesian Air Force between 7 and 9 August 1975 in the airlift of an Appaloosa stallion to Jakarta. Support included the securing of a fenced compound, veterinary medical care, and escort and liaison for the Indonesian Air Force officers assigned to the airlift. A certificate of appreciation was received by the Veterinary Service from the Chief of Staff, Indonesian Air Force, for the support provided during the airlift of the stallion which was a gift for President Suharto.

VETERINARY PUBLIC HEALTH SERVICE

There are 58 on-base food service facilities which are continually monitored and inspected. During this period, 1334 facilities (fixed and mobile) were inspected. Also inspected were off-base establishments and 527 military and MAC contract aircraft. There were 49 food handler training courses provided and a total of 807 food handlers were trained.

The Veterinary Service continues to provide training for 150 members of the Prime Beef "C" Team at Hickam AFB. Training courses are conducted quarterly and include discussions on communicable disease control and field mess sanitation.

There were 88 samples of soft serve ice milk submitted to Schofield Medical Laboratory for testing. A total of 16 samples exceeded the maximum permitted coliform count. Results and recommendations were forwarded to facility managers. Follow-up samples were taken and all results were satisfactory. In addition, quarterly inspection of floats were conducted with a total of eight being defective. All floats were replaced.

The Veterinary Service investigated 133 animal bite incidents during this period. Unusual cases were referred to the Rabies Control Committee for evaluation.

Continuing emphasis has been placed on the finger plate and swab culture program. There were 271 finger plates and 644 swab test conducted. Only 14 finger plates and 165 swab tests were positive. Results and recommendations were forwarded to responsible facility managers.

#### FACILITIES AND PERSONNEL

The main Veterinary office is still located in Bldg. 2085. On 29 April 1975, the Facilities Utilization Board approved a minor construction project for a new Medical Food Inspection Facility. Line drawings for a building of approximately 2,200 sq ft were submitted by this office to, and coordinated with, 15 ABW/DEPD on 28 Jun 76. Finalized drawings, along with DD Form 1391 are to be submitted by 15 ABW/DEPD to 15 ABW/SG and PACAF/SG for approval, prioritizing and funding under Force 8 monies.

The Hickam AFB food inspection service was relocated to the new commissary in January 1976. Food inspection service continues to be provided at Bldg. 102 for Wheeler AFB.

Major Mohri and Captain Hewins began their second year as advisors to the Veterinary Explorer Post. The Post is sponsored by the Honolulu Veterinary Society and has about 30 active members.

Major Mohri was elected to serve as Secretary of the Hawaii Veterinary Medical Association and continues to be the military representative for the Hawaii Animal Quarantine Station Advisory Committee.

Sgt Joseph M. Shurgot distinguished himself at the PACAF NCO Leadership School where he won the Academic Achievement Award and was named Distinguished Graduate.

TSgt Luther W. Peyton Jr. attended Course 3AZR90870-2 at Sheppard AFB, Texas, where he distinguished himself as the Outstanding Honor Graduate.

Supplies and equipment are adequate to meet mission requirements. Supplies and equipment for support of the military working dogs have been ordered and most have been received.

Major Mohri attended the 112th Annual American Veterinary Medical Association meeting held in Anaheim, California, during July 1975. Captain Hewins attended the Southern Veterinary Medical Conference at Ashville, North Carolina, during October 1975.

Personnel changes during this period were: Sgt William D. McCoy departed PCS, 8 Jan 76, for Shaw AFB; SMSgt William H. Gibson arrived PCS from Kadena AFB in April 76; Ann William D. Justice departed PCS 5 Jun 76 for Craig AFB, Alabama; Ann Melbourn Barlow arrived 8 Jun 76 from USAF SAM (AFSC) Brooks AFB, Texas; Ann Nancy Guill arrived 8 Jun 76 from USAF SAM (AFSC) Brooks AFB, Texas; Capt Stephen K. Curtis arrived 10 Jun 76 from Edwards AFB, California; SMSgt William B. Armitage departed PCS 21 Jun 76 for Homestead AFB, Florida, and Capt Stanley O. Hewins departed PCS 28 Jun 76 for AFIT training at the University of North Carolina. Other changes included: PCA of MSgt Sherman A. Shrader to PACAF and the arrival of SSgt Ned C. Reynolds and SSgt Robert Moreland.

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**MASDC  
AIRCRAFT**

RETURN TO  
AIRFIELD  
MAXWELL TOWER AT 3000



MILITARY AIRCRAFT  
STORAGE & DISPOSITION CENTER

DAVIS-MONTHAN AIR FORCE BASE  
ARIZONA

SERIES I  
1976

UNCLASSIFIED

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AFSHRC MAXWELL AFB AL 36112	RETURN TO
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Foreword

The material which follows was assembled and was made available in the belief that employees of the Military Aircraft Storage and Disposition Center should have an opportunity to learn more about that rare commodity with which we deal every day -- aircraft.

We have tried to provide a picture and a general overview of each of the 70-some models of aircraft which we now have in the inventory. This includes the model number, popular name, manufacturer, using branch of the military service, and original cost. Many other facts are also included, some of which may change as the inventory increases or decreases.

It is hoped that future reprints may be made to update this material.

Should you have suggestions or can provide any pertinent material to make this FACT SHEET more useful, please inform this office.

MASDC History Office  
Sept 1976

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1012649

## MASDC AIRCRAFT

Index to Fact Book

<u>Model</u>	<u>Service</u>	<u>Popular Name</u>	<u>Manufacturer</u>
A-3 AB	Navy	Skywarrior	McDonnell-Douglas
A-4 BCL	Navy	Skyhawk	McDonnell-Douglas
RA-5C	Navy	Vigilante	North American Rockwell
A-6B	Navy	Intruder	Grumman Aircraft Co
A-7 AC	Navy	Corsair II	LTV Aerospace Corp
A-11	AF	N/A	Lockheed Aircraft
A-37 AB	AF	N/A	Cessna
B-52 ACDEF	AF	Stratofortress	Boeing Aircraft
B-57 CDFG	AF	Canberra	Martin Aircraft
B-66 BE	AF	Destroyer	McDonnell-Douglas
YFB-111A	AF	N/A	General Dynamics
C-7A	AF	Caribou*	deHavilland of Canada
C-45J	AR/NA	Expeditor	Beech Aircraft
C-47 ADH	AF/NA/AR	Skytrain	McDonnell-Douglas
C-54 DEGM	AF/NA	Skymaster	McDonnell-Douglas
C-97 DEFGL	AF	Stratofreighter	Boeing Aircraft
C-117D	NA	Skytrain	McDonnell-Douglas
C-118A	AF/NA	Liftmaster	McDonnell-Douglas
C-119 GJKL	AF/NA	Flying Boxcar	Fairchild-Hiller
C-121 CDGOT	AF/NA	Super Constellation	Lockheed Aircraft
C-123 BJ	AF	Provider	Fairchild-Hiller
C-124 AC	AF	Globemaster	McDonnell-Douglas
C-130A	AF	Hercules	Lockheed Aircraft
C-131 ABDE	AF/NA	Samaritan	General Dynamics
KC-135A	AF	Stratotanker	Boeing Aircraft
D-21	AF	N/A	Lockheed-Burbank
E-1B	NA	Tracer	Grumman Aircraft Co
F-4 BJ	NA	Phantom II	McDonnell-Douglas
F-8 AFGHJKL	NA	Crusader	LTV Aerospace Corp
F-9J	NA	Cougar	Grumman Aircraft
F-11A	NA	Tiger	Grumman Aircraft
F-84F	AF	Thunderjet	Republic Aviation
F-100 CDF	AF	Super Sabre	North American Rockwell
F-101 ABCFGH	AF	Voodoo	McDonnell-Douglas
F-102	AF	Delta Dagger	General Dynamics
F-104D	AF	Starfighter	Lockheed Aircraft
F-105 BD	AF	Thunderchief	Republic Aviation
F-111 AB	AF	N/A	General Dynamics
H-1 FP)	AF/NA/AR	Iroquois	Bell Helicopter
AH-1G )	AR/NA	Hueycobra	Bell helicopter

\* Army released all C-7A (C-7A) aircraft to AF, agreement Apr 66.

Symbols: AF - Air Force; NA - Navy; AR - Army; CG - Coast Guard

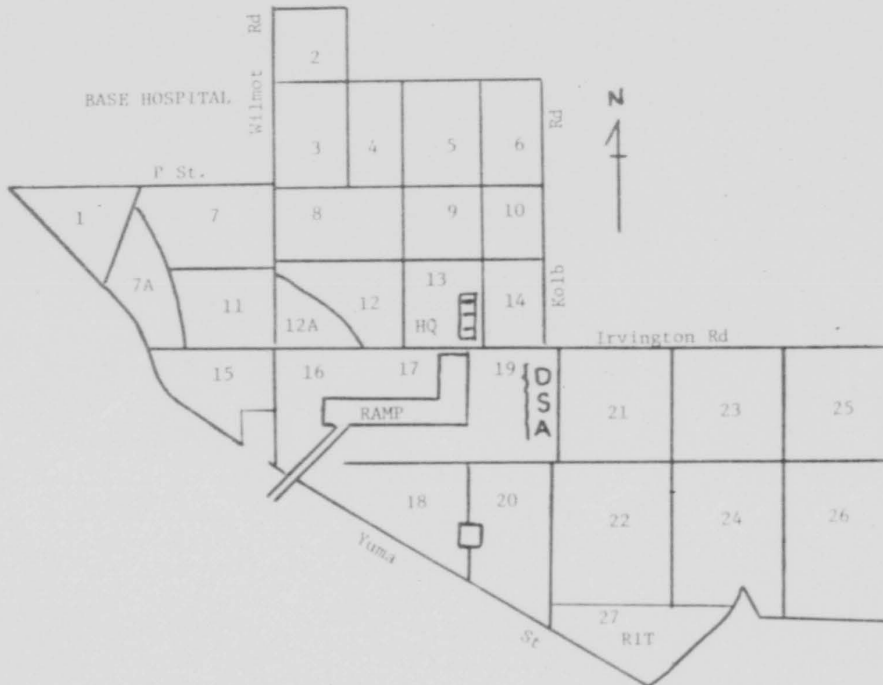


<u>Model</u>	<u>Service</u>	<u>Popular Name</u>	<u>Manufacturer</u>
CH-3 BE) CH-53 )	AF	Jolly Green Giant	Sikorsky
TH-13M	NA/AR	Sioux	Bell Helicopter
OH-23	AR	Raven	Hiller
H-34 CDGJ	AF/NA/AR	Choctaw	Sikorsky
HH-43F	AF	Huskie	Kaman
H-46 AD	NA/AR	Sea Knight	Vertol
QH-50D	NA	DSN-3 Drone	Gyrodyne
CH-53A	NA	Sea Stallion	Sikorsky
TH-55A	AR	Osage	Hughes Aircraft
O-1A	AF	Bird Dog	Cessna
O-2A	AF	N/A	Cessna
P-2 EH	NA	Neptune	Lockheed
S-2 ABCDEFG	NA	Tracker	Grumman
T-1A	NA	Seastar	Lockheed
T-2 AB	NA	Buckeye	North American
T-28 ABC	AF/NA	Trojan	North American
T-29A	AF/NA	Flying Classroom	Convair
T-33 AB	AF/NA	Shooting Star/Seastar	Lockheed
T-34B	NA	Mentor	Beech Aircraft
T-38	AF	Talon	Northrop
T-39A	AF	Sabreliner	North American Aviation
U-6A	AR/AF	Beaver	deHavilland of Canada
U-10 BD	AF	Super Couriers	Helio
HU-16 BCD	AF/NA	Albatross	Grumman
OV-10 ABC	NA/AR	Bronco	North American Aviation
OV-1	AR	Mohawk	Grumman

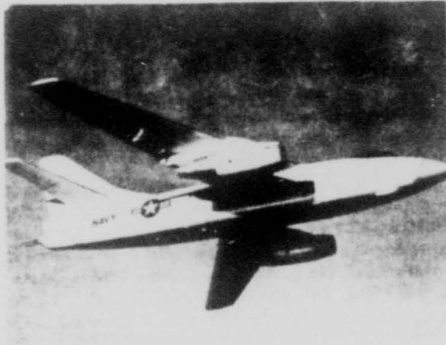
Symbols: AF - Air Force; NA - Navy; AR - Army; CG - Coast Guard

MASDC AREA LAYOUT

The aircraft described in the following  
FACT SHEETS may be found in areas as  
numbered below. Area numbers are located  
either at bottom of Pg 1 or top of Pg 2  
of each FACT SHEET.



EFF 7/76



MASDC FACT SHEET

A-3 A&B

Skywarrior

McDonnell-Douglas

Navy

Value:

(A) \$3,501,000

(B) \$3,944,000

Planning was started in 1946 with an idea of building an aircraft for bombing purposes to operate from carriers or land bases. Project design completed by Douglas two years later. It was the largest and heaviest (60,000 lb gross) ever projected for carrier use. First flight was made 28 Oct 52 in prototype. With engine revisions, the prototype flew 16 Sep 53 with production deliveries beginning 31 Mar 56. Originally designated the A3D 1 and 2, this was changed to A-3A and B.

Primary mission was attack and destruction of enemy ground and surface targets. Although designed chiefly as an atomic bomber, the A-3 is highly versatile and can be used for many other missions. It can deliver virtually any weapon in the Navy's arsenal. RA-3B models were used for photographic reconnaissance.

Technical Data

Manufacturer: Douglas Aircraft Company, El Segundo, CA

Type: Carrier-based attack-bomber.

Accommodation: Crew of three.

Power plant: Two 12,400 lb s.t. Pratt & Whitney J-57-P-10 turbojets.

Dimensions: Span, 72 ft 6 in; length, 76 ft 4 in; height, 22 ft 9 1/2 in; wing area, 812 sq ft.

Weights: Empty, 39,409 lb; gross 82,000 lb.

Performance: Max speed, 610 mph at 10,000 ft; service ceiling, 41,000 ft; range, 1,050 st miles.

Armament: Two 20 mm guns in radar-controlled rear-turret. Internal stowage for up to 12,000 lb of bombs, depth charges, etc.

more

A-3 (AB)  
Skywarrior  
Navy  
Area 11  
(RIT) 27

Special Information

In Storage at MASDC: (6/1/76)	NA-3A	1	\$3,944,000	
	EA-3B	2	3,743,000	
	KA-3B	22	3,944,000	
	EKA-3B	21	3,944,000	
	RA-3B	6	3,944,000	
	TA-3B	1	3,944,000	
	VA-3B	1	2,825,000	
In RIT condition: (6/1/76)	A-3A	3	3,501,000	(original cost)
	KA-3B	2	3,944,000	

Operational Distribution

Prime Depot: Alameda NARF Engine: NARF Norfolk P&W



MASDC FACT SHEET

A-4

Skyhawk

McDonnell-Douglas

Navy

Value:

NA/TA4B-\$456,000

A4C/A4L-\$583,000

Described as an exercise in design optimization for a specific role, the Skyhawk was an outstanding example of simple, lightweight design. The gross weight was only half of the proposed 30,000 lb which appeared in the official specification. First prototypes flew in June and August, 1954. Deliveries to Navy attack squadrons began 26 Oct 56. Numerous refinements appeared in later models, including provision for aerial refueling and a more powerful engine.

Technical Data

Mfr: Douglas Aircraft Co, El Segundo & Long Beach, CA.

Type: Carrier-based attack-bomber.

Accommodation: Pilot only.

Power plant: (A-4E) One 8,500 lb s.t. Pratt & Whitney J52-P-6A turbojet.

Dimensions: Span, 27 ft 6 in; length, 42 ft 10 3/4 in; height, 15 ft 2 in; wing area, 260 sq ft.

Weights: Empty, 9,853 lb; gross, 24,500 lb.

Performance: Max speed, 675 mph at sea level; service ceiling, 47,900 ft; range, 700 st miles.

Armament: Two fixed forward-firing 20 mm guns. Up to 8,200 lb of ordnance externally on five strong-points.

more

A-4  
SKYHAWK  
Navy  
Area 9-13  
(RIT) 27

Special Information:

In storage at MASDC: TA-4B - 47  
A-4C - 128  
TA-4J - 1  
A-4L - 49

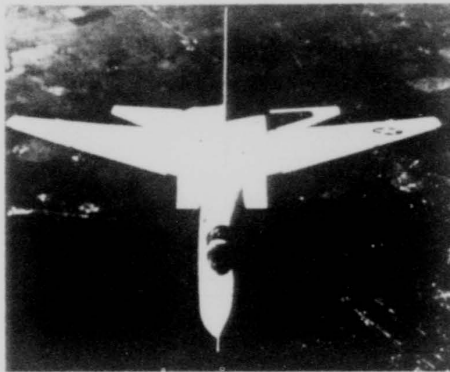
225 (6/1/76)

In RIT condition: NA-4B - 1  
TA-4B - 4  
A-4C - 2

7

Operational:

Prime Depot: Pensacola NARF



MASDC FACT SHEET

RA-5C

Vigilante

North American

Navy

Value:  
\$5,563,000 ea

Vigilante design originated in 1955 when Navy required a high performance attack aircraft with all-weather capability. The design incorporated a number of highly advanced aerodynamic concepts and featured the use of variable-geometry intakes for the two side-by-side General Electric YJ79-GE-2 engines. Between the tailpipes was located a linear bomb-bay from which the A-5s primary armament, a free-falling nuclear weapon--was to be ejected rearwards. Deliveries started in 1960 and production aircraft had J79-GE-2, J79-GE-4 or J-79-GE-8 engines.

A change in Naval policy deleted strategic bombing from the role of this service so the A-5 was modified into the RA-5C, an unarmed reconnaissance version. Prototype of the RA-5C flew on 30 Jun 62 and Navy had a program to convert A-5As (55 had been built) to RA-5C standard during 1967 after production of 50 new RA-5Cs had ended.

Technical Data

Mfr: North American Aviation, Inc. Columbus OH  
 Type: Carrier-borne electronic and visual reconnaissance.  
 Accommodation: Pilot and observer/radar operator.  
 Power Plant: Two 10,900 lb s.t. General Electric J79-GE-8 turbojets.  
 Dimensions: Span, 53 ft; length 73 ft 2 1/2 in; height, 19 ft 4 3/4 in; wing area, 700 sq ft.  
 Weights: Gross, 61,730 lb.  
 Performance: Max speed, Mach 2.1 (1385 mph at 40,000 ft);  
 cruising speed, 1,254 mph, operational ceiling, 64,000 ft;  
 range, 3,000 st miles.  
 Armament: Provision for bombs, rockets or air-to-ground missiles on four underwing pylons.

more



RA-5C  
VIGILANTE  
Navy  
Area 6

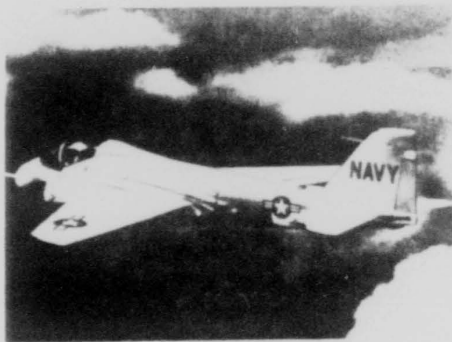
Special Information

In storage at MASDC: 27 RA-5C NAST1000 (long term sto)  
4 RA-5C NRP458 (Recl program)  
31

In RIT condition: 1 RA-5C NRP458

6/1/76

Prime Depot: (JAX) Jacksonville NARF



MASDC FACT SHEET

A-6B

Intruder

Grumman Acft

Navy

Value:  
\$4,500,000

Based on experience in the Korean war, the Navy required an aircraft with high subsonic performance at tree-top height for under radar penetration of enemy defenses. Grumman's design around two 8,500 lb s.t. Pratt & Whitney J52-P-6 engines, the jet-pipes of which could be tilted 23 degrees to shorten the take-off run. The Intruder first flew on 9 Apr 60 and in 1962/1963 a total of 69 had been built. Deliveries totaled 83 by the end of 1964 and production rate reached 70 per year in 1966.

Technical Data

Mfr: Grumman Aircraft Engineering Corp, Bethpage, LI NY  
 Type: Carrier-based attack-bomber.  
 Accommodation: Pilot and bombardier/navigator.  
 Power plant: Two 9,300 lb s.t. Pratt & Whitney J52-P-8A turbojets.  
 Dimensions: Span, 53 ft, length, 54 ft 7 in; height, 15 ft 7 in;  
                   wing area, 529 sq ft  
 Weights: Empty, 25,684 lb; gross, 60,626 lb.  
 Performance: Max speed, 640 mph at sea level; cruising speed, 480  
                   mph at 35,000 ft; initial climb, 6,950 ft/min; service  
                   ceiling, 41,660 ft; ferry range, 3,225 st miles (internal fuel  
                   only).  
 Armament: Up to 18,000 lb on five external stores positions.

Special Information:

In storage at MASDC: 3 A-6B NAST1000 (long term sto)

Prime Depot: Norfolk NARF

6/1/76  
Area 20



MASDC FACT SHEET

A-7 A/C

Corsair II

LTV

Navy  
AF

Value:

\$1,589,000

A design competition launched by the Navy in 1963 to find a light attack aircraft which could replace the Douglas A-4 Skyhawk brought a winner from Ling-Temco-Vought in 1964. Interservice target date for the aircraft was to be 1967. Design of the F-8 Crusader was used by LTV with significant differences. The first A-7A flew 27 Sep 65 and six other test aircraft were flying by mid-1966. First A-7A tactical squadron (Navy) was commissioned 1 Feb 67.

The A-7D Corsair II, the Air Force version, flew in April 1968. Deliveries began in December same year to the 354th TFW in Southeast Asia, where the single-seat tactical fighter provided outstanding target kill capacity. Deliveries have been made to ANG units in New Mexico, Colorado, Ohio, Pennsylvania, and South Carolina.

Technical Data

A-7D--AF

A-7A--Navy

Mfr.	LTV Aerospace Corp, Dallas TX	carrier-based attack-bomber
Type:	tactical fighter	pilot only
Accommodation:	pilot only	
Power Plant:	Allison TF41-A-1	Pratt & Whitney TF30-P-6
	14,250 lb thrust	turbo fan, 11,350 lb s.t.
Dimensions:	Span 38 ft 9 in, length 46 ft 1 1/2 in, height 16 ft 03/4 in.	
Weights:	empty 19,781; gross 42,000 lb	empty 14,857 lb; gross 32,500 lb
Performance:	Max speed at S/L 698 mph; range w/external 2,871 mi	max speed 679 mph at 5,000 ft
Armament:	One M-61A1 20mm multi-barrel gun; up to 15,000 lb missiles, rockets, etc	cruise spd--542 mph 40,000 ft range (ferry) 3,050 st mi
		two fixed forward-firing 20mm guns. Up to 20,000 lb of bombs, rockets, etc.

more

A-7A  
Corsair 11  
Navy  
AF  
Area 11

Special Information

In storage at MASDC - A-7A Navy 2  
NA-7A " 1  
A-7C " 4 7 as of 6/1/76

Distribution:

TAC has 234 aircraft authorized 1/1/76 (A-7D)

Myrtle Beach AFB SC  
England AFB LA  
Davis-Monthan AFB AZ

Navy/Marine units (A-7A)

Prime Depot: AF - Oklahoma City ALC  
Navy - (Jax) Jacksonville NARF

MASDC FACT SHEET

A-11 (YF-12)

Interceptor

Lockheed Acft Co.

AF

Value:



The A-11 is a prototype high altitude Mach 3 advanced interceptor, developed for defense against supersonic bombers. Development project was initiated late in 1959 and the A-11 has been tested in sustained flight at more than 2,000 mph at altitudes above 80,000. The engine uses several new high-temperature alloys. New world speed records have been established by the A-11 such as 2,070.101 mph over a straight course, and an absolute sustained-altitude record in horizontal flight of 80,257.86 feet. A closed-course speed record of 1,688.889 mph was set and a 500-kilometer (310.685 mi) closed-course record of 1,643.041 mph. First flight of the A-11 was in April 1962.

Technical Data

Prime contractor: Lockheed Aircraft Corp.  
Power plant/manufacturer: Two Pratt & Whitney J58 turbojets with afterburners with approximately 30,000 lbs of thrust (each).  
Dimensions: Span 57 ft, Length 102 ft, Height 18 ft.  
Speed: More than 2,000 mph. Mach 3.  
Ceiling: Above 80,000 feet.  
Range: Approx. 3,000 miles.  
Armament: AIM-47A Falcon air-to-air guided missile developed by Hughes Aircraft Co.  
Crew: Two.  
Maximum gross takeoff weight: Approx. 64,000 lbs.  
Prototype development vehicle. Last flight May 1968.

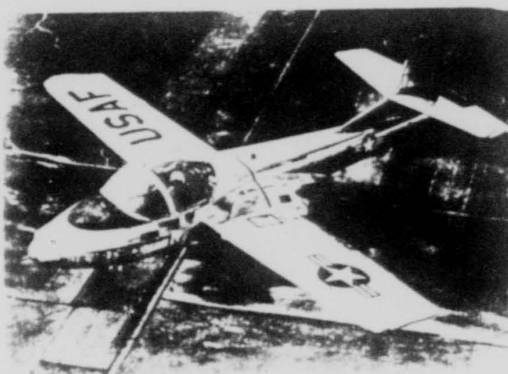
more

A-11 (YF-12A)  
(Suspense: Oct 76)

Special Information:

Distribution:

Prime Depot:



MASDC FACT SHEET

A-37 A/B

Dragonfly

Cessna Acft Co

AF

Value:  
\$348,000

The A-37, intended for use in armed counterinsurgency (COIN) missions from short unimproved airstrips, evolved from the T-37B which was first accepted by the AF 6 Nov 59, after two years of training use by the T-37A. A total of 511 A-37Bs had been delivered by Feb 76. Since 1970, AFRes and ANG units have been getting this model. Others have been delivered to foreign air forces, mainly in South America.

Technical Data

Contractor: Cessna Aircraft Co  
 Power Plant: Two General Electric J85-GE-17A turbojet engines, each with 2,850 lb thrust.  
 Accommodation: Two, side-by-side.  
 Dimensions: Span over tip-tanks 35 ft 10 1/2 in, length excluding fuel probe 28 ft 3 1/4 in, height 8 ft 10 1/2 in  
 Weights: Empty 6,211 lb, gross 14,000 lb.  
 Performance: Max level speed at 16,000 ft 507 mph, service ceiling 41,765 ft, range with max payload, including 4,100 lb ordnance, 460 mi.  
 Armament: One GAU-2B/A 7.62mm minigun installed in forward fuselage; four pylons under each wing able to carry various combinations of rockets and bombs.

Special Information

In storage at MASDC: 10 A-37A  
 27 A-37B Total 37 6/1/76

Distribution: T-37s in ATC inventory - 713. (Feb 76)

Prime Depot: AF - San Antonio ALC Engines: Same

Area 7-24



MASDC FACT SHEET

B-52 (ACDEF)

Stratofortress

Boeing Acft Co

AF

Value:  
\$6,000,000+  
(see reverse)

The lineage of the B-52 goes back to April 1945 when the Air Corps first indicated to Boeing an interest in a turbine-powered long-range bomber. In June 1946 a design competition was held and Boeing won a contract for further development. Two prototypes YB-52 and XB-52 flew in 1952. Only three B-52As were built (52-001, 52-002, 52003). Used for experimental programs, the first was not delivered to SAC until 27 Nov 57. One A model was modified to NB-52A (0003) to carry the North American X-15, making first test flight 8 Jun 59. The first B-52A (0001) after flying from Edwards AFB at weights up to 415,000 lb, retired in 1960. The first RB-52B flew 25 Nov 55 and a B-52B dropped the first known airborne hydrogen bomb from 50,000 ft over Bikini Atol. A B-52B was also converted to a carrier for the X-15 (NB-52B).

About 450 of the 744 production Stratofortress eight-jet long-range bombers built between 1954 and 1962 constitute the major component of the current SAC inventory. Progressive refinement of design and installation of new equipment plus more powerful engines, led to variants such as G and H which are most numerous. Still operational are: B-52D (170 built), B-52F (89 built), B-52G (193 built), B-52H, with TF33 turbofan engines (102 built).

Technical Data

Contractor: Boeing Aerospace Co  
Power Plant (B-52G) eight P&W J57-P-43W turbojet engines; each 13,750 lb thrust.  
Accommodation: Two pilots, side-by-side, plus navigator, radar-navigator, ECM operator and tail gunner.  
Dimensions: Span 185 ft 0 in, length 157 ft 7 in, height 40 ft 8 in.  
Weight: Gross 480,000 lb.  
Performance (approx) max speed 660 mph at 20,000 ft, service ceiling 55,000 ft, range 10,000 miles.

more

B-52 - Stratofortress  
Area 3-4-8 (RIT) 26  
N. Ramp

Armament: 4 0.50 cal guns in tail; two AGM-28 HD missiles under wings, bombs and Quail diversionary missiles internally.  
Alternate provision for 20 SRAM missiles.

Value (original cost):

NB-52A (w/special equip)	\$29,383,466
NB/B52C	7,247,963
NB-52D	6,580,000
NB/B-52E	6,021,000
B-52F	6,640,000

Special Information

In storage at MASDC: NB-52A - 1  
B-52C - 29  
B/NB-52D - 2  
B/NB-52E - 48  
B-52F - 36 Total 116 (6/1/76)

Distribution of Aircraft

SAC (auth strength) 400  
Bases with B-52s:  
Barksdale AFB LA  
Carswell AFB TX  
Griffiss AFB NY  
Loring AFB ME  
Wurtsmith AFB MI  
K I Sawyer AFB MI  
Kincheloe AFB MI  
Robins AFB GA  
Seymour Johnson AFB NC  
Blytheville AFB AR  
Dyess AFB TX  
Beale AFB CA  
Mather AFB CA  
Grand Forks AFB ND  
Minot AFB ND  
Fairchild AFB WA  
Ellsworth AFB SD  
March AFB CA

Prime Depot: AF - Oklahoma City ALC Engines: Same

MASDC FACT SHEET

B-57 (CEFG)

Canberra

Glenn L. Martin Co

AF

Value:  
\$1,017,000+  
(see reverse)



The Canberra, only non-U.S. design adopted for USAF service since WWII ended, also was noted on 21 Feb 51 for becoming the first jet aircraft to complete an unrefueled Atlantic flight. First B-57A flew 20 Jul 53 and with further improvements, the B-57B flew 28 Jun 54. Of this model 202 were built. The B-57C had dual controls flew on 30 Dec 54 and 38 were built. The B-57E was a variant of the B and equipped as a target tug. The RB-57D (20 built) was a major redesign with extended wings and powered for high altitude operation.

B-57s were operated by 17th Defense Systems Evaluation Sq of ADCOM at Malmstrom AFB, MO. Equipped with latest devices for jamming and penetrating air defenses, their task is to simulate an enemy bomber force and attempt to find gaps in air defense systems by day or night, at variable altitudes and from any point of the compass.

Technical Data

Mfg: The Glenn L. Martin Co, Baltimore, MD  
 Type: Light tactical bomber, strategic reconnaissance (RB-57D), trainer (B-57C) and target tug (B57-E)  
 Accommodation: Pilot and navigator.  
 Power Plant: Two 7,200 lb s.t. Wright J56-W-5/J65-W-5F turbojets.  
 Dimensions: Span, 64 ft 0 in, Length, 65 ft 6 in, Height, 15 ft 6 in, Height, 15 ft 7 in. Wing area, 960 sq ft  
 Weights: Gross, 55,000 lb.  
 Performance: Max speed, 582 mph at 40,000 ft. Initial climb, 3,500 ft/min. Service ceiling, 48,000 ft, range, 2,300 st miles.  
 Armament: Eight fixed forward firing 0.50-in guns in nose; 16 underwing rockets; 6,000 lb of bombs in rotary bomb-bay.

more

B-57  
Canberra  
AF  
Area 8-20  
(RIT) 27

Value (Original cost)

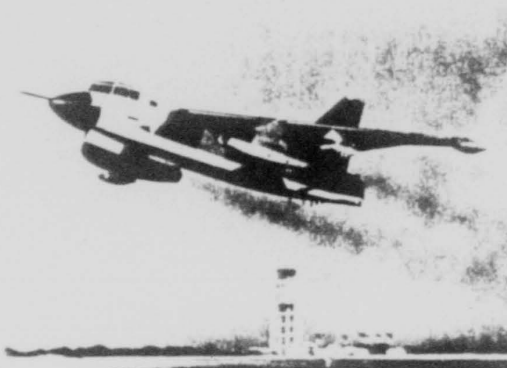
WB/B-57B/E - \$1,017,100  
WB/B-57C - 1,211,955  
NB-57F - 9,019,780  
B-57G - 4,117,424

Special Information

In storage at MASDC: B-57C - 1  
WB-57C - 4  
B-57E - 6  
EB-57E - 2  
WB-57F - 15  
B-57G - 8 (DPDO) Total 36  
6/1/76

Operational at Malmstrom AFB MT (Feb 76)

Prime Depot: AF - Warner-Robins ALC Engines: San Antonio ALC



MASDC FACT SHEET

B-66

Destroyer

Douglas Acft Co.

AF

Value:

NB/EB/  
 B-66B/E - \$3,685,470  
 WB-66D - 1,915,300

The B-66 was developed from the Navy's A-3D Skywarrior to provide USAF with a tactical light bomber and reconnaissance aircraft. First one flew on 28 Jun 54--one of five RB-66As used for type development. Deliveries began 1 Feb 56. The RB-66A was designed for all-weather night photographic reconnaissance, with a crew of three and provision for two 450 gal underwing tanks and probe-and-drogue flight refueling.

Final model was the WB-66D which was delivered on 26 Jun 57. Production of the Destroyer ended in June 1958.

Technical Data

Mfr: Douglas Aircraft Co, Long Beach CA  
 Type: Light tactical bomber.  
 Accommodation: Three crew.  
 Power Plant: Two 10,000 lb s.t. Allison J-71-A-13 turbojets.  
 Dimensions: Span 72 ft 6 in, Length 75 ft 2 in, Height 23 ft 7 in,  
 wing area 780 sq ft  
 Weights: Empty 42,369 lb, gross 83,000 lb.  
 Performance: Max speed 594 mph at 36,000 ft. Range 1,500 st miles.  
 Armament: Two 20mm guns in radar-controlled General Electric  
 tail turret.

Note: Production of RB-66B (first production model) totaled 175, of which 30 were finished as RB-66C. The "C" model was designed for electronic reconnaissance with total crew of seven. Total production was 36 including "B" models finished as "C." WB-66D was final with 36 aircraft built.

B-66-Destroyer  
Area 23

Special Information

In storage at MASDC:	NB-66B	-	1	IFB (invitation for bids)
	EB-66E	-	25	IFB (invitation for bids)
	WB-66D	-	1	RIT condition
	EB-66E	-	1	RIT condition

Distribution:

Prime Depot: Warner-Robins ALC

MASDC FACT SHEET

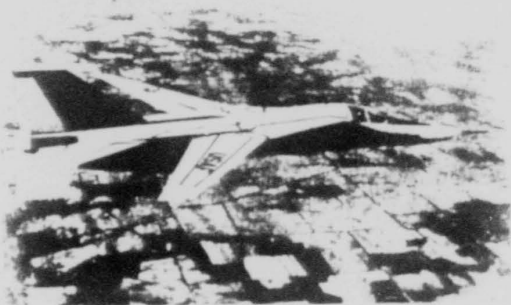
FB-111\*

General Dynamics

AF

Value:

YFB-111A-\$9,828,000



The Strategic Air Command received its first FB-111A in ceremonies at Carswell AFB TX on 8 Oct 69. The bomber model FB-111 was added to the SAC inventory during FY-70 to supplement the present B-52 bomber force. Crews were trained to become combat ready at Carswell. Pease AFB NH and Plattsburgh AFB NY also received the new aircraft.

A variation of the tactical fighter F-111A, the bomber is essentially a basic F-111 with some modifications. The basic fighter fuselage are substantially the same but wing tips are slightly longer.

The bomber version has eight pylons. The four inner pylons swivel as the wings sweep so that they remain in line with the fuselage at all times. The outer four, used only for subsonic flight, are non-swiveling and are jettisoned when the wings are swept to the delta configuration. The cockpit is really an escape system and a survival shelter. It is a self-contained independent vehicle within the aircraft. The two-man crew sits side by side rather than one behind the other. If forced to abandon the aircraft, the crew actuates an explosive cutting cord which shears their cockpit module from the fuselage, a rocket motor ejects it upward and it descends by parachute to the ground or sea where it can serve as a survival shelter. The module can safely eject at any speed or altitude, or even while the aircraft is motionless on the ground.

The FB-111 series is the first aircraft to combine the maneuverability of the fighter with the payload and range of a bomber. It will carry a payload of nuclear or conventional weapons, or combination, six times heavier than a WWII bomber.

(\*) For F-111A and modifications, see "Fighter" section.



FB-111A

Technical Data

Contractor: General Dynamics Corp.  
Function: Medium-range strategic bomber  
Power plant: Two Pratt and Whitney TF-30-P-7 turbofan engines  
Thrust: 20,000 lb each.  
Speed: Mach 2.2.  
Ceiling: Above 60,000 ft  
Range: Transoceanic  
Armament: Conventional and nuclear bombs and SRAMs.  
Crew: Two (pilot and navigator)  
Weight: Gross, approx 110,000 lb.

Special Information:

In storage at MASDC: YFB-111A - 1 (inviolable storage)  
(6/30/76)

Distribution:

SAC authorized 70 FB-111 acft 1/1/76

At Plattsburgh AFB NY and Pease AFB NH

Prime Depot: Sacramento ALC. Engines: Oklahoma City ALC



MASDC FACT SHEET

C-7A

Caribou

de Havilland (Canada)

AF

Value:  
\$80,000

The C-7A Caribou entered the cargo transport inventory of AF as a result of an agreement between USAF and Army in April 1966. Army transferred its C-7A transports after that date. The twin-engine aircraft is all weather, provides short takeoff and landing capability, making it suitable for airlift in forward battle areas, or on unimproved airstrips. It was used extensively in SEA but today it is primarily used by AFRes and ANG.

Technical Data

Prime contractor: de Havilland Aircraft of Canada, Ltd.  
Primary function: Tactical airlift.  
Power plant: Two Pratt & Whitney R-2000 reciprocating engines  
Horsepower: 1,450 hp each.  
Dimensions: Span 95'8", length 74', height 31'9"  
Speed: 160 mph, service ceiling, 23,950 ft, range, 1,000 mi +  
Crew: 3, load 6,000 lb cargo or 31 passengers, 25 paratroops or  
20 litter patients  
Maximum gross takeoff weight: 28,500 lb.

Special Information:

In storage at MASDC: 3 C-7A (STV6C126) 6/1/76

Operational at:

Prime Depot: Warner-Robins ALC

Area 10

MASDC FACT SHEET

C-45

Expediter

Beech Aircraft Corp

AF/NA/AR

Value:  
\$75,000



The C-45 is a variant of the Model B-18S commercial light transport and two small contracts awarded in 1940 by the Army Air Force resulted in more than 4,000 being built during the war. Most were used as staff transports and were equipped with either six or eight seats. Some were equipped for photo work and some for reconnaissance and electronic countermeasures. The Navy used many for special training operations.

Technical Data

Mfr: Beech Aircraft Corp, Wichita, Kansas  
Type: C-45, light transport and communication. AT-7/AT-11, navigation and bombardier trainer; F-2, photographic reconnaissance.  
Accommodation: C-45, six seats.  
Power Plant: 450 hp, R-985-AN-1, -3.  
Dimensions: Span, 47' 8"; Length, 34' 3"; Height, 9' 8"; Wing area, 349 sq ft.  
Weights: 5,890 lb empty; gross 7,850 lb.  
Performance: Max speed 215 mph; service ceiling 20,000 ft; range 700 miles.  
Armament: Nil. (AT-11 only, two 0.30 in guns, ten 100 lb bombs)

Special Information

In storage at MASDC: 1 Army  
1 Navy Total 2

Operational at:

Out of AF inventory

Area 27 (RIT)

MASDC FACT SHEET

C-47 (ADH)

Skytrain

Douglas Aeft Co

AF/NA/AR

Value:

C-47 \$95,446

C-47 H/J/M \$150,000

C-47L \$165,000

NC/VC/EC-47 A/D \$181,993

Credited by General Eisenhower as one of four weapons which helped most in winning WWII, the C-47 has been setting records even through the jet age. The C-47 (or Gooney Bird) was used in every combat area of WWII and was produced in greater numbers (more than 10,000 built). Hundreds were built for allies on Lend-Lease prior to the U.S. involvement after Pearl Harbor. It started life as a commercial DC-3, which evolved from the DC-2, and was first flown on Dec 15, 1935. It has flown the "Hump" route from India to China and cleared the 16,500 ft Himalayan peaks. A C-47 was the first aircraft to land at both poles and the only land cargo plane to become a bomber, fighter, gunship, flying command post, airborne laundry, glider and amphibian.

Legends abound on the Gooney Bird and its ability to survive in situations like overloading, loss of one engine, extreme altitude, and weather which would ground an ordinary aircraft. In one case, 91 people were carried at one time in addition to an overload of 13,500 lbs of cargo.

Technical Data

Mfr: Douglas Aircraft Co, Long Beach CA and Tulsa OK  
 Type: Troop and supply transport, paratroop transport, glider tug.  
 Accommodation: 27 troops or 18-24 litters or 10,000 lb of cargo.  
 Power Plant: Two 1,200 h.p. Pratt & Whitney R-1830-92.  
 Dimensions: Span, 95 ft 6 in. Length, 63 ft 9 in. Height, 17 ft 0 in. Wing area, 987 sq ft.  
 Weights: Empty 18,200 lbs. Gross 26,000 lb.  
 Performance: Max speed, 230 mph. Climb 9.6 min to 10,000 ft.  
 Service ceiling, 24,000 ft. Range 1,600 st miles.  
 Armament: None. Grommets in cabin windows to permit small arms fire.

more

C-47  
Skytrain  
AF/NA/AR  
Area 10  
(RIT) 27

Special Information

In storage at MASDC:	AF	C-47A	-	5	
		VC-47A	-	8	
		C-47D	-	38	
		NC-47D	-	1	
		VC-47D	-	13	
		C-47H	-	1	
		C-47J	-	1	67

	NA	C-47H	-	1	
		C-47L	-	2	
		C-47L (RIT)	1		4

	AR	C-47D	-	1	1	72
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5/28/76

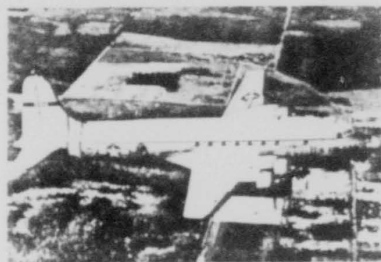
Operational --

Air Force at:

Navy at:

Army at:

Prime Depot: AF - Warner Robins ALC  
 (C-117) Navy - JAX Jacksonville NARF



MASDC FACT SHEET

C-54 (DEGMQT)

Skymaster

Douglas Acft Co.

AF/NA

Value:

C-54P/Q - \$399,000  
 C-54T - 439,000  
 VC-54 - 447,363  
 C-54 - 534,945

The DC-4A commercial, four-engine transport was in production for American airlines at the start of WWII and production lines were taken over by the Army. This aircraft, which could span both Atlantic and Pacific oceans, served in the last three years of the war. More than 300 flew in the Berlin Airlift and played a prominent part in the Korean Conflict. It became the backbone of the Military Air Transport Service and one was specially equipped to transport President Roosevelt. It has an electrically-operated elevator for the President's use and four state rooms and a conference room, with provision for 15 passengers and bunks for six. Designated the C-54C (42-107451), this aircraft was later used by President Truman and visited 55 countries between 1944 and 1947. It was known as the "Sacred Cow" and is now in the National Air and Space Museum in Washington DC.

Technical Data

Mfr: Douglas Aircraft Co. Long Beach CA.  
 Type: Troop and cargo transport.  
 Accommodation: 50 troops.  
 Power Plant: Four 1,290 hp Pratt & Whitney R-2000-7.  
 Dimensions: Span, 117 ft 6 in. Length 93 ft 10 in. Height, 27 ft 6 in. Wing area, 1,460 sq ft.  
 Weights: Empty, 37,000 lb. Gross, 62,000 lb.  
 Performance: Max speed 265 mph. Climb 14.8 min to 10,000 ft.  
 Service ceiling 22,000 ft. Range 3,900 st miles.  
 Armament: None.

more

C-54 Skymaster  
Area 23

Special Information:

In storage at MASDC:	AF	C-54D	-	10	
		VC-54D	-	2	
		C-54E	-	3	
		VC-54E		2	
		C-54G		13	
		C-54M		5	
					35

	NA	C-54Q	-	1	
		C-54T	-	1	2

Total 37 (5/28/76)

Aircraft Operational:

Prime Depot: AF - Warner-Robins ALC  
Navy - Out of inventory





MASDC FACT SHEET

C-97/KC-97

Stratofreighter  
Stratotanker

Boeing Aircraft Co.

AF

Value (see rev)

Designing of a transport with primary B-29 features was begun in 1942 by Boeing Aircraft and the first prototype flew in November 1944. On 9 Jan 45, the first XC-97 made a 2,323-mile flight across the U.S. with a 20,000 lb payload at 383 mph. On Oct 11, 1947, six YC-97s went into service with Air Transport Command flying scheduled freight service between Hawaii and California. One YC-97A (45-59595) flown by SAC crews, carried more than a million lbs of freight into Berlin in 27 flights in May 1949 during the Berlin Airlift. The production C-97As were widely used during the Korean War to carry casualties back to the West Coast from Japan.

Development of the Flying Boom flight refueling technique in 1948 and 1949 resulted in conversion of C-97 aircraft to tankers. First of these was delivered on July 14, 1951, designated as KC-97E. Next production model was the KC-97F, of which 159 were built. Development of the KC-97G provided both or either transport capability with use as a refueling aircraft. In addition to relocated internal tanks, additional fuel was carried in tanks under the wings. Some 888 C-97 variants were built the last one being 53-3816.\*

Later note from AF Magazine, May 76. Eight air refueling groups and wings of ANG continue to fly KC-97Ls. The "L" models were built between 1953 and 1956 as KC-97G tankers. When replaced with KC-135A jet tankers, they were modified to KC-97L standard by the addition of J47-GE-25A jet pods before going to ANG for refueling TAC fighters.

\* Condensed from U.S. Military Aircraft Since 1909 by F. G. Swanborough and Peter M Bowers.

more

KC-97 Stratotanker  
Area 21-24  
(RIT) 27

Value: C-97D - \$1,445,375  
C-97E - 1,448,738  
C-97F - 1,393,884  
C/H/HC-97G/K/L - 1,205,105

Technical Data

Type: Flight refueling tanker and transport  
Accommodation: Crew of five. Two pilots, flight engineer, navigator-radio operator, boom operator. (As transport) 96 combat troops or 69 litters with attendants.  
Power Plant: Four 3,500 hp Pratt & Whitney R-4360-59 piston radials.  
Dimensions: Span, 141 ft 3 in, length 110 ft 4 in. Height 38 ft 3 in. Wing area 1720 sq ft.  
Weights: Empty, 82,500 lb. Gross, 175,000 lbs.  
Performance: Max speed, 375 mph. Cruising speed 300 mph. Service ceiling, 35,000 ft. Range, 4,300 st mi.  
Armament: None.

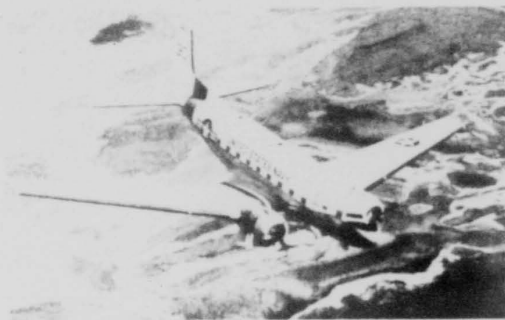
Special Information

In storage at MASDC:	C-97D	-	2
	C-97E	-	1
	C-97F	-	1
	C-97G	-	23
	HC-97G	-	15
	C-97K	-	4
	KC-97L	-	1*
	KC-97L	-	4

51 (5/28/76)

(all C-97s have either been reclaimed or awaiting action except for (\*) one KC-97L which is pending disposition).

Prime Depot: Oklahoma City ALC



MASDC FACT SHEET

C-117 Skytrooper

Douglas Acft Co.

NA

Value:

C-117 \$398,000

NC/TC-117D \$446,000

VC-117D \$478,000

This variant of the famous C-47 (or DC-3) served with equal reputation for dependability and versatility with the Navy and Marine forces as it did with the Army Air Force. The Navy bought C-117s in 1941 and many were still operating 25 years later. About 16 Navy variants qualified for redesignation when the unified system was introduced in 1962.

The 600-odd transports of this type used by Navy, most of which came from Army contracts, provided basic equipment for the Naval Air Transport Service, created five days after Pearl Harbor. Later the South Pacific Combat Air Transport Service used C-117s to ferry supplies into combat zones and to fly casualties out. Marine Corps paratroopers used this aircraft and it was also used for a number of specialized missions. Models used became (in 1962) C-117D, LC-117D, VC-117D and TC-117D.

Technical Data

Mfg: Douglas Aircraft Company, Santa Monica, Calif.

Type: Troop and personnel transport.

Accommodation: Crew of three and up to 27 passengers or 10,000 lb of cargo.

Power plant: Two 1,200 hp Pratt & Whitney R-1830-92s.

Dimensions: Span, 95 ft; length, 63 ft 3 in; height, 17 ft; wing area, 987 sq ft.

Weights: Empty, 16,578 lb; gross, 29,000 lb.

Performance: Max speed 227 mph at 7,500 ft; cruising speed, 135 mph; initial climb, 940 ft/min; service ceiling, 22,500 ft; range, 1,975 miles.

more .

C-117  
Skytrooper  
Area 10  
(RIT) 27

Special Information

In storage at MASDC: C-117D - 9  
TC-117D - 1  
10\* (5/28/76)

(\*) All but two scheduled for reclamation.

Operational

Prime Depot: JAX Jacksonville NARF

MASDC FACT SHEET

C-118A

Liftmaster

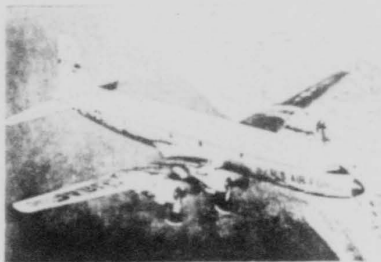
Douglas Acft Co.

AF

Value:

C/EC-118A-\$1,249,174

VC-118A-\$1,303,411



The C-118A was a military version of the Douglas DC-6B and USAF bought 101 between 1951 and 1955 for use by MATS Atlantic and Pacific divisions. The C-118A carried 74 passengers or 60 stretchers or 27,000 lb of cargo. One DC-6 was bought for Presidential use in 1947 and became the VC-118 Independence with 25 seats and 12 bunks in a VIP interior. The first DC-6 was built as a more fully developed C-54 and flew on 15 Feb 46.

The Liftmaster was the first MAC aircraft to cross the Atlantic nonstop. They were flown extensively during the 1956-57 "Operation Safe Haven" when 14,000 Hungarian refugees were airlifted from Munich, Germany, to McGuire AFB NJ. In 1964, C-118s were added to MAC aeromedical evacuation units in the U.S. They were used in Europe and the Pacific, including SEA for aeromedical evacuation to deliver patients from combat areas and from theater points of pickup by intertheater MAC aircraft. The C-118 have been replaced by the more modern C-9 Nightingale, a jet aircraft with greater speed and provision for greater capacity.

Technical Data

Primary Function: Cargo, troop carrier, and aeromedical evacuation.  
 Power Plant: Four Pratt & Whitney R-2800-52Ws (piston)  
 Horsepower: 2,500 hp each with water injection; 1,800 hp cruise.  
 Dimensions: Span 117'7"; length 106'10"; height 29'2"  
 Speed: 246 knots; Ceiling, above 20,000 ft; Range: Beyond 5,000 mi.  
 Load: C-118A 25,500 lb cargo or 79 fully equipped troops or 61 litter patients.  
 Crew: Five. Max gross takeoff weight: 107,000 lb.

more

C-118  
Liftmaster  
Area 21-22-23

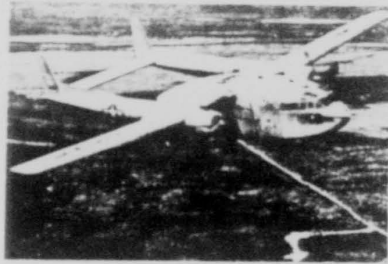
Special information

In storage at MASDC: C-118A - 31  
EC-118A 1  
VC-118A - 42 74 (5/28/76)

(only 18 in storage condition)

Note: C-118s removed from operational service in 1975 because piston engines required high test aviation gasoline, which was in short supply and very expensive.

Prime Depot: AF - Warner-Robins ALC  
Navy - Norfolk NARF



MASDC FACT SHEET

C-119

Flying Boxcar

Fairchild Eng and  
Airplane Corp.

AF/NA

Value:

C-119G/J/L-\$600,000  
RC-119L - 517,010  
C-119F - 511,000

Design was begun in 1941 on a specialized military freighter to meet army requirements for access at ground level, especially for trucks, howitzers, half-tracks, tanks and other vehicles. Known as Model F-78, the prototype was approved with designation of XC-82 and this flew on Sep 10, 1944. First order was for 100 C-82A Packets and deliveries began at the end of 1945. None were used in WWII. Five Packets were used in the Berlin Airlift, primarily to carry vehicles into the city. Deliveries of Packets, 220 of which were built, ended in 1948. However, the successor C-119 Flying Boxcar, with wider fuselage and more powerful engines, with greater carrying capacity, were first delivered in December 1949. To speed production, a second production line was set up by the Kaiser Mfg Co at Willow Run which built 41 C-119Cs in addition to 306 built by Fairchild. A number of further modifications came later. During the Vietnam War a number of C-119Cs were made into gunships.

The Marine Corps bought C-119Cs from Fairchild in 1950 and were used in Korea. Known as the Packet in the Navy and Marine Corps, a second purchase of 58 aircraft went to these two services in 1952.

Technical Data

Accommodation:	AF	Navy
	Two pilots, navigator and radio oper.	Crew of five and 42 troops.
Power plant:	2 3,500 Pratt & Whitney R-4360-20 piston radials	2 3,400 hp Wright R-3350-36Ws
Dimensions:	Span, 109 ft 3 in, Length 77 ft 1 in. Height, 26 ft 4 in. Wing area, 1,447 sq ft.	Span 109 ft 3 in; Length 86 ft 6 in; Height, 26 ft 6 in. Wing area 1447 sq ft
Weights:	Empty, 39,800 lb Gross 54,000	Empty, 40,000 lb; gross 64,000 lb.
Performance:	Max speed 248 mph; cruising 218mph. climb 950 ft/min. Range 1770 st.mi.	Speed-250mph, cruising 205, climb 820 ft/min; range 2,000 st mi.

more



C-119  
Flying Boxcar  
Area 20-23  
(RIT) 27

Special Information

In storage at MASDC:	<u>AF</u>		
	C-119G	- 52	
	C-119J	- 4	
	C-119L	- 25	
	RC-119L	- 1	82
			only 10 in MAP storage

	<u>Navy</u>		
	C-119F	- 13	
	C-119F	- 2 (RIT)	
			15
			all in Reclam Projects

Distribution

Prime Depot: Warner-Robins ALC - AF  
Cherry Pt NARF - Navy

MASDC FACT SHEET

C-121

Super Constellation

Lockheed Acft Corp

AF/NA

Value:  
See reverse

The first C-121s started life as requisitioned Lockheed L-49 commercial transports being built for TWA and Pan American. Early models were designated C-69 and the first was flown on 9 Jan 43. It was the largest (82,000 lb) and fastest (329 mph) transport built to date for the USAAF. The pressurized fuselage accommodated 64 passengers. Lockheed built 22 C-69s for USAAF before termination of the contract after VJ Day. In 1948 USAF bought 10 of the later model Constellation, designating them in the C-121 series. These included the Columbine I, used by Gen Eisenhower as NATO commander; Bataan, used by Gen MacArthur and Dewdrop, used by Gen Vanderberg. The others were used by MATS on long-range VIP missions. In 1951 contracts were placed for the still larger L-1049 which was designated C-121C, for MATS long range transport. The service also received 32 Navy R7V-1s which became AF C-121Gs. After Navy development of the Constellation as an airborne picket plane with special electronic gear, a similar variant was produced for USAF for airborne early warning operations. These were designated C-121Cs.

Navy used variants as transports and for airborne early-warning duties. First transport versions were bought in 1945. They served with VPB-101 in the Atlantic Fleet. Navy also bought 50 of the larger model which became C-121G and 32 were transferred to USAF for MATS service. Remaining transports became C-121Js in 1962. Use of the Constellation for patrol and airborne early-warning duties was first investigated in 1949 when two aircraft were equipped with large, long-range radar and other electronic gear. A total of 142 WV-2 Warning Stars were delivered in 1954 (redesignated EC-121K). In 1963 some EC-121Ks changed to EC-121P because of new search equipment installed.

more

C-121 - Constellation  
Area 6-23-24  
(RIT) 27

Special Information:

	<u>AF</u>	<u>Navy</u>
In storage at MASDC:	C-121C - 8    2	** C-121J - 8
	VC-121C - 3	**NC-121J - 4
	EC-121D - 7	**EC-121K - 5
(7148 - 5/28/76)	C-121G - 9	**NC-121K - 5
	EC-121Q - 2	**EC-121M - 6
	EC-121Q - 4	WC-121N - 7
	*EC-121T - 7    3	
	EC-121H -    2	35
	EC-121R -    5	

40   12

(\*) 3 in inviolate storage; balance in recl. proj.

(\*\*) Total of 7 in long term storage. Others in reclamation proj.

Original cost:	C/VC-121C - \$1,788,928	C/NC-121J - \$2,420,000
	EC-121D - 2,116,859	EC-121K - 2,283,000
	C-121G - 1,811,826	NC-121K - 2,190,000
	EC-121H - 4,096,187	EC-121M - 2,746,000
	EC-121Q/T 2,241,859	WC-121N - 2,227,000
	EC-121R - 2,353,320	

Technical Data

<u>AF</u>	<u>Navy</u>
Power plant: 4x3, 250 hp R-3350-91	4 3,400 hp Wright R-3350-34s or -42s.
Dimensions: Span 123'0"; Length 116'2" Height 24'8"; Wing area 1620 sq ft	Span 126'2"; Length 116'2" Height 27 ; wing area 1654 sq ft
Weights: Empty 72,815 lb; Gross 145,000	Empty 80,611; gross 143,600
Performance: Max speed, 368 mph at 20,000 ft	Max speed, 321 mph at 20,000 ft
Service Ceiling: 22,300 ft; 2,100 mi	20,600 ft; range, 4,600 mi

Prime Depot: AF    Sacramento ALC  
Navy - Jacksonville NARF

MASDC FACT SHEET

C-123

Provider

Fairchild

AF

Value:  
\$561,000



Based on a glider design produced by Chase Aircraft in 1949, the first prototype flew (XC-20) on 14 Oct 49 with two R-2800-83 engines in wing nacelles and was redesigned XC-123 Avitruc. Another prototype had four J-47 turbojets in paired pods and became the XC-123A., first flown 21 Apr 51. Fairchild assumed responsibility for further development of the Chase-built C-123B when difficulties were encountered with the Kaiser-Frazier's management. The first Fairchild-built C-123B Provider (54-552) flew 1 Sep 54. 300 of these were built.

C-123 designation was also carried by two versions developed by Stroukoff Aviation. These were the YC-123D (53-8068) which had boundary layer control by means of suction slots in the undercarriage for sand, snow, ice, water and land operations. A single YC-123H (54-2956) was tested in 1962 with a podded CJ610 turbojet under each outer wing.

Technical Data  
(C-123B)

Type: Troop and supply transport  
 Accommodation: Two pilots; 61 troops or 50 litter with six sitting wounded and six attendants.  
 Power plant: Two 2,300 hp Pratt & Whitney R-2800-99w piston radials. (C-123K has two J85-GE-17 engines).  
 Dimensions: Span, 110 ft 0 in. Length, 75 ft 9 in; Height, 34 ft 1 in. Wing area 1,223 sq ft.  
 Weights: Empty, 29,900 lb. Gross, 71,000 lb.  
 Performance: Max speed, 245 mph, Cruising speed, 205 mph.  
 Initial climb, 1150 ft/min. Service ceiling, 29,000 ft.  
 Range, 1,470 st. miles.  
 Armament: None.

more

C-123  
Provider  
Area 14

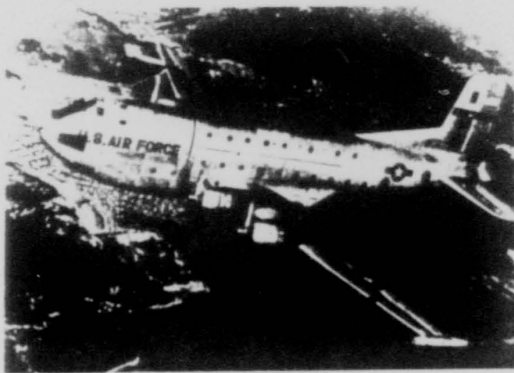
Special Information

In storage at MASDC: C-123B - 6 (probable withdrawal)  
C-123J - 6 (held in MAP sto)

Total 12

"One modified version of the basic C-123B, which entered service in 1955 as a troop and supply transport, is still in the USAF inventory. The AFRes has three C-123K squadrons and one UC-123K aerial spray squadron."--from AF Magazine, May 1976.

Prime Depot: Warner-Robins ALC



MASDC FACT SHEET

C-124A/C

Globemaster

McDonnell-Douglas

AF

Value:

\$1,646,406

Globemaster II development started in 1947 and was based on the C-74 (Globemaster I) which was produced from 1945 to 1947. The new design retained the same wing, power plant and tail unit as the C-74 but provided a new fuselage with clam-shell nose loading doors and built-in ramp. First flight was made 27 Nov 49. Some 204 C-124As were built before changing to larger engine in the C-124C of which 243 were built, the last aircraft delivered in May, 1955.

C-124s flew worldwide missions for TAC, MATS, SAC, AMC and Far Eastern Air Force. In 1961 they were also used by AFRes. Last C-124C to fly was No 52-1066 which was withdrawn from MASDC storage on 27 Aug 75 for flight to the Air Force Museum at WPAFB OH. All C-124s in the active inventory had been grounded in 1974 and flown to MASDC for disposal.

Technical Data

Mfr: Douglas Aircraft Co, Long Beach CA  
Type: Heavy cargo transport.  
Accommodation: 68,500 lb of cargo or 200 passengers, or 127 litters and crew of eight.  
Power plant: Four 3,800 hp Pratt & Whitney R-4360-63A piston radials.  
Dimensions: Span, 174 ft 2 in. Length, 130 ft, Height, 48 ft 4 in.  
Wing area, 2,506 sq ft.  
Weights: Empty, 101,165 lb. Gross, 194,500 lb.  
Performance: Max speed 271 mph at sea level. Cruising speed 230 mph at 10,000 ft. Initial climb, 625 ft/min. Service ceiling, 18,400 ft. Range, 4,030 st miles with 26,375 lb cargo.  
Armament: None.

more

C-124  
Globemaster  
Area 25

Special Information

In storage at MASDC: C-124A - 1  
C-124C - 107  
108 (28 May 76)

Note: All C-124A/C aircraft in "Invitation for Bid" status,  
none in storage condition.

Out of the inventory.

Prime Depot: Warner-Robins ALC



MASDC FACT SHEET

C-130

HerculesLockheed Acft Corp  
(Marietta, GA)

AF

Value:  
\$2,760,000

Work on development started in 1961 when USAF decided to equip transports with turboprop engines. The C-130 was the first transport produced under the weapon system concept and in this way was related to the B-58 Hustler which was the first aircraft to be built from the start under the system concept. Initial contracts were placed in 1952 and production line set up at the Lockheed plant at Marietta, Georgia. The first C-130A flew on 7 Apr 55. Deliveries were made to the Troop Carrier Command and TAC units in 1956. Special variants of the C-130A included two GC-130 drone launcher/directors for ARDC, carrying four drones under the wings and 16 RC-130A for the 1370th Photo Mapping Wing of MATS APCS with special aerial survey equipment.

Total of 219 C-130As were built and by 10 Dec 58 improved C-130B was ready for service. Total of 85 were built. In 1961 orders for 99 C-130Es had been placed and deliveries began in the spring of 1962. Several modifications included a version for support of Arctic expeditions. Another had two Allison YT56-A-6 turbojets in underwing pods to provide high speed air to be blown over the flaps, ailerons, rudder and elevator to achieve FLC (boundary layer control). Another was modified to provide STOL capability. The WC-130E is used by Air Weather Service to provide hurricane data in less time than any previous AWS aircraft and can penetrate hurricanes at 10,000 ft for low-level data or climb to 30,000 ft for high level probes.

The AC-130 has been modified to operate as an attack aircraft with addition of 7.52mm miniguns, 20mm rapid-fire cannons, 40mm Bofors cannons, a 105mm howitzer, and sensor/illumination equipment. C-130s can also be used as flare ships.

more

C-130 - Hercules  
Area 21

Technical Data

Primary function: Tactical airlift.  
Contractor: Lockheed Aircraft Corp.  
Power Plant: Four Allison T-56-A-7s (C-130B&E)  
Horsepower: 3,755 propeller-shaft hp each.  
Dimensions: Span 132'7", length 97'9"; Height 38'6"  
Speed: 30 mph; ceiling, above 30,000 ft; Range, beyond 2,000 mi.  
Load: 35,000 lb (C-130B), 41,892 lb (C-130E), cargo, 91 fully  
equipped troops, 64 paratroops, or 74 litter patients with  
two attendants.  
Crew: Four (five with loadmaster)  
Max gross takeoff weight: 135,000 lb (C-130B); 155,000 lb  
(C-130E)  
Status: Operational

Special Information

In storage at MASDC: C-130A - 10 (STW)  
RC-130A - 2 (STW)  
C-130D - 1 (STW)

(5/28/76)

Distribution (Authorized 1/1/75 - TAC 24 C/AC/DC-130)

Bases: Eglin AFB FL  
Keesler AFB MS

MAC Bases (Aircraft C-130 - Assigned)

McChord AFB WA 267  
Clark AB PI 14 (WC-130)

Prime Depot: AF Warner-Robins ALC  
Navy - Cherry Pt NARF (none here)

MASDC FACT SHEET

C-131

SamaritanConvair/  
General Dynamics

AF/NA/CG

Value:

C/VC-131A/B- \$970,415

C-131D/E- 733,325

C-131F- 733,325E



The C-131 was a variant of the original T-29 version of Convair 240/340/440 series of twin-engined transports. The trainer version came first and was based on the Convair 240. It flew first at San Diego 22 Sep 49. First deliveries on 24 Feb 50. The C-131A was delivered, 26 of them, to MATS in 1954 for air-evacuation duties. Each could accommodate 37 passengers, 27 litters, or a combination of both in a pressurized cabin. For testing electronic equipment USAF acquired 36 C-131Bs, based on Convair 340 which could carry 48 passengers. Also developed from Model 340 and Model 440, were the 44-passenger C-131D and VC-131D, 33 of which were delivered. In 1956-57 15 C-131Es were built as SAC ECM trainers but 7 were later converted to RC-131s for use by MAC.

Marine and Navy fleet support units received a total of 36 R4Y-1s (designation changed to C131F in 1962). They carried 44 passengers and delivered from 1952 onward. One with VIP interior became VC-131F. Two C-131Gs were delivered in 1957 (145962-63) were similar to the commercial CV-440.

Technical Data

Contractor: Convair Div of Gen Dynamics Corp  
 Power Plant (C-131B): Two Pratt & Whitney R-2800-99W piston engines, each 2,500 hp.  
 Accommodation: Crew of four and 48 passengers.  
 Dimensions: Span 105 ft 4 in, Length 79 ft 2 in, Height 28 ft 2 in.  
 Weights: Empty 29,248 lb. Gross 47,000 lb.  
 Performance: Max speed 293 mph, service ceiling 24,500 ft. Max range 2,000 miles.

more

C-131-Samaritan  
Area 21

Special Information:

	<u>AF</u>	
In storage at MASDC:	C-131A	- 3
	VC-131A	- 2
	VC-131A	- 1 (STW)
	C-131B	- 10
	C-131B	- 3 (STW)
	C-131D	- 3
	C-131E	- 2 (STW)

	<u>Navy</u>	
	C-131F	- 2 (NAST1000)

(28 May 76) Total 8 in storage condition: others to Recl.

Note: A program is under way to provide one C-131 per month to CG for modification into patrol aircraft. 7/12/76

Prime Depot: AF San Antonio ALC  
Navy - Cherry Pt NARF (C-131F)

MASDC FACT SHEET

KC-135

Stratotanker

Boeing Acft Co

AF

Value:

KC-135A-\$2,843,924



The KC-135 evolved from the Boeing 707-80 which made its first flight on 15 Jun 54. USAF needed a jet tanker to match performance of the B-47 and B-52. The first KC-135A (55-3118) flew on 31 Aug 56 and accepted by the Air Force on 31 Jan 57. The KC-135A uses the Flying Boom refueling system developed by Boeing and originally fitted to converted B-29s and to production models of the KC-97 Stratofreighter. In addition to its tanker role, the KC-135A can be used as a cargo or personnel transport with an 83,000 lb payload or carrying 80 to 160 troops. Some aircraft were converted to serve as flying command posts, each containing a miniaturized version of the SAF Omaha control center to direct SAC retaliatory actions.

A total of 732 were built, of which the first flew in Aug 56; some 615 remain operational. Variants include the KC-135Q, adapted to refuel Lockheed's SR-71s; and KC-135R and KC-135T for special reconnaissance.

Technical Data

Contractor: The Boeing Co.

Power Plant: Four Pratt & Whitney J57-P-59W turbojet engines, each 13,750 lb thrust.

Accommodation: Crew of four or five; up to 80 passengers.

Dimensions: Span 130 ft 10 in, length 136 ft 3 in, height 38 ft 4 in.

Weights: Empty 98,466 lb, gross 297,000 lb.

Performance: Max speed at 30,000 ft 585 mph, service ceiling 50,000 ft, range with 120,000 lb of transfer fuel, 1,150 miles, ferry mission 9,200 miles.

more

KC-135A - Stratotanker

Special Information:

In storage at MASDC: (STS) KC-135A - 1 (28 May 76)

Distribution: SAC authorized 600 KC-135s (1 Jan 76)  
MAC assigned 16 C-135s  
TAC authorized 5 EC-135s

(TAC has EC-135s at Seymour Johnson AFB NC)

SAC has KC-135s at these bases:

Altus AFB OK	Grand Forks AFB ND
Barksdale AFB LA	Kincheloe AFB MI
Carswell AFB TX	Mather AFB CA
McConnell AFB KS	Robins AFB GA
Griffiss AFB NY	Travis AFB CA
Plattsburgh AFB NY	S Johnson AFB NC
Pease AFB NH	Offutt AFB NE
Loring AFB ME	Blytheville AFB AR
Wurtsmith AFB MI	Beale AFB CA
Fairchild AFB WA	Ellsworth AFB SD
K I Sawyer AFB MI	Dyess AFB TX
Minot AFB ND	March AFB CA
Grissom AFB IN	

Prime Depot: Oklahoma City ALC

MASDC FACT SHEET

D-21

Lockheed-Burbank

Drone

AF

Value:

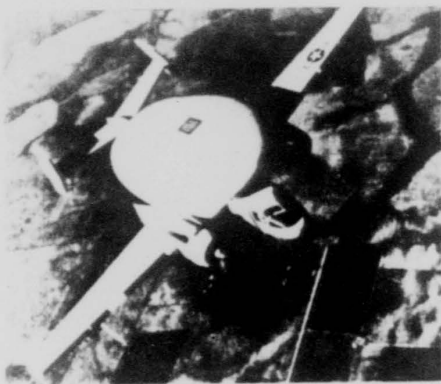
The Lockheed-Burbank built D-21 was used in conjunction with the supersonic A-11 interceptor, predecessor of the SR-71. Some 15 A-11s were built but six were lost under non-hostile circumstances. The other 9 were retired from service in 1968 but stored at a California location until the decision to move both the A-11 fleet and the drones to MASDC for deep storage. This decision was made in July 1976. About 38 of the drones were built during 1964-65 and 1967-69 and these were retired in June 1971.

First shipment (by C-5A) arrived at MASDC on 14 Jul 76 when three D-21s were unloaded. Total scheduled to come--17.

Technical Data

0803





MASDC DATA SHEET

E-1

Tracer

Grumman Acft.

NA

Value:

\$1,803,000

The Tracer was developed by Grumman to provide the Navy with an airborne early-warning aircraft capable of operating from aircraft carriers. This began in 1954. It appeared in 1957 as the WF-2 Tracer version of the Tracker (S-2) and was later redesignated E-1B but was more often known by pilots as "Willy Fudd."

The first flight on 1 Mar 57 was by an aerodynamic prototype carrying the massive dish-type radome above the fuselage. The other major external change consisted of new tail unit with twin fins and rudders and a central fin. Delivery of 88 production model E-1Bs began in Feb 58. These aircraft were replaced by E-2s in 1955-56.

Technical Data

Mfr: Grumman Aircraft Engineering Corp, Bethpage, LI NY.

Type: Anti-submarine search and strike.

Accommodation: Two pilots, two radar operators.

Power plant: Two 1,525 hp Wright R-18 Wright R-1820-82WAs.

Dimensions: Span 72 ft 7 in, Length, 43 ft 6 in, Height, 16 ft 7 1/2 in; wing area, 499 sq ft.

Weights: Empty, 19,033 lb; gross, 26,867 lb.

Performance: Max speed, 253 mph at 5,000 ft; cruising speed, 149 mph at 1,500 ft; initial climb, 1,800 ft/min; service ceiling, 22,000 ft; range, 1,150 st miles.

Armament: Max weapon load, 4,810 lb. Fuselage weapons-bay, for one depth-bomb or two torpedoes. Six underwing pylons for depth-bombs, torpedoes or rockets. Up to 32 sono-buoys in nacelles.

more

E-1-Tracer  
Area 2

Special Information:

In storage at MASDC:	E-1B	-	18	(NAST1000)	storage
	E-1B	-	8	(NAL02000)	
	E-1B	-	10	(Reclamation)	
	Total		<u>36</u>		

Prime Depot: JAX (Jacksonville FL)



MASDC DATA SHEET

F-4

Phantom II

McDonnell-Douglas

AF/NA

Value:  
\$2,765,000 F-4B (NA)

Action to buy what became one of the finest air weapons the Navy had ever used began in 1954.<sup>o</sup> When first ordered the aircraft carried an attack designation but some fundamental changes to make the primary role that of a high altitude, long-range interceptor. The aircraft was designed around two General Electric turbojets, the 10,900 lb s.t. J79-GE-8 version was specified for production aircraft. Tandem seating was provided for the pilot and observer; fire-control radar was located in the nose, and provision was made for six Sparrow III air-to-air missiles under fuselage and wings. Navy made changes as the flight trials progressed. Deliveries began in 1961.

In a decision without precedent, USAF adopted a production Navy fighter during 1961 as standard equipment for its tactical strike and reconnaissance squadrons. This was the F-4C and RF-4C. Later modifications brought the F-4D, F-4E, and F-4G, all designed to do a specific job.

Technical Data

Navy

Carrier-borne fighter and tactical strike aircraft  
Crew: Pilot and radar intercept officer  
Power: Two 10,900 lb s.t. (17000 with afterburner) GE J79-GE-8 turbojets  
Dimensions: Span, 38 ft 4 3/4 in; Height, 16 ft 3 in; Length, 38 ft 3 3/4 in, wing area 530 sq ft  
Weights: Empty-28,000; gross, 56,000 lb.

AF

All-weather fighter  
Crew: Two.  
Power: Two Gen Elec J79-GE-17 turbojets, each 17900 lb thrust w/afterburning  
Dimensions: Span 38 ft 5 in; Length, 62 ft 10; Height 16 ft 3 in.  
Weights: Empty 30,425; gross, 58,000

more

F-4 Phantom II  
Area 11

Special Information

Stored by MASDC: F-4B - 15 (NAST1000)  
F-4B - 6 (NRP Recl)  
RF-4B - 5 (NAST1000)  
YF-4J - 1 (NAST1000)

27 (5/28/76)

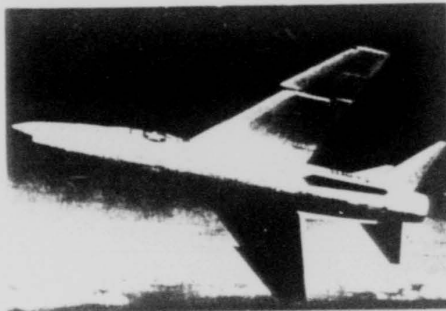
Distribution:

TAC has 679 F-4s  
121 RF-4s

Bases:

Eglin AFB FL - F-4E  
Nellis AFB NV - F-4  
Seymour Johnson AFB NC - F-4E  
McDill AFB FL - F-4E  
Shaw AFB SC - RF-4C  
Homestead AFB FL - F-4E  
Moody AFB GA - F-4E  
George AFB CA - F-4C/D  
Bergstrom AFB TX - RF-4C  
Holloman AFB NM - F-4D  
Luke AFB AZ - F-4D  
Hill AFB UT - F-4D

Prime Depot: AF Ogden ALC (F/RF-4)  
Navy - North Island NARF

MASDC FACT SHEET

F-8

Crusader

LTV

Navy

Value:

See Reverse

The requirement for a supersonic air-superiority fighter by the Navy in 1952 was won by the Chance Vought company just before it was absorbed by the Ling-Temco-Vought organization. First XF-8As flew on 25 Mar 55 and 30 Sep 55. Production aircraft began to be delivered in Mar 57 for a total of 318, with 130 F-3Bs built. The first RF-8A flew 17 Dec 56 and 144 of this model were built. A number of these were converted to RF-8C which, among other improvements had a new navigation system and improved camera station installations. A large number of modifications were made. During 1961 a few F-8As were modified as directors for Regulus I and II drones and designated DF-8A; a few others became QF-8A drones.

The F-8C, with an improved fire control system, added 187 more aircraft to the fleet. Deliveries were spread from Jan 59 to Sep 60. Next came the F-8D with deliveries of 152 from Jun 60 to Jan 62. Production ended with the F-8E which had external provisions for heavier stores and armament. A total of 286 of this model were built.

Technical Data

Mfr: LTV Aerospace Corp, Dallas TX  
 Type: Carrier-based fighter.  
 Accommodation: Pilot only.  
 Power plant: One 10,700 lb s.t. Pratt & Whitney J57-P-20A turbojet.  
 Dimensions: Span, 35 ft 2 in; Length 54 ft 6 in; Height 15 ft 9 in; wing area, 350 sq ft.  
 Weights: Gross 34,000 lb.  
 Performance: Max speed, 1,120 mph; cruising speed, 560 mph; climb, 6.5 min to 37,000 ft; service ceiling, 58,000 ft; range, 1100 mi.  
 Armament: Four fixed forward-firing 20 mm Colt cannon. Four Sidewinder AAM or up to 5,000 lb of bombs or rockets or ASMs under wings.

more

F-8-Crusader  
Area 7  
(RIT) 27

Value: TF/F - 8A - \$1,109,000  
NF - 8E - 1,069,000  
DF - 8F - 1,145,000  
RF - 8G - 1,300,000  
F - 8H - 1,352,000  
F - 8J - 1,302,000  
F - 8K - 999,000  
F - 8L - 884,000

Special Information:

In storage at MASDC: RF-8G - 10 Long term storage  
F-8H - 35 Indefinite (for recl.)  
F-8H - 5 Long term storage  
F-8J - 39 Long term storage  
F-8J - 5 (for removals)  
F-8K - 48 Long term storage  
F-8L - 8 Long term storage  
F-8H - 8 Recl project  
F-8J - 17 Recl project  
F-8L - 43 Recl project

Total 245 (6/30/76)

Distribution: 6 in RIT

Prime Depot: Norfolk NARF

0809



MASDC FACT SHEET

TF-9J

Cougar

Grumman Acft Eng.

Navy

Value:

R/TF/NTF-9J  
\$398,000

A further development of Grumman's first jet fighter (the panther) the Cougar became a sweptwing fighter which prolonged production of the basic family for seven years. First flight of the XF-9F-6 was made on 20 Sep 51 with Navy evaluation being completed during 1952. Production units began to be delivered in Nov 52. Some 1,985 were built of the various modifications for use by Navy and Marine units.

The Cougar was used by the US Navy's Blue Angels Aerobatic Team from 1955-58, as also were the F-11A Tigers in another time period.

Technical Data

Mfr: Grumman Aircraft Engineering Corp.  
Type: Carrier-based fighter. (F-9F)  
Accommodation: Pilot only  
Power plant: One 7,250 lb s.t. Pratt & Whitney J48-P-8 turbojet.  
Dimensions: Span, 36 ft 5 in; Length, 41 ft 7 in; Height, 15 ft.  
Weights: Gross, 20,000 lb.  
Performance: Max speed, 690 mph at sea level; initial climb, 7 min to 40,000 ft; service ceiling, 50,000 ft; range, 1,000 st miles.  
Armament: Four fixed forward-firing 20 mm guns; two 1,000 lb bombs

(F-9F trainer)

Accommodation: Pupil and instructor in tandem.  
Power plant: One 7,200 lb s.t. Pratt & Whitney J48-P-8A turbojet.  
Dimensions: Span, 34 ft 6 in; length 44 ft 5 in; height, 12 ft 3 in.  
Weight: Gross, 20,600 lb.  
Performance: Max speed, 705 mph; initial climb, 8.5 min to 40,000 ft; service ceiling, 50,000 ft; range, 600 st miles.  
Armament: Two fixed forward-firing 20 mm guns.

more



TF-9J - Cougar

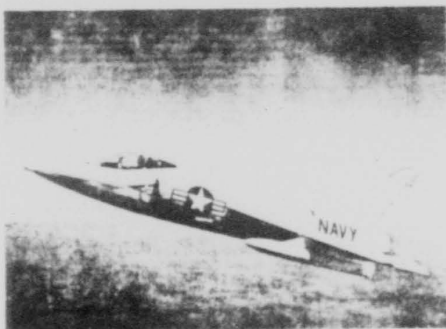
Special Information:

In storage at MASDC: TF-9J - 4 Awaiting disposal  
TF-9J - 1 Deep storage  
TF-9J - 3 On withdrawal proj.

(6/30/76)

3 in RIT

Prime Depot: Out of Inventory



MASDC FACT SHEET

F-11A

Tiger

Grumman Acft

Navy

Value:  
\$1,193,000

Last of the cat designations by Grumman, the F-11 was an attempt to get the maximum possible performance from an aircraft based on the straight-wing F-9 configuration. First flight of the F-11A (YF9F9) prototype was made 30 Jul 54, the second followed in October and the third in Jan 55. Engine problems led to use of J79-GE-3A engines which gave a Mach 2 performance. The first contract was for 42 F-11s and the second for 157, the latter with longer nose with provision for radar (which was never installed).

Production line was completed in December 1958.

Some of the F-11As were used by the Navy's Blue Angels aerobatic team.

Technical Data

Mfr: Grumman Aircraft Engineering Corp.

Type: Day Fighter.

Accommodation: Pilot only.

Power Plant: One 7,450 lb s.t. Wright J65-W-18 turbojet.

Dimensions: Span, 31 ft 7 1/2 in; Length, 46 ft 11 1/4 in;

Height 13 ft 2 3/4 in; wing area, 250 sq ft.

Weights: Empty, 13,428 lb; gross, 22,160 lb.

Performance: Max speed 750 mph at sea level; cruising speed, 577 mph at 38,000 ft.; initial climb, 5,130 ft/min. Service ceiling, 41,900 ft range, 1270 st miles.

Armament: Four fixed forward-firing 20mm guns; four underwing Sidewinder 1A or 1C and to air missiles.

more

F-11A - Tiger

Special Information:

In storage at MASDC: F-11A - 4 To be reclaimed (6/30/76)

Prime Depot: Not in active inventory.



MASDC FACT SHEET

F-84

Thunderjet

Republic Aviation

AF

Value:

F-84F \$769,330

RF-84F 677,608

Last of the subsonic straight-wing fighter-bombers to see operational service with USAF. It gave valuable service in Korea and it was also the aircraft used when flight-refueling techniques for fighters were developed. It was the first single seat fighter-bomber capable of carrying a tactical nuclear weapon. It was also the first US fighter designed with sweptback wing and tail surfaces.

The first XP-84 flew on 28 Feb 46 and later in Aug 46 a speed record of 611 mph was established by the second prototype. The P-84B model mounted M3 machine guns with eight retractable rocket launchers beneath the wing. This model had an ejection seat for the pilot. The designation became F-84B in 1948.

In all 11 countries used 4,453 Thunderjets in its several modifications.

Technical Data (F-84F)

Mfr: Republic Aviation Corp, Long Island NY

General Motors Corp, Kansas City KS

Type: Fighter/fighter-bomber.

Accommodation: Pilot in enclosed cockpit.

Power Plant: 7,220 lb s.t. J65-W-3

Dimensions: Span, 33 ft 7 1/4 in; length, 43 ft 4 3/4 in;

Height, 14 ft 4 3/4 in, Wing area, 260 sq ft.

Weights: Combat wt - 20,300 lb.

Performance: Max speed 695 mph; climb, 8,200 ft/min. service ceiling, 44,850 ft, range 2,035

Armament: six - .50-in; 6,000 lb of bombs.

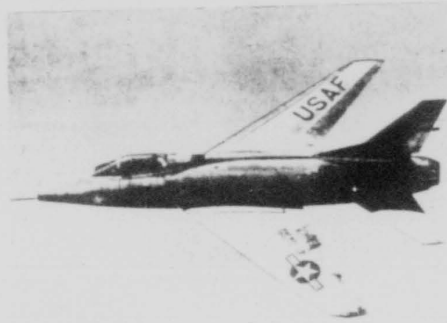
more

F-84-Thunderjet  
Area 27 (RIT)

Special Information:

Stored at MASDC: F-84F - 4 (SRL3F999) 6/30/76  
F-84F - 4 RITSMDM  
RF-84F - 9 RITSMDM

Prime Depot: Sacramento ALC



MASDC FACT SHEET

F-100

Super Sabre

N. American Av.

AF

Value:

F-100C - \$663,181  
 NF/F-100D - 697,029  
 F-100F - 804,444

The F-100 was the first of the USAF Century series of fighters and noted for being the world's first operational fighter capable of level supersonic performance. This aircraft evolved from the F-86 Sabre and was known as Sabre 45 because of its 45 degree wing sweepback. First YF-100A was flown on 25 May 53, followed by another on 14 Oct 53. The first YF-100A set a World Speed Record of 755.149 mph in the last such record established at low altitude. Some 203 of the F-100A, 476 of the F-100C, 1274 of the F-100D were built between 1953 and 1958. Final version was the F-100F, a two-seat variant for use as a fighter-bomber, air-superiority fighter, or trainer. In the 1957-59 period, 339 were built.

Technical Data

Mfr: North American Aviation Inc, Inglewood, CA and Columbus OH.  
 Type: Supersonic interceptor, fighter-bomber and advanced combat trainer.

Accommodation: Pilot in enclosed cockpit; pilot and instructor (F-100F only).

Power plant: One 11,700 lb s.t. (17,000 lb. with a/b) Pratt & Whitney J57-P-21A turbojet.

Dimensions: Span, 38 ft 9 in, Length, 47 ft; (F-100F, 50 ft.).  
 Height, 15 ft, wing area, 385 sq ft

Weights: Empty, 21,000 lb. Gross, 34,832 lb.

Performance: Mac speed 864 mph at 35,000 ft. Cruising speed, 565 mph at 36,000 ft. Initial climb, 16,000 ft/min.

Armament: Four fixed forward firing 20mm M-39E in front fuselage, Underwing pylons for six 1,000 lb bombs, two Sidewinder or Bullpup AAMS: FFAR pods, etc.

more

F-100-Super Sabre  
Area 11-14  
(RIT) 27

Special Information:

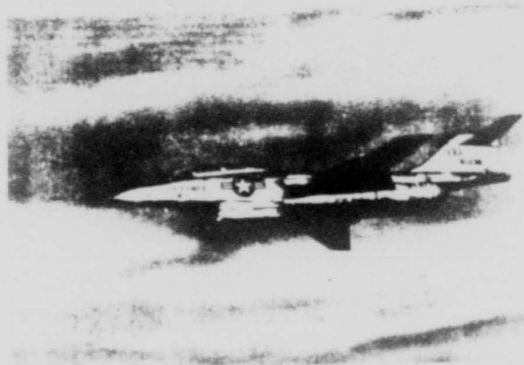
In storage at MASDC:	F-100C	-	24	Reclamation & Salvage
	F-100D	-	1	" "
	F-100D	-	24	STV (Sto high probability of withdrawal)
	Total		49	
In RIT	F-100C	-	5	
	F-100D	-	4	
	F-100F	-	5	
	Total		14	

Distribution

About 400 Super Sabres were in operation with ANG (1/1/76)

Prime Depot: Sacramento ALC





MASDC FACT SHEET

F-101

Voodoo

McDonnell Acft Corp

AF

Value:

RF-101A-\$1,604,063  
 RF/TF/F101B/F-\$1,754,066  
 RF-101H/G-\$2,979,745  
 RF-101C-\$1,276,145

Originally designed to serve SAC as long-range escort and penetration fighter, the F-101 was developed for both tactical and air defense roles. At the time of acceptance it was the heaviest single-seat fighter ever accepted by USAF. Design work started in June 1946 and flight trials began on 20 Oct 48. However shortage of funds led to cancellation in 1950. In 1951 a new requirement for a long-range fighter to serve SAC as an escort for B-36 was made by USAF. However, before the first F-101 flew, SAC cancelled the requirement, but production continued for TAC. The first flew on 29 Sep 54 (53-2418). The F-101B was first flown in March 1957 and designed for service with the Air Defense Command (now ADCOM).

About 84 remain in service with ANG and others in Canadian Armed Forces under NORAD control. US aircraft scheduled for phase-out by FY-77, according to AF Magazine, May 76 issue.

Technical Data

Contractor: McDonnell Aircraft Corp  
 Power plant: Two Pratt & Whitney J57-P-55 turbojet engines, each 14,990 lb thrust with afterburning.  
 Dimensions: Span 39 ft 8 in, length 67 ft 4 3/4 in, height 18 ft.  
 Accommodation: Pilot and radar operator in tandem.  
 Weight: Gross 46,500 lb.  
 Performance: Max speed at 40,000 ft Mach 1.85; service ceiling 51,000 ft; max range 1,550 mi.  
 Armament: Two AIM-4D Falcon air-to-air missiles carried externally, and two AIR-2A Genie nuclear-warhead unguided rockets carried internally.

more

F-101-Voodoo  
Area 7

Special Information:

In storage at MASDC:

F-101A	-	7
F-101B	-	84
RF-101B	-	22
RF-101C	-	24
F-101F	-	5
RF-101G	-	8

---

150 (6/30/76)

F-101B	-	20	Sto for probable
RF-101C	-	1	withdrawal
F-101F	-	4	
RF-101H	-	13	

---

38 (6/30/76)

Distribution:

Prime Depot: Ogden ALC

MASDC FACT SHEET

F-102A

Delta Dagger

Convair

AF

Value:

F/TF-102A-\$1,081,000

NTF-102A-\$1,465,826



When the F-102 first went into service in June 1955, it was the first delta-wing aircraft to be accepted by USAF. The design, which began in 1950, was related to that of the experimental XF-92A, a Convair model built in 1948 to provide data for a proposed Mach 1.5 fighter. The first YF-102 flew on 24 Oct 53 and second on 11 Jan 54. Both were deficient in performance and a redesign program resulted in the YF-102A which flew on 20 Dec 54. The F-102 was designed as a missile carrier for guided missiles and unguided rockets. Between 1953 and 1957, contracts for 975 F-102As were let. The AF also bought 111 TF-102As (side-by-side seating). A Convair modernization program began in 1957 to bring early F-102As up to standard.

Technical Data

Mfr: Convair Div of General Dynamics Corp, San Diego CA  
 Type: Supersonic all-weather fighter-interceptor.  
 Accommodation: Pilot only, with upward ejection seat (F-102A)  
 Power plant: one 17,000 lb s.t. (with a/b) Pratt & Whitney J57-P-23 or -25 turbojet.  
 Dimensions: Span, 38 ft 1 1/2 in; Length, 68 ft 4 1/2 in. Wing area, 661.5 sq ft.  
 Weights: Gross, 28,600 lb (32,000 lb overload).  
 Performance: Max speed, 825 mph at 36,000 ft. Initial climb, 13,000 ft/min. Service ceiling, 54,000 ft.  
 Armament: Six Hughes GAR-1D or -2A AAMs in internal fuselage bay, and 24x2.75-in FFARs in missile bay doors.

more

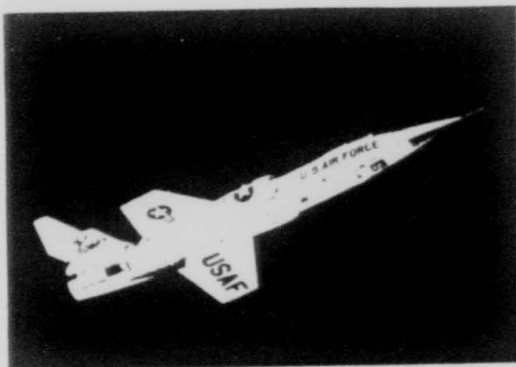
F-102A-Delta Dagger  
Area 7-11-20

Special Information:

In storage at MASDC:	F-102A	-	168	(Storage, high probability of withdrawal)
	TF-102A	-	2	(Hold for MAP requirements)
	F-102A	-	39	(Reclamation program)
	F-102A	-	88	(Invitation for bid)
			—	
	Total		297	
	In RIT		30	
			—	
	Total		327	#7148 - 6/30/76

Distribution:

Prime Depot: San Antonio ALC

MASDC FACT SHEET

F-104

Starfighter

Lockheed

AF

Value:

NF/F-104A-\$1,704,228

F-104B 2,397,130

F-104C 1,478,402

F-104D 1,500,391

Known as the "missile with a man in it," the F-104 was the first operational interceptor capable of sustained speeds above Mach 2 -- also the first aircraft to hold the World Speed and Altitude Records simultaneously. Design began in November 1952 and involved a radical concept with a long, needle-nosed fuselage tightly tailored around a single large turbojet, tiny wings and a T-tail. The resulting F-104 was one of the smallest aircraft ever produced for USAF. The first F-104 flew on 7 Feb 54 and on 25 Mar 55 another reached Mach 1.79 with a more powerful engine. First production F-104A flew on 17 Feb 56 and Mach 2 was first reached in a YF-104A on 27 Apr 1955. Deliveries began on 26 Jan 58. Speed and altitude record flights by Starfighter included 91,249 ft on 7 May 58 and 1,404.19 mph on 16 May 58. On 14 Dec 59 an F-104C took the altitude record to 103,389 ft.

Technical Data

Mfr: Lockheed Aircraft Corp, Burbank CA

Type: Fighter-bomber.

Accommodation: Pilot in enclosed cockpit.

Power plant: One 10,000 lb (15,800 lb with a/b) General Electric J479-GE-7 turbojet.

Dimensions: Span, 21 ft 11 in. Length, 54 ft 9 in. Height 13 ft. 6 in. Wing area, 179 sq. ft.

Weights: Gross, 23,590 lb.

Performance: Max speed, 1,450 mph at 40,000 ft. Initial climb, 40,000 ft/min. Service ceiling, over 55,000 ft. Range, over 1,000 st. miles.

Armament: One 20mm six-barrel rotary Vulcan gun in nose; two 1,000 lb bombs or two or four Sidewinder AAMs.

more

F-104D Sea Fighter  
Area 18  
(RIT) 27

Special Information:

In storage at MASDC: F-104D - 4 (held in MAP storage)  
9 (held in RIT)

Distribution:

Prime Depot: Sacramento ALC



MASDC FACT SHEET

F-105

Thunderchief

Republic

AF

Value:

F-105B- \$5,649,543

F-105D- 2,136,668

The Thunderchief, which became operational in January 1959, was the first supersonic tactical fighter-bomber developed from the ground up. It was designed to succeed the F-84F and by 1961 it had become the primary TAC aircraft in combat strike role and was also serving in USAF in Germany. An all-weather, single seat fighter-bomber, it was equipped with NASARR monopulse radar system for use in both high and low level missions, and Doppler for night or bad weather operations. The first F-105D flew in June 1959. More than 600 were built. An unusual feature of the F-105 design was the arrangement of the speed brakes as four segments of the rear jet-pipe fairing. All fuel was carried in the fuselage and supplementary tanks in the bomb-bay or on the wing pylons as required. The aircraft has a retractable probe for in-flight refueling.

Technical Data

Mfr: The Fairchild Republic Division of Fairchild Industries  
 Type: Long range tactical fighter-bomber.  
 Accommodation: Pilot in enclosed cockpit.  
 Power plant: One 26,500 lb s.t. (with a/b) Pratt & Whitney J75-P-19W turbojet.  
 Dimensions: Span, 34 ft 11 in. Length, 64 ft 3 in. Height, 19 ft 8 in. Wing area 385 sq ft.  
 Weights: Empty, 27,500 lb. Gross 48,400 lb.  
 Performance: Max speed, 1,420 mph at 38,000 ft. Initial climb, 34,500 ft/min. Service ceiling, 52,000 ft. Range, over 2,000 st miles.  
 Armament: One General Electric 20mm Vulcan multi-barrel gun and over 14,000 lb of external stores.

more

F-105 Thunderchief  
Area 27  
(RIT)

Special Information:

In storage at MASDC: F-105B - 1 (for Reclamation & Salvage)  
F-105D - 2 " " "  
F-105D - 4 (in RIT for RSF)

(6/30/76)

Distribution:

Still in service with ANG and AFRes.

Prime Depot: Sacramento ALC



## MASDC FACT SHEET

F-111A\*

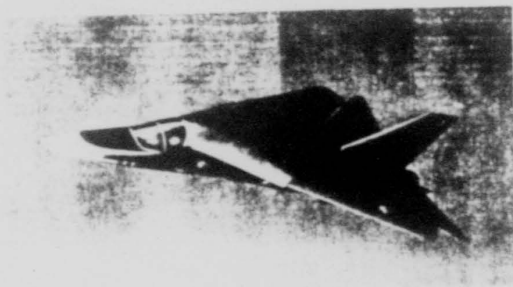
Swing-wing

General Dynamics

AF

Value

F-111A - \$8,278,000  
 F-111B - 12,104,000



The F-111 is a tactical strike aircraft with the primary mission of near all-weather, daylight operations in the conduct of conventional and nuclear warfare.

It has a variable sweep wing which can be positioned in flight at various angles between the full forward and aft positions. This feature enables it to operate from relatively short runways, fly at supersonic speeds at low altitudes and reach Mach 2.5 above 60,000 feet. The first F-111 flight occurred on 21 Dec 64. Delivery of operational aircraft started on 16 Oct 67 to TAC at Nellis AFB NV. More than 400 F-111s have been delivered to tactical units.

Some 141 F-111As were built and was superseded by the F-111E with modified air intakes which improved engine performance above Mac 2.2. Ninety-four of this model were built. Next came the F-111D with more advanced avionics and improvements in navigation and air-to-air weapon delivery. Ninety-six were built. The F-111F, of which 106 were built has uprated turbofans. It can carry in its weapons bay the Pave Tack system, which provides a day/night all-weather capability to acquire, track, and designate ground targets for laser, infrared, and electro-optically guided weapons.

Updating of F-111 EW capabilities are under way with the new ALO-131 ECM system and the ALO-117 internal ECM repeater system planned for the F-111F. In addition, the EF-111A, an ECM conversion of the F-111A, is under development by Grumman as a potential replacement for USAF's EB-66s. The EF-111A will also be capable of locating enemy radars and directing F-4G "Wild Weasel" fighters to attack them.

Notes: F-111B was Navy version; F-111C (24) sold to Australia.  
 (\*) See "Bomber" section for FB-111 description.

more

F-111A  
Swing-wing Fighter  
Area 27  
(RIT)

Technical Data

Contractor: General Dynamics Corp.  
Power plant: F-111A/E: two Pratt & Whitney TF30-P-3 turbofan engines; each 18,500 lb thrust with afterburning. F-111D: two TF30-P-100 turbofan engines, each approx 25,100 lb thrust with afterburning.  
Accommodation: Crew of two, side-by-side in escape module.  
Dimensions: Span spread 63 ft, fully swept 31 ft 11.4 in, length 73 ft 6 in, height 17 ft 1.4 in.  
Weights: (F-111A) - empty, 46,172 bl, gross 91,500 lb.  
Performance: (F-111A) - Max speed at S/L Mach 1.2, max speed at altitude Mach 2.2, service ceiling more than 51,000 ft, range with max internal fuel more than 3,165 miles.  
Armament: One 20mm M-61A1 multibarrel cannon or two 750 lb bombs in internal weapon bay; four swivelling and four fixed wing pylons carrying total external load of up to 25,000 lb of bombs, rockets, missiles, or fuel tanks.

Special information.

In storage at MASDC: F-111S - 11 (Reclamation & Salvage)  
6/30/76 #7148

F-111B - 1  
(in RIT)

Distribution: TAC authorized 263 F-111 acft.

Nellis AFB NV (F-111A)  
Mountain Home AFB ID (F-111F)  
Cannon AFB NM (F-111D)

Prime Depot: Sacramento ALC

MASDC FACT SHEET

H-1

Iroquois

Bell Helicopter Textron

AF/NA/AR

Value

AF TH/UH-1F/P - \$272,931  
 NA - HH-1K - 437,000  
 AR - UH-1B - 244,760



With Model 204 design, Bell won a June 1955 competition to select a new utility helicopter for the U S Army. Mission was front line evacuation of casualties, general utility and instrument flying training. Originally designated H-40, the first prototype flew on 22 Oct 56. First production aircraft were delivered on 30 June 59 and designated HU-1A. This was changed again to H-1 in 1962.

Since the initial date of procurement in 1961, the Army has purchased approximately 5,600 UH-1D/H helicopters. With use of the T53-L-13 engine, designation of UH-1D became the UH-1H. The UH-1C was produced for the Army between June 1965 and November 1967. The primary mission was fire support with medical evacuation and administrative troop life as secondary. Some 749 were delivered.

Used for missile site support duties by the Air Force, 146 UH-1Fs were built between 1963 and 1967 from the basic Bell Model 204 design. Some UH-1Fs were modified to HU-1Fs for classified psychological missions in Vietnam. Another, TH-1F, is used for instrument and hoist training. Order for 30 HH-1Hs, a larger 12 to 15 seat model was placed to replace the HH-43 Kaman Huskie for rescue duties. The UH-1N is a twin-engine version of the UH-1 which is capable of sustained cruising on one engine. The 79 ordered by USAF were delivered in 1970 for replacement of all USAF HH-43F Huskies.

A Marine corps requirement for an assault combat helicopter in 1962 resulted in a version of the Army's UH-1B with designation UH-1E. Production included 40 in 1964, 52 in 1965 and 27 in 1966 with deliveries starting in 1964.

more

H-1-Iroquois  
 Area 1  
 (RIT) 27

Technical Data

HU-1B

Type: Army utility helicopter  
 Accommodation: Two pilots, up to eight passengers.  
 Power plant: One 825 hp Lycoming T53-L-5 turboshaft.  
 Dimensions: Rotor diameter, 44 ft, fuselage length, 39 ft 7 1/2 in.  
                   Height, 14 ft 7 in. Disc area, 1,520 sq ft  
 Weights: Empty, 4,369 lb. Gross, 8,500 lb.  
 Performance: Max speed, 147 mph at s/l. Cruising, 126 mph. Initial  
                   climb, 2,660 ft/min. Service ceiling, 16,900 ft. Range  
                   260 miles.  
 Armament: Experimental installation of six Nord SS-11 missiles; four  
                   Emerson Electric M-60 7.62mm guns; General Electric turret-  
                   mounted grenade launcher.

UH-1F

Type: Missile support, training, psychological warfare missions.  
 Accommodation: One pilot and 10 passengers, or two crew and  
                   2,000 lbs of cargo.  
 Power plant: One General Electric T50-GE-3 turboshaft engine.  
 Dimensions: Rotor: 48 ft, length of fuselage, 39 ft 7 1/2 in.  
                   Height, 14 ft 8 in.  
 Weight: Gross 9,000 lb.  
 Performance: Max speed 138 mph, service ceiling at mission weight  
                   13,450 ft. Max range (mission loaded) 347 miles.

UH-1N

Power plant: Pratt & Whitney T400-CP-400 turbo "Twin-Pac," with  
                   two turboshaft engines coupled to a combining gearbox with a  
                   single output shaft; flat rated to 1,250 shp.  
 Accommodation: Pilot and 14 passengers or cargo; or external load  
                   of 3,383 lb.  
 Weight: Gross 10,500 lb.

Special Information.

In storage at MACDC: AF H-1 (FP) - 53  
                           NA H-1 (EGK) - 21  
                           AR H-1B - - 156 Total 230 (6/30/76)

Distribution: MAC - T/UH-1F/P - 40  
                           UH-1N - 45  
                           HH-1 - 11

Based at: Eglin AFB FL  
 (Partial list)

Prime Depot: Warner Robins ALC  
                   Pensacola NARF



MASDC FACT SHEET

AH-1G

Hueycobra

Bell Helicopter Co.

AR/NA

Value:  
\$451,000

The AH-1G, in replacing the UH-1 armed helicopter, provides increased range, endurance, and greater firepower, insuring swift reaction to the tactical situation. Its missions include search and target acquisition, reconnaissance by fire, multiple weapon fire support, and troop helicopter support. The Hueycobra was initiated by Bell Helicopter strictly as a company project in March 1965. First company flight tests were conducted in Sept 65. In March 1966, DoD authorized procurement of the AH-1G, the first helicopter designed specifically as a weapons platform. The first production Hueycobra was delivered in March 1967. The basic armament configuration calls for the TAT-102A automatic gun (7.62mm).

Technical Data

Type: Two-place armed helicopter.

Engines: One Lycoming T53-L-13 gas turbine of 1,400 shp.

Rotor: Single two-bladed model 540 "door hinge" main rotor, 27 in chord. Two-bladed tail rotor, 8 ft, 6 in diameter.

Dimensions: Rotor diam: 44 ft Length: 53 ft Height: 13 ft 6 in.

Width: 3 ft 6 in. Weight (gross) 9,500 lbd.

Performance: Cruise speed: 130 knots. Radius of action: 130 n.m. Rate of climb: 1,580 fpm. Payload: 3,052 lbs (fuel and ordnance).

Special Information

In storage at MASDC: AH-1G - 6 Navy long term storage  
(6/30/76)

Prime Depot: Pensacola NARF



MASDC FACT SHEET

CH-3/CH-53

Jolly Green Giant

Sikorsky Acft

AF/NA

Value:  
CH-3B/E - \$766,925

Important changes in design in this twin-engine amphibious transport helicopter, based on the US Navy's SH-3A, permit faster cargo handling and ease of maintenance, with built-in equipment for the removal and replacement of all major components in remote areas. Initial version was the CH-3C, of which 41 were built for USAF. Introduction of uprated engines led to the new designation CH-3E in Feb 66, applicable to both new production aircraft and the 41 re-engined CH-3Cs. A total of 83 new and uprated aircraft was produced of which 50 were adapted as HH-3Es.

One variant of the CH-3E for USAF Aerospace Rescue and Recovery Service was developed originally to permit penetration into North Vietnam on rescue missions. The HH-3E had additional equipment including self-sealing fuel tanks, armor, defensive armament, a rescue hoist, and retractable flight refueling probe. An unarmed version (known as HH-3F) is used by the US Coast Guard.

Another variant, the HH-53B or Super Jolly Green Giant, was ordered for USAF Aerospace Rescue and Recovery Service to supplement the HH-3E. A twin-turbine heavy-lift helicopter, it carries the same general equipment as the Jolly Green Giant, including the flight refueling probe and all-weather avionics and armament, but is faster and larger. Production units were delivered in June 1967.

The HH-53C is an improved version of the HH-53B, powered by two 3,435 shp T64, GE-7 turboshaft engines. First delivered in August 1968, it has a maximum speed of 196 mph and can transport 60 passengers of 18,500 lbs of freight and has an external cargo hook of 20,000 lb capacity. A total of 66 HH-53B/C models were built. A similar version, the CH-53C is used to provide battlefield mobility for Air Force mobile Tactical Air Control System.

more





MASDC FACT SHEET

TH-13

Sioux

Bell Acft Corp

AR/NA

Value:

OH-13G/H - \$48,369  
 TH-13 - 62,000  
 TH-13M - 43,000

More Bell H-13s have been bought by the U S military than any other helicopter type. In service since 1946, the H-13 is used for casualty evacuation, training, reconnaissance, observation and general utility duties, mainly by the U S Army, although the Navy had some as early as 1947 which had been delivered to the Air Force. Since December 1946, Army has bought a total of 2197 OH-13s of all models.\* The Navy bought 209.

President Eisenhower became the first President to fly in a helicopter when an Air Force Bell H-13J Sioux carried him from the White House lawn to a secret emergency capitol in the mountains two hours from Washington on 12 Jul 57 during a Civil Defense drill.

Technical Data

Mfr: Bell Aircraft Corp, Niagara Falls NY  
 Type: Utility helicopter.  
 Accommodation: Pilot and two passengers.  
 Power plant: One 200 hp Lycoming VO-435 piston engine. (H-13H)AR\*\*  
                   One 200 hp Franklin O-335-5B (TH-13M)NA  
 Dimensions: Rotor diameter, 35 ft 1 in. Fuselage length, 27 ft 4 in,  
                   Height 9 ft 6 in.  
 Weights: Empty, 1564 lbs. Gross, 2450 lbs.  
 Performance: Max speed, 100 mph at sea level. Cruising speed, 85  
                   mph, initial climb, 770 ft/min. Service ceiling, 13,200 ft,  
                   Range, 238 st miles.

(\*) Army Aviation Magazine 31 Aug 69.  
 (\*\*) Other models have larger engines.



H-13 - Sioux  
Area 7

Distribution:

Prime Depot: Warner-Robins ALC

MASDC FACT SHEET

H-34

Choctaw

Sikorsky Act Div.

AF/NA/AR

Value:

See Reverse



The first H-34A helicopters, which retained many features of the earlier H-19, was first delivered to the Army in April 1955. By 1958 it had become the principal Army transport helicopter and a total of 437 of all models were delivered through FY-65. Many Choctaws were used by the U S Army in Germany for patrol purposes.

Navy models were operated mainly for anti-submarine work but the lack of range and small useful load restricted its usefulness. First flight of the Navy prototype was on 8 Mar 54. For shipboard stowage, the main rotor blades could be folded aft and the entire rear fuselage and tail rotor folded forward. The Marine/helicopters were designated UH-34E and HH-34F and production and Navy totaled 384. Navy versions were named Seabat and Seahorse.

Technical Data

GH-34 AR

Mfr: Sikorsky Act Div, Stratford, Conn. 16-place cargo and light tactical transport helicopter.

Accommodation: Two pilots, 18 troops or 8 litters.

Power plant: One 1,525 hp Wright R-1820-84 piston radial, 1425 hp.

Dimensions: Rotor diameter, 56 ft. Length 46 ft 9 in. Height

15 ft 11 in. Disc area, 2,460

Weights: Empty, 7575, Gross, 11,000 lb.

Performance: Max speed, 122 mph. Cruising speed, 98 mph. Initial climb, 1,100 ft/min. Service ceiling 9,500 ft. Range 182 Mi.

more

H-34-Choctaw  
Area 7-12-14-22

Special Information:

In storage at MASDC: AF  
Trans to DPDO - 79  
Reclamation - 6 6/30/76  
RIT - 3

NA  
VH-34C - 1 long term storage  
Various - 71 Navy Recl Project

AR  
CH-34A - 1 Army Recl Proj  
CH-34C -146 " " "

Value: Air Force: CH-34C \$298,000  
SH/UH-34D/G/J \$425,000  
Navy: SH-34J \$380,000  
CH-34C 380,000  
UH/VH-34C/D - 298,000  
Army: CH-34 A/B/C - \$426,000

Distribution

Prime Depot: Warner-Robins ALC



MASDC FACT SHEET

H-43

Huskie

Kaman Acft Corp.

AF

Value:  
HH-43F-\$286,000

The first H-43As were delivered from Nov 58 to mid-59 to USAF, the Navy had received 24 also in Nov 58 (UH-43C and OH-43D). It is the first helicopter bought especially for airborne fire-fighting and crash-rescue operations. The H-43B could start up and be airborne within 30 seconds of an alert, with another 30 seconds needed to attach a fire suppression kit (foam and water bottle and hose) to the cargo sling beneath the fuselage. The designations became HH-43A and HH-43B in 1962 to signify the rescue role.

Technical Data

Mfr: The Kaman Aircraft Corp, Bloomfield, CT  
Type: Local crash-rescue helicopter.  
Accommodation: Pilot and observer and fire-fighting crew or up to 10 passengers or four stretchers with attendant.  
Power plant: One 860 chp Lycoming T-53-L-1A turboshaft.  
Dimensions: Span, 51 ft 6 in, Length, 25 ft, Height, 15 ft 6 1/2 in.  
Weights: Empty, 4469 lb. Gross 8,800 lb with slug load.  
Performance: Max speed, 120 mph. Cruising speed, 97 mph. Initial climb, 2,000 ft/min. Service ceiling, 25,700 ft Range, 235 stat miles. Endurance, 1.2 hr.

Special Information:

In storage at MASDC: HH-43F - 68 (Recd & Salv) Not DSO

Prime Depot: Warner-Robins ALC

Area 22



MASDC FACT SHEET

H-46

Sea Knight

The Boeing Co.  
Vertol Div

NA/AR

Value:

CH-46A - \$1,083,000  
UH-46A - 834,000  
CH/NCH/UCH-46D  
- 1,083,000

Requirement for a new assault helicopter brought a winning design from the Vertol Aelit Corp on 20 Feb 1961. First flight of the CH-46A was on 16 Oct 62 and additional contracts brought the number of aircraft to 462 by mid-1965.

Since the initial date of procurement in 1960, the Army has added 198 Chinooks to its inventory. In 1963 the CH-47 was classified as the official Army medium transport helicopter. Armed and armored versions are now operable. The Chinook can transport a full rifle platoon of 44 combat-equipped troops.

Technical Data (CH-46D)

Mfr: The Boeing Company, Vertol Div, Morton PA

Type: Combat assault helicopter

Accommodation: Crew of three and up to 44 assault troops.

Power plant: Two 1,400 shp General Electric T58-GE-10 shaft turbines.

Dimensions: Rotor diameter, each 50 ft. Length (less rotors),

33 ft 4 in. Height, 16 ft 8 in. disc area, total, 3,925 sq ft.

Weights: Empty, 13,065 lb; gross, 23,000 lb.

Performance: Max speed, 165 mph at sea level, cruising speed, 155

mph; initial climb, 1,890 ft/min; service ceiling, 13,000 ft; range, 230 st miles.

CH-47A

Engines: Two Lycoming T-55-1-L-7 turbines of 2,650 shp each.

Dimensions: Rotor, 59 ft 1 in. Fuselage, 51 ft. Overall length

83 ft. Height, 18 ft 6 in. Empty weight, 17,913 lb. Gross

weight, 33,000 lb. Overload gross wt, 38,550 lb.

Performance: Max speed (SL) 178 mph. Cruise (SL) 164 mph. Service

ceiling, OGE - 7,750 ft, Max range, 115 st mi. Rate/climb 1750 fpm.

more

H-46-Chinook  
Sea Knight  
Area 7-22

Special Information

In storage at MASDC: CH-46A - 3  
UH-46A - 7  
CH-46D - 12  
NCH-46D - 1  
UH-46D - 1  

---

24 (in long term sto)

CH-46A - 2  
UH-46A - 1  

---

3 (In Navy RIT)

Distribution:

Prime Depot: Cherry Pt NARF



MASDC FACT SHEET

QH-50D

Drone

Gyrodyne Co of Am.

Army

Value:  
\$153,000

Very little background information is available concerning the Gyrodyne-built QH-50 which was primarily a Navy ASW torpedo-carrying drone. The "D" models began arriving in MASDC for storage in the latter part of 1973 (approx) and later were transferred from Navy ownership to the Army.

Technical Data

QH-50C model

Engine: One Boeing B08A turboshaft, 270 hp.  
Aircraft: Empty wt 1,154 lbs, gross wt, 2,285 lbs.  
Max speed, 92 mph, cruise speed 58 mph, normal range 82 mi, rate of climb (S/L) 1,880, hover ceiling 16,900 ft (IGE). Service ceiling, 16,400; normal fuel capacity, 35 gals.  
Overall length: 12 ft 11 in; width, 5 ft 3 in; Height, 9' 8 1/2 in  
Rotor: Main rotor, 20 ft dia; number of blades, 2, disk area 314.2 sq ft. Features coaxial laminated wood rotors.

Special Information

In storage at MASDC: QH-50D - 110 (Army Work Program)  
(7148 on 6/30/76)  
WAD 6345 AWP for shipment of 110 QH-50D, four on each truck to overhaul center.

Area 21



MASDC FACT SHEET

TH-55

Osage

Hughes Tool Co. Acft Div

Army

Value:

TH-55A - \$35,590

The TH-55A (formerly designated the HO-2) was purchased as an off-the shelf item after tests and evaluation by the Army. Initial date of procurement was Nov 64. By 30 Jun 65, 257 TH-55As had been brought into the Army inventory.

This model was in primary use for training under conditions to which visual flight rules (VFR) apply. It has a single (articulated) rotary system with dual flight controls. 1 crew, 1 student. They were received at MASDC during 1971 from Ft Wolters, an Army training post for helicopter pilots.

Technical Data

Mfr: Two-place primary trainer helicopter, Hughes Tool Company, Aircraft Div, Culver City CA  
Engine: One Lycoming H10-360-B1A engine of 180 hp.  
Rotor System: Single three-bladed main rotor and four-bladed metal anti-torque rotor, 3 ft 4 in diameter.  
Specifications: 25 ft 3 1/2 in. Overall length, 22 ft 4 in. Height, 8 ft 3 in. Empty weight, 1,008 lb. Gross wt, 1,600 lb.  
Performance: Max speed (SL) 86 mph. Cruise speed, 5,000 ft, 81 mph. Service ceiling, 11,500 ft. Hover ceiling, (OCE) 4,000 ft (IGE), 6,400 ft. Max range, 187 st mi. Endurance, 2.5 hours. Rate of climb, 1150 fpm.

Special information:

In storage at MASDC: TH-55A - 50 (awaiting disposition)  
TH-55A - 1 (in long term storage)  
TH-55A - 404 (in long term storage)

455

Area 1



MASDC FACT SHEET

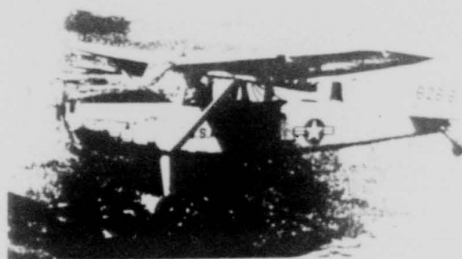
O-1A

BIRD DOG

Cessna Acft Co.

(AF)

\$18,026 (A)



A competition to select a new two-seat liaison and observation monoplane was won by Cessna in 1950 with its Model 305A, a development of the commercial Model 170. Under the designation L-19A, initial contract was for 14 aircraft by the Army. Deliveries started in Dec 1950. By October 1954 2,480 Bird Dogs were delivered with 60 being diverted to the Marines. To train Army pilots, one version of the Bird Dog had full dual controls, with 310 of these produced by Jan 59. Another 306 were ordered incorporating new equipment and an O-470-11 engine in place of the -1 of the earlier models.

The Bird Dog was the primary observation aircraft in the Air Force inventory and was used by Forward Air Controllers in SEA prior to the arrival of O-2 and OV-10 aircraft. Normally the aircraft is equipped with eight white phosphorus smoke rockets used for target-marking purposes, and carries a crew of one. The aircraft has an unimproved field landing and takeoff capability and its high-wing configuration gives it excellent visibility.

Technical Data

Mfr: Cessna Aircraft Co, Wichita, Kansas  
 Type: Army Liaison and observation monoplane.  
 Accommodation: Pilot and observer/passenger in tandem.  
 Power Plant: One 211 hp Continental C-470-11 piston flat-four.  
 Dimensions: Span, 36 ft 9 in. Length 25 ft 9 1/2 in. Height: 7 ft 3 1/2 in. Wing area, 174 sq ft.  
 Weights: Empty, 1,614; Gross, 2,400 lb.  
 Performance: Max speed, 151 mph at sea level. Cruising speed, 104 mph at 5,000 ft. Initial climb, 1,150 ft/min. Service ceiling, 18,500 ft. Range, 530 st miles.  
 Armament: None.

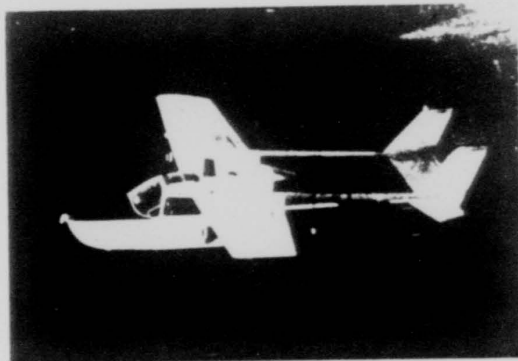
more

O-1A Bird Dog

Special Information:

Stored at MASDC: 1 O-1A (AF) 7/1/76

Prime Depot: AF -



MASDC FACT SHEET

O-2A (N/A)

Cessna Aircraft Co.

Super Skymaster

AF

Value:  
(A) \$91,631

The O-2 is a high-wing aircraft with retractable tricycle landing gear. It is a military version of the Cessna 337 Super Skymaster modified for use in psychological operations and forward air controller and observation functions.

It has unique center-line mounted twin engines, one forward on the nose and one pusher-prop in back of the cabin between the tail booms. This provides excellent handling characteristics under varied power conditions. The O-2 has dual, side-by-side pilot controls and provisions for carrying up to four passengers or equivalent cargo in the cabin.

The O-2A was used in Southeast Asia as a FAC (forward air controller) aircraft. It is equipped with four wing pylons for carrying rockets, flares, and other light conventional ordnance.

The O-2B model is a modified version used for psychological operations. It is equipped with loudspeaker and amplifiers, tape recorders, and a leaflet dispenser.

Technical Data

Power plant: Two 6-cylinder, fuel-injection, Continental engines.  
Horsepower: 210 hp, each.  
Dimensions: Span 38'; Length 29'9"; Height 6'4".  
Speed: Up to 200 mph.  
Ceiling: 18,000 feet.  
Range: Up to 1,300 miles  
Armament: Four wing-pylons for rockets, flares and other light conventional ordnance including 7.62mm minigun.  
Crew: 2. Maximum gross take-off weight: 4,850 lbs.

more

O-2A Cessna

Special Information:

In storage at MASDC - 2 O-2A (AF) 7/1/76

Aircraft Distribution:

The O-2A is operational at the following USAF bases:

Tactical Air Command - 61\*  
Eglin AFB FL  
Shaw AFB SC  
Bergstrom AFB TX

Prime Depot: San Antonio ALC



MASDC FACT SHEET

P-2

Neptune

Lockheed Acft Co.

Navy

Value:

DP-2E -	\$1,147,000
SP-2E -	1,224,000
2/NP-2H -	1,527,000
AP-2H -	1,092,000
SP-2H -	1,900,000

Initial design work on the Neptune started in 1941 but WWII production problems held back work until 1944 when it became urgent to produce a land-based patrol bomber for the Navy. The first XP2V-1 flew 17 May 45. During Sep 1946 a specially modified P2V-1 named "Truculent Turtle," set a world distance record of 11,236 miles. First operational unit received P2V-1s in March 1947. The aircraft remained in production until April 1962 when Navy contracts had totaled 838 aircraft. It was the U S Navy mainstay of land-based patrol squadrons for 15 years, from 1947 to 1962.

Technical Data

SP-2H

Power plant: 2x3, 500 hp, R-3350-32W, 2x3, 400 hp, J34-WE-34.  
 Dimensions: Span, 103 ft 10 in. Length, 91 ft 4 in. Height, 29 ft 4 in. Wing area, 1,000 sq ft.  
 Weights: Empty, 47,456 lb; Gross, 75,500 lb.  
 Performance: Max speed, 345 mph at 10,000 ft; cruising, 207 at 8,500 ft; Service ceiling, 22,000 ft; Range, 2,200 miles.  
 Armament: None of this model. Reconnaissance role only.

Note: During Korean war, production of the P-2V-5F (P-2E) was expanded to a total of 424 units. Several modifications or additions were made to this model to suit Korea action needs.

more

P-2V - Neptune  
Area 8-9-12-22  
(RIT) 27

Special Information:

In storage at MASDC:	DP-2E - 2		
	SP-2E - 54		
6/30/76	SP-2H - 15	71	Navy Recl Proj
From 7148 Rpt			
	SP-2E - 4		
	P-2H - 3		
	NP-2H - 1	8	Inv for bids
	SP-2H - 3	3	Navy Work Project
	SP-2H - 1	1	RIT (Recl Proj)
	DP-2E - 1		
	SP-2H - 104	105	In Storage

Distribution

Prime Depot: Norfolk NARF



MASDC FACT SHEET

S-2

Tracker

Grumman Acft Co.

Navy

Value:

See Reverse

The coming of missile-armed submarines had far-reaching effects upon the requirements and number of aircraft used for anti-submarine duties. Work on a program to produce a new type of aircraft began in mid-1950 and Navy selected the original C-89 which met their requirements. First flight was on 4 Dec 52 and in Feb 54 production models of S-2A went into service. Production of this model reached 650, including more than 100 sold to foreign nations under MAP. The S-2B model was equipped (as were later modifications) with the AOA-3 Jezebel passive long-range acoustic search equipment and its associated Julie explosive echo-sounding equipment.

With the advent of the jet version, the S-3 Viking, built by Lockheed, the S-2 has been on a phase-out course. First S-3s were delivered near the end of 1974. However, many special uses have been found for the S-2 propeller-driven aircraft in the civilian sector--for example as a carrier of fire retardant to control forest fires.

Technical Data

S-2E

Mfr: Grumman Acft Engineering Corp, Bethpage LI NY

Type: Anti-submarine search and strike

Accommodation: Two pilots, two radar operators.

Power plant: Two 1,525 hp Wright R-1820-82WAs

Dimensions: Span, 72 ft 7 in; Length, 43 ft 6 in; Height, 16 ft 7 1/2 in; Wing area, 499 sq ft.

Weights: Empty, 19,033 lb; gross, 26,867 lb.

Performance: Max speed 253 mph at 5,000 ft; cruising speed, 149 mph at 1,500 ft; initial climb, 1,800 ft/min; service ceiling, 22,000 ft; range, 1,150 st miles.

Armament: Max weapon load, 4,810 lb. Fuselage weapons, bay for one depth bomb or two torpedoes. Six underwing pylons for depth bombs, torpedoes or rockets. Up to 32 sono-buoys in nacelles.

S-2 - Tracker  
Area 2-6  
(RIT)-27

Special Information

TS-2A	-	\$ 623,000
S/US-2A	-	603,000
BS-2B	-	628,000
S/ES-2D	-	1,393,000
US-2C/D	-	687,000
S-2E	-	964,000
S/YS-2F/G	-	685,000

In storage at MASDC: 43 in NALO (programed for Recl)  
178 in long term storage NAST1000  
55 in NRP (Navy Recl Program)  
3 in NWP (Navy Work Program)

10 in RIT

Distribution

Prime Depot: Jacksonville NARF





MASDC FACT SHEET

T-1A

Lockheed Acft

Navy

Held for Museums

Only 2 remain

Value:

(A) \$613,000

The T-1A was so designated in 1962 and came from the same design as the T-11--the P-80 Shooting Star. The first aerial combat between jet fighters occurred in Korea on 8 Nov 1950 when Lt. Russell J Brown, piloting an F-80, downed a MIG-15.

Navy began developing F-80s for jet trainers during 1948 when 59 some aircraft were obtained from the Air Force. A year later procurement began by the Navy of the two-seat trainer produced for the Air Force as the T-11A. Total Navy/Marine procurement of this series numbered about 700 aircraft.

Technical Data

Manufacturer: Lockheed Aircraft Corp, Burbank, CA

Type: Deck-landing trainer.

Accommodation: Pilot and instructor in tandem.

Power plant: One 6,100 lb s.t. Allison J33-A-24 or -24A turbojet.

Dimensions: Span, 42 ft 10 in; Length, 38 ft 6 1/2 in; Height, 13 ft 4 in; wing area, 240 sq ft.

Weights: Empty, 11,965 lb; gross, 15,800 lb.

Performance: Max speed, 580 mph at 35,000 ft; initial climb, 6,330 ft/min; service ceiling 40,000 ft; range, 970 st miles

Out of Operational Inventory

Area 15

0850

MASDC FACT SHEET

T-2B Buckeye

North American  
Rockwell

Navy

Value:

(A) \$604,000

(B) 753,000



Requirements for an all-purpose jet trainer was drawn up by the Navy in 1956--one that could be used by students from initial training right up to carrier qualification. North American won with a design which used some components and equipment from other aircraft. Production got under way after first flight on 7 Feb 58. Some 217 of the A model were built. However, a new version, the T-2B, first flew on 21 May 65. During 1968 three T-2Cs (with GE J85 engines) flew at Columbus.

The Buckeye is the second step in the pilot's progression from the prop-driven T-34 to the more sophisticated jets which follow in the training program. The aircraft is well suited to the role it plays. Its low stall speed and high maximum speed make it an ideal training plane for instruction in fighter tactics and weapons delivery as well as carrier landing techniques.

Technical Data

Manufacturer: North American Aviation, Inc., Columbus OH  
 Type: All-purpose jet trainer  
 Accommodation: Pilot and instructor in tandem.  
 Dimensions: Length, 38 ft 4 in; Height, 14 ft, 10 in; wing span, 38 ft 0 in.  
 Power plant: (T-2B) two J60-P-6A  
 Thrust: 1,000 lbs each engine.  
 Max Speed: 472 kts; Stall speed, 85 kts; Ceiling, 42,600 ft.  
 Max range: 966 nm.  
 Armament: Provision for gun pods, bombs or rockets under wings.

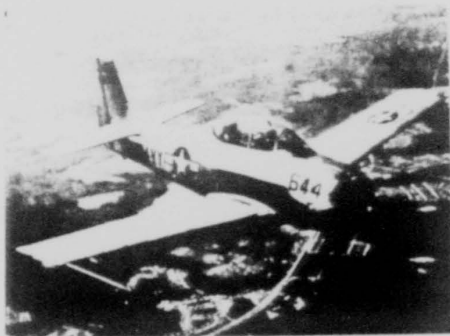
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T-2B Buckeye  
Area 7

Special Information:

In storage at MASDC - T-2B 40 NAST1000  
T-2B 15 NAST1999 Total 55 7/1/76

Prim Depot: Pensacola NARF



MASDC FACT SHEET

T-28

Trojan

North American  
Aviation, Inc.  
Inglewood CA

AF/NA

Value:  
(B/C) \$142,000

The T-28 was the result of a design competition held by USAF in 1948 for a trainer to replace the T-6 Texan. North American won and consequently the first XT-28 flew on 26 Sep 49. Some 1194 were built and delivered to the Air Training Command between 1950 and 1953.

Navy introduced the Trojan to new pilots in 1952 following decision to standardize training techniques and equipment between AF and Navy. The "B" variant was developed and 489 were delivered to the Navy. Another 299 were delivered as T-28Cs which provided only a change in landing gear.

When the USAF Special Operations Force was activated in 1962, the T-28 was chosen for close air support operations because of its maneuverability. It was converted to its special operations role by modifying the engine and adding a three-bladed propeller, self-sealing fuel tanks, armor plate, and dual communications equipment. With changes, the T-28 could carry ordnance, machine guns, auxiliary fuel tanks or camera pods.

Technical Data

Mfr: North American Aviation Inc, Inglewood CA.  
Accommodation: Pupil and instructor in tandem.  
Power Plant: One 800 hp Wright R-1300-1 piston radial. (AF)  
One 1425 hp R-1820-86 engine (Navy)  
Dimensions: Span, 40 ft 1 in. Length, 32 ft 0 in. Height, 12 ft 8 in. Wing area, 268 sq ft.  
Weights: Empty, 5,111 lb. Gross, 6,365 lb.  
Performance: Max speed 283 mph at 5900 ft. Cruising speed, 190 mph, initial climb, 1870 ft/min. Service ceiling, 24,000 ft. Range, 1,000 st miles.

more

T-28 Trojan  
Area 7  
(RIT) 27

Special Information:

In storage at MASDC:	(6/1/76)	Sto	RIT
T-28B (Navy)		9	-
T-28C (Navy)		30	2
T-28A (AF)		-	4

Prime Depot: AF - Sacramento ALC  
Navy - Pensacola NARF

MASDC FACT SHEET

T-29

Flying ClassroomConvair/  
General Dynamics

AF/NA

## Value:

T-29 \$782,000 (Navy)

T-29A/B \$4,643,272 (AF)

T-29C/D/E \$1,066,222 (AF)



The T-29 was used by the Air Training Command for about two decades to train bombardiers, navigators, and radar operators. Each student had access to a map table, LORAN scope, altimeter, and radio compass panel. This military version of the Convair 240 was the unpressurized T-29A, first flown in Sep 49. Of this model 48 were built before modifications produced the T-29B which was pressurized, had increased fuel capacity, three astrodomes and one periscopic sextant on top of the fuselage instead of four astrodomes of the earlier version. First T-29B flew in Jul 52 and 105 were built. A version with more powerful engines followed in Jul 53, of which 119 were delivered under designation of T-29C. The T-29D, similar to T-29C but without astrodomes, was first flown in Aug 53 and 93 of this model were built.

Technical Data

Contractor: Convair Div of General Dynamics Corp.

Power Plant: T-29A/B: Two Pratt &amp; Whitney R-2800-97W piston engines; each 2,400 hp. T-29C/D, two R-2800-99W piston engines; each 2,500 hp.

Accommodation: Crew of three; 14 students and two instructors in T-29A/B/C; only two students in T-29D.

Dimensions: Span 91 ft 9 in, length 74 ft 8 in, height 26 ft 11 in.

Weight: T-29A gross 40,500 lb, T-29B/D gross 43,575 lb.

Performance: T-29D: Max speed 299 mph, service ceiling 24,000 ft; range 1,500 miles.

more

T-29  
 Flying Classroom  
 Area 7-8-10-22-23

Special information

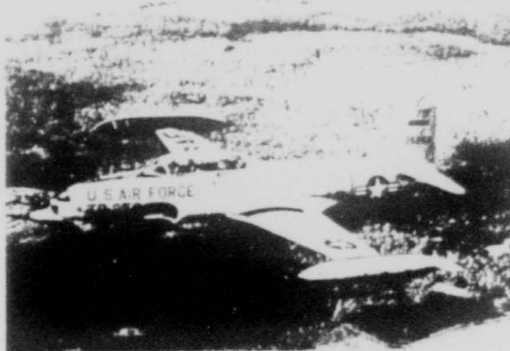
In storage at MASDC:

VT-29A - (STW) - 2	
T-29B - (STW) - 2	
VT-29B - (STW) - 20	
T-29C - (STW) - 8	
VT-29C - (STW) - 3	
VT-29D - (STW) - 10	45 (5/28/76)

T-29A - (RST) - 5	
CT-29A - (RST) - 2	
NT-29A - (RST) - 1	
VT-29A - (RST) - 23	
T-29B - (RST) - 5	
VT-29B - (RST) - 48	
NVT-29B - (RST) - 1	
T-29C - (LOG) - 1	
T-29C - (RST) - 60	
ET-29C - (RST) - 1	
VT-29C - (RST) - 26	
T-29D - (RST) - 9	
ET-29D - (RST) - 12	
VT-29D - (RST) - 54	
VT-29E - (RST) - 1	249 (5/28/76)

Note: STW indicates aircraft in storage but with low possibility of withdrawal.  
 RST indicates reclamation and salvage.  
 LOG to be reclaimed after GSA screening.

Prime Depot: AF - San Antonio ALC  
 Navy - Jacksonville NARF



MASDC FACT SHEET

T-33

Shooting Star

Lockheed Acft Corp

AF/NA

Value:

T-33A - \$148,000

T/NT-33A/B- 240,000

The P-80/T-33 Shooting Star was developed during the latter months of World War II and was one of the first types of aircraft used by USAF in Korea. Development work started in June 1943 and the first prototype XP-80 was ready for test 139 days later. Deliveries began in Dec 45 to USAAF. Original contracts involved North American as well as Lockheed but more than 3,000 of the 5,000 aircraft on order were cancelled after VJ Day. In 1947 Lockheed lengthened the fuselage to provide for a second cockpit and deleted armament as the TF-80C. The designation was changed to T-33A on 5 May 49. Production continued until 1 Aug 59. At that time Lockheed had built 5,691 examples. Those which served as drone directors were designated DT-33A.

Technical Data

T-33A

Mfr: Lockheed Aircraft Corp, Burbank CA

Type: Advanced trainer; RT-33 reconnaissance.

Accommodation: Pilot in enclosed cockpit. TF-33, pilot and instructor in tandem.

Power plant: 4,600 lb s.t. J33-A-35.

Dimensions: Span 38 ft 10 1/2 in. Length, 37 ft 9 in. Height 11 ft 4 in. Wing area: 238 sq ft.

Weights: Empty 8,084, gross 11,965 lb.

Performance: Max speed 543 mph at 25,000 ft. Climb 6.5 min to 25,000 ft. Service ceiling 47,500 ft. Range 3.12 hrs.

Armament: 20 x .50-in.

The Navy version (T2V-1) used a 6,100 lb s.t. Allison J33-A-24 or 24A turbojet engine. Changes in dimensions brought span to 42 ft 10 in and length to 38 ft 6 1/2 in. Weight (gross) increased to 15,000 lb. Maximum speed to 580 mph and range 970 mi.

more



T-33-Shooting Star  
Area 1-15-20  
(RIT) 27

Special Information

In storage at MASDC: AF T-33A - 40 LOC (to Recl)  
T-33A - 65 RST (Recl/Salv)  
T-33A - 12 STT (Map storage)  
T-33A - 2 STW (Storage)  
T-33A - 1 STX (For disposal)  
AT-33A - 34 RST (Recl/Salv)

164 T-33A - 10 in RIT

NA T-33A -100 NAL02000 (Recl)  
T-33B - 1 NAL02000 (Recl)  
T-33B - 9 NAL04000 (Disposal)

T-33A - 50 NRP (Recl proj)  
T-33B - 30 NRP (Recl proj)  
NT-33B - 1 NRP (Recl proj)

192 T-33B - 1 NWP (Withdrawal proj)

Distribution:

Prime Depot: T-33 - Sacramento ALC  
TF-33 - Oklahoma City ALC  
T-33B- Pensacola NARF

MASDC FACT SHEET

T-34B - Mentor

Beech Aircraft Corp

NA

Value:  
\$32,000



The first YT-34 flew in May 1950 as evaluation procedures by USAF sought to determine the winner of a competition between several companies. Beech Model 45 (prototype) won and a year later (1954) the U S Navy adopted the Mentor for primary training, designating it the T-34B. Evaluation by U S Army in 1951 was made to determine if the Mentor would be suitable for light ground support duties. Total number delivered to the Navy the end of 1957 was 423 units.

Technical Data

Mfr: Beech Aircraft Corp, Wichita KS.  
 Type: Primary trainer  
 Accommodation: Pupil and instructor in tandem  
 Power plant: (T-34B) One 225 hp Continental O-470-4.  
 Dimensions: Span 32 ft 10 in, Length 25 ft 11 in, Height, 9 ft 7 in. Wing area 177.6 sq ft.  
 Weights: Empty 2,055 lb, gross 3,000 lb.  
 Performance: Max speed, 189 mph. Cruising 173 mph at 10,000 ft  
 Service ceiling, 20,000 ft Range 975 miles.

Special Information

In storage at MASDC: T-34B - 4 NAL02000 (future recl)  
 T-34B - 29 NAST1000 (long-term stor)  
 T-34B - 1 in RIT.

Prime Depot: Pensacola NARP

Area 1  
(RIT) 27

At NAS Saufley Field a prospective successor to the T-34B, the T-34 Charlie, has been tested by flight instructors to determine its suitability for primary training. The newest *Mentor* develops 700 horsepower (downgraded to 400 hp for primary training), has a ceiling of 30,000 feet and a cruise speed of 275 mph. Bravo develops 225 hp, has a ceiling of 10,000 feet and a cruise speed of 150 mph. Charlie's features include air conditioning, new instrumentation, and communications and navigation equipment.

MASDC FACT SHEET



T-38A

Talon

Northrop Corp

AF

Value:  
\$756,000

The first supersonic trainer for USAF, prototype (58-1191) flew on 10 Apr 59 by Lew Nelson at Edwards AFB CA. The second (58-1192) flew on 12 Jun 59. Production T-38As had 3,850 lb s.t. J85-GE-5 engines with afterburners.

The Talon was developed from a private-venture aircraft by Northrop--the N-156. The idea was to build a lightweight and inexpensive fighter of high performance. The design incorporates two small, efficient turbojets with afterburners and includes advanced aerodynamic principles and new structural techniques. First order was in 1959 for 13 T-38As the first (59-1594) flew in May 1960. Another 50 were ordered in FY-60 and it was announced that eventual requirement would be for 744. More than 1100 were finally delivered to USAF.

Concurrently with development of the T-38A, Northrop also developed the single and double seat N-156F (F-5A and F-5B Freedom Fighter).

Technical Data

MA: Northrop Corp, Norair Div, Hawthorne CA.  
 Type: Supersonic basic flying trainer.  
 Accommodation: Pupil and instructor in tandem.  
 Power Plant: Two 3,850 lb s.t. (with afterburners) General Electric J85-GE-5 turbojets.  
 Dimensions: Span, 25 ft 3 in, length, 44 ft 2 in, Height, 12 ft 10 in, Wing area, 170 sq ft.  
 Weights: Empty, 7,164 lb, Gross, 11,550 lb.  
 Performance: Max speed 820 mph at 36,089 ft. Combat speed 767 mph at 43,400 ft. Initial climb, 33,600 ft/min. Service ceiling, 42,400 ft. Range, 860 st mi (ferry range, 1135 mi).  
 Armament: None.

more

T-38A Talon

Special Information:

In storage at MASDC - 20 T-38A STV5T071\* (6/1/76)

(\*) High probability of withdrawal

Distribution of Aircraft\*\*

Air Training Command had a total of 843 T-38A (May 1976).  
Tactical Air Command had a total of 58 T-38As (May 1967).

This aircraft is in operational mode at the following USAF bases:

Nellis AFB NV  
Holloman AFB NM  
Luke AFB AZ

Prime Depot: AF - San Antonio ALC

(\*\*) From May 76 issue of Air Force Magazine.

MASDC FACT SHEET

T-39

Sabreliner

North American Av

AF/NA

Value:  
\$960,216



It was a requirement that development of the Sabreliner be carried out at company expense for a prototype and that this would be no guarantee of a production order. A prototype was completed in May 1958 and evaluation by USAF finished by Dec 58. First production T-39A flew in Jul 60 and delivered in October. The high-performance, twin engine jet was designed as a passenger, cargo carrier and trainer. The Sabreliner features 20-degree swept wings, aluminum alloy construction, tricycle landing gear, nose gear power steering, speed brakes and aerodynamically operated wing slats. Its two engines are mounted externally on the fuselage, aft of the wing. It can be used as a staff transport and for high speed communications in addition to its primary role of a jet proficiency trainer, allowing senior officers to remain proficient as pilots. Six Sabreliners are T-39Bs, specially equipped with the NASARR all-weather search and range radar used in the Republic F-105. The first of these was delivered in Feb 61 and went into service with the 4524th Combat Crew Tng Sq at Nellis AFB NV.

A version of the T-39 was selected by Navy in 1962 as a trainer for maritime radar operators. Designated T-39D, they carried Magnavox radar systems and a total of 42 were built.

Technical Data

Power plant: Two Pratt & Whitney J60-P-3A (turbojet).  
 Thrust: 3,000 lb each. Speed: 500 mph.  
 Dimensions: Span 44'5", length 44', height 16'.  
 Weights: Empty, 9,300 lb. Gross, 17,760 lb.  
 Performance: Max speed, 595 mph at 36,000 ft. Cruising speed, 452 mph at 40,000 ft. Initial climb, 5,550 ft/min. Design range 1,725 mi.  
 Crew: Two - pilot and co-pilot.  
 Load: Normally four/six passengers.  
 Features: Pressurization/air conditioning system.

more

T-39 - Sabreliner  
Area 20

Special Information:

In storage at MASDC: T-39A - 1 (STV) 30 Jun 76

Distribution:

89th MIL Airlift Wg.  
Andrews AFB Md - 105 T-39s

Also based at:

Kadena AB, Okinawa  
Yakota AB, Japan  
Clark AB, PI

Prime Depot: AF - Sacramento ALC      Engine, San Antonio ALC  
Navy - Pensacola NARF





MASDC FACT SHEET

U-10

Super Courier

Helio Acft Corp

AF/AR

Value:

U-10 A/B-\$55,192  
 U-10D - 72,727  
 Engine - 6,475



Evaluation of three Model H-395 Couriers by USAF in 1958 for use in supplying isolated missile sites. Originally designated L-28A, they later became U-10A. In 1962 a quantity was purchased for special military duties.

Army. Originally designated L-24, the Helio Courier was an off-the-shelf purchase in 1963 for operational testing and evaluation. Twenty U-10s have been procured through FY-65 for use by U S Army Special Forces Groups.

Technical Data

U-10A

Engine: 295 hp Lycoming GO-480-G1D6.

Dimensions: Span 39 ft, Length 30 ft 9 in, Wing area 231 sq ft.

Weight: STOL gross weight 3,000 lb

Performance: Cruising speed 160 mph, range 670 miles

U-10 (Army model)

Six-place STOL utility aircraft. Helio Acft Corp, Bedford, MA

Engine: One Lycoming GO-480-G1D6, developing 295 hp.

Propellers:artzell 3-bladed constant-speed, 96 in diameter

Dimensions: Span: 39 ft, length 31 ft. Height, 8 ft 10 in

Weight: Empty, 2,037 lb. Gross 3,600 lb.

Performance: Max speed (SL), 170 mph. Cruise (SL) 150 mph,

Service ceiling, 16,500 ft. Max range, 1,100 st miles.

Endurance, 14 hrs. Rate of climb, 1,125 fpm.

Note: U-10B similar to U-10 A but modified by extra fuel tanks, change in wing design, with paradrop door on left side. U-10 D similar except for modified fuel system, wing/fuselage changes, provision for aerial camera and in-flight public address system.

more

U-10 Helio Courier  
Area 7

Special Information

In storage at MASDC: U-10D - 1 (LOG) to Reel after screening  
U-10D - 15 Storage  
U-10D - 1 RITWRDM (7148, 6/30/76)

Distribution

Prime Depot: Warner-Robins ALC

0807

MASDC FACT SHEET

HU-16

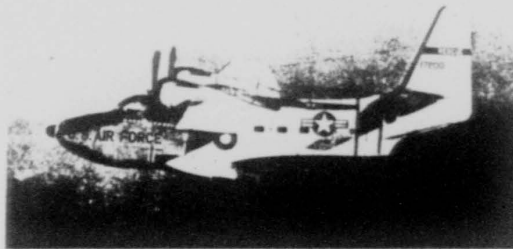
Albatross

Grumman A-11 Corp

AF/NA/CG

Value:

HU-16B - \$744,179  
 HU-16C - 530,000  
 TU-16C - 594,000  
 HU-16D - 610,000  
 HU-16E - 61,000E\*



Work was started in 1944 on a new general purpose amphibian for the Navy and Grumman, benefitting from more than 10 years in experience with Navy amphibians, produced a prototype acceptable to Air Force and Navy, as well as the Coast Guard. It first flew 24 Oct 47. The HU-16A was a conventional "Boat-layout" with accommodations for up to 12 stretchers. Of this model, 305 were delivered to USAF. One model featured skis under the hull and on the wing-tip floats, allowing the SA-16A to operate from land, water, snow or ice without modification.

An improved version was developed during 1955 to provide greater range, higher speed and better performance. Changes included an increase in wing span of 16 ft 6 in, with cambered leading edge in place of slots, larger ailerons and tail surfaces, and improved de-icing boots. The Navy modified to the new standard in 1957 with several changes. This model was designated HU-16B. The Coast Guard had 14 converted and received 37 more aircraft from USAF (HU-16E).

Technical Data

HU-16B

Mfg: Grumman Aircraft Engineering Corp, Bethpage LI NY.

Type: General purpose amphibian

Accommodation: Crew of four-six; up to ten stretchers.

Dimensions: Span 96 ft 8 in, Length 61 ft 3 in, Height 25 ft 10 in, wing area 1,015 sq ft.

Power plant: Two 1,425 hp Wright R-1820-76As or Bs.

Weights: Empty 22,883 lb, gross 35,700 lb.

Performance: Max speed 216 mph, cruising speed, 150 mph, initial climb, 1450 ft/min, service ceiling 21,500 ft, range 2850 at miles.

\* (E) Estimate

more

HU-16 - Albatross  
Area 14-22-24  
(RIT) 27

Special Information:

In storage at MASDC: AF - HU-16B - 2 LOC (to recl)  
HU-16B - 2 RIT (inv to bid)

NA - HU-16B - 1 NAST1000 (long-term sto)  
HU-16D - 1 NAST1000 (long-term sto)

HU-16B - 1 NWP (Navy work program)

HU-16C - 4 NAL02999 (Reclam)  
HU-16D - 4 NAL02000 (Reclam)

HU-16C -26 NRP (Reclam program)  
TU-16C - 3 NRP (Reclam program)

HU-16D - 3 RIT

CG - HU-16E - 8 CRP (CG Reclam prog)

HU-16E - 5 RIT

Distribution:

Prime Depots: AF - Warner-Robins ALC  
NA - Pensacola NARF



MASDC FACT SHEET

OV-1

Mohawk

Grumman Aaft Eng.

AR

Value:

OV-1A - \$ 866,555

OV-1B - 976,437

OV-1C - 1,058,540

The Mohawk was originally developed to meet joint Army and Marine Corps requirements but the Marines withdrew before the first flight on 14 Apr 59. It was the first Army aircraft with turboprop engines and was ordered in three models--the "A" for visual and photographic, the "B" for visual, photographic, and side-looking-radar (SLAR), and the "C" for visual, photographic, and infrared. The electronic equipment varies with each model, resulting in changes in gross weight, performance, and cost. First Mohawk deliveries were made in 1960. It was designed to operate from small unimproved fields, and featured a 55-knot stall speed and short takeoff and landing capabilities similar to the Army's single engine observation aircraft. Its bug-eye cockpit canopy provides exceptional visibility to its two-man crew.

Technical Data

Mfr: Grumman Aircraft Engineering Corp, Bethpage, LI NY  
 Engines: Two Lycoming T53-L-15 turbines of 1,100 shp each.  
 Propellers: Hamilton Standard three-bladed reversing and feathering, 10 ft diameter.  
 Specifications: Span: 42 ft, Length 41 ft, Height, 12 ft 8 in.  
 Gross weight 12,675 lb.  
 Performance: Max speed (SL) 325 mph, Cruise speed (SL) 207 mph,  
 Service Ceiling 33,000 ft, Max range 774 st mi.

more

0-8-70

OV-1 - Mohawk

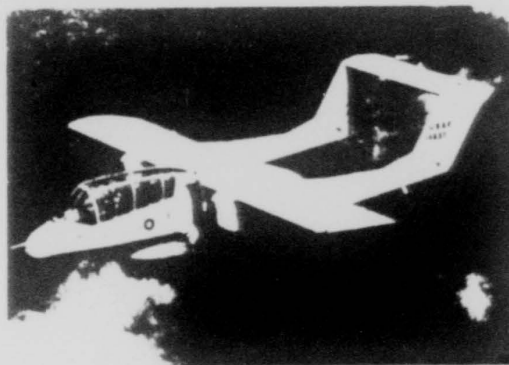
Area 20

Special Information

In storage at MASDC: OV-1A - 14 (ARP999) Recl  
OV-1B - 33 (ARST1000) Storage  
JOV-1B - 1 (ARL02000) Recl  
OV-1C - 12 (ARST1000) Storage  
Total - 60 (7148 of 7/30/76)

Distribution:

Prime Depot:



MASDC FACT SHEET

OV-10A

Bronco

North American-  
Rockwell

Navy

Value:  
\$477,000

The Bronco was the first American aircraft designed especially to meet requirements of counter-insurgency operations. Original specifications developed by the Marine Corps, it was a tri-service program to produce an aircraft for light observation and forward air control with also an attack capability. Production was ordered in October 1966 for a total of 185 aircraft including 76 for the Marine Corps. Plans were to procure 38 additional for the Marines later. Deliveries to VM0-5 (USMC) began on 23 Feb 68.

OV-10A was designed with STOL characteristics and a landing gear system that enables it to use short, unimproved airstrips in virtually any area of the world. Turboprop engines use JP4 fuel, standard aviation gasoline and military standard gasoline, allowing it to operate with forces in the field. It is highly maneuverable with a dash speed of 281 mph. The Bronco is equipped with four M60-C machineguns, two in each sponson, and five pylon weapon attachment points on the sponsons and fuselage. It also has a 75 cubic foot cargo bay (with removable door) which can be used to carry 1,200 lbs of freight, five parachutists, or two stretcher patients and an attendant.

Technical Data

Mfr: North American-Rockwell, Columbus, Ohio.  
Type: Light attack and observation.  
Accommodation: Pilot and observer in tandem.  
Power Plant: Two 715 shp Garrett Airesearch T76-G-10/12 turboprops.  
Dimensions: Span, 40 ft; length, 39 ft 10 in; height, 15 ft 1 in;  
wing area, 291 sq ft.  
Weights: Empty, 7,076 lb; gross, 11,000 lb.

more

OV-10A Bronco  
Area 20

Technical Data (Cont)

Performance: Max speed, 281 mph at 5,000 ft; cruising speed 220 mph at 18,000 ft; initial climb, 2,320 ft/min; service ceiling, 29,000 ft; (internal fuel) range 600 st miles.

Armament: Four fixed forward-firing M-60C 7.62mm machine guns; four external weapon attachment points under short sponsons, for up to 2,400 lb of rockets, bombs, etc; fifth point capacity 1,200 lb, under center fuselage. Provisions for carrying one Sidewinder missile on each wing, and by use of a wing pylon kit, various stores, including rocket and flare pods, and free-fall ordnance; max weapon load, 3,600 lb.

Special Information:

In storage at MASDC: 12 OV-10A (Navy) 7/1/76

Operational by Navy (Marines) at:

Operational by Air Force at:

Bergstrom AFB TX (TAC)

Shaw AFB SC (TAC)

Eglin AFB FL (TAC)

\*Total in AF inventory - 42

Operational by Army at:

Prime Depot: Navy - Cherry Point  
AF - San Antonio ALC  
Army -

\* Note: Published in May 1976 Air Force Magazine Almanac issue.



CODES AND SYMBOLS

Used in 7148 Report

(STS)XS - Inviolable storage. Vehicles stored with expectation of requirements (other than MAP) not yet confirmed. No parts removed without approval of CSAF/LGY.

(STT)XT - MAP Storage. Stored for anticipated future requirements. Parts cannot be removed without approval of AFLC/MMI.

(STV)XV - Storage--high probability of withdrawal. Parts will not be removed without approval of AFLC/MM.

(STW)XW - Storage--low probability of withdrawal. Parts may be removed with approval of AFLC/System Manager. Prepared for storage at minimum cost.

(STX)XX - Disposal. Vehicles without operational value or cannot be economically repaired.

(LOG)XX - To reclamation after GSA screening.

In AF Section of 7148

- RSA - Reclamation and Salvage (Attack aircraft)
- RSB - Reclamation and Salvage (Bomber aircraft)
- RSC - Reclamation and Salvage (Cargo aircraft)
- RSF - Reclamation and Salvage (Fighter aircraft)
- RSH - Reclamation and Salvage (Helicopter aircraft)
- RSO - Reclamation and Salvage (Observation aircraft)
- RST - Reclamation and Salvage (Trainer aircraft)
- RSU - Reclamation and Salvage (Utility aircraft)

IFB - Invitation for bid

RITEPDM - RIT - Reclamation Insurance Type (Environmental Protection Agency) DMAFB.

Other RIT designation: RIT plus the prime ALC and DM.

In NA Section of 7148

- NRP - Navy Reclamation Project
- NAST1000 - Preservation for long-term storage.
- NAL2000 - Preservation for indefinite storage of aircraft programed for Reclamation.
- NAL3000 - Preservation for flyable-hold status for up to 45 days and renewable one time for total of 90 days.
- NAL4000 - Preservation for aircraft turned over for disposal, making aircraft safe while awaiting disposal.
- NAST1999 - To provide method of getting priority removals.
- HAL02999 - Aircraft to be reclaimed.
- NWP - Navy withdrawal project.

CODES/SYMBOLS  
(Cont.)

In AR Section of 7148

ARP - Army Reclamation Project.  
ARST1000 - Preservation for long-term extended storage.  
ARL02000 - Preservation for indefinite storage of aircraft  
programed for reclamation.  
ARST3000 - Preservation for aircraft held in flyable status for  
45 days (renewable once for a total of 90 days).  
ARL04000 - Performed on aircraft which have been turned over to  
disposal. Makes aircraft safe while awaiting disposal.  
ARP999 - Aircraft in GSA screening and priority removals  
1 through 8 are authorized.  
AWP - Army Work Program.  
IFB - Invitation for Bid.

In CG Section of 7148

Same code as Army with prefix CG instead of AR.

General

AFMOZ - Air Force Museum. Used for aircraft designated for  
the Pima County Air Museum or the Air Force Museum.  
MSS - Military Surplus Sales.  
USADM - U. S. Army Davis-Monthan.  
USCGDM - U. S. Coast Guard Davis-Monthan.  
USNDM - U. S. Navy Davis-Monthan.

DISTRIBUTION

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9 Sep 76

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HISTORY OF  
6204th AEROSPACE SUPPORT SQUADRON  
1 April - 30 June 1976

1012550

HISTORY  
OF  
6204TH AEROSPACE SUPPORT SQUADRON  
APRIL - JUNE 1976

AFSHHC MAXWELL AFB AL 36112	RETURN TO
--------------------------------	-----------

Assigned to:  
Thirteenth Air Force

Stationed at:  
Clark Air Base, Republic of the Philippines

*Richard A. Davis*  
 \_\_\_\_\_  
 RICHARD A. DAVIS  
 TSGT, USAF  
 HISTORIAN

*Carl F. Freeman*  
 \_\_\_\_\_  
 CARL F. FREEMAN  
 Major, USAF  
 Commander  
 Date Signed 10 Sept 76

Copy 1 of 6 Copies

PACIFIC AIR FORCES, UNITED STATES AIR FORCE

1012850

FOREWORD

This history is the seventh in a series of the 6204th Aerospace Support Squadron (American Forces Philippines Network, AFTN/American Forces Thailand Network, AFTV-SLK, Shu Lin Kou Taiwan). This history covers the period 1 April 1976 thru 30 June 1976.



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CHRONOLOGY

6204th Aerospace Support Squadron

April - June 1976

<u>Date</u>	<u>Significant Event</u>	<u>Source Location</u>
April		
25-30	PACAF Consolidation Conference	p 2
May		
23	Final closure of AFTN with Utapao signing off air	p 9
June		
1	Major John W. Volpel, Commander departs PCS	p 5
5	Major Carl F. Freeman, new Commander arrives	p 5

Chapter I  
UNIT STATUS

The squadron's mission was to provide commanders with radio and television services in support of their mission, and to provide information and entertainment to American Forces in the Republic of the Philippines and Thailand and television in Taiwan. During this period the squadron continued to fulfill its mission and completed the monumental task of phaseout of its operations in Thailand. Mission accomplishment was not severely affected.

Chapter I  
UNIT STATUS

Mission

The mission of the 6204th Aerospace Support Squadron (6204AEROSS), the administration and organization of the American Forces Philippines Network (AFPN), AFRS/AFTV, Thailand and American Forces Television Shu Lin Kou (AFTV-SLK) was to provide commanders with radio and television capability to assist them in implementation of their mission; to provide information and entertainment through the media of American Forces Radio and Television (AFRT) to Department of Defense (DOD) personnel stationed in the Republic of the Philippines, Thailand and Taiwan; to establish, support and operate AFRT stations in a professional manner; to organize, train and supervise radio and television personnel assigned to the 6204AEROSS; to serve as the agency through which the Commander, Thirteenth Air Force (13th AF) could exercise operational control of all AFRT activities in the Philippines, Thailand and Taiwan; to disseminate emergency information, disaster control instructions and tactical alert warnings as directed, and to serve as an agency through which 13th AF could provide logistical support to 6204th AEROSS, Headquarters and all AFRT outlets assigned to the squadron.<sup>1</sup>

Consolidation

Consolidation Conference with 6120 Broadcasting Squadron (6120th BRS)/6204AEROSS at PACAF HQ 25-30 April 1976,<sup>2</sup> resulted in the formal proposal for consolidation of PACAF's two broadcast squadrons. Effect will be to streamline and improve broadcast operations, effectiveness, command and control, while effecting significant reductions in overall costs through funds, personnel and material savings.<sup>3</sup>

Organization

The 6204AEROSS was assigned to 13th Air Force. The squadron was a tri-service activity with operational responsibility assigned to the Commander, 13th Air Force. Manned operations at Clark AB, Subic Bay

1. 13AF Reg 23-26, Filed in 6204AEROSS/DA Publications Library.

2. Msg, CINCPACAF Hickam AFB HI/O11 to 6120BRS Camp Drake JA/CC, 241802Z Mar 76, PACAF AFRT Consolidation Workshop, Doc 2.

3. Ltr, HQ PACAF/O11 to 5AF/O1, 13AF/O1, 6120BRS/CC, 6204AEROSS/CC, 12 May 76, Planning Proposal for Consolidation of PACAF AFRT with Atch, Doc 3.

3

Naval Station, Republic of the Philippines, Utapao RTNAB, Thailand (ceased operations 23 May) and Shu Lin Kou Air Station, Taiwan, were affiliate stations of the 6204AEROSS; unmanned repeater stations at John Hay Air Base, Wallace Air Station and San Miguel NCS, Republic of the Philippines.

With the closing of Utapao RTNAB, Thailand unmanned operations at Camp Samae-San, Don Muang Airport, Joint United States Military Advisory Group (JUSMAG) Compound and the Travich Building in Bangkok and to the 1980th Communications Detachment, Chaing-Mai, Ko Kha Air Station, and Ramasun Station ceased and all associated equipment was removed from Thailand.

Administration

With the phasedown of Thailand operations, personnel were made available to man the operation of OLAA, Shu Lin Kou Air Station, Taiwan. AIC Lonzo Roland and TSgt Garland Green from Utapao RTNAB, Thailand greatly aided the manning shortage experienced since the opening of the station.

Chapter II  
PERSONNEL

Manning shortages were experienced in the end of operations at Utapao RTNAB, Thailand and initially at Shu Lin Kou Air Station, Taiwan. But with the phaseout of Thailand operations and TDY aid from 6204 AEROSS, Clark AB, Philippines the stations were able to close out/ stay on the air.

Chapter II  
PERSONNEL

Manning

Manning problems remained from the last period, but not as severe as with the initial Thailand phaseout.

With the closure of TV operations at Ramasun Army Station, TSgt Richard A. Davis transferred to Utapao to aid closure actions/broadcasting giving five broadcasters and three engineers.

There were no promotions during this period.

In June 1976, the commander, Major John W. Volpel returned PCS to the United States. Lt Eric F. Willenbrock (USN)<sup>1</sup> assumed command until the arrival of Major Carl F. Freeman (USAF).<sup>2</sup>

The following personnel permanently transferred out of the 6204th AEROSS during this period:

Major John W. Volpel	USAF	Departed Jun 76
SMS Arthaniel Sharpe	USAF	Departed Jun 76
SSgt Ronnie L. Laster	USAF	Departed May 76
MSgt Ernest Segovia	USAF	Departed May 76
MSgt Dennis H. Hagel	USAF	Departed Jun 76
JO3 Michael L. Romine	USN	Departed Apr 76

The following personnel permanently transferred in the 6204AEROSS during this period: Sgt Michael Craig-Apr 76; TSgt Richard Davis, TSgt George Wisely and SSgt John Reyes- May 76; Maj Carl Freeman and SSgt Gary Schmidt-Jun 76.<sup>3</sup>

Training

Since the last history period the OJT program has undergone an intensive reorganization complete with creating a slot for an OJT Administrator for the 6204AEROSS. In June there was one upgrade to the 5 level and one to 7 level with a training load of nine.

1. Special Order G-1, 24 May 1976, Doc 1.
2. Special Order G-2, 8 Jun 1976, Doc 1.
3. 6204AEROSS Personnel Roster dtd 30 Jun 76, Doc 4.

Chapter III  
ENGINEERING

The two main items of engineering concern were the Mini-TV for Taiwan, Australia and Republic of the Philippines, and awaiting final decisions on the Backpack Electronic News Gathering machines for AFRTS operations worldwide.

Chapter III  
ENGINEERING

Mini-TV

Mini-TV is a low cost, portable self-contained TV system which allows an essential source of information and entertainment programming to assist the command information mission and bolster morale at remote sites. These are units with ten to five hundred people. Proposed sites included Wallace AS Philippines, John Hay AB Philippines, Ching Chuan Kang AB Taiwan and Woomera Aprt, Australia.

During this period commanders of the above installations initiated requests for Mini-TV service under the provisions of AFR 190-15. These requests were forwarded to the Secretary of the Air Force Office of Information (SAF/OI) through HQ 13th Air Force/OI and HQ PACAF/OI with a recommendation of approval. The funds required for Mini-TV have been programmed by SAF/OI while responsible personnel to operate the system have been identified by requesting commanders.<sup>1</sup>

Backpack E. N. G.

Backpack E. N. G. actions were stalled during this reporting period. These units are portable television electronic news gathering machines, used to cover base news events. They utilize video tape and are easily handled by one man. With these units news events can be covered and placed on TV in minimum time. The final decision has not been made by SAF/OI as to which units will be purchased worldwide. We expect final decision during the next reporting period.<sup>2</sup>

1. Ref. Information Activities #2, filed in 6204AEROSS/DA. Due to thickness of paperwork author did not include as supporting document.

2. Interview, author with Mr. L. Loback, 6204AEROSS, Director of Engineering, 30 August 1976.



Chapter IV  
OPERATIONS AND PROGRAMMING

With the final phasedown of operations in Thailand during this period, the 6204AEROSS used this three month period to get operations back to normal and ready for consolidation with the 6120 Broadcasting Squadron in Japan.

Chapter IV  
OPERATIONS AND PROGRAMMING

Thailand

With the closing of Utapao RTNAB, Thailand on 23 May 1976, all programming ended for Thailand. All equipment was shipped to locations as specified during the January - March 1976 reporting period. Last station manager was TSgt Garland Green. The last AFTN broadcaster to depart Thailand was SSgt Frederick McNeill, on 31 May to the CONUS.<sup>1</sup>

Clark

Programming for radio and television for this period was not out of the ordinary. Plans for the 4th of July and future activities were begun. SAFDI announced plans to satellite a four hour Bicentennial Special from the CONUS to the Philippines. Plans were made to record on video tape this special and deliver to Shu Lin Kou, Taiwan and Okinawa.

Special radio programs were planned with the American Heritage in mind. More information will be available during the next reporting period.

<sup>1</sup> There is no supporting documents on this matter. Author and TSgt Garland Green departed on 29 May 1976. Author felt this was of historical value.

10

SUMMARY

The squadron continued to fulfill its primary mission of information and entertainment. During this period the squadron closed its' last station in Thailand, Utapao, thus ending an era of AFRTS operations on the Southeast Asian mainland. Progress was made toward consolidation of the 6204th AEROSS (AFPN) and the 6120th BRS (FEN). This time frame was characterized by a significant deceleration in activity and a return to normal operations.

GLOSSARY

6204th AEROSPACE SUPPORT SQUADRON

1 April - 30 June 1976

<u>ABBREVIATION</u>	<u>MEANING</u>
AEROSS	Aerospace Support Squadron
AFPN	American Forces Philippines Network
AFRT	American Forces Radio and Television
AFTN	American Forces Thailand Network
AFTV-SLK	American Forces Television Shu Lin Kou, Taiwan
A1C	Airman First Class
E. N. G.	Electronic News Gathering
JUSMAG	Joint United States Military Assistant Group
Maj	Major (USAF)
PACAF	Pacific Air Force
RTNAB	Royal Thai Naval Air Base
SAF/OI	Secretary of the Air Force Office of Information
SSgt	Staff Sergeant (USAF)
TSgt	Technical Sergeant (USAF)
USAF	United States Air Force

A-1

LINEAGE AND HONORS DATA

Unit Designation: 6204 Aerospace Support Squadron (AFPN)

Higher Squadron: 13th Air Force

Commander: Major John W. Volpel  
(April 1974 - June 1976)

Major Carl F. Freeman  
(June 1976)

Executive Officer: Lieutenant Eric F. Willenbrock, USN

Assigned Units: Not applicable

Assigned Units Lost: Not applicable

Station Headquarters: Clark Air Base, Republic of the Philippines

Aircraft Flown: Not applicable

Awards and Decorations: Air Force Outstanding Unit Award

Emblem: Not applicable

A-2

ROSTER OF KEY PERSONNEL

6204th Aerospace Support Squadron

<u>POSITION</u>	<u>INCUMBENT</u>	<u>DATE ASSIGNED</u>
Commander	Major John W. Volpel	24 Apr 74-5 Jun 76
Commander	Major Carl F. Freeman	7 June 76
Executive Officer	Lt Eric F. Willenbrock, (USN)	16 Nov 74
Chief Engineer	GS-12 Lawrence L. Loback	4 Jul 75
First Sergeant & Chief of Administration	MSgt Lawrence O. Freeman	5 Aug 74
Clark Local Station Manager	SMS James S. Estep	16 Aug 75

A-3

PERSONNEL STATUS  
6204 AERROSS CLARK AB  
as of 30 June 1976

<u>AIR FORCE</u>	<u>Authorized</u>	<u>Assigned</u>
Enlisted	40	51
Officer	1	1
<u>NAVY</u>		
Enlisted	14	12
Officer	1	1
<u>ARMY</u>		
Enlisted	1	0
Officer	0	0
<u>MARINE</u>		
Enlisted	4	3
<u>CIVILIAN (DAF)</u>	1	1
<u>CIVILIAN (LN)</u>	11	11

OLAA SHU LIN KOU AS, TAIWAN

<u>AIR FORCE</u>		
Enlisted	8	8

AFPN DETACHMENT, SUBIC BAY NAVAL BASE, PI

<u>AIR FORCE</u>		
Enlisted	2	2
<u>NAVY</u>		
Enlisted	4	5
<u>TOTALS</u>	87	95

LIST OF SUPPORTING DOCUMENTS

1. Special Order G-1, 24 May 1976
1. Special Order G-2, 8 June 1976
2. Msg, CINCPACAF Hickam AFB HI/OII to 6120BRS Camp Drake JA/CC,  
241802Z Mar 76. PACAF AFRT Consolidation Workshop.
3. Ltr, HQ PACAF/OII to 5AF/OI, 13AF/OI 6120BRS/CC and 6204AEROSS/CC,  
12 May 76, Planning Proposal for Consolidation of PACAF AFRT Squadrons.
4. 6204AEROSS- Personnel Roster as of 30 June 1976.



SUPPORTING DOCUMENT NO. 1

DEPARTMENT OF THE AIR FORCE  
COMBATE AIRCRAFT SUPPORT DIVISION (CASD)  
AMERICAN FORCE IN PHILIPPINE ISLANDS  
APO SAN FRANCISCO 96341

SPECIAL ORDER  
S-2

Under the Provisions of AFR 15-54, I hereby recommend  
of the Combat Aircraft Support Division, American  
Force in Philippine Islands, APO San Francisco.

*Robert J. ...*  
CAPT. R. J. ...  
Commander

SUPPORTING DOCUMENT NO. 2

INF-  
46  
①

24 APR 76

RTTUZYUW RUMVAAA4532 0841737-0000--RUMTAAA.

ZNR 00000  
R 241802Z MAR 76  
FM CINCPACAF HICKAM AFB HI/011  
TO ROADPFA/61200RS CAMP DRAKE JA/CC  
RHHIAAA/620428ROSS CLARK AB PI/CC  
INFO RUMVJYA/9AF YOKOTA AB JA/01  
RHHIAAA/13AF CLARK AB PI/01

6204 Area  
1301

BT  
00015  
SUBJ: PACAF AFRT CONSOLIDATION WORKSHOP  
THIS HQS HAS BEEN TASKED BY SAF/011 TO DEVELOP A PLAN TO CONSOLIDATE ALL AIR FORCE OPERATED AFRT OUTLETS IN PACAF UNDER A SINGLE SQUADRON. TO THIS END, A CONSOLIDATION WORKSHOP WILL BE HELD AT HICKAM AFB, HI, APRIL 25-30. COMMANDERS OF EACH BROADCAST SQUADRON SHOULD ATTEND THE WORKSHOP ALONG WITH RESPECTIVE NETWORK SUPERINTENDENTS. ATTENDEES SHOULD ARRIVE HAWAII AET 24 APRIL. BILLETING ARRANGEMENTS WILL BE MADE BY THIS HQS. FOR FURTHER INFORMATION, CONTACT CAPT DON BECK, CINCPACAF/011. THE WORKSHOP HAS BEEN APPROVED BY CINCPACAF/CS.  
BT

SUPPORTING DOCUMENT NO. 3

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS PACIFIC AIR FORCES  
APO SAN FRANCISCO 96553



REPLY TO  
ATTN OF OII

12 May 76

SUBJECT Planning Proposal for Consolidation of PACAF AFRT  
Squadrons

TO 5AF/OI 13AF/OI 6120BRS/CC 6204AEROSS/CC

The attached planning proposal is forwarded for your  
information/review. Comments and/or inputs should be  
made to CINCPACAF/OII not later than 31 May 76.

FOR THE COMMANDER IN CHIEF

*William B. Allison*  
WILLIAM B. ALLISON, Colonel, USAF  
Director of Information

1 Atch  
Planning Proposal

*(M) (U) TU*

*DAK MCB  
+ AUDR*

*CC* —

*DA* —

REPORTING DOCUMENT NO. 3

DRAFT/Capt Beck/5 May 76/slh

1. TITLE: Planning Proposal to Effect Consolidation of PACAF  
APRT Squadrons.
2. REFERENCES: OSAF/OII message 102024Z Nov 75; AFM 26-2; AFR 19
3. GENERAL:
  - a. The general effect of the proposed consolidation of PACAF's two broadcast squadrons will be to streamline and improve broadcast operations, effectiveness, command and control, while effecting significant reductions in overall costs through funds, personnel and material savings.
  - b. The consolidation will be effective on 30 September 1976, with follow-on actions to be completed by 30 September 1977.
  - c. By retention of the 6204 numerical designation and the Far East Network broadcasting function designation (logo) the consolidated squadron concept preserves the historical significance and lineage of both organizations. The terminology "Far East Network" applies equally to all areas served by the consolidated broadcast squadron, and the 6204 (BBS, as opposed to AEROSS) designation accounts for numerous decorations including the AFOUA and the Philippine Presidential Unit Citation.
  - d. Actions suggested in this proposal take into account the following completed actions:
    - (1) Manpower studies, adjustments and reductions implemented within the past three years.

REPORTING DOCUMENT NO. 3

(2) Previous consolidation of the 6204th BRS and the 6001 AEROSS (Thailand).

(3) Implementation of the material control concept of supply management within the 6120th BRS, under the guidance of AFM 66-1.

(4) Conversion to PCSP IAW provisions of AFM 100-18 procedure and PCSP by separate broadcasting squadrons.

(5) Centralized budget and funding (squadron money management concepts are presently in effect at the 6120th and will be extended to cover the consolidated squadron.

(6) All equipment custodial responsibilities are accomplished IAW AFM 67-1 and AFR 67-10.

e. Immediate USAF personnel reductions consist of: deleting one O-5, an E-6, and two E-4s plus reducing two O-4 positions to O-3. In addition, an Army E-7 position and a Marine warrant officer will be deleted. A re-examination of consolidated squadron manpower/personnel authorizations by competent PACAF authority following at least one year of consolidated operation is appropriate.

f. In combining squadrons, a certain number of positions (from all services) must be aligned. These realignments are particularly important to:

- (1) Preserve broadcast visibility of all services assigned
- (2) Provide the squadron commander with adequate assistance and guidance on matters pertaining to personnel and policies of each service.

REF ID: A66666

d. Detachment composition will be determined by operational requirements.

7. PLANNED COURSE OF ACTION:

a. Inactivate the 6120th BRS, South Camp Drake, Japan. Move the 6204th AEROSS from Clark AB, Philippines to South Camp Drake, Japan, and redesignate it as the 6204th BRS.

(1) Disestablish all operating locations of the 6204th AF

(2) Activate Detachment 1, at Clark AB, Philippines with OLIA at Subic, Philippines, and OLIB at Shu Lin Kou AS, Taiwan.

(3) Activate Detachment 2, at \_\_\_\_\_, Okinawa.

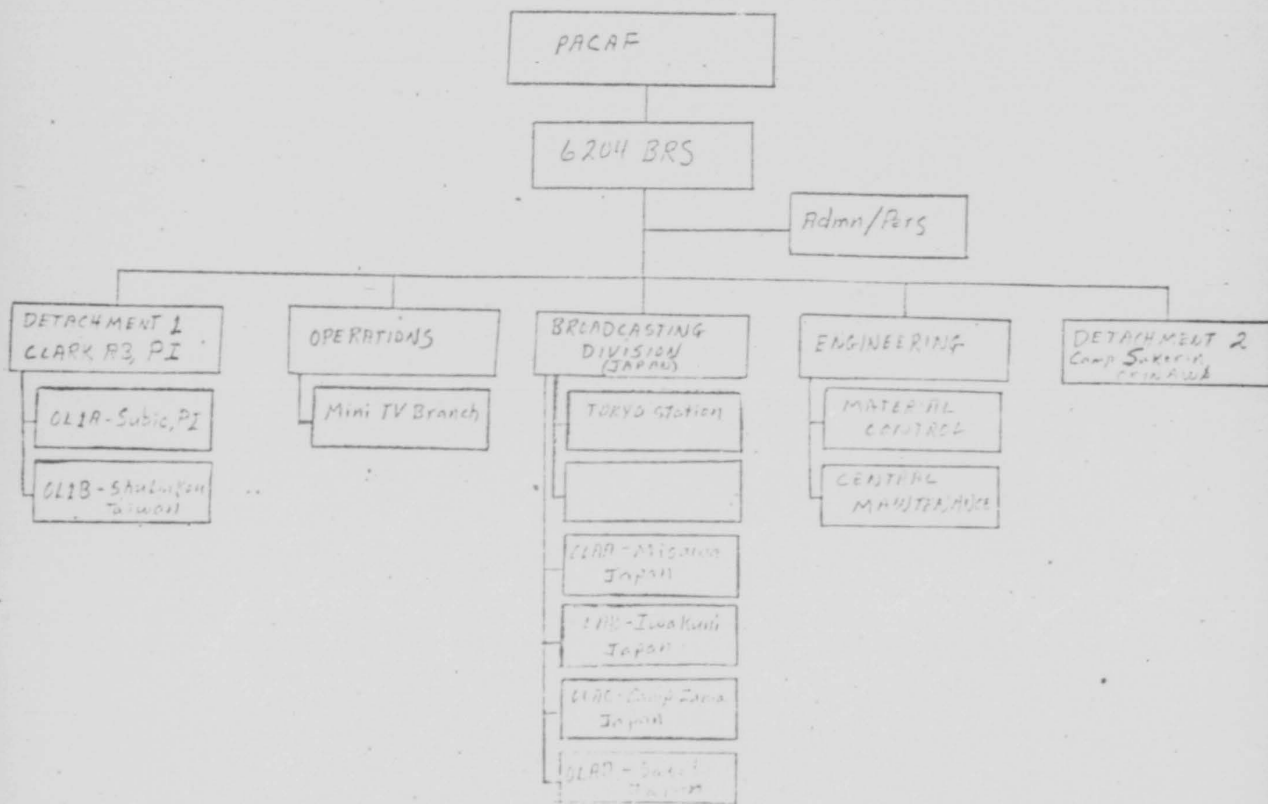
(4) Activate OLAA at Camp Zama, Japan; OLAB at Sasebo, Japan; and OLAC at Iwakuni, Japan.

b. Adjust manpower authorizations to reflect allocation for the 6204th BRS as contained in attachment 2.

c. Designate detachment commanders as "commander/station manager" and senior <sup>Principal</sup> NCO at each detachment as "program director."

d. Conduct manpower review within one year of consolidation to effect possible reductions within support areas. Further reductions will be subsequent to the manpower review.

- (3) Reduce the number of officer personnel assigned.
  - (4) Provide positions of appropriate responsibility for senior enlisted men assigned from all services.
  - (5) Centralize numerous service personnel authorization documents serving multiple locations into a single personnel authorization document for each service providing total manning requirements for all operating locations of the single squadron.
4. OBJECTIVE: Consolidation of all PAC Air Force AFRT in the Pacific into one Air Force Broadcasting Squadron.
5. PARTICIPATING ORGANIZATIONS:
- a. Hq PACAF
  - b. Fifth Air Force
  - c. Thirteenth Air Force
  - d. 6120th BRS
  - e. 6204th AEROSS
6. PLANNING FACTORS:
- a. The resulting squadron will be known as the 6204th Broadcast Squadron (Far East Network).
  - b. Squadron commander will report to the CINC, PACAF, through the Director of Information, PACAF.
  - c. Squadron organization (atch 1)
    - (1) Hq staff will consist of: (a) Command (b) operations (c) engineering (d) administration (e) broadcasting
    - (2) Detachment commanders will report to squadron command
    - (3) Stations managers of manned OLS will report to detachment commanders, or to the chief of broadcasting in the case of Japan locations.





Proposed Manning Authorizations for Consolidated Squadron

6204th Broadcasting Squadron  
 (Vice 6120th Broadcasting Sq)  
 South Camp Drake, Japan

Command	0-5	A7916
	GS-4	70450
Administration	0-3	7024
	E-8	70490
	E-5	70250
	E-5	0151 (Marine)
	1-5	67230
	1-4	70250
	2-5	60350
Engineering Division	GS-13	3034
	E-6	30474
	E-6	30474
	1-6	
	1-4	23151
	1-5	70250
Material Control	E-6	64570
	E-5	64550
Shop Work Group #1	2-10	30474
	2-8	30454
	2-8	30454
	2-8	30454
	2-8	30454
	2-8	30454
Shop Work Group #2	GS-10	3034
	2-10	30474
	2-8	30454
	2-8	30454
	2-8	30454
Shop Work Group #3	2-8	30454
	2-8	30454
	2-8	30454
	2-8	30454
	2-8	30454
	2-8	30454

Shop Work Group #4	E-5	31N20 (Army)
	E-5	31N20 (Army)
Operations Division	0-3	5522 (Marine)
	E-9	79191
	1-4	70450

BROADCASTING DIVISION (Vice Tokyo Station)

Program Director	E-7	79171
Production	E-7	4313 (Marine)
	E-7	79171
	E-6	79171
	E-6	71R40 (Army)
	E-7	3221 (Navy)
	E-6	71R40 (Army)
	E-6	4313 (Marine)
	E-5	3221 (Navy)
	E-4	3221 (Navy)
	E-4	3221 (Navy)
	E-4	3221 (Navy)
	E-4	3221 (Navy)
E-5	4313 (Marine)	
Traffic Continuity	E-5	4313 (Marine)
	E-3	79151
	1-5	79151 (LN)
Library	1-5	79151 (LN)
Graphics	1-4	23151 (LN)
	1-4	23151 (LN)
News Department	E-7	71R40 (Army)
	E-6	3221 (Navy)
	E-6	3221 (Navy)
	E-6	3221 (Navy)
	E-6	4313 (Marine)
	E-5	79151

OIAA (Vice OIAF, Misawa AB)

Administration	E-7	79171
	1-5	79151
	1-3	70250
Engineering/ Maintenance	E-6	30475
	2-9	30455
	2-8	30455
	2-8	30455
	2-8	30455
Programming Production	E-5	4313 (Marine)
	E-5	79151
	E-5	71R20 (Army)
	E-5	4313 (Marine)
	E-5	79151
	E-5	3221 (Navy)
	E-4	3221 (Navy)
	E-4	71R20 (Army)
E-3	79151	

OLAB (Vice OLAE, MCAS Iwakuni)

Administration/ Program Director	E-8	71R50 (Army)
	1-3	70250 (LN)
Engineering/ Maintenance	E-6	30475
	2-9	30455 (LN)
	2-8	30455 (LN)
	2-8	30455 (LN)
	2-8	30455 (LN)
	2-8	30455 (LN)
TV/Radio Programming & Production	E-6	4313 (Marine)
	E-7	79171
	E-5	79151
	E-5	3221 (Navy)
	E-5	4313 (Marine)
	E-5	4313 (Marine)
	E-5	71R20 (Army)
	E-5	71R20 (Army)
	E-4	3221 (Navy)
	1-5	79151 (LN)

OLAC (Vice CCTV Zama, USAHA, Zama)

Programming	E-6	71R40 (Army)
	E-4	3221 (Navy)
Engineering/ Maintenance	E-5	26T20 (Army)
	E-5	26T20 (Army)

OLAD (Vice FEN Sasebo)

Administration	YN1	0000 (Navy)
Engineering/ Maintenance	ET2	9574 (Navy)
	ETSN	9574 (Navy)
	1C3	9574 (Navy)
Programming/ Radio Production	JO1	3221 (Navy)
	JO2	3221 (Navy)
	JO2	3221 (Navy)

Detachment 1, Clark AB, Philippines  
(Vice 6204th AEROSS)

Commander	0-3	1655 (Navy)
Administration	E-7	70270
	E-5	0000/0000 (Navy)
	PG-9	70250
	PG-9	70250
Chief Engineer	GS-12	3034
Network Production	E-5	79151
	E-6	23171
	E-6	23172
	AlC	79151
Supply	E-7	64570
	E-5	64550
	E-4	64550
Program Director	E-9	79191
Radio Production	E-6	4313 (Marine)
	E-5	3221 (Navy)
	E-5	3221 (Navy)
	E-4	79151
	E-4	79151
	AlC	79151
	AlC	79151
	PG-12	79171
Continuity	E-7	4391 (Marine)
	E-5	79151
	E-4	3221 (Navy)
	E-4	79151
	AlC	79151
Television	E-7	3221 (Navy)
	E-6	79171
	E-6	3221 (Navy)
	E-5	79151
	E-5	3221 (Navy)
	E-5	3221 (Navy)
	E-5	3221 (Navy)
	E-5	3221 (Navy)
	E-4	79151
	AlC	79151
	PG-12	79171
	LN	23192

5

News	E-7	79171
	E-6	3221 (Navy)
	E-5	4313 (Marine)
	E-5	3221 (Navy)
	E-5	79151
	E-4	79151
Radio Main- tenance	E-4	79151
	E-6	1500 (Navy)
	E-5	30454
	E-5	30454
Television Maintenance	E-4	1500 (Navy)
	PG-15	30496
	E-7	30475
	E-7	30475
	E-6	30475
	E-6	30475
	E-6	30475
	E-5	30455
	E-5	30455
	E-4	30455
	E-4	30455
	A1C	30455
	A1C	30455
A1C	30455	
A1C	30455	
A1C	30455	
PG-14	30475	
PG-14	30475	
PG-14	30475	
PG-12	30475	
PG-12	30475	

8



OLIA Subic Bay Naval Base, Philippines  
(Vice AFPN Det)

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Station Manager	E-7	79171		
Engineering/ Maintenance	ET2	1500 (Navy)	PG-12	30475
	ET3	1500 (Navy)	PG-12	30475
Programming/Radio Production	JO2	3221 (Navy)		
	JO2	3221 (Navy)		
	E-4	4313 (Marine)		

OLIB Shu Lin Kou AS, Taiwan (Vice OLAA)

Station Manager	E-7	79171
Engineering/ Maintenance	E-6	30475
	E-4	30455
	E-4	30455
TV Production	E-4	79151
	E-4	79151
	A1C	79131
	A1C	79131

Detachment 2, Kadena AB, Japan  
(Vice OLAA)

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Commander/Station Manager	0-3	7924
Administration	GS-4	70450
	E-4	70250
Material Control	E-6	64570
	1-3	64530 (LN)
	1-3	64530 (LN)
Chief Engineer	GS-13	2825B
	1-6	30455 (LN)
	1-5	30455 (LN)
Television Maintenance	E-7	30475
	E-6	30475
	1-6	30454 (LN)
	1-6	30454 (LN)
	1-6	30454 (LN)
	1-5	30454 (LN)
Television Tech- nical Operations	E-5	30455
	E-5	30455
	E-5	26T20 (Army)
	E-5	26T20 (Army)
Transmitter Maintenance	E-7	32H40 (Army)
	E-6	32H40 (Army)
	E-5	2841 (Marine)
	E-4	ETN3 (Navy)
	1-6	30454 (LN)
	1-5	30454 (LN)
Studio Maintenance	E-7	26T40 (Army)
	E-5	32H20 (Army)
	1-5	30454 (LN)
	1-5	30454 (LN)
Graphics	1-5	22371 (LN)
Production	E-8	71R50 (Army)
	E-7	4313 (Marine)
	E-5	4312 (Marine)
	E-5	4313 (Marine)
	1-6	79151 (LN)
	1-5	79151 (LN)

Television	E-7	71R40 (Army)
Operations	E-5	71R20 (Army)
	E-5	3221 (Navy)
	E-5	4313 (Marine)
	E-5	4313 (Marine)
	E-5	84E20 (Army)
	2-6	79151 (LN)
Radio	E-7	4313 (Marine)
Operations	E-6	79171
	E-5	4313 (Marine)
	E-5	4313 (Marine)
	E-5	4313 (Marine)
	E-5	79151
	E-5	71R20 (Army)
	E-4	71R20 (Army)
News Department	E-7	79171
	E-6	4313 (Marine)
	E-5	79151
	E-5	4312 (Marine)
	E-5	4313 (Marine)

6204 AEROSPACE SUPPORT SQUADRON, CLARK AB, PHILIPPINES

As of: 30 June 1976

PAGE 1

DA (Karen)

SUPPORTING DOCUMENT NO. 4

AUTHORIZED		ASSIGNED		NAME	DUTY TITLE	SSAN	DEROS/ETS	REMARKS
GRADE	AFSC/MOS	GRADE	AFSC/MOS					
<u>HEADQUARTERS</u>								
<u>COMMAND</u>								
LT COL	A7916	MAJ	A7916	CARL F. FREEMAN	COMMANDER	423-48-9551	SEP 77	
O-3	1655	LT	1650	ERIC F. WILLENBROCK	EXECUTIVE OFFICER	149-38-4628	MAY 77	
<u>ADMINISTRATION (DA)</u>								
MSGT	70270	MSGT	70270	LAWRENCE O. FREEMAN	NCOIC, ADMINISTRATION	FR149-28-1033	JUN 78	
AIC	70250	SGT	70250	KAREN H. WHITTINGTON	ADMIN SPEC	FR453-96-9912	JUL 78	
E-5	0000/0000	PN1	0000/0000	JOSEPH L. SALEY	PERSONNELMAN	565-64-9283	OCT 76	
PG-9	70250	PG-8	70250	CORAZON R. QUIJANO	CLERK TYPIST		INDEF	
PG-9	70250	PG-8	70250	ELEANOR V. IGNACIO	CLERK TYPIST		INDEF	
<u>CHIEF ENGINEER (ME)</u>								
GS-12	3034	GS-12	3034	LAWRENCE L. LOBACK	CHIEF ENGINEER	399-22-3585	JUL 77	
<u>OPERATIONS (DO)</u>								
E-7	71R40	JOC	3221	DONALD F. RHAMY	OPERATIONS NCO	454-52-8190	APR 77	
<u>TRAINING (DOT)</u>								
SSGT	79151	TSGT	79171	RICHARD A. DAVIS	NCOIC TRAINING	FR504-48-3296	AUG 77	
<u>PRODUCTION (PDP)</u>								
TSGT	23171	MSGT	23171	JOHN E. BIRKLAND	GRAPHICS ILLUSTRATOR	FR334-26-7101	MAY 78	
AIC	79151	SSGT	79151	DUANE R. MERCIER	TV/RADIO PROD SPEC	FR544-58-1985	JAN 78	
AIC	79151			VACANT				
OVERAGE		MSGT	23172	EDWARD W. GOODHUE	PHOTOGRAPHER	FR002-26-3820	SEP 77	
OVERAGE		TSGT	23171	JOHN E. LOWE	GRAPHICS ILLUSTRATOR	FR543-40-7343	DEC 77	

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AUTHORIZED		ASSIGNED		NAME	DUTY TITLE	SSAN	DEROS/ETS	REMARKS
GRADE	AFSC/MOS	GRADE	AFSC/MOS					
<u>SUPPLY (MES)</u>								
MSGT	64570	MSGT	64570	RAUL A. CANALS	NCOIC, SUPPLY	FR580-30-0233	SEP 77	
SSGT	64550	SSGT	64550	JOHN S. REYES	INVENTORY MGT SPEC	FR027-28-9059	JUN 78	
SSGT	64550			VACANT				
A1C	64550	SGT	64550	GEORGE E. PERRON	INVENTORY MGT SPEC	FR010-32-6018	JUL 77	
<u>CLARK LOCAL STATION (SM)</u>								
CMSGT	79191	SMSGt	79191	JAMES S. ESTEP	STATION MANAGER	FR263-62-7529	AUG 77	
<u>RADIO PRODUCTION (PDR)</u>								
TSGT	79171	MSGT	79171	GARY A. GABRIEL	NCOIC, RADIO PROD	FR534-36-4624	APR 77	
E-6	4313	SSGT	79171	WILLIAM T. HELFRICH	TV/RADIO PROD TECH	FR316-40-7718	JUN 77	
E-5	3221	JO2	3221	RICHARD S. CLEMONS	BROADCAST SPEC	343-42-3576	FEB 77	
E-5	3221	JO3	3221	RICHARD M. YANKU	BROADCAST SPEC	098-44-1774	JAN 77	
SGT	79151	JO3	3221	ROBERT L. MATHESON	BROADCAST SPEC	477-62-0985	JAN 77	
SGT	79151	SGT	79151	MICHAEL F. CRAIG	BROADCAST SPEC	FR567-68-8985	AUG 77	
A1C	79151	A1C	79151	MICHAEL E. KIEFFER	BROADCAST SPEC	FR562-98-2543	AUG 76	
A1C	79151			VACANT				
PG-12	79171	PG-12	79171	FRANCISCA G. TADEO	RADIO/TV PROD TECH		INDEF	
<u>CONTINUITY (PDC)</u>								
E-7	4391	E-6	4313	SIDNEY S. BAGGETT JR	NCOIC, CONTINUITY	239-78-4178	APR 77	
SSGT	79151	SSGT	79171	HARLAND B. KEMPLIN	TV/RADIO PROD TECH	FR037-32-9434	OCT 77	
E-4	3221	JO3	0000	LOU ANNE AGUIRRE	BROADCAST SPEC	105-46-4907	JAN 77	
SGT	79151	A1C	79131	LEAWANNA A. CALHOUN	TV/RADIO PROD SPEC	FR214-62-8270	MAY 77	
A1C	79151			VACANT				
<u>TELEVISION (PDT)</u>								
E-7	3221	MSGT	79171	EUGENE PICKETT	NCOIC, TV PROD	FR013-32-9333	JAN 78	

AUTHORIZED		ASSIGNED		NAME	DUTY TITLE	SSAN	DEROS/ETS	REMARKS
GRADE	AFSC/MOS	GRADE	AFSC/MOS					
<u>TELEVISION CONT'</u>								
TSGT	79171	TSGT	79171	DAVID U. REEDER	TV/RADIO PROD TECH	FR499-46-6129	JUL 76	
E-6	3221	JO1	3221	ROBERT ANDERSON	BROADCAST SPEC	282-46-5172	JUN 77	
E-5	3221	SSGT	79151	VIRGIL W. HOPPER SR	TV/RADIO PROD SPEC	FR497-48-4384	FEB 78	
E-5	3221	SSGT	79151	KENT R. PETERSON	TV/RADIO PROD SPEC	FR471-58-1768	DEC 77	
E-5	3221	SSGT	79151	RUSSELL W. CASEY	TV/RADIO PROD SPEC	FR340-44-0721	JAN 78	
E-5	3221	SSGT	79151	GARY L. SCHMIDT	TV/RADIO PROD SPEC	FR484-50-6142	MAY 78	
SGT	79151	SSGT	79151	JESSE M. GLENN	TV/RADIO PROD SPEC	FR518-48-7256	FEB 77	
A1C	79151	A1C	79131	JAMES M. MCGRAW	TV/RADIO PROD SPEC	FR161-48-7133	OCT 76	
OVERAGE		JO3	00000	DARRELL T. WEST	BROADCAST SPEC	271-50-8485	JAN 77	
OVERAGE		JO3	3221	LOUIS F. BELL	BROADCAST SPEC	360-40-6998	JAN 77	
PG-12	79171	PG-12	79171	PELAGIA D. PUZON	TV/RADIO PROD TECH		INDEF	
PG-11	23192	PG-11	23192	FELIPE C. DINA	TV/RADIO PROD TECH		INDEF	
<u>NEWS (PDN)</u>								
TSGT	79171	GYSGT	4391	MICHAEL HAKIM	NCOIC, NEWS	273-40-5990	MAY 77	
E-6	3221	JO1	3221	LEWIS D. REED	BROADCAST SPEC	234-72-5569	JUN 77	
E-5	4313	JO1	3221	VICTOR P. PINZON	BROADCAST SPEC	110-38-3830	JUN 77	
E-5	3221	SSGT	4313	THOMAS G. ADAMS	BROADCAST SPEC	208-38-4398	MAY 77	
SSGT	79151	SSGT	79151	RONALD L. JAMERSON	RADIO/TV PROD SPEC	FR270-38-7932	SEP 76	
SGT	79151	SSGT	79151	MARK E. CONNER	RADIO/TV PROD SPEC	FR481-64-7936	JUL 77	
SGT	79151	SSGT	79151	RANDY W. DAY	RADIO/TV PROD SPEC	FR455-86-3550	APR 77	
OVERAGE		JO3	3221	RONALD A. JOYCE	BROADCAST SPEC	032-40-4510	MAR 77	
OVERAGE		A1C	79151	KURT H. PICKERING	RADIO/TV PROD SPEC	FR300-50-4151	SEP 76	
<u>RADIO MAINTENANCE (MER)</u>								
E-6	1500	ET1	1500	MICHAEL A. COPELAND	RADIO EQUIP RPMN	497-46-8639	MAY 77	
SSGT	30454	SSGT	30454	PETER B. MERLETTE	GND RADIO COMM EQUIP RPMNFR153-34-3811		DEC 77	



AUTHORIZED		ASSIGNED		NAME	DUTY TITLE	SSAN	DEROS/ETS	REMARKS
GRADE	AFSC/MOS	GRADE	AFSC/MOS					
<u>RADIO MAINTENANCE CONT'</u>								
SSGT	30454	SGT	30454	VIRGILLIO A. ABANDO	GND RADIO COMM EQUIP RPMN FR570-11-4963		NOV 77	
E-4	1500	ETN3	1500	STEVE D. KUCHERA	RADIO EQUIP RPMN 520-66-8855		MAR 77	
OVERAGE		SGT	30454	RICHARD A. PECKHAM	GND RADIO COMM EQUIP RPMN FR118-48-8354		JUL 76	
PG-15	30496	PG-12	30475	MARCELINO TORRES	RADIO/TV EQUIP TECH		INDEF	
<u>TELEVISION MAINTENANCE (MET)</u>								
MSGT	30475	MSGT	30496	MARY L. FAIRCHILD	NCOIC, TV MAINT	FR443-32-7333	DEC 76	
TSGT	30475	MSGT	30475	FLOYD A. FAZI	TV EQUIP TECH	FR424-48-8697	JUL 77	
TSGT	30475	TSGT	30475	ALFRED O. JACKSON	TV EQUIP TECH	FR330-34-1050	OCT 77	
TSGT	30475	TSGT	30475	WILLIAM JAMES III	TV EQUIP TECH	FR237-62-1344	AUG 77	
SSGT	30455	TSGT	30475	GEORGELL WISELEY	TV EQUIP TECH	FR341-34-9714	NOV 76	
SSGT	30455	TSGT	30475	JOHN C. MCCUEN	TV EQUIP TECH	FR249-62-5174	OCT 76	
SGT	30455	SSGT	30455	ADEN E. SHOAF, JR.	TV EQUIP RPMN	FR316-34-0775	FEB 77	
SGT	30455	SSGT	30455	JAMES WHYTE III	TV EQUIP RPMN	FR016-36-3957	SEP 76	
AIC	30455	SSGT	30455	PATRICK J. KELLY	TV EQUIP RPMN	FR578-66-7990	MAR 77	
AIC	30455	SSGT	30455	LARRY T. BREWER	TV EQUIP RPMN	FR227-68-6671	FEB 77	
AIC	30455	SSGT	30475	JIMMY M. PADILLA	TV EQUIP TECH	FR464-94-3623	FEB 78	
AIC	30455	AIC	30455	EUGENE M. STORM	TV EQUIP RPMN	FR097-38-7062	OCT 77	
AIC	30455			VACANT				
PG-14	30475	PG-14	30475	GEORGE G. DEJAMCO	TV EQUIP TECH		INDEF	
PG-14	30475	PG-14	30475	MAMERTO A. NALO	TV EQUIP TECH		INDEF	
PG-14	30475	PG-14	30475	BENJAMIN V. NAVARRO	TV EQUIP TECH		INDEF	
PG-12	30475	(DUTY LOCATION AFPN DET SUBIC) - NOT FIGURED IN TOTAL ON THIS ROSTER - SHOWN ON SUBIC ROSTER						
PG-12	30475	(DUTY LOCATION AFPN DET SUBIC)						
PROJECTED GAINS:		<u>791XX</u>		<u>304X5</u>		<u>0000</u>		
		Sgt Matthews - 31 Jul 76		AIC Brock - 31 Jul 76		PN2 Victa - Sep 76		
		SSgt Nestberg - 1 Aug 76		AIC Hickey - 30 Sep 76		J03 Remington - Jul 76		
		AIC Jeffrey - Sep 76		AIC Schrier - 30 Jan 77				
		AIC Parker - 30 Oct 76		AIC Labrador - 28 Feb 77				
		SSgt Nelson - 31 Aug 76		AIC Sutton - 22 Aug 77				



PACAF AFRT PERSONNEL ROSTER				UNIT AND LOCATION			AS OF DATE (Last day of month)	
AUTHORIZED		ASSIGNED		NAME	DUTY TITLE	SN	DEROS ETS	REMARKS (Show changes with a last initial)
GRADE	AFSC/MOS	GRADE	AFSC/MOS					
ADMINISTRATION								
MSGT	79171	MSGT	79171	ROBERT W. MARSHALL JR.	STATION MANAGER	FR030-28-3475	Oct 78	
SUPPLY								
ENG/MAINT								
TSGT	30475	TSGT	30475	JERRY J. KURTZ	NCOIC, TV MAINT	FR308-40-1014	NOV 77	
SGT	30455	SSGT	30455	CHARLEY WOODEN JR	TV EQUIP RPMN	FR033-36-1299	NOV 77	
SGT	30455	SSGT	30455	JOHN H. NYMAN	TV EQUIP RPMN	FR470-52-9503	JUL 77	
PROGRAMMING/RADIO PRODUCTION								
TV PRODUCTION (NOTE: List all actual functional areas as shown in unit/organizational chart)								
SGT	79151	TSGT	79171	GARLAND R. GREEN	NCOIC, TV PROD	FR456-36-8841	OCT 77	
SGT	79151	SSGT	79151	MARTIN C. FUSSELL	TV/RADIO PROD SPEC	FR122-42-3594	MAR 78	
A1C	79131	SGT	79151	MIECZSLAW A. CIECIORKA	TV/RADIO PROD SPEC	FR040-40-7401	DEC 77	
A1C	79131	A1C	79151	LONZO R. ROLAND	TV/RADIO PROD SPEC	FR462-88-8791	OCT 77	
TOTAL STRENGTH		PROJECTED GAINS/LOSSES AF/USA/USN/USMC (Name, Line Number, Reporting)						
USAF/USA/USN/USMC								
AUTH		ASGND						

PACAF AFRT PERSONNEL ROSTER				UNIT AND LOCATION AFPN Detachment Subic Bay Naval Base, Philippines		AS OF DATE (Last day of quarter) 30 June 1976		
AUTHORIZED		ASSIGNED		NAME	DUTY TITLE	USN	DEROS/ETS	REMARKS (Show changes in a last initial)
GRADE	AFSC/MOS	GRADE	AFSC/MOS					
ADMINISTRATION								
MSGT	79171	MSGT	79171	FRANK J. LEARY	STATION MANAGER	FR534-18-9142	APR 77	POSITION ON CLARK UDL - IDENTIFIED FOR "SU" (SUBIC)
SUPPLY								
ENG/MAINT								
ET2	1500	ET1	1434	DAVID K. FREDRICKSON	CHIEF ENGINEER	339-36-1445	AUG 76	
ET3	1500	ET1	1422	DAVID I. DANIELLEY	ENGINEER	203-38-2237	DEC 76	
OVERAGE		ETR2	0000	DUANE R. SVEDIN	ENGINEER	474-60-3544	NOV 77	
PROGRAMMING/RAZED PRODUCTION								
J02	3221	J02	3221	JAMES H. ONDREY	NEWS DIRECTOR	204-36-5585	MAY 76	
J02	3221	J03	3221	FRED M. WATSON	DUTY ANNOUNCER	543-60-0281	JAN 77	
SGT	4313	SSGT	4313	JOSEPH M. RODRIQUEZ	DUTY ANNOUNCER	454-72-0965	AUG 76	
TV PRODUCTION (NOTE: List all actual functional areas as shown in unit/organizational chart)								
ENG/MAINT (CONTINUED)								
PG-12	30475	PG-12	30475	MARCIAL YANDOC	ENGINEER		INDEF	POSITION ON CLARK UDL
PG-12	30475	PG-12	30475	BENITO S. ESPINO	ENGINEER		INDEF	POSITION ON CLARK UDL
TOTAL STRENGTH		PROJECTED GAINS/LOSSES USAF/USA/USN/USMC (Week, Line Number, Reporting Detail)						
USAF/USA/USN/USMC								
AUTH		ASGNO						
8		9						

PACAF FORM 17  
APR 74

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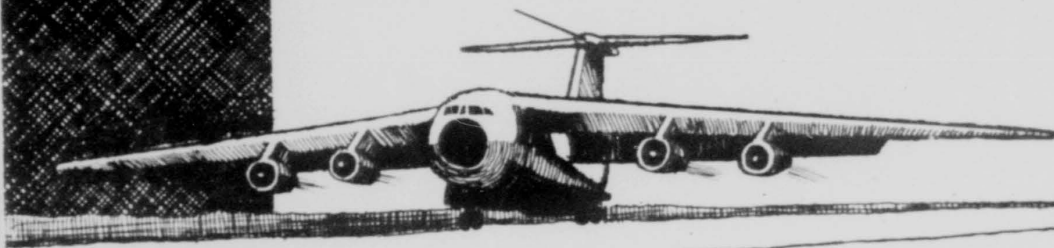


HISTORY  
OF THE

APSHHC MAXWELL AFB, 36112	RETURN TO
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445 MILITARY AIRLIFT WING  
(ASSOCIATE)(AFRES)

NORTON AIR FORCE BASE, CALIFORNIA



1 APRIL - 30 JUNE 1976

1012651

RCS: HAF CHO(AR)7101 FOR OFFICIAL USE ONLY

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AFSHRC  
MAXWELL AFB AL 36112  
RETURN TO

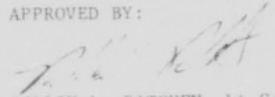
HISTORY OF THE 445th MILITARY AIRLIFT WING  
(ASSOCIATE) (AFRES)

1 APRIL - 30 JUNE 1976

BY

LIEUTENANT COLONEL WOODROW T. FAIL, Jr, USAFR  
445 MILITARY AIRLIFT WING HISTORIAN

APPROVED BY:



ROLLIN L. RATCHEN, Lt Col, USAFR  
Commander  
30 JUNE 1976

WESTERN AIR FORCE RESERVE REGION  
AIR FORCE RESERVE

UNCLASSIFIED

1012651

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ABSTRACT

(U) Outlines unit participating in "COPE ELITE", OPORD 5", AND "RED FLAG" exercises. Also includes Chief, CBPO data, maintenance and recruiting activities, and feeder reports from 944 Civil Engineers, 68 Aeromedical Evacuation Squadron, 54 and 61 Aerial Port Squadrons.

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HISTORY OF THE 445th MILITARY AIRLIFT WING  
(ASSOCIATE) (AFRES)  
NORTON AIR FORCE BASE, CALIFORNIA 92409

RCS: HAF-CHO(AR)7101

1 APRIL - 30 JUNE 1976

CHAIN OF COMMAND: Western Air Force Reserve Region (WAFRR), McClellan AFB, California 95652, and Air Force Reserve (AFRES), Robins AFB Georgia 31098

GAINING COMMAND: Military Airlift Command (MAC), Scott AFB, Illinois 62225

SUBORDINATE UNITS:

50th Aerial Port Squadron  
54th Aerial Port Squadron  
56th Aerial Port Squadron  
61st Aerial Port Squadron  
68th Aeromedical Evacuation Squadron  
728th Military Airlift Squadron  
729th Military Airlift Squadron  
730th Military Airlift Squadron  
944th Aerial Port Flight  
944th Air Base Squadron  
944th Avionics Maintenance Squadron  
944th Civil Engineer Flight  
944th Communications Flight  
944th Field Maintenance Squadron  
944th Organizational Maintenance Squadron

MISSION: A Military Airlift Wing (Associate) provides necessary augmentation to an active duty wing in the form of aircrew, maintenance and aerial port operations to achieve full use of military airlift aircraft under various conditions of heightened tension up to and including full mobilization.

AUTHORITY: AFM 26-2 and Organizational Table (OT) 32460, Part I, and MAC PAD's 68-5 and 68-9.



445th MILITARY AIRLIFT WING

KEY PERSONNEL

LT COL ROLLIN L. RATCHEN	COMMANDER
LT COL WOODROW T. FAIL, Jr.	DEPUTY COMMANDER FOR OPERATIONS
LT COL WILLIAM A. REDMAN	DEPUTY COMMANDER FOR MAINTENANCE
LT COL FORREST C. SIX	DEPUTY COMMANDER FOR RESOURCES
MR. DAVID G. RAMSAY	EXECUTIVE OFFICER
MRS. SHIRLEY E. BRYANT	BUDGET OFFICER
CAPT DURRELL W. GARRISON	CHIEF, CBPO
LT COL OSWALD M. CASTRO	COMMANDER, 944th ABS
LT COL THOMAS L. SPRUIELL	COMMANDER, 68th AES
MAJOR GARY W. RALSTIN	COMMANDER, 50th APS
LT COL JOHN B. KIEFER	COMMANDER, 54th APS
MAJOR WILLIAM B. FORBES	COMMANDER, 56th APS
LT COL PAUL E. PATTERSON	COMMANDER, 61st APS
LT COL JAMES M. RIZOR	COMMANDER, 728th MAS
LT COL DONALD C. HART	COMMANDER, 729th MAS
LT COL WILLIAM M. CONLEY	COMMANDER, 730th MAS
MAJOR CRAIG A. PEEPLES	COMMANDER, 944th APS
MAJOR JAMES A. SERPANOS	COMMANDER, 944th CEF
CAPT WILLIAM B. VAN HORN	COMMANDER, 944th CF
CAPT PAUL J. SAUTTER	COMMANDER, 944th AMS
CAPT MICHAEL BRADLEY	COMMANDER, 944th FMS
CAPT EDWIN HAYASHI	COMMANDER, 944th OMS
ZLT THOMAS M. LANGLEY	COMMANDER, 944th WSSF
LT COL URIEL BLACKSHER	CHIEF, SOCIAL ACTIONS
LT COL HENRY W. GAYLOR	CHAPLAIN
CAPT RICHARD P. HAEUSSLER	JUDGE ADVOCATE
MAJOR THOMAS L. ARNTSON	FLIGHT SURGEON
MAJOR CHARLES R. TEMPLIN	CHIEF OF SAFETY
(Vacant)	CHIEF OF TRAINING

CHRONOLOGY

- 13-15 April: Lt Col Ratchen, 445 MAW/DCO, attended the MAC Commander's Conference at Scott AFB, Illinois.
- 13-15 April: Lt Col Wm A. Redman, 445 MAW/DCM, attended the WAFRR Maintenance Conference at McClellan AFB, California.
- 19-23 April: Lt Col Henry W. Gaylor, 445 MAW Chaplain, attended the AFRES Command Chaplain Conference at McClellan AFB, California.
- 21 April: Lt Col Roy E. Hale, AFRES/SGAA, TSG Hudson and CMS Ronald Jannette visited the 445 MAW and 68 AES.
- 23 April: Capt Carpenter, WAFRR/TS, visited 445 MAW ACB/CCE and RS functions on a Staff Assistance Visit.
- 27 April: Capt Drake, WAFRR/RS conducted a fact finding visit to Recruiting, Aerial Port Squadron, Executive Office and Command Section.
- 27 April: Col McFeron, MAC, headed a team performing an ASET visit to the 63 MAW and 445 MAW.
- 27 April: Capt Osborne and Capt Carpenter of WAFRR/RS met with Mr. Ramsay, 445 MAW Executive Officer, Major Forbes, 56 APS/CC, Lt Col Johnston, 63 APS/CC, Lt Col Ratchen, 445 MAW/DCO, Lt Col Six, 445 MAW/DCR, and Lt Col Kiefer, 54 APS/CC, to discuss feasibility of an Aerial Port Squadron in San Diego, with some training to be done at Norton AFB.
- 3 May: Major Guy K. Mac Farland, AFRES/DOOM, performed a Staff Assistance Visit to 445 MAW/DO/CC/CCE.
- 6-7 May: Lt Col Fail, Operations and Training Officer, attended the WAFRR/DO Conference at McClellan AFB, California.
- 10-14 May: Major Charles R. Templin attended the 3rd Annual AFRES Safety Conference at Robins AFB, Georgia.
- 22 May: MAC/IG performed a General Inspection of the 54 APS.
- 13 June: Lt Col Ratchen, 445 MAW/DCO, attended a retirement review and ceremony in honor of Brig Gen Wm G. Hathaway, Vice Commander, WAFRR.
- 15 June: Major Gambera and MSG May of WAFRR/LG performed a Staff Assistance visit to the 445th MAW units.
- 18-20 June: MSG Penniman, AFRES/RSV, performed a Staff Assistance Visit to 445 MAW/DP/RS.
- 22 June: Lt Col Rollin L. Ratchen, 445 MAW/CC, conducted the Quarterly ART/Civilian Commander's Call in the 68th AES Assembly Room. The following awards were presented: A Certificate of Recognition for

445 MAW participation in the Norton AFB Combined Federal Campaign was presented to the Project Office, Major Charles Schmidt; Major Wm R. Bowman and SMS Juan Salinas received certificates and pins denoting 20 years of "faithful federal service"; and Major Eugene Slebrch received a Quality Salary Increase.

30 June: Col Bob Williams, Major Osborne and Capt Drake of WAFRR visited the 445th MAW and met with Aerial Port Squadron Advisors.

OPERATIONS DIVISION

Quarter: April, May, June 1976

Flying Hours Scheduled: 2989.1

Hours Flown: 2994.4

Sorties Scheduled: 237

Sorties Flown: 257

	<u>Airlift Missions</u>	<u>Flying Hours</u>	<u>Scheduled vs Flown</u>
Apr	26	616.7	681.3/616.7
May	29	695.3	722.2/695.3
Jun	24	731.2	668.9/731.2
TOTAL	79	2043.2	2072.4/2043.2 (98.6%)

UTE Rates for the three month period:

	<u>APR</u>	<u>MAY</u>	<u>JUNE</u>
728 MAS	.80	.91	.93
729 MAS	.66	.64	.64
730 MAS	.75	.52	.83

Average Productive Flying Time by Aircrew Positions

<u>Squadron</u>	<u>APRIL</u>				
	<u>AC</u>	<u>CP</u>	<u>N</u>	<u>FE</u>	<u>LM</u>
728 MAS	17.3	18.7	34.1	26.4	34.3
729 MAS	17.1	16.7	23.9	24.9	22.6
730 MAS	16.6	19.7	30.2	29.6	41.0
	<u>MAY</u>				
728 MAS	18.6	18.6	34.0	39.0	36.2
729 MAS	21.5	14.5	28.4	37.5	12.7
730 MAS	17.8	18.1	28.8	22.3	29.8
	<u>JUNE</u>				
728 MAS	24.4	23.4	34.5	31.7	30.5
729 MAS	22.7	16.1	37.9	20.1	21.0
730 MAS	18.9	29.2	26.3	27.3	36.1

Local Missions: 119  
 Combat Airlift Missions: 28  
 Overwater Missions: 70

Stateside Missions: 16  
 PHP 809/PEN 805 Trainers: 24

During this quarter, the 445th MAW operated nine special assignment airlift missions (SAAM) that were added to the flying schedule, and two live aeromedical evacuation missions to/from Elmendorf AFB, Alaska. The 445th MAW also operated two exercise "COPE ELITE" missions; two "OPORD 5" missions, and eight exercise "RED FLAG" missions.

"OPORD 5" is a continuing series of air transportability training exercises that are conducted by the 63 MAW and the 1st Marine Division under the MAC Affiliation Program.

Exercise "COPE ELITE" is a CINCPAC sponsored, JCS coordinated exercised programmed to deploy a CONUS based A-7D tactical fighter element from David Monahan AFB to Barbers Point NAS, Hawaii, to participate in field training with Hawaii based Army units.

Exercise "RED FLAG" is designed to afford an opportunity to evaluate the C-141a aircraft in a medium to high threat environment. Operating out of Nellis AFB, Nevada, C-141a aircraft simulate a strategic employment of airborne personnel and equipment to establish an airhead for follow-on operations. Effectiveness of current C-141a aerial delivery tactics and procedures in a hostile area, with and without escort and other support, is being evaluated. Additionally, modified tactics and procedures, as required, will be evaluated to enhance the C-141a's aerial delivery effectiveness in a combat environment.

The continuing 63 MAW Airdrop Competition finds the 445th MAW still doing extremely well in both average unit scores and individual crew positions. (See attachments 1 and 2.)

HISTORICAL REPORT - FIRST QUARTER 1976

ORGANIZATION

The 944 Air Base Squadron continues to serve as the Reserve Consolidated Base Personnel Office for all Reserve units assigned to Norton Air Force Base and Luke Air Force Base.

PERSONNEL

	<u>AUTHORIZED</u>	<u>ASSIGNED</u>
Administration	4	4
Personnel Systems Management	3	3
Personnel Utilization	4	3
Quality Force	5	5
Reserve Pay	5	5
Records	5	5
Customer Assistance	<u>1</u>	<u>1</u>
	27	26

OPERATIONS

During this quarter, the Consolidated Personnel Office processed:

Officer Effectiveness Reports	57
Airman Promotions	139

Reenlistments:

	<u>Eligible</u>	<u>Reenlisted</u>	<u>Percentage</u>
April	72	34	47%
May	103	35	34%
June	37	29	78%

During this quarter the Reserve Consolidated Base Personnel Office received a Certificate of Recognition from Western Region Headquarters for outstanding support provided to the Wing Recruiting Office. (See Atch #4).

TRAINING

The Consolidated Base Personnel Office conducts regularly scheduled in-house training for all its personnel each Tuesday. Training this quarter included:

UDL Maintenance

File Maintenance Products

Records of Emergency Data, ID Cards, Awards and Decorations

Participation

Dispatch of Correspondence

Immediate Inquiry and Update Procedures

Bona Fide High School Program

Health, Immunizations, and Photos

GSU Support

Testing Procedures

Organization of Data Base and Use of Din's

Officer Promotions, Appointments and Mandatory Retirement Duties

Initial Duty Assignments, Updates, and Duty Status

VISITATION

May 1-2, Major Durrell W. Garrison, and SMS Charles D. Sutorus visited Luke AFB. They presented briefings on Career Motivation, and Products to the 302nd Special Operations Squadron, and the 41st Medical Service Squadron.

AIR FORCE RESERVE RECRUITING

All recruiters from Norton AFB attended the WAFRR Recruiting Conference at McClellan AFB, California on 16 and 17 July 1976. Norton Operating Location was named Top OL in WAFRR For the quarter and Top OL in WAFRR for the year ending 30 June 1976. Individual awards went to MSG Mitchell for Top Senior Recruiter; TSG Casino was Top Mobilization Augmentee Recruiter for WAFRR and Top Recruiter for the Norton OL; the Kazoo Award (two or more accessions per week for the quarter) went to TSG Casino, SGT Brewer, MSG Easley, MSG MacKay and SGT Prudhomme.



68TH AEROMEDICAL EVACUATION SQUADRON

I. ORGANIZATION

The overall unit mission has remained unchanged during this reporting period Apr - Jun 76). The selective recruiting program is continuing with emphasis on quality professional personnel.

a. Personnel

(1) Authorized strength and actual assigned personnel at the end of the reporting period are as follows:

	<u>Authorized</u>	<u>Assigned</u>
MSC Officers	5	5
Nurse Corps Officers	46	43
Med Techs (A902X0)	68	64
Med Admin Spec (906X0)	11	10
Med Materiel Spec (915X0)	1	1
(Civilian Clerk/Typist)	<u>(1)</u>	<u>(1)</u>
TOTAL	131	123

(2) Aeromedical Crews are as follows:

	<u>Authorized</u>	<u>Assigned</u>
Formed	22	21
Operationally Ready	22	12

b. Budget

The established guidelines for control of the budget are being adhered to by the unit budget monitor. The unit is in receipt of the FY 77 funds and has established fiscal controls as required.

c. Safety

The unit's safety program continues to be effective with no ground and/or flying incidents or accidents reported during this period. Major Merrill, unit safety OIC, has been working closely with the 445 MAW safety staff.

II. MISSIONS

a. Mission support activities are as follows:

	<u>Number of Missions Flown</u>	
	<u>Live</u>	<u>Simulated</u>
April	13	6
May	17	14
June	<u>16</u>	<u>18</u>
TOTAL	46	38

b. All simulated missions were accomplished in accordance with current directives for the training, currency/proficiency and upgrade of unit personnel.

c. The following information concerns live missions flown by unit personnel during Fiscal Year 1976 (1 Jul 75 - 30 Jun 76).

	# Participating		Hrs Flown W/Patients	Number of Patients			Total Patient Air Miles
	FN	MT		Litter	Ambul	Attnds	
Jul 75	5	30	115.5	168	- 325	+ 347	43,924
Aug 75	20	14	151.8	179	- 309	+ 253	58,273
Sep 75	13	20	161.3	194	- 385	+ 148	63,281
Oct 75	22	16	73.0	76	- 204	+ 57	29,266
Nov 75	23	24	78.8	98	- 176	+ 40	31,617
Dec 75	6	15	86.8	98	- 204	+ 53	34,729
Jan 76	11	7	130.2	132	- 265	+ 50	27,945
Feb 76	38	50	99.8	126	- 268	+ 109	40,926
Mar 76	9	14	67.3	75	- 197	+ 51	27,383
Apr 76	30	26	41.8	34	- 97	+ 30	13,973
May 76	8	12	63.0	80	- 134	+ 47	26,058
Jun 76	34	31	140.6	125	- 299	+ 131	57,971
TOTAL	219	259	1,209.9	1385	- 2863	+ 1316	455,346

### III. TRAINING

The unit has completely redeveloped its concept and approach to the required professional in-service educational program. Unit personnel are diligently working to have the 68th Aeromedical Evacuation Squadron's program accredited with the state of California in order to assist our professional personnel with their required subjects for licensing within the state of California. The unit's hospital training program has been very beneficial in assuring unit members proficiency in medical treatment areas.

### IV. SUPPORT FUNCTIONS

All areas enumerated in the AF 11-4 Host-Tenant Support Agreement are being met by all concerned in an excellent manner.

### V. GENERAL INFORMATION:

a. LT Colonel Thomas L. Spruiell, 68 AES Commander, had the privilege to brief Air Vice Marshall (O-8 equivalent) Fahim Ahmed Kahn, Director of Medical Activities/Pakistani Air Force, on the operating methods of strategic and domestic aeromedical missions within the Military Airlift Command. This briefing took place on 07 June 1976.

b. Major Marjorie C. Merrill has continued to be involved in teaching Cardio-Pulmonary Resuscitation to several active and reserve military organizations. Major Merrill has contributed her own time in this behalf.

c. Unit medical personnel supported the personnel of the 729th MAS by conducting required First Aid classes during June 1976.

## AIRCRAFT MAINTENANCE DIVISION

1. Maintenance accomplishments during the 4th Quarter are as follows (all are three months averages):

<u>ITEM</u>	<u>THREE MONTHS AVERAGE</u>
a. Indirect manhours assigned (3XX Labor Code)	10,818.0
b. Direct manhours assigned (100 Labor Code)	39,861.0
TOTAL	50,679.0
c. Total productive manhours reported	25,850.0
d. Percent utilization of assigned direct labor (1XX Labor Code)	64.9%
e. Flying hours allocated	851.0
f. Flying hours produced (based on MDC manhours documented on C-141 Aircraft)	
(1) Hours produced by ARTs on Civil Service Status	615.1
(2) Hours produced by ART/RESERVE personnel on Military Status	165.4
Total Flying Hours Produced	780.5

2. Maintenance support provided by the 445 MAW/LGM to the host wing's Forward Supply Support Program was 2,388.0 average manhours per month during the 4th Quarter.

3. Average Base Self Sufficiency for the 4th Quarter was 99.0%. The USAF standard is 95%.

4. The average portion of daily aircraft utilization rate supported by maintenance was .53 per day per 48.4 aircraft possessed during the 4th Quarter. The programmed utilization is .52 per day per aircraft. Even though the productivity of ART/Reserve personnel during the normal work week, UTA's and Summer Camps remains high, there was a decrease in the Daily Utilization Rate. The decrease was caused by a reduction in the total flying hours committed to Norton AFB.

5. Departure Reliability - Logistics. The 445 MAW/LGM made significant contributions to the 63 MAW's C141 Departure Reliability Program as shown below. The Departure Reliability is a key element in measuring the effectiveness of a Military Airlift Wing. The fact that Associate personnel actively participate in this important endeavor is a clear indication of our productivity, experience factor and results of training efforts. All goals were exceeded during the 4th Quarter.

Home Station Departure Reliability (Goal 93%)  
 366 Total Departures - 20 Total Delays: 94.5%

Enroute Departure Reliability (Goal 93%)  
 76 Total Departures - 0 Total Delay: 100.0%

Local Departure Reliability (Goal 93%)  
 524 Total Departures - 20 Total Delays: 96.2%

6. The authorized strength and average number of personnel assigned during the 4th Quarter are as follows:

CATEGORY	AUTHORIZED	ASSIGNED	PERCENT
Officers	20	19	95.0%
Airmen	875	862	98.5%
Civilian	3	3	100.0%
TOTAL	898	884	98.4%

7. The 445 MAW Maintenance personnel bid farewell to Capt Edwin M. Hayashi, Commander of the 944th Organizational Maintenance Squadron. Capt Hayashi is leaving the unit due to an out-of-state transfer and promotion by his civilian employer. Capt Hayashi's professionalism, dedication and knowledge of the MAC and AFRES missions made him a highly effective commander. Under his leadership, OMS initiated a program of reserve support to the 63MAW on every weekend. In addition, training of reserve personnel and productivity were within Air Force standards during Capt Hayashi's tenure as OMS Commander. We wish him the best in his new residence and position. Capt Larry R. Davis has been appointed to the position of 944 OMS Commander, replacing Capt Hayashi. Capt Davis has served on active duty with the 63MAW and has been a reservist with the 445MAW for more than 5 years. His last duty assignment was Quality Control Officer. His experience in all facets of aircraft maintenance will give him the basis from which to effectively manage OMS resources. Under his leadership, we are sure that OMS will continue to be an important part of the Maintenance complex. We wish Capt Davis great success in his new assignment, and we want him to know that he can count on our full support.

8. During the 4th Quarter, the following personnel received the awards indicated:

Outstanding Performance Ratings

Mr. Paul F. Carlson  
Mr. James D. Leaper

Suggestion Award

Mr. James B. Kelley

Sustained Superior Performance Awards

Mr. Gonzalo Ramirez  
Mr. Ronnie J. Patterson

Ten Year Service Awards

Mr. Gerald A. Durham  
Mr. Raymond W. Creekbaum

Thirty Year Service Award

Mr. Melvin J. Rosevink

## 54 AERIAL PORT SQUADRON

## Personnel Strength as of 30 June:

	<u>Officers</u>	<u>Airmen</u>	<u>Total</u>
Authorized	4	119	123
Assigned	4	95	99
Percent	100	80	83

## Manning by Skill Level

<u>Level</u>	<u>Authorized</u>	<u>Qualified</u>	<u>Percent</u>
9	3	3	100
7	21	21	100
5	65	56	86
3	30	6	20
Total	119	86	72

During this quarter, unit training assemblies were performed on 3-4 April, 22-23 May, and 19-20 June. Six airmen were promoted, five new personnel were assigned, and five personnel were issued line badges. Twenty-two personnel remain in upgrade training and six were upgraded during this quarter.

Sixteen hours of academic training were conducted for assigned airmen. Eight airmen were instructed, tested, and qualified in the operation of MHE type equipment. In addition, annual evaluations of MHE operations were conducted for 20 personnel. Sixteen personnel attended a four hour Human Relations Seminar. Sixty-two personnel attended a security briefing.

Lt Col Kiefer, Commander, attended the Advanced Transportation Course at Sheppard AFB on 7-18 June 1976.

This unit received a SATISFACTORY rating on its inspection from the MAC/IG on 21-23 May 1976.

61 AERIAL PORT SQUADRON

Personnel Strength as of 30 June 1976:

	<u>Officer</u>	<u>Airmen</u>	<u>Total</u>
Authorized	4	119	123
Assigned	4	107	111
Percent	100	90	90

Due to recent exodus of first term airmen who were obligated to a six-year term of duty, our manning percentage has temporarily dropped. Our recruiting efforts should enable this squadron to increase this percentage within the next quarter. We have been averaging from one to four personnel each month.

Our static practice loading exercises have greatly increased on-the-job proficiency and we are continuing this exercise as a scheduled monthly routine.

The 61st APS operational plan and advanced cadre have been prepared for the 1976 Annual Tour of Duty.

On 3 April 1976, the 61st APS provided support of International Orphans, Inc., for the groundbreaking ceremonies of their new Children's Village, U.S.A. in Beaumont, California. Former Commander Lt Col Forrest C. Six directed the unit's involvement from the early planning and approval stages through the final ceremony. Attachment #3 is a letter from the officials of International Orphans, Inc., expressing their sentiments.



HISTORICAL REPORT  
944th CIVIL ENGINEERING FLIGHT  
10 April THRU 20 June 1976

This unit's activities during the second quarter of 1976 are summarized as follows:

1. The major effort during this quarter was the Prime BEEF C-Team mobilization exercise conducted on 15-16 May. The overall exercise was considered very successful. Attached hereto is a pictorial presentation and a detailed memo for the record.
2. Emphasis this quarter was on maintaining a close working relationship with Base Civil Engineering personnel and in-shop training. The outstanding cooperation of the Base Civil Engineers in providing civilian and military personnel during this period has contributed significantly to the increased job satisfaction of our personnel.
3. In all crews a portion of available man-hours were utilized for training, records upgrading and administrative requirements.

(1) ELECTRICAL

Power Production: All personnel performed routine maintenance on Prime BEEF generators, which included voltage and frequency checks, with emphasis on electrical safety.

Interior Electrical: Disconnected and reconnected electrical wiring for the relocation of a hut in building 747, and added an additional outlet circuit. Installed a computer circuit in building 536. Accomplished service calls on base.

Exterior Electrical: Accomplished Base Civil Engineering in-shop training and completed actual work orders where required.

(2) PAVEMENTS AND EQUIPMENT:

Completed wash rack project for the 303 Air Rescue Squadron, March AFB. All personnel received OJT in the operation of 2½ ton dump truck, compressor with jack hammer and skip loader. Assisted Base Civil Engineering in weed control in Area 2 during which OJT was administered in the use of 2½ ton truck, loader and grader.

(3) MECHANICAL:

Heating: With cooperation of Base Civil Engineering personnel, removed two (2) electric pumps and a condensate reservoir tank from building 658 for overhaul and annual maintenance. Performed annual maintenance on the steam

distribution lines on base. Four (4) 6 inch slip joint expansion valves were repacked and sealed.

Welding: Completed the cutting and welding of a new tool box rack. Fabricated a new battery hold down clamp for power production generator.

Sheet Metal: Worked in shop with Base Civil Engineering Personnel. Constructed battery case.

Liquid Fuels: Worked with base personnel in the installation of an anti-surge valve, pump houses # 2 and 3. Removed back pressure valves from system in pump house #1, pumps 2-4, 1-3, 5-6.

Air Conditioning and Refrigeration: Accomplished base service calls. Repaired refrigerant gas leak on refrigeration unit at El Rancho dining hall. Wired in second stage compressor as lead compressor in building 247 as a result of first stage compressor burn-out. Assisted installers from Carrier Co. in the installation of a new solid state module in the Carrier Centrifugal Air Conditioner, building 536.

(4) STRUCTURES:

Plumbing: Repaired water line in Officers Club. Plugged stool in building 425. Repaired hot water line to dishwasher in dining hall. Repaired disk on garbage disposal drain line in NCO Club kitchen.

Carpenter: Installed shingles on building in Area 2. Fabricated skirts for pallet to be used for mobilization exercise.

Painting: Scraped trim on building in Civil Engineering compound in preparation for painting. Painted equipment room in 944 CE Flight supply area (building 948). Painted mens restroom in Civil Engineering Compound.

(5) DEVELOPMENT AND SANITATION:

Water and Waste: Accomplished operation and maintenance of wells, pumping stations, water plant and swimming pool.

Site Developers: Updated vertical control maps of Norton AFB. Drew floor plan for our new conference room and storage facilities in building 948.

Cost and Real Estate: Received OJT from Base Civil Engineering personnel in real property maintenance cost estimating and the preparation of work vouchers.

Inventory Management Specialist: Relocated mobility equipment. Completed inventory of winter equipment (B bags) and mobility equipment. Conducted annual inventory of tool boxes. Accomplished equipment packing for mobility exercise. Updated tool kit listing.

Entomology: Received OJT in rodenticides and pesticides. Worked with Base Civil Engineering personnel in the capture of ground squirrels in Area D.

- (6) FIRE PROTECTION: Worked side-by-side with alert personnel at Norton AFB Fire Department gaining experience in rescue operations, fire fighting, maintenance of equipment and fire prevention.
- (7) ADMINISTRATIVE: Seven (7) new personnel were in-processed and twelve (12) personnel were out-processed during this reporting period.

*Orlan M. Herrick*  
ORLAN M. HERRICK, SSGT, USAFR  
Unit Historical NCO

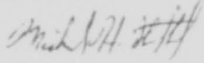
PRIME BEEF C-TEAM EQUIPMENT MOBILIZATION EXERCISE

MEMO FOR THE RECORD

25 July 1976

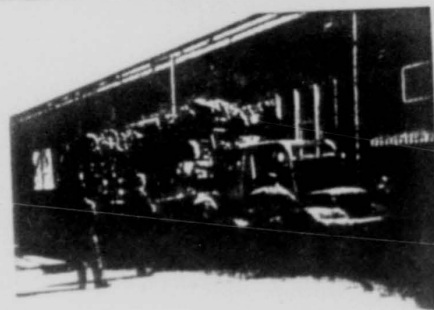
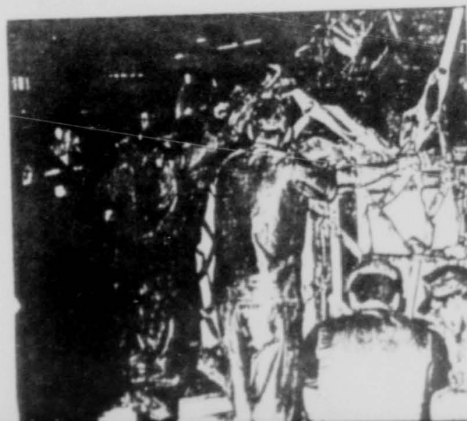
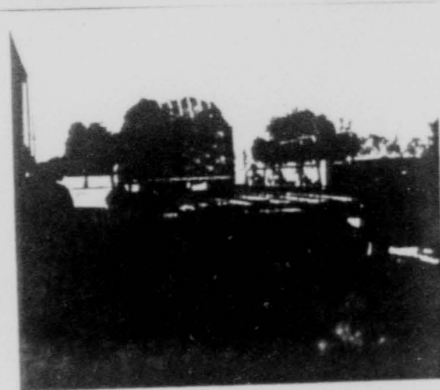
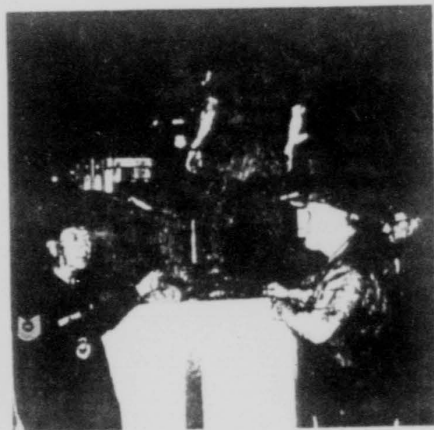
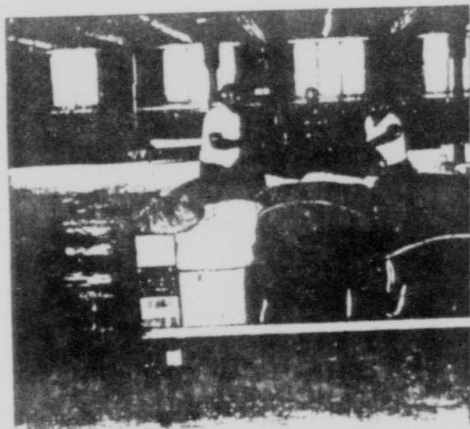
SUBJECT: Prime BEEF C-Team Equipment Mobilization Exercise 15-16 May 1976

1. During the May UTA, the 944 AP Flight assisted the 944 CE Flight in palletization of the C-Team equipment and mobility bags (cold weather deployment configuration). The Aerial Port Flight then weighed the pallets and actually loaded them on a static C-141 aircraft. No attempt was made to meet time limits on this exercise as its primary intent was to determine, analyze and document procedures.
2. On 15 May 1976, C-Team equipment was packed and palletized. Documentation was made of the storage location, packing box location, and pallet location of each item. Pictures were taken to help develop drawings of how to assemble the items on each pallet. Four pallet positions were needed. The NF-2 light cart took up one position.
3. A wood skirt was prepared for one pallet and proved to be of good value in enabling the full packing of that pallet. Other wooden skirts should be made for the other pallets.
4. The Aerial Port personnel instructed the Civil Engineering personnel on proper tie down techniques and how to care for and store pallet netting.
5. On 16 May the completed pallets were transported by the Aerial Port to the freight terminal and weighed. The cargo was then loaded aboard a static C-141 aircraft, removed and brought back to building 948.
6. In June, the 944 AP Flight prepared aircraft loading diagrams from deployment of a 60-man Prime BEEF C-team with equipment for cold and warm weather destinations. They further recommended that the Civil Engineering flights acquire pallet dollies for their pallets to facilitate the movement and weighing of the cargo.
7. The 19 July 1976 message from HQ AFRES realigning the flight to an 85-man Prime BEEF Team will require the use of two aircraft. Subsequently, new aircraft loading diagrams will be prepared and added to the Mobility Plan as Change 2.
8. Configurations will be planned for both C-141 and C-130 aircraft. Personnel and their equipment and camp erection equipment will have to be divided between the two sorties so that each one will be self-sufficient.

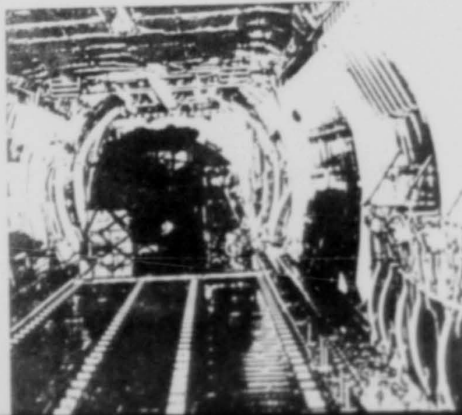
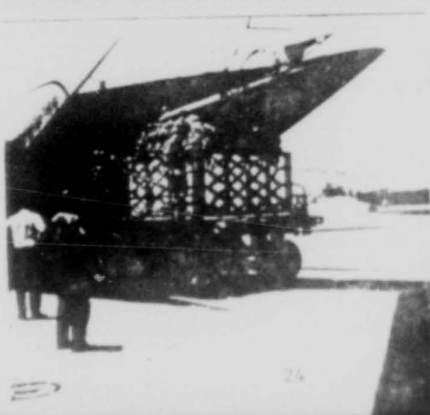
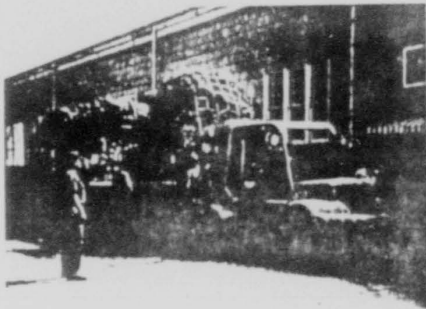
  
MICHAEL H. STAFFORD, Capt, USAFR  
Prime BEEF Manager

2 Atch: 1. Packing Lists  
2. Pallet Skirt Plan

CRIME BOEF C-TEAM EQUIPMENT UTILIZATION EXERCISE



*PRIME REEF C-TEAM EQUIPMENT UTILIZATION EXERCISE*





MAJOR INSPECTION/CAREER MOTIVATION (BACKLOG)

DEPARTMENT OF THE AIR FORCE  
 HEADQUARTERS 944th MILITARY AIRLIFT WING (ASSOCIATE AIRFIELD)  
 NORTON AIR FORCE BASE, CALIFORNIA 92409



DPM

12 April 1976

Career Motivation Staff Assistance Visit (Ref. AFR 35-16, Vol. II, Section A, para. 1-7, (f))

944th Civil Engineering Flight/CC

1. TEAM MEMBERS, FLIGHT PERSONNEL CONTACTED


On 11 April 1976, 1st Lt M. L. Prasloski and 2d Lt C. Dixon reviewed the 944th Civil Engineering Flight's "Career Motivation Program" with TSgt Davis, Flight Career Motivation NCO. Sergeant Davis has over seventy airmen for whom he must maintain AF Forms 173. He is doing an outstanding job in monitoring the Career Motivation Program. Sergeant Davis is extremely efficient in keeping the folders current; moreover, he is most conscientious and is desirous to correct any discrepancies that might exist. Major Serpanos, Flight Commander, and Captain Stafford, Recruiting/Retention Officer, were both outbriefed. Major Serpanos showed the Assistant Team the thorough incoming procedure that the Civil Engineering Flight uses to in-process personnel. Also, he gave the Team members a copy of the Flight's "welcoming pamphlet" which is given to all incoming personnel. The Civil Engineering Flight has some minor items to rectify; but, the overall Program is outstanding.

...s were outstanding and complete. (i.e. ... Bennett, Sgt Hernandez, AIC Morales, and AB Barrett)

4. RECOMMENDATIONS

The Staff Assistant Team outbriefed Major Serpanos, Captain Stafford and TSgt Davis. The Team was very impressed with the outstanding job that is being done in promoting and maintaining the Career Motivation Program. Some minor suggestions were made such as the Commander's Initial Interview should be documented more closely. Also, it was recommended that the annual counsellings be kept current.

FOR THE COMMANDER

  
 D. W. GARRISON, Captain, USAFR  
 Chief, CBPO

24

LETTER OF APPRECIATION

OCM/43 (Mr. Bernard/2716)

18 APR 1976

Letter of Appreciation

944th CEF  
Norton AFB, CA 92409.

1. I would like to express my personal appreciation to Sgt Lowell E. Schrader for the outstanding manner in which he performed his duties as Class Leader during the past ten weeks. His enthusiasm, job maturity, and professional conduct have had a tremendous impact on student motivation and cooperation.
2. This example of a job well done should serve as an inspiration for all personnel. Again, please extend my personal thanks to Sgt Schrader for a superior job.

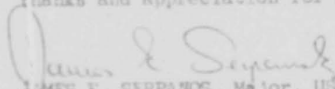
Signed

LEONARD A. HAMILTON, Col, USAF  
Chief, Dept of Civil Engrg Tng

1st Ind (15 May 76)

NO: SGT LOWELL E. SCHRADER, 944th CEF, Norton AFB, CA. 92409

1. It is with pleasure and great pride that I endorse this letter on to you. You are to be highly commended for your display of professional ability, enthusiasm and outstanding performance of your duties as a Class Leader during your recent school tour of duty at Sheppard AFB, Texas.
2. In receiving this letter of appreciation you have not only brought recognition to yourself but also to the entire 944th CEF. My sincere thanks and appreciation for a job well done.

  
 JAMES E. SERPANOS, Major, USAF  
 Commander





CIVIL  
ENGINEERING  
FLIGHT

NORTON AIR FORCE BASE

*A Certificate Of Appreciation*

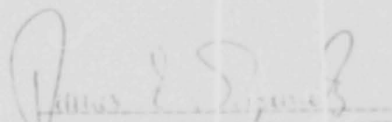
is presented to

MSG PHILIP BENTHUGNA

in recognition of

*his display of leadership, outstanding performance,  
and distinctive service to the 944th CEF during  
his entire assignment with the Unit.*

*Presented this the 24th day of July 1976.*

  
JAMES E. SERPANIS, Major, USAF  
Commander

LIST OF SUPPORTING DOCUMENTS

Attachment #1:	NAFB Globetrotter Illustration	Page 30
Attachment #2:	NAFB Globetrotter Illustration	Page 31
Attachment #3:	Ltr of Appreciation from International Orphans, INC, to 61 APS	Page 32
Attachment #4:	Ltr/Certificate of Recognition from Commander, WAFRR, to CBPO	Page 33

LINEAGE AND HONORS DATA

UNIT DESIGNATION: 445 MILITARY AIRLIFT WING (ASSOCIATE)  
PREVIOUS DESIGNATION: Same  
AUTHORITY: Not Applicable  
HIGHER HEADQUARTERS: Same  
COMMANDER: Lt Col Rollin L. Ratchen(445 MAW SO G-1, 30 Apr 76)  
VICE COMMANDER: Not Applicable  
ASSIGNED UNITS: Same  
ASSIGNED UNITS LOST: None  
UNITS ATTACHED: None  
ATTACHED UNITS LOST: None  
STATION: Same  
AIRCRAFT FLOWN: Same  
AWARDS AND DECORATIONS: None  
EMBLEM: Same

**63 MAW**  
**AIRDROP COMPETITION**

April 1976

Unit	Average Score
15th MAS .....	131.5 yards
445th MAW .....	138.9 yards
53rd MAS .....	156.1 yards

Crew Position	Name	Unit	Score
Pilot .....	Col. Robert C. Pyatt .....	15MAS	9 yards
Navigator .....	Capt. Warren C. McCue .....	445th MAW	*20 yards
Loadmaster .....	SSgt. Thomas B. Wong .....	15 MAS	9 yards

**RESULTS**

4-GLOBETROTTER

Friday, June 11, 1976

**63 MAW**  
**AIRDROP COMPETITION**

May 1976

Unit	Average Score
445th MAW .....	131.5 yards
53rd MAS .....	141.4 yards
15th MAS .....	169.1 yards

Crew Position	Name	Unit	Score
Pilot .....	Capt. Steven Dangerfield .....	53 MAS	10 yards
Navigator ..	Maj. Carney D. Nichols .....	445th MAW	17 yards
Loadmaster	MSgt. Lester J. Watson .....	53rd MAS	0 yards
Loadmaster	TSgt. Norman K. Burdick .....	454th MAW	0 yards
Loadmaster	TSgt. Clayton M. Hughes .....	445th MAW	0 yards

**RESULTS**

0983



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS WESTERN AIR FORCE RESERVE REGION (AFRES)  
MCLELLAN AIR FORCE BASE, CALIFORNIA 95652



REPLY TO  
ATTN OF: DP


6 May 1976

SUBJECT: Certificate of Recognition

TO: 445 MAW/CC

1. It is indeed a pleasure for me to forward the attached Certificate of Recognition to you for presentation to the personnel assigned to your unit CBPO.

2. Please convey my sincere appreciation for the fine job they are doing in providing support to the Wing Recruiting Office.

  
SIDNEY B. NOVARESI  
Brigadier General, USAFR  
Commander

1 Atch  
Certificate of Recognition



*Atch*

0967-

# Air Force Reserve

Certificate of Recognition  
awarded to

CBPO, 445TH MAW (Assoc)

for

OUTSTANDING SUPPORT PROVIDED TO THE WING RECRUITING  
OFFICE DURING THE PERIOD 1 JANUARY - 31 MARCH 1976.



*Sidney S. Novarest*  
SIDNEY S. NOVAREST,  
BRIGADIER GENERAL, USAFR  
COMMANDER



BLANK

**HISTORY**  
OF  
**315<sup>TH</sup>**  
**MILITARY AIRLIFT WING**  
(ASSOCIATE)  
CHARLESTON AFB,  
SOUTH CAROLINA 29405

AFSHRC MAXWELL AFB AL 36112	RETURN TO
--------------------------------	-----------



1 APRIL 1976 - 30 JUNE 1976

1012652

UNCLASSIFIED

AFSHHC  
MAXWELL AFB AL 36112  
RETURN TO

HISTORY OF 315 MILITARY AIRLIFT WING (ASSOC)  
CHARLESTON AIR FORCE BASE, SC  
1 APRIL 1976 - 30 JUNE 1976

BY  
HAROLD A. MAJOR  
UNIT HISTORIAN

APPROVED BY:

*Jackie L. Gates*  
JACKIE L. GATES  
Lt Colonel, USAFR  
30 September 1976

EASTERN AIR FORCE RESERVE REGION  
UNITED STATES AIR FORCE RESERVE

UNCLASSIFIED

1012652

MISSION

The 315th Military Airlift Wing (Associate) is a unit of the Air Force Reserve. The unit is established to organize, recruit, and train a C-141 associate military airlift wing to provide necessary augmentation to the active duty wing in the form of C-141 aircrews, maintenance support and aerial port operations to achieve increased utilization of aircraft under various conditions of heightened tension up to and including all mobilization.

AUTHORITY: MAC Program Action Directive 68-31, 15 Jan 1969, and 437 Mil Alft Wg Programming Plan 68-31, 1 Jun 69.

Personnel Strength Figures as of 31 March 1976

	<u>Officers</u>	<u>Airmen</u>	<u>ARTS</u>	<u>Civilians</u>
Authorized	360	1936	302	35
Assigned	348	1704	290	41

KEY PERSONNEL

Lt Col Marc M. McClelland (ART), Commander, 315 Mil Alft Wg  
 Lt Col Kenneth O. Mann, Commander, 701 Mil Alft Sq  
 Lt Col Wilbur C. Lauderdale, Staff Chaplain  
 Lt Col Jackie L. Gates, (ART), Deputy Commander for Operations  
 Lt Col Jerome Yarchever (ART), Commander, 300 Mil Alft Sq  
 Lt Col Robert C. Phillips (ART), Commander, 707 Mil Alft Sq  
 Lt Col Harold M. Owen, Commander, 943 Air Base Sq  
 Major Thomas W. Alton, (ART), Deputy Commander Maintenance  
 Major Harold R. Baldwin, Commander, 943 Organizational Maintenance Squadron  
 Major Thomas W. Beall, Commander, 943 Aerial Port Flt  
 Major David Press, Commander, 31 Aeromed Evac Sq  
 Major Donald K. Melton, Commander, 943 Communications Flt  
 Capt Thomas G. MacGregor, Staff Legal Officer  
 Capt John P. Dewerth, Commander, 943 Avionics Maintenance Squadron  
 Capt Chester E. Sansbury, Commander, 943 Field Maintenance Squadron  
 2d Lt James R. Archie, Commander, 943 Weapons Systems Security Flight  
 Mr. Clarence A. Horton, Executive Officer  
 Mr. Harold A. Major, Budget Officer  
 CMS John A. Mimms, Training Officer

CHRONOLOGY

APRIL - JUNE 1976

24 Apr	Transfer of Wing Commander
19 May	300MAS Launch Record Ends
3 - 7 June	USAF IG Inspection
	31 AES
	31 MAW Medical Element
23 June	New Wing Commander
30 June	Close-out of FY76 Funds

PERSONNEL

Assigned reserve strength of the wing reflected an increase during the period, summarized as follows:

	<u>Authorized</u>	<u>Assigned</u>	<u>Percent</u>
Officers	360	348	96.7
Airman	1936	1704	88.0
TOTAL	2296	2052	89.4

Gains were realized in spite of our low enlistment rate for first term airmen of 11.5%, with only nine reenlistments in seventy-eight eligibles. Emphasis is being placed on retainability of first term airmen down to the supervisory level. Prior service rate was 86.1% with sixty-eight reenlistments in seventy-nine eligibles.

Lt Col Harold M. Owen, Military Personnel Officer, resigned from his full time ART position on 8 May 1976. Col Owen had been with the unit since 1 Jul 1972, and has retained his reserve affiliation by assuming command of the 943 Air Base Squadron. During this interim period and until a replacement is named, SMSgt Theron R. Lucas, Military Personnel Supervisor, is acting as Personnel Officer.

Maj Leo Sampanis, Commander, 31 Aeromedical Evacuation Squadron, transferred to McClellan Air Force Base, California on 3 June 76. Maj Thomas Chester and Maj David Press have been temporarily in command pending the assignment of a permanent commander. Maj Sampanis will be missed, but the impact of his contributions to the favorable growth and development of the 31st will remain.

CHANGE OF COMMAND

Lt Col David L. Webber, 315th Wing Commander since November of 1974, transferred to Dover Air Force Base, Delaware, on 24 April 1976. Col Webber

will assume command of the 512 Military Airlift Wing (Associate), switching from the C-141 "Starlifter" transport to the giant C-5 "Galaxy". The dedication and leadership of Col Webber will be missed, but he will be a definite asset to the 512 returning to the unit of which he was formally the Deputy of Operations.

During this interim period until a new commander could be selected by AFRES, Lt Col Kenneth O. Mann, 701MAS Commander, was appointed temporary commander of the wing.

On 20 June 1976, Lt Col Marc M. McClelland became the commander of the 315 Military Airlift Wing, transferring from Barksdale Air Force Base, Louisiana, where he was commander of the 917th Tactical Fighter Group. Col McClelland has an extensive background in the Air Force with over 21 years service. He is a Command Pilot and has approximately 5,700 hours flying time in such aircraft as the F-86, F-102, F-106 and C-141, with the experience and expertise to provide the vital, continuing leadership.

MISSION OPERATIONS

Flying hours by individual crew position totaled 20,885, which was 4,347 less than first quarter amounts. Current year totals are shown in the following breakdown:

	<u>Pilots</u>	<u>Navigators</u>	<u>Flt Eng</u>	<u>Loadmaster</u>	<u>Total</u>
Productive	11,967	5,431	12,719	6,622	36,739
Total Logged	16,009	6,832	14,613	8,663	46,117

Cut-backs in flying hours, due to the energy crisis, continue to make scheduling difficult, but the wing managed to maintain C-1 status under AFRES standards.

Aircrew qualification, which is based on the number of authorized crews and the number qualified, is monitored by crew position under the MAC Evaluation System. <sup>1</sup>Based on the MAC standard of 79.0%, the wing was "marginal" in the Flight Engineer area:

<u>Position</u>	<u>Authorized</u>	<u>Qualified</u>	<u>%</u>
Pilots	81	74	91.4%
Navigators	81	66	81.5%
Flight Engineers	81	60	74.1%
Loadmasters	81	71	87.7%

The wing is also evaluated under the MAC system in "C-141 Airdrop Ready Status". <sup>2</sup>We have been able to meet and maintain the minimum required of four airdrop ready crews.

#### AEROMEDICAL ACTIVITIES

The 31 Aeromedical Evacuation Squadron continued their regularly scheduled bi-weekly live missions to Howard AFB, Canal Zone. Live missions were also accomplished with the 2d Aeromedical Evacuation Group to Rhine Main Air Base, Germany and to the Ascension Islands. Monthly simulated missions are also flown to Carswell AFB, Texas, Lajes Field in the Azores and to the Canal Zone.

The Air Force Inspection Team conducted a visit to the 31st on 3-6 June 76, and a satisfactory rating was rendered.

#### AWARDS AND EVENTS

Major Lawrence M. Brooker and Capt Donald Gregg received 5,000 Flying Hour Awards. In addition, MSgt James Fariba received a 10,000 Flying Hour Award, which was even more significant since it was all reserve time.

<sup>1</sup>Item 3-1, MACR 178-4

<sup>2</sup>Item 3-2, MACR 178-4



The 300 Military Airlift Squadron experienced their first delay in 284 days on 19 May 76, after 151 on time departures. The delay was due to mechanical difficulties, and terminated a record which began on 23 July 75.

MEDICAL ELEMENT

The wing's Flight Medicine Section provided support to all organizations in a most satisfactory manner, despite the fact that three UTA weekends of support are required. The section was inspected by the Air Force IG team during 4-7 June, to evaluate management efficiency, and support provided to the reserve parent wing. Findings of the inspection indicated the following:

- 1 - Management of the 315MAW Medical Element was excellent.
- 2 - Training was satisfactory.

3 - Medical examinations and standards were excellent due to aggressive management, good support from the host medical facility and the parent wing, and knowledgeable, motivated personnel.

Comments were also rendered that our medical element was the most outstanding in all the associate units, and a model for others to follow. This was prompted by the spirit of cooperation that existed with the host active duty medical personnel.

BUDGET

Expenses for FY 1976 in the operations Operating Budget were \$5,698,630 under a total program of \$5,699,571. Our primary expense is in the civilian pay area which represents 96% of total costs. Requirements have continued to increase with each fiscal year due to unit manning and higher wage scales.

FY 1976 expense by primary area was as follows:

Civilian Pay	\$5,468,102
Travel	27,401
Supplies	101,185
Equipment	31,593
Base Billeting	40,668
All other	29,681

LINEAGE AND HONORS DATA

Unit Designation: 315 Military Airlift Wing (Assoc)

Previous Designation: Same

Higher Headquarters: Eastern Air Force Reserve Region  
Headquarters Air Force Reserve

Commander: Marc M. McClelland, Lt Col, USAFR

Vice Commander: None

Assigned Units: Hq 315 Military Airlift Wing  
300 Military Airlift Squadron  
701 Military Airlift Squadron  
707 Military Airlift Squadron  
943 Air Base Squadron  
943 Organizational Maintenance Squadron  
943 Field Maintenance Squadron  
943 Avionics Maintenance Squadron  
943 Communications Flight  
943 Aerial Port Flight  
943 Weapons Systems Security Flight  
31 Aeromedical Evacuation Sq  
51 Aerial Port Squadron  
81 Aerial Port Squadron  
84 Aerial Port Squadron  
Greenville, SC  
90 Aerial Port Squadron  
Homestead AFB, FL

Assigned Units Lost: None

Units Attached: None

Attached Units Lost: None

Stations: Same

Aircraft Flown: C-141

Awards and Decorations: None

Emblem: Same

Gaining Command: 437 Military Airlift Wing  
Twenty First Air Force  
Military Airlift Command

PERSONNEL MANNING

30 June 1976

	<u>OFFICERS</u>		<u>AIRMEN</u>		<u>TOTAL</u>	
	<u>Auth</u>	<u>Asgd</u>	<u>Auth</u>	<u>Asgd</u>	<u>Auth</u>	<u>Asgd</u>
315MAW	7	8	68	52	75	60
943ABS	16	13	57	51	73	64
300MAS	83	84	101	98	184	182
701MAS	83	81	101	103	184	184
707MAS	83	84	101	100	184	184
943APF	3	2	72	65	75	67
943COMM	2	2	27	23	29	25
943OMS	6	5	324	257	330	262
943FMS	6	6	373	316	379	322
943AMS	3	3	131	112	134	115
943WSSF	1	1	25	25	26	26
31AES	51	43	80	80	131	123
51APS	4	4	119	109	123	113
81APS	4	4	119	94	123	98
84APS	4	4	119	118	123	122
90APS	4	4	119	101	123	105
TOTAL	360	348	1936	1704	2297	2052

ATTACHMENT #1

ART & CIVILIAN STRENGTH

As of 30 June 1976

	Officers		Airmen		Civilians	
	<u>Auth</u>	<u>Asgd</u>	<u>Auth</u>	<u>Asgd</u>	<u>Auth</u>	<u>Asgd</u>
315MAW	2	2	2	1	5	5
Ch Maint	2	1	14	13	3	4
943 ABS	1	0	10	10	20	19
300MAS	6	6	14	13	2	3
701MAS	6	6	14	13	2	3
707MAS	6	6	13	12	2	3
943AMS	0	0	34	33	0	0
943FMS	0	0	85	83	0	2
943OMS	0	0	89	88	0	1
31AES	<u>2</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>1</u>
TOTALS	25	22	277	268	35	41
GRAND TOTAL:	AUTH 337		ASGD 331			

ATTACHMENT #2

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1012653

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS USAF TACTICAL AIR WARFARE CENTER  
EGLIN AIR FORCE BASE, FLORIDA 32542

REPLY TO  
ATTN OF: CCH

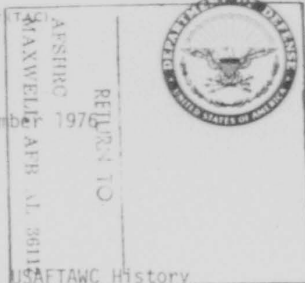
30 September 1975

SUBJECT: Correction to TAWC History

TO: AFSHRC/HOTI

1. Please change page 123 of Vol II, Appendices, USAFTAWC History for 1 July 1975 - 31 December 1975 to page 120 and renumber subsequent pages.
2. HQ TAC has been notified of this change by telephone.

*William D. Shaver*  
WILLIAM D. SHAVER  
-Historian



1012653



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1012654

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 60th MILITARY AIRLIFT WING (MAC)  
TRAVIS AIR FORCE BASE, CALIFORNIA 94535



REPLY TO  
ATTN OF CVH (Stop 13)

29 September 1976

SUBJECT Corrections to 60MAW Quarterly History

TO Archives Branch  
Albert F. Simpson Historical Research Center  
AFSHRC/HOTI  
Maxwell AFB, AL 36112

Please insert the enclosed errata sheet in Volume I of the History  
of the 60th Military Airlift Wing, 1 April - 30 June 1976. Thank you  
very much.

THOMAS M. BREWER  
Wing Historian

23127-64



1012654

History of the 60th Military Airlift Wing

1 April - 30 June 1976

ERRATA

1. p. 3, line 34: departed SHOULD BE separated.
2. p. 9, lines 23 and 25: Anderson AFB SHOULD BE Andersen AFB.
3. p. 31, line 46: five course SHOULD BE five courses.
4. p. 40, line 39: FIRST WORD SHOULD BE is.
5. p. 44, line 37: emminate SHOULD BE eliminate
6. p. 46, note 31: See above, p. SHOULD BE See above, p. 19.

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Project Texas Towers

1012655

1002

RETURN TO  
AFSHRC  
MAXWELL AFB TX 75112

1955

1012655

APCIE-EE/ST/Mr A I Westrich/ed/75038/14 DEC 55 *RM*

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D.C.

*per 3-2*

Mr. George V. Rickel  
1368 Huntington Turnpike  
Trumbull 18, Conn.

15 DEC 1956

Dear Mr. Rickel:

This is to acknowledge receipt of your letter of 4 December 1955 referring to the construction of the Texas Towers.

Your suggestion for construction of the foundations for these structures has been reviewed and careful consideration and study given to it.

It should be noted that a substantial portion of the cost of these facilities is for electronic and communication equipment as well as for adequate housing of operating personnel.

Design and construction of these important parts of the continental air defense operated by the Air Force was entrusted to engineers most qualified in this work. All of the work is being accomplished under the guidance of the Bureau of Yards and Docks, Department of the Navy.

The Air Force is always interested in new ideas for the construction of its facilities. However, evaluation of your proposal indicates that considerable time would be involved and numerous logistic problems could be encountered. Construction could not be accomplished with the time allotted.

Your interest in behalf of the Air Force is appreciated.

Sincerely yours,

S. M. LIPP, JR.  
Colonel, U. S. Air Force  
Chief, Planning Division  
Directorate of Construction, ACC/I

DISTRIBUTION:  
Coord Cy-CIE-1A/M  
Cmbk Cy-CIE-EE/ST  
R/F Cy-CIE-E  
R/F Cy-CIE-EE/ST  
Stayback-CIE-EE/ST

OFFICE SYMBOL	APCIE-EE/ST	APCIE-EE	APCIE-EE
CLASS AND EXTENSION OF OFFICER			
DATE			
OFFICER			



1735 Quantington Turnpike  
Orchard 18, Conn  
December 4, 1943

Bureau of Engineering  
Air Force  
Washington D.C.

Gentlemen:-

I have read about the Texas tower off Cape Cod.  
For future towers, why would not this plan be feasible.

Obtain from the surplus of cement the largest size of  
cubits that could be transported to sea, say 300 to 500  
tons each; these would be lowered and fastened to each  
other by an anti-salt water erosion process.  
You would only then have to conquer the water space rather  
than going down 50 feet into sand as the present tower is.  
You certainly would have terrific tonnage in the height of  
75 to 100 feet because you can't conceive of the cost  
exceeding the millions dollars expended for the Texas  
tower plus the loss of the fenders.

In my plan you could have a virtual square construction  
and solid whereas with fenders; as matter how well built  
they are, could always be a hazard to the towers. One can't  
build up resistance unless it is solid resistance; this was  
shown in the collapse of the bridge years ago in Washington  
in the valley of the river.

I never succeeded in mathematics or any other science; however,  
I know the Cape well and am quite certain that nothing but  
sand or so rock can withstand the seas.

Please do not consider my letter fantastic coming from an  
absolute stranger; I just don't want to see millions of dollars  
tossed into the sea if what nature provided to us will do  
the job that much better.

Yours very truly

*George V. Rickel*  
George V. Rickel

AFCIE-CS/Maj Vandegrift/mae/54443/31 Oct 55  
re: rptn/AFCIE-3/LtCol House/pm/74779/2 Nov 55

10  
↑

13  
NOV 1955  
✓

Dear Mr. Chadbourn:

Reference is made to your letter of 7 October 1955 concerning the "Bayley Texas Tower" and the brochure furnished to the Department of the Air Force for evaluation.

The Bayley brochure will be evaluated by the Department of the Air Force and its construction agent, the Bureau of Yards and Docks, Department of the Navy. You will be informed of the results of this evaluation upon completion.

Sincerely,

(Signed)  
JOHN M. YERBY  
Special Assistant for Installations

Mr. Philip H. Chadbourn  
Green Valley Farm  
Hyattstown, Maryland

NOTE: No major change in context.  
Previous coordinations remain valid.

WALTER G HOUSE  
Lt Col, USAF

DISTRIBUTION:  
AFCIE-CS COMEBACK  
✓ AFCIE-IAM COORD CY  
AFCVC - File Cy  
SAFIE - Ofc of Sign  
SAFIE - File Cy  
AFCIE-CS - R/F  
AFCIE-CS - Stayback

Asj Vandegrift  
AFCE-OS/KAL/KR/11a/54443/31 Oct 55

Mr. Philip S. Chadbourne  
Green Valley Farm  
Mattstown, Md.

Dear Mr. Chadbourne:

Reference is made to your letter of 7 October 1955 concerning the "Bayley Texas Tower", brochure furnished to the Department of the Air Force for evaluation.

The Bayley brochure will be evaluated by the Department of the Air Force and the construction agent for this project the Bureau, Parks and Seeks United States Navy. You will be informed of the results of this evaluation as soon as possible after completion.

Sincerely,

Note for Record: The brochure referenced in Mr. Chadbourne's letter was forwarded to Cambridge Lab's by BMD as they considered the evaluation to be a development Process and not an construction methods evaluation. AFCE is taking necessary action to have brochure returned from Cambridge Lab's to AFCE at which time it will be forwarded to Bureau Books for Engineering analysis, a final reply to Mr. Chadbourne's letter will be prepared at that time.

*Return 2 Oct*

Coord:

AFCE-OS

AFCE-3

AFDRD

*Handwritten:* *W. L. McLeod* Maj Lombardo  
L. B. McLeod by phone

Coord By CIE-OS  
AFCE-OS File 1A  
Comeback CIE-OS  
Stayback

AFCE-OS

*W. Vandegrift*  
J D VANDEGRIFT  
Majr, USAF

AFCE-3

*W. L. McLeod*

*Tolson*  
Green Valley Farm  
Hyattstown Maryland

7 October 1955

Hon. Donald A. Quarles,  
Secretary of the Air Force,  
Pentagon, Washington, D.C.

Dear Mr. Secretary:-

While the enclosed copy of my letter of even date to Colonel E.A. Friedlander of the Air Research and Development Command in Baltimore is almost self-explanatory there remain two angles to this "Texas Tower" situation which I feel you should know about. Therefore I take the liberty of describing them to you in briefest fashion.

In the first place, Mr. J.A.D. Bayley is a modest man of science like yourself. He has devoted a life time to inventing, perfecting and applying hydrodynamic principles all over the world. He invented a dry-dock which is in operation in many parts; his scientific vitae would fill many pages. For twelve years he developed what has come to be known as a "Texas Tower". He has spent many thousands of dollars on model testing plants and the invention is thoroughly patented. Being a retiring and modest character he doesn't know how to get to first base in Washington. He is convinced that the "Texas Tower" presently being set up off Cape Cod is off on the wrong foot since it hasn't enough weight at the bottom, to over simplify a very complex problem.

In the second place I come into the picture as a private citizen with no financial interest in the outcome. My interest is purely that of national defence and the Air Force's interest therein. In fact I was commissioned in the Air Force in 1918 (in Billy Mitchell's time). I am even now 'one of your boys' holding a responsible job with Air Force Security Service, (AFSSOP), Office of Production at Arlington Hall Station under a splendid boss, Colonel George R. Ronka. Should your office want any information beyond that which is conveyed in my letter to Colonel Friedlander, my phone at Arlington Hall is Jackson 5-5800, extension 314.

What brings me to the point of writing to you is recent reports in the press that several more 'Towers' of the Cape Cod type are envisaged for the near future. It is my feeling that the Air Force and Navy and Docks should at least have a good look at the "Bayley Tower" before committing itself further to a type which has demonstrable scientific deficiencies which were foreseen and overcome in the Bayley inventions some years ago. You, of course, have the qualified personnel who can get to the bottom of the delay in Baltimore and establish the true merits of the opposing theories.

My satisfaction in this matter will be two fold; the hope that the Air Force will wind up with the very best product for our defence and that, by acting effectively now it may avoid a gratuitous Congressional investigation later on.

In closing, may I express the tremendous gratification that hundred of my colleagues share with me in having an eminent man of science at the 'stick' of our grand old Air Force?

Respectfully,  
*J.A.D. Bayley*

Green Valley Farm  
Cattletown, Maryland

7 October 1955

Colonel G.A. Friedlander  
Air Research and Development Command  
P.O. Box 1395  
Baltimore, Maryland

Subject: J.A.D. Dayley's  
"Texas Tower"

Dear Sir:

Just a month ago today, 7 September, I wrote to you to inform you that Colonel J. Robbins of the Air Force Air Plans Division, (Western Hemisphere Branch), Pentagon had sent the entire "Dayley Texas Tower" dossier to Colonel Gordon Gould and Lt. Colonel George Watts of your organization on 25 August 1955.

I am still waiting to hear from one of the parties concerned whether this extremely valuable file of drawings and tables was duly received. While it may be too early to expect a report from your engineers on the merits of the "Dayley Tower" as compared to the one now being set up off Cape Cod, please let me put down the following observations for what they may be worth.

Mr. Dayley is now abroad and he expects to have his "Towers" at work in the Persian Gulf in the near future. Before sailing he told me about some of the serious set-backs the other outfit is having with all three of the "Cape Cod type Towers" being erected for oil companies in the Gulf of Mexico. It seems that one "tower" capsized and his cost the operators 6 to 8 million extra and isn't working yet. I begged Mr. Dayley to give me an engineer's report on these events to which he refused to do so stating that in business "every knock is a boost". He believes that both the Air Force and the Navy will find out in practice with the "Cape Cod Tower" that there is not enough weight at the bottom. (This, as you will recognize, is my own crude way of expressing a complicated problem in hydro-dynamics).

In the light of the foregoing I do hope that the Air Force will be able to evaluate the "Dayley Tower" on a priority basis, to invest more millions in the wrong area with the winner locked up in the stable; (this is a B & B fillet) would make the kind of fodder that keeps Congressmen in fine fettle.

Looking forward to word from you in the premises,

Sincerely yours,

Philip H. Chadbourne

c/o. Hon. Donald A. Quarles,  
Secretary of the Air Force.  
c/o. General Edw. Barber,  
Operations Research Office.  
c/o. C. J. Dayley, Esq.,  
U.S. Embassy, Rome.

AFCIE-CS/MajVandegrift/mol/75967  
wrtn 100ct55

*file 3-3*

12 OCT 1955

AFCIE-CS

MEMORANDUM FOR CHIEF, BUREAU YARDS & DOCKS, DEPT OF NAVY  
WASHINGTON 25 D C

SUBJECT: Transfer and Acceptance of Texas Towers

1. Reference is made to telephone conversation between Captain Clark and the Director of Construction, this Headquarters, 10 October 1955.

2. It is requested that normal transfer and acceptance procedure outlined in AFM 88-9 be followed in transferring Texas Towers from Bureau, Yards and Docks to the using agency. Necessary copies of the transfer documents (NA Eng Form 290) will be made available to the construction agency by the USAF Installations Representative Office, New England Region, 857 Commonwealth Avenue, Boston, Mass.

FOR THE CHIEF OF STAFF:

GILBERT T. PERRY  
Colonel, U. S. Air Force  
Military Assistant  
Construction Division  
Directorate of Construction, ACE/I

COORD: AFCIE-CS

AFCIE-C

AFCIE-3

*Handwritten signature*

*Handwritten signature*

AFIN NER  
Coord Cy/ *CIE-1AM*  
Comeback CIE-CS  
AFCIE-CS  
Stayback

*Handwritten signature*  
J. D. VANDENGRIFT  
Major, USAF

11

AFCIE-CS/LtColCaldwell/mcl/71975  
Wrtn 7Sep55

*File 33*

7 SEP 1955

AFCIE-CS

MEMORANDUM FOR CHIEF, BUREAU OF YARDS & TOWERS, DEPARTMENT OF THE NAVY,  
WASHINGTON 25 D. C.

SUBJECT: Advance Advertisement for Additional Texas Towers

1. Reference:

- a. Letter, Bureau of Yards & Towers O-270A/30E:ivh A16-1, "Texas Towers", Funds for Construction of, undated, to USAF;
- b. Air Force memorandum AFCIE-CS, TEXAS TOWERS, TT-1 and TT-3, dated 30 June 1955;
- c. Letter Bureau Yards & Towers O 270A/30E:ivf A16-1, TEXAS TOWERS TT-1 and TT-3
  - 1. Bureau Yards & Towers Letter O-2710/70E:ivh A16-1 "Texas Towers", Funds for Construction of, dated 18 August 1955.

2. It is requested that immediate action be taken to advertise for the construction of three (3) additional Texas towers (Nos. 4, 5 and 6). Bids should be solicited in such a manner that only towers 4 and 5 can be awarded, in accordance with the operational requirements, if costs (as reflected by the bids) should exceed present authority and availability of funds.

3. Immediate action is being taken to secure apportionment of additional funds to permit award in accordance with the above.

FOR THE CHIEF OF STAFF:

PAUL C. EFDEN  
Colonel, U. S. Air Force  
Chief, Construction Division  
Bureau of Yards & Towers, ACS/I

COORD: AFCIE-CS

*Harold White*

AFCIE-C

*Col Brown*

Coord  
AFCIE-CS  
Comeback  
Stayback

*R. L. Crockett*  
R. L. CROCKETT

4

*1-3-5*

ENGEA(26 May 1955) 2nd Ind  
SUBJECT: Standard Beacon Platform for Water Towers

Office of the Chief of Engineers, Washington 25, D. C. 26 August 1955

TO: Chief of Staff, U. S. Air Force  
Attention: Assistant Chief of Staff, Installations  
Directorate of Construction

1. Inclosed reproducible print of Standard Beacon Platform for Water Tower, drawing No. 86-16-08, is furnished for information and record.
2. Safety features mentioned in preceding indorsement have been incorporated in the basic design.

FOR THE CHIEF OF ENGINEERS:

1 Incl:  
w/d 2 incl - 1 and 2  
Added 1 incl:  
3. Dwg. 86-16-08

*I. O. Thorley, Jr.*  
I. O. THORLEY, JR.  
Acting Chief, Engineering Division  
Military Construction

*To file  
No action re  
New Geo. element  
31 Aug 55  
per [unclear] 133076*

*3*



ENGEA(26 May 1965) 2nd Ind  
SUBJECT: Standard Beacon Platform for Water Towers

Office of the Chief of Engineers, Washington 25, D. C. 26 August 1965

TO: Chief of Staff, U. S. Air Force  
Attention: Assistant Chief of Staff, Installations  
Directorate of Construction

1. Inclosed reproducible print of Standard Beacon Platform for Water Tower, drawing No. 86-16-08, is furnished for information and record.
2. Safety features mentioned in preceding indorsement have been incorporated in the basic design.

FOR THE CHIEF OF ENGINEERS:

1 Incl:  
w/d 2 incl - 1 and 2  
Added 1 incl:  
3. Dwg. 86-16-08

I. O. THORLEY, JR.  
Acting Chief, Engineering Division  
Military Construction

Basic Ltr fr OCE, subj: Standard Beacon Platform for Water Towers,  
dtd 26 May 1955

27 JUN 1965

AFCIE-EE/V

1st Ind

Dept of the Air Force, Hqs USAF, Washington 25, D. C.

TO: Chief of Engineers, Department of the Army, Washington 25, D. C.

1. The beacon platform as such, shown on drawing 671-139, appears to be adequate for the purpose intended. Changes in the rotating beacon since 1931 are insufficient to warrant changes in platform requirements.

2. Current ground safety rules of the USAF require that the vertical ladder be provided with an enclosing basket similar to that shown on the attached plan sheets Nos. E 3000. The inclined ladder will require handrails.

2 Incls

1. a/c

Added 1 incl

2. Dwg E 3000

S. M. LUTZ, JR.  
Colonel, U. S. Air Force  
Chief, Engineering Division  
Directorate of Construction  
Assistant Chief of Staff, Installations

*Gen. distribution made on 14 Aug 55.*



DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF ENGINEERS  
WASHINGTON 25, D. C.

210  
EA

IN REPLY REFER TO  
EMGEA

26 May 1955

SUBJECT: Standard Beacon Platform for Water Towers.

TO: Chief of Staff, U. S. Air Force  
Attention: Assistant Chief of Staff, Installations  
Directorate of Construction

1. Inclosed for your comments and/or approval is a print of subject facility, plan number 671-139, dated 2 October 1931.
2. This drawing will be revised and identified as No. 86-16-08. Any changes desired by your headquarters, due to new criteria having been developed since 1931, will be considered for incorporation on the new drawing.
3. An early reply would be appreciated due to demand for prints of this drawing from the field.

FOR THE CHIEF OF ENGINEERS:

1 Incl:  
1 Print  
INCL REC  
IN CIE-12/M

*H. J. Zackrisson*  
H. J. ZACKRISON, SR.  
Chief, Engineering Division  
Military Construction



APCIE-EE/ST/Mr Westrich/ed/75038/26 JUL 55

*3-3 PM*

R/11P Rq TAC to OCS/I HQ USAF subj: Tower anchors, AF/USAF-3, TACAN installations, dtd 18 JUL 1955

APCIE-EE/ST

1st Inrd

1 AUG 1955

Department of the Air Force, Headquarters United States Air Force, Washington 25, D. C.

TO: Commander, Tactical Air Command, Langley Air Force Base, Va  
ATTN: A1/S

1. This headquarters interposes no objection to the use of screw or plate type patent anchors for subject installations provided anchorage equivalent to that shown on drawing AF 86-16-13 is furnished. Towers for TACAN installations must be rigidly braced as any swaying of the tower will transmit erroneous azimuth readings to aircraft.
2. Concrete pier type anchors are indicated on drawing AF 86-16-13 because of their universal application. Screw or plate type patent anchors cannot readily be obtained outside the zone of the interior.
3. Drawing AF-86-16-13 will be revised at an early date to include the optional use of screw or plate type patent anchors of appropriate size.

BY ORDER OF THE CHIEF OF STAFF:

G. W. HARRIS  
Deputy Chief, Materiel Division  
Directorate of Materiel  
Assistant Chief of Staff, Installations

M/R- APCIE-EA/S will have dwg AF-86-16-13 revised.  
Telephone coordination rec'd fr Mr. Hench (OCE)  
and Mr. Watson (AACS) 25 Jul 55.

AIW

DISTRIBUTION:  
Coord Cy-CIE-1A/M  
Cmbk Cy-CIE-EE/ST  
R/F Cy-CIE-E  
R/F Cy-CIE-EE/ST  
CC'S: APCIE-EA  
APCIE-CS/C

APCIE-EE/ST	APCIE-EA	APCIE-CS/C	APCIE-EE	APCIE-E
<i>A. J. Westrich</i>	<i>W. C. Hodgdon</i>	<i>J. G. Burison</i>	<i>G. W. Harris</i>	<i>...</i>
A. J. WESTRICH	W. C. HODGDON	J. G. BURISON	G. W. HARRIS	

*Hq JAC*

AI/W

18 JUL 1955

SUBJECT: Tower Anchors, AF/VERI-3, TACAN Installations

TO: Assistant Chief of Staff, Installations  
Headquarters USAF  
Washington 25, D.C.

1. It is recommended that screw or plate type patent anchors, without the concrete pier, be used in lieu of the anchors shown on Drawing AF-86-16-13 for subject installations.
2. Similar screw type anchors are now being used by the Air Force to guy receiver, transmitter and other antennas. No trouble or failures have been experienced.
3. The holding strengths of the screw anchors vary from 4,500 to 12,500 pounds in average soil. This should be ample to guy the towers. It is believed the holding strength of the 12,500 pound screw anchor is greater than that of the concrete pier types installed in disturbed earth. Should there be any doubt as to the adequacy of the screw type anchor the plate type is recommended. The plate type anchor has an area from ninety to four hundred square inches. The concrete pier type anchor has an area of two hundred and forty-four square inches.
4. Both type patent anchors are stock items with electrical supply houses and are readily installed. Considerable saving will result from this change in type of anchors to be used.

FOR THE COMMANDER:

C. V. CRAG  
Major, USAF  
Assistant Adjutant

AFGIE-GS/LtColCaldwell/mol/71975  
Rwrtrn 30 Jun 55

*CIE-IAM* *file 3-3*

AFGIE-GS

30 JUN 1955

MEMORANDUM FOR CHIEF, BUREAU OF YARDS AND TOWNS, ATTN: 8-270A A16-1/  
TEXAS TOWERS, DEPARTMENT OF NAVY, WASHINGTON 25, D. C.

SUBJECT: TEXAS TOWERS, TT-1 and TT-3

1. Reference your letter, subject "Texas Towers", Funds for Construction of, dated 24 June 1955.
2. This Headquarters does not concur in advertising TT-1 and TT-3 for bid on 5 July 1955 as proposed in paragraph 2 of above referenced letter. Funds to construct TT-1 and TT-3 are contained in the FY 1956 Military Construction Program. When the authorization and appropriation bills have progressed to the point where Congressional enactment into law seems assured, authorization to advertise in advance of receipt of funds will be favorably considered.
3. With reference to the question in paragraph 3, as soon as final determination is made your Headquarters will be informed. In the meantime, design should continue.
4. In accordance with telephone conversation between representatives of your office and this Headquarters, action will be taken to provide necessary additional funds for TT-2 prior to 31 August 1955 as requested in paragraph 4 of referenced letter. It is requested that a current working estimate of funds needed for TT-2 be furnished this Headquarters as of 31 July 1955.

FOR THE CHIEF OF STAFF:

W/R: In addition to the reason stated in para 2 abv for not advertising for bid on 5 Jul 55, AFOP-OP-D on 28 Jun 55 queried ADC to investigate the requirement for TT-1. Further, at a ABBED Briefing for Mr. Talbott relative to advantages of TT vs picket ships, Mr. Talbott requested that construction of add towers be held in abeyance pending his consideration of the problem. Mr. Talbott stated expected to arrive at a decision o/a 12 Jul 55.

Coord AFGIE-GS Comeback  
AFGIE-C

COORD: AFGIE-GS

AFOP-OP-D

*E. L. CROCKETT*

*May R. ...  
29 June 55  
14 15 hrs*

*M. ...*

*huc*

LEONARD S. CALDWELL  
Lieut. Colonel, USN

*Handwritten signature*

LEONARD S. LEONHARD

Chief of Staff, Headquarters

W. E. LEONHARD  
Colonel, USAF

H. R. V. ...

3  
T



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

IN REPLY REFER TO  
C-270A/GCE:vvh  
A16-1/TEXAS TOWERS

From: Chief, Bureau of Yards and Docks  
To: Headquarters, U. S. Air Force, Washington 25, D. C.  
Special Projects, Construction Division  
Directorate of Construction, ACS/F

Subj: "Texas Towers"; Funds for construction of

Ref: (a) BUDDOCKS Ltr C-271C/VD:vfp A16-1/Texas Towers of  
18 May 1955 to USAF ACS/F

1. The Department of the Air Force has informally advised this Bureau that availability of funds for construction of Texas Towers TT-1 (Caches Ledge) and TT-3 (Nantucket Shoals) is dependent on the passage of the FY1956 Appropriations Bill.

2. Under these circumstances Air Force concurrence is requested in this Bureau's proposal to advertise for construction of these two towers on 5 July 1955, with bids to be received on 1 September. Latest estimates indicate that funds required to finance award, administrative costs and contingencies will be as follows:

TT-1 (Caches Ledge)	\$8,350,000
TT-3 (Nantucket Shoals)	9,700,000

3. Information is also requested regarding informal advice that the Air Force is reconsidering the necessity for construction of Texas Towers TT-4 (Off New York) and/or TT-5 (Browns Bank). Design of these platforms is being actively pursued with bid advertising scheduled for approximately 1 August 1955. Current working estimates for these towers are:

TT-4 (Off New York)	\$9,500,000
TT-5 (Browns Bank)	9,500,000

4. The recent mishap in connection with the launching of TT-2, together with higher than expected change order costs, indicate the inadequacy of the nominal contingency amount requested in reference (a). At the present time no funds are available to finance anticipated change order requirements or payment for damage to contractor's facilities in the event of an unfavorable decision in connection with the launching difficulty. Additional contingency funds for construction of TT-2 in the amount of \$500,000 are accordingly requested. This will bring the total contingency amount to \$700,000 or approximately 7% of the total contract price.

C  
C-270A/GCE:vvh  
A16-1/TEXAS TOWERS

5. In view of the proximity of the proposed advertising date for Texas Towers TT-1 and TT-3, a reply to paragraph 2 by return endorsement is requested.

*McC. H. Clibbey*

Copy to:  
OICC Texas Towers Contracts



APCIE-03/Col White/mjr/54443/21 June 55

RM

Classification Canceled (Changed to Unclass) by authority of  
Chief of Staff USAF C. W. HARRIS G-5-15  
(Officer authorized to cancel)

White 14 JUL 1965  
Name & Grade of Officer making the change, including 22 JUN 1955

APCIE-03

MEMORANDUM FOR DIRECTOR OF OPERATIONS, DCS/O

SUBJECT: (Uncl) Texas Towers - Construction

1. The construction contract for TT-2, Georges Bank, was let during December 1954, and the hull was launched at Quincy, Massachusetts, during the week of 15 May 1955. The BOD for this facility is now scheduled for September 1955.

2. The design and construction agency, BuDocks, has reported that design for the remaining programmed towers will be completed in accordance with the following schedule:

TT-1 (Cashes Ledge)	5 July 55
TT-3 (Nantucket Shoal)	5 July 55
TT-4 (Unnamed Shoal)	22 July 55
TT-5 (Browns Bank)	22 July 55

3. The above design schedule will permit advertising for bids in August and contract awards in September 1955.

4. It has been indicated at informal conferences that revised plans for coverage in this area eliminate the requirement for one or more of the towers. Request this office be advised of the firm requirement for Texas Towers to permit timely funding and construction programming.

WILLIAM E. LEONARD  
Colonel, U. S. Air Force  
Deputy Director of Construction  
Assistant Chief of Staff, Installations

APCIE-03 APCIE-C APCIE-3  
William E. Leonard  
Colonel USAF

DOCUMENTS ABOVE WERE DESTROYED:  
EXCEPT:  
(Destroying Official) \_\_\_\_\_ (Witnessing Official)

Coord  
Comeback  
Reading  
Stayback

AFCIE-CS/LtColCrossey/mol/71975  
Wrtn 9Jun55

*1774*  
*3-3*

SUBJECT: Design of Texas Towers - Modifications Thereto

TO: USAF Installations Representative Office  
New England Region  
857 Commonwealth Ave.  
Boston 15, Mass

Date:  
Memo No. 2

The drawings attached to Memorandum #1 have been reviewed and the changes and modifications are concurred in by this Headquarters.

2 incls  
w/d

*W/R:* Dwg's reviewed in this Hdqtrs 25May55  
Col Alexander, Mr. Cleary CIE-E,  
LtColCrossey-CIE-CS, Bu&D. Modif  
recommended by Bu&D concurred in by  
this Hdqtrs:

COORD: AFCIE-CS

AFCIE-C

AFCIE-EE

*[Signature]*  
G. T. FLEMING  
Col, USAF

W. D. ALEXANDER  
Col USAF  
*[Signature]*  
G. J. CLEARY  
Col USAF

ADC  
Coord  
AFCIE-CS  
Comeback  
Stayback

PK/km

1 June 1955

SUBJECT: Design of Texas Towers - Modifications Thereto

MEMORANDUM: Asst. Chief of Staff, Installations, AFCEC-CSE

1. Transmitted herewith is copy of letter from Officer-in Charge of Construction, Texas Towers, First Naval District, dated 18 May 1955, with inclosures of preliminary A/E Drawings.

2. Your comments and/or recommendations are requested as soon as practicable.

Incl. 2

1. Prints (Prel. A/E dwgs)

2. Ltr. as above

cc: ADC w/cy incl.s

PAUL B. KNIGHT

Capt. USAF

OIC Instls. Reprs. Office

New England Region

Rewrtn 6 Apr 55

*Low 3-3*

*ATM*

SUBJECT: Supply Ship for Texas Towers

TO: Director of Transportation, ATTN: AFMTP-PD

DATE:

8 APR 1955

MEMO NO. 4

AFCIE-CS/Lt Col Crossley/mol/71975

1. It is believed that representatives from your office and the Directorate of Logistics Plans have visited the Navy Construction Office and obtained all necessary information since your memorandum was written.
2. Fuel storage has been increased by 100-120,000 gallons, and the vertical distance between low water and the main deck is approximately eight-five (85) feet.
3. The proposed use of helicopters to logistically support these towers appears to be the most favorable and economical.

1 Incl  
n/c

GILBERT I. PERRY  
Colonel, U. S. Air Force  
Executive  
Construction Division  
Department of Construction, ACS/PC

COORD: AFCIE-CS

*Handwritten signature*  
*975*  
LITTLE  
USAF

AFCIE-C

*Handwritten signature*  
G. I. PERRY  
Col. USAF

Coord: Cy  
Comeback  
AFCIE-CS  
Stayback

FEB 17 1955

AFMTP-PD

MEMORANDUM FOR DIRECTOR OF OPERATIONS, DCS/O  
ATTN: AFOOP-OPD  
ASSISTANT FOR LOGISTIC PLANS, DCS/M  
ATTN: AFMLP-PL-OS  
ASSISTANT CHIEF OF STAFF, INSTALLATIONS  
ATTN: APCIE-C/SR  
IN TURN

SUBJECT: Supply Ship for Texas Towers

1. A review of the attached correspondence indicates that some thought is being given to the use of helicopters for transporting personnel between the Texas Towers and shore points. The ADC operations plan calls for the use of surface transportation for this job.

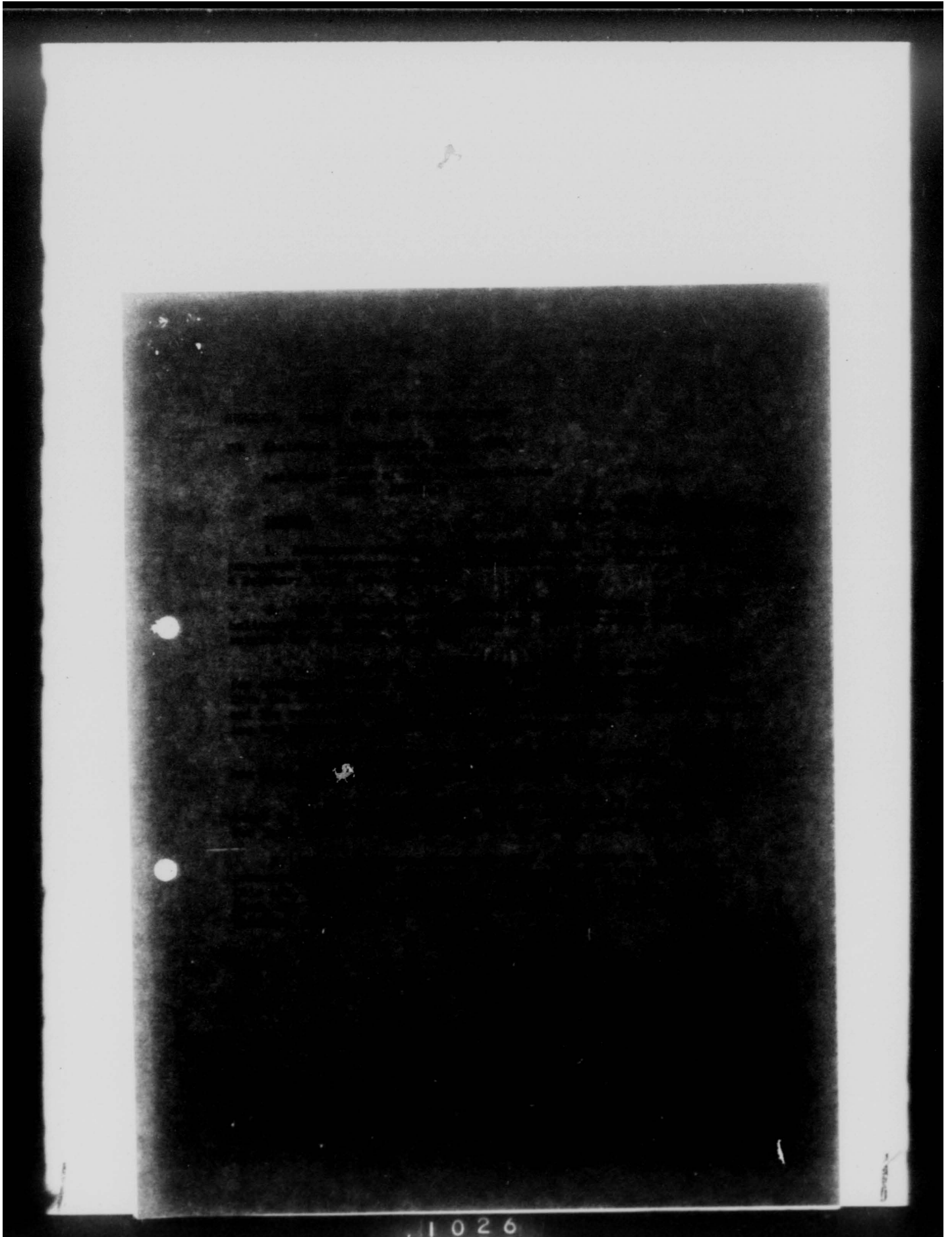
2. The provision of an ocean vessel capable of lifting the correct amounts and types of cargo and personnel between the shore and the Texas Towers will be a lengthy process. If we are to have a suitable vessel ready by the time the first Tower becomes operational we must develop a specific requirement in the immediate future.

3. We would like to know whether or not the supply ship should be equipped to handle passengers. If so, then we would like to know the numbers of passengers to be carried at any one time so that adequate accommodations may be provided.

4. We would also like to know the vertical distance between low water and the main deck of each tower so that adequate liquid cargo pumping facilities may be provided aboard the supply ship.

1 Incl  
B/L fr AFMTP-PD, same subj,  
dtd 10 Jan 55 to ADC w/1st  
Ind dtd 8 Feb 55, w/1 Incl

DAVID E. DANIEL  
Colonel, USAF  
Chief, Plans, Div, D/Transportation  
USAF, Office of the Chief of Staff/Material



1026

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON

C

*Ins 3-3*

ADDRESS REPLY TO:  
AF INSTALLATIONS REPRESENTATIVE  
NEW ENGLAND REGION  
887 COMMONWEALTH AVENUE  
BOSTON 18, MASS.

REFER TO FILE NO. NER-AF PRE/jw

25 March 1955

MEMORANDUM FOR ASST. CHIEF OF STAFF, INSTALLATIONS, HQ. USAF  
ATTENTION: AFGID-CSR

SUBJECT: Partial Assumption of Contractor Risks, Texas Tower

Forwarded for your information.

1 Incl. (in dupl)  
Cy ltr frm  
1st Naval District  
dtd 15 Mar 55

*(copy filed CIE-ES)*

*Alfred C. Anderson*  
ALFRED C. ANDERSON  
Chief Civilian Asst.  
Dep. OIC Instla. Reprs. Office  
New England Region

*To: Central Files*

D-100  
JJA:abb  
MOS/l

13 MAR 1957

From: Officer in Charge  
To: Chief, Bureau of Yards and Docks  
Via: District Public Works Officer, First Naval District

Subj: Texas Towers - Partial assumption of contractor risks

1. In accordance with verbal directive from the Chief of Bureau, it is desired to present recommendations for the government's acceptance of a portion of the contractor's risk in towing and erecting subject towers.

2. Advice has been received from a qualified insurance broker that coverage to the tower itself will cost about \$150,000 per tower for \$3,000,000 coverage with \$25,000 deductible per accident. It is further understood that the DeLong Corporation normally does not insure the first \$25,000 in order to reduce his insurance premiums. Therefore, it is recommended that the government self insure for all damage to the tower in excess of \$25,000 per accident thereby saving \$750,000 in insurance premiums on the five towers.

3. Elimination or partial coverage of insurance for third party liability is not recommended.

4. It is considered that the contractors will include in their bids sizeable contingencies to cover costs of delays resulting from abnormal poor weather conditions. Delays in jacking after arrival at the erection site could be very costly. Therefore, it is recommended that the government reimburse the contractor by change order for 60% of his direct out-of-pocket expenses at the erection site chargeable to non-productive periods resulting from extended periods of poor weather. This would require legal definition, but tentatively, poor weather could be defined as waves in excess of 6 feet and/or wind with frequent gusts in excess of 25 knots. Similarly, an extended period could be defined as a normal work shift and out-of-pocket expenses defined to exclude overhead, profit, rental or contractor owned equipment, etc. It is considered important that the contractor assume a part of this risk even though he will probably cover it with a contingency item. His assumption will also save possible unnecessary storages at government expense to permit work during productive weather.



1-10  
11/1/71

5. Although recommendations were requested for future towers, it is proposed that these same recommendations apply also to the first tower under contract WJ-42201. An early reply in this connection is required so that any special circumstances may be included in the contractor's estimate submitted for delivery to the user by 21 March.

Very truly,  
[Signature]  
[Title]

SUBJECT: Supply Ship for Texas Towers

TO: Assistant Chief of Staff, Installations  
ATTN: AFCIB-CS  
Director of Transportation  
ATTN: ARMTP-PD  
IN TURN

MAR 24 1956

MEMO NO. 3  
ARMPLP-PL-US/Lt Col Bradley/dm/78648

1. This office recommends that Texas Tower personnel be transported by helicopter. Further, we recommend that airlift be used for resupply of cargo other than water and diesel fuel to the first Tower (one Tower 1 Sept 1955 - 1 Sept 1956). The two H21B's mentioned in Memo 2 can carry this cargo as well as the personnel.

2. It is understood that diesel fuel storage will be increased by 100-120,000 gallons, and that equipment for routine distillation of water is being installed. This will permit occasional resupply (of fuel, and perhaps some water) by a standard commercial tanker.

3. During the first 6-8 months of supporting the first Tower, the helicopter operation will be thoroughly tested. The operation can then be evaluated and compared with surface resupply of dry cargo in order to decide on providing a ship, or about four additional H21B's (10 instead of 6) to continue air resupply to all five Towers.

1 Incl  
n/c

CHARLES F. HAYES  
Colonel, USAF  
Director, Transportation Division  
Logistics Plans  
ARMPLP-PL-US

134  
2034

1030

AFCIE-03/LtColGrossey/mol/71975  
Wrtn 2 Feb 55

*file 3-3 RTH*  
3 FEB 1955

Dear Admiral N. F. A. Stalle  
U S Coast and Geodetic Survey  
Department of Commerce  
Washington 25, D. C.

Dear Admiral Stalle:

Reference your letter of 10 January 1955, requesting information as to the possibility of using the "beam towers" to obtain data on behavior of tides.

The U S Navy Hydrographic Office has also requested the use of these towers to acquire data on various oceanographic parameters. The Air Force has given approval to the Hydrographic Office indicating that sufficient space and power would be available to support their requirements. It was indicated by the Hydrographic Office that contact would be made, by that office, with various other government agencies who would be interested in this type of data. A cooperative program where the various participating agencies could combine their requirements would result in a more economical investigation.

It is suggested that your office contact Commander W. Robinson, U S Navy Hydrographic Office, Washington 25, D. C., Room 153, Extension 271, in order that your requirements may be included in this program.

When all the requirements are known for this program they will be submitted to the AFM Installation Representative, New England Region, 357 Commonwealth Avenue, Boston 15, Massachusetts, by the U S Navy Hydrographic Office.

Sincerely,

LEE B. WASHINGTON  
Lieutenant Colonel, U. S. Air Force  
Air Force Installation Representative, New England Region

COORD: AFCIE-03

AFCIE-03

AFCIE-3

Coord by  
AFCIE-03  
Comeback  
Stayback

*Hull 6/1/55*

*W. King*

*Col. Crow*

U S Navy Hydrographic Off  
AFIR NER

AFCIE-1  
*A. M. ...*

OFFICE OF THE DIRECTOR

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
WASHINGTON

10 January 1955

Major General Lee B. Washburn  
Assistant Chief of Staff for Installations  
U. S. Air Force  
Washington 25, D. C.

Subject: Tide Observations at Texas  
Tower Installations

Dear General Washburn:

There have been a number of articles regarding the installation by the U. S. Air Force of radar platforms - "Texas Towers" - along the continental shelf of the Atlantic coast of the United States. A recent and most interesting article, "Radar Platforms: A Challenge to Builders" by Comdr. John W. Albers, CGS-USN appearing in the Nov. 25, 1954 issue of Engineering News Record, gives considerable information about the design and installation proposed.

The purpose of this letter is to explore the possibilities of obtaining certain systematic observations at such installations for the purpose of learning more about ocean waters off our coast, particularly concerning the behavior of tides. Observations in the offshore areas are very meagre but frequently in demand for various studies.

Systematic tide observations for example would furnish the relationship of the tide on the continental shelf with that inshore; and of particular benefit to your operation would furnish over the years the variation between the elevation of the platforms and mean sea level. As you probably know sea level has been rising slowly but noticeably along the Atlantic. This has been brought out by our present network of tide stations located along our coasts, primarily in somewhat protected places.

Data on the behavior of tides, variation in water temperature and density, and current flow are desired, particularly now with increased interest in the development of the natural resources on the continental shelf.

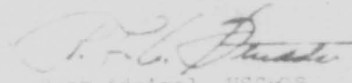
10 January 1955  
Major General Lee E. Washburn  
U. S. Air Force  
Page two

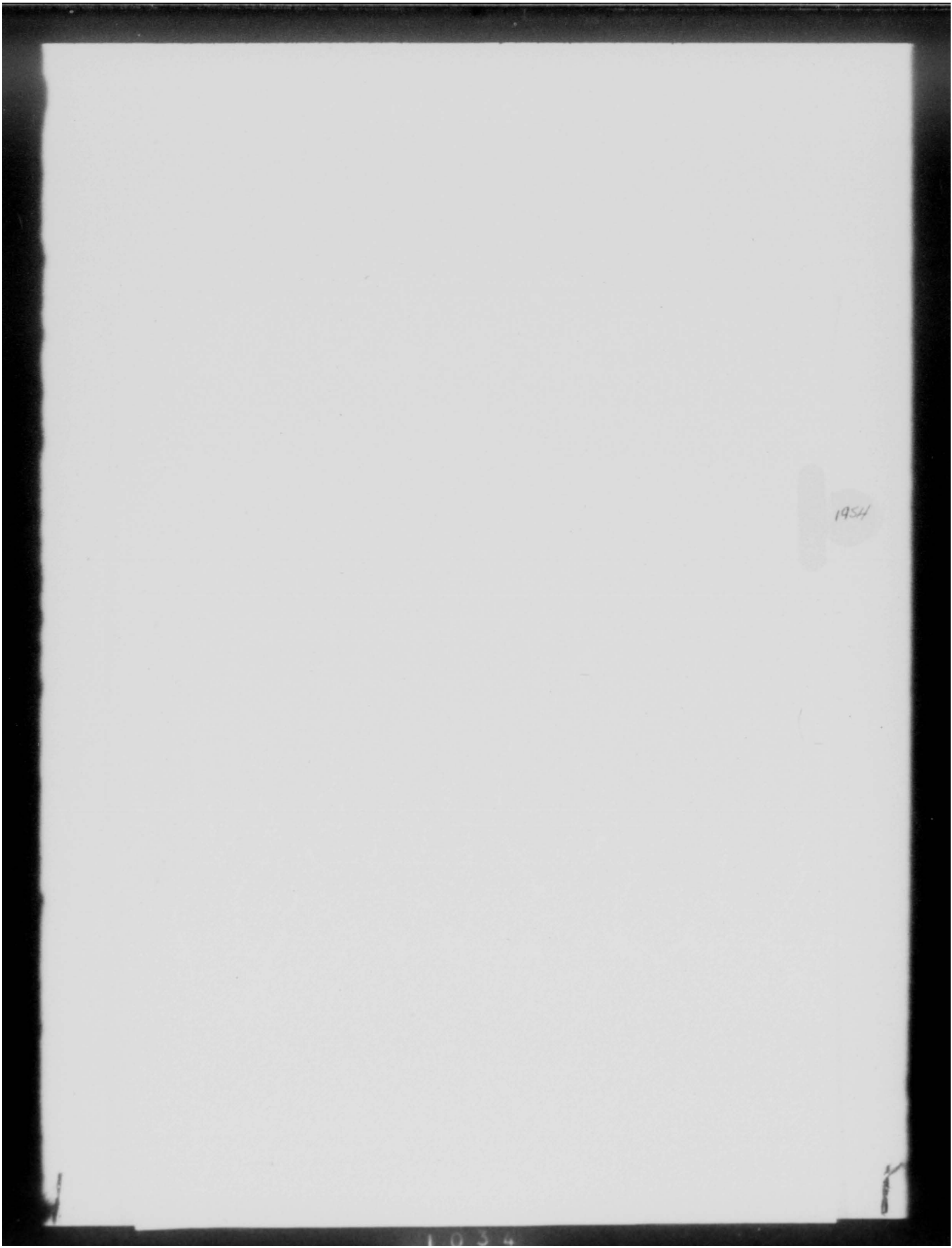
Our present files of processed data collected by the Coast and Geodetic Survey on tides along our coasts, currents on Georges Bank and at scattered points along the shelf are used extensively by Defense Department contractors, such as Woods Hole Oceanographic Institute, in research studies.

Using the standard automatic recording instruments of the Coast and Geodetic Survey little time and space are required to obtain the desired observations; which are processed by the Coast and Geodetic Survey. However, if a program were to be undertaken some provision for installing the instruments would be required before the platforms are completed.

An expression of your opinion on this matter would be appreciated.

Sincerely yours,

  
Rear Admiral, USCGS  
Director



1954

AFCIE-ROO-7/Major MacGhee/77617/jfm  
Written: 20 Dec 54

~~CONFIDENTIAL~~

- AFCIE 1
- AFPTR 2
- AFDRD 3
- AFOOP 4
- AFCCS 5
- SAFGC 6
- OSAF 7

- COORDINATION
- COORDINATION
- COORDINATION
- COORDINATION
- APPROVAL
- COORDINATION
- SIGNATURE

Real Estate Division  
D/Real Property, ACS/I

*Under review by Major MacGhee*  
*C. W. HARRIS*  
 14 JUL 1965  
 Designation of Areas of the Outer Continental Shelf Needed for National Defense  
 (Name & Grade of Official)

Designation of Areas of the Outer Continental Shelf Needed for National Defense

1. The Outer Continental Shelf Lands Act (Public Law 212, 83rd Congress) asserts the exclusive jurisdiction and control of the Federal Government over the sea bed and seabed of the Outer Continental Shelf and provides for the development of mineral resources. Section 12.(d) of the Act authorizes the Secretary of Defense, with the approval of the President, to designate areas outside the three mile limit which are required for National Defense purposes. As long as this designation remains in effect, no exploration for or exploitation of natural resources can be conducted except with the concurrence of the Secretary of Defense. While the Act applies to the Outer Continental Shelf (Atlantic, Pacific, and Gulf of Mexico) the focal point of interest at the present time is the Gulf of Mexico; the off shore oil, gas and sulphur resources, better known as the tideland oil fields.

2. By Memorandum, dated 12 October 1954, the Assistant Secretary of Defense (Properties and Installations) requested that the three Military Departments recommend areas of the Outer Continental Shelf to be designated by the Office, Secretary of Defense as needed for National Defense purposes, and therefore, to be restricted from exploration and commercial exploitation.

3. The inclosure to the proposed memorandum for the Secretary of Defense summarizes present and foreseeable Air Force requirements for areas of the Outer Continental Shelf. These areas are used for: air-to-air gunnery and rocket ranges, bombing ranges, missile ranges and special purpose areas to meet operational and training requirements of the Air Defense Command, Strategic Air Command, Tactical Air Command, Air Training Command and Air Proving Grounds Command, and the Air Research and Development Command.

RECOMMENDATION

4. It is recommended that the attached proposed memorandum for the Office, Secretary of Defense (Properties and Installations) be approved and signed.

When Incl. No. 1 is (are) withdrawn  
 1 Incl Proposed Memo for the Asst Secy of Defense for signature w/incl  
 cc: AFCIE OSAF FILE COPY  
 AFPTR AFCIE-CI  
 AFDRD  
 AFOOP  
 AFCCS  
 SAFGC  
 OSAF OPC OF SIG  
 5/ Gen Rodenhausen  
 6439-54

AFCIE CENTRAL FILE COPY

~~CONFIDENTIAL~~



~~CONFIDENTIAL~~

AFCIE-ROO-7/Major MacGhee/77617/jfm/Wrtn: 20 Dec 54  
Rwrtn: 27 Dec 54

JAN 5 1955

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE  
(PROPERTIES AND INSTALLATIONS)

SUBJECT: Designation of Areas of the Outer Continental Shelf  
Needed for National Defense

1. Reference is made to Memorandum from the Office, Secretary of Defense, subject: "Designation of Areas of the Outer Continental Shelf Needed for National Defense," dated 12 October 1954.

2. Inclosed is a list of areas of the Outer Continental Shelf required by the Department of the Air Force for national defense purposes.

3. Section I of the inclosure lists those areas presently being used for: air-to-air gunnery ranges, air-to-air rocketry ranges, bombing ranges, missile ranges and special purpose ranges.

4. Section II of the inclosure lists those ranges which are either in the process of expansion or are programmed for expansion to meet anticipated future requirements.

5. Section III of the inclosure lists the approximate geographical coordinates of "Texas Tower" sites. The exact coordinates of these facilities can not be determined until caissons are sunk preparatory to final construction. The coordinates furnished herewith are based upon the best information available at this time. The area required for designation in this case is a circle with a five mile radius around each tower.

6. Pursuant to the provisions of Public Law 212, 83rd Congress, it is requested that the areas listed in Section I, II and III be designated as needed in the national defense. It is essential that these areas be restricted from exploration, commercial production and exploitation except when temporarily waived by the Secretary of the Air Force as being in the national interest and not prejudicial to the mission of the Air Force.

AFCIE-1A/M CENTRAL FILE COPY

NO CHANGES IN SUBSTANCE OR MEANING

When Incl. no. ~~13526~~ is (are) withdrawn or not attached, the classification of *Confidential* on this correspondence will be cancelled in accordance with par 25 e, AFR 205-1.

cc: AFCIE  
AFPTR  
AFDRD  
AFOOP

AFCCS  
SAFGC  
OSAF OFC OF SIG  
OSAF FILE COPY  
AFCIE-CI

~~CONFIDENTIAL~~



AFCIE-ROO-7/Major MacGhee/77617/jfm/wrtm: 20 Dec 54  
Reurtn: 27 Dec 54

~~CONFIDENTIAL~~

Memo for the Asst Sec of Defense (P&I), Subj: Designation of Areas of the Outer Continental Shelf Needed for National Defense (Cont'd)

7. The Air Force is presently making a utilization study of the overall range problem, the final results of which should be available some time <sup>later this year</sup>. The increased speeds of aircraft, the increased ranges of weapons systems, the limited size and high value of land emphasize the desirability of overwater ranges wherever possible. These factors plus the ever increasing training requirements of the Air Force indicate that an overall Departmental review of overwater range distribution and control may be desirable in the not too distant future.

(Signed)  
JOHN M. FERRY  
Special Assistant for Installations

1 Incl  
a/s (dup)

cc: AFCIE  
AFPTR  
AFDRD  
AFOP  
AFCCS  
SAFCE  
OSAF OFC OF SIG  
OSAF FILE COPY  
AFCIE-CI

No Change in Substance or Meaning

*[Signature]*  
J. G. Foss  
SA, USAF  
*[Signature]*

When Incl. no. *2223* is (are) withdrawn or not attached, the classification of *Confidential* on this correspondence will be cancelled in accordance with par 23 e, AFR 203-1.

~~CONFIDENTIAL~~

AFCIE-ROO-7/Major MacGhee/77617/jfm/artn: 21 Dec 54

~~CONFIDENTIAL~~

Memo for the Asst Sec of Defense, Subj: Designation of Areas of the Outer Continental Shelf Needed for National Defense (Cont'd)

7. The Air Force is presently making a utilization study of the overall range problem, the final results of which should be available some time next year. The increased speeds of aircraft, the increased ranges of weapons systems, the limited size and high value of land emphasize the desirability of overwater ranges wherever possible. These factors plus the future expansion of the Air Force indicate that an overall Departmental review of overwater range distribution and control may be desirable in the not too distant future.

When this is received, the classification of this correspondence will be cancelled in accordance with par 26 a, AFR 203-1.

1 Incl  
a/s

cc: AFCIE  
AFPTR  
AFDRD  
AFOOP  
AFCCS  
SAFCC  
OSAF OFC OF SIG  
OSAF FILE COPY  
AFCIE-CI

MEMO FOR RECORD: By Memo dtd 12 Oct 54 OSD req that three Services furnish OSD requirements for areas of Outer Continental Shelf needed for national Defense purposes so that these areas could be designated as national defense areas & restricted from exploration, commercial exploitation and production when such activity would be hazardous or interfere with defense activities. The focal point of interest was in the Gulf of Mex. & the tideland oil area with its oil, natural gas & sulphur resources. AFCIE req that AFPTR, AFDRD & AFOOP furnish AFCIE with present & future AF requirements for areas of the Outer Continental Shelf in order that a consolidated reply might be furnished OSD by 1 Dec 54. Replies were rec from AFOOP dtd 22 Nov, AFDRD dtd 29 Nov, AFPTR dtd 19 Nov. Inadequate info prevented preparation of final reply until after Texas Tower site coordinates could be resolved. Coordinates & size of area to be designated in connection w/Texas Tower sites was obtained informally from Col. Parson AFOOP-OP-D & Lt. Col. Crossey AFCIE-C/S on 20 Dec 54. AFOOP plans to hold an opns conference on range problems during Jan 55. At the conclusion of that confer. AFCIE will undertake to clarify the confusion presently existing in range real estate, providing AFOOP & representatives of maj commands are able to clear up the confusion relative to existing ranges & who exercises jurisdiction over them. It should be noted that the Navy has almost complete control over both the eastern & west coast seaboard & is moving to grab all that area in the Gulf not req'd for designation under PL 212 by the AF. The unsuitability of current continental ranges due to the greater requirements of modern weapon systems and the high value of land in most continental shelf ranges, especially in the New England & west coast area. NOTE: Mr. Norton, OSD, informally advised Col. Price that for the purpose of this action use justification would be adequate, eg. gunnery ranges, bombing ranges, Texas Tower site.

*Areas indicate that in the not too distant future, it may be desirable for the A.F. to push for a redistribution of continental*

MAJOR DAVID F. MACGHEE

2  
~~CONFIDENTIAL~~

AFCIE/Gen Washbourne/dl/76381/8Dec54

*Inc 3-3*

8 December 1954

Mr. W. M. Horn  
Newport News Shipbuilding and Dry Dock Company  
Newport News, Virginia

Dear Mr. Horn:

Receipt is acknowledged of your letter of December 3, 1954, expressing an interest in a sub-contract for Texas Towers for the Air Force.

The Bureau of Yards and Docks, U. S. Navy is handling the design and construction of these units for the Air Force. It is suggested that your interest in the fabrication of the steel work for these units be communicated to the Public Works Office, First Naval District, Boston, Massachusetts.

Sincerely,

LEE B. WASHBOURNE  
Major General, USAF  
Assistant Chief of Staff,  
Installations

*file 3-3*

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY

NEWPORT NEWS, VIRGINIA.

December 3, 1954

Major General Lee B. Washburn  
Ass't. Chief of Staff for Installations  
for the United States Air Force  
Washington, D. C.

Gentlemen:

We read with interest the article on the proposed Radar Warning Platforms for the Continental Air Defense Command, and we note that it is the thought of the Air Force to ask tenders from specialized engineering contractors for these units.

Inasmuch as we do not intend to submit a prime bid on the fabrication, assembly and erection of these units, we would appreciate receiving a list of those contractors who will receive requests for prime bids. We may be able to assist as a sub-contractor in the fabrication of the steel work for these units.

Your advice in this matter will be appreciated.

Yours very truly,

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY  
3-

*W. M. Horn*  
W. M. Horn  
Sales Department

WMH:bm-2

Classification (to, from):

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

RM

Unclassified

By: *Nat Chason*

*W. H. ...*

①

DATE: Apr 28 1961

W 054

MEMORANDUM FOR CHIEF, CONSTRUCTION PROJECT CONTROL OFFICE, AEC/I  
ATTN: LT COL WOL BLAKE

SUBJECT: (Uncl) Projects SAGE and TEXAS TOWERS - Critical List

1. Request your office initiate action to place the following projects on the critical list:

- a. SAGE (Semi-Automatic Ground Environment) (term unclassified) formerly known as Lincoln Transition System.

This Headquarters issued Design Guidance to AFIR NAR on 20 July 1954. Form 378 in amount of \$15,250,000 was issued to Commander, Air Materiel Command on 25 Oct 1954. This 378 authorized obligations for the following:

- (1) Construction of technical facilities at McGuire AFB, New York and Stewart AFB, New York;
- (2) Design and construction of technical facilities at Syracuse AFB, N. Y.
- (3) Inspection service at McGuire AFB, Syracuse AFB, N.Y. and Stewart AFB, N. Y.
- (4) Design of technical facilities at Ft Lee, Va., Brunswick NAS, Ga. and Ft Custer, Mich.

AEC has been designated as executive agency for this project. A Joint Project Office under the jurisdiction of AEC has been established to coordinate all the facets of the project. A separate SAGE section has been established in the AFIR NAR office to monitor the construction of these facilities.

- b. TEXAS TOWERS (term unclassified)

This Headquarters issued advance planning directive to Bureau of Yards & Docks on 8 Mar 1954 authorizing preparation of contract plans and specifications for the towers. Form 378 in amount of \$11,023,000 will be issued to BuDocks prior to 3 Dec 1954 for the following:

- (1) Construction of Sites TT-2 and TT-3
- (2) Design of Sites TT-1, TT-5, TT-4

Classification changed or changed to:

Unclassified

By: *Nat Chason*  
Date: Apr 28 1961

Declassified 28 Apr 61

~~CONFIDENTIAL~~

16

Classification canceled or changed to: AFGIE-CS/MajorLittle/mol/71975  
Wrtn 30 Nov 54

*Unclassified*  
By Authority of ~~CONFIDENTIAL~~ *Nat Clayton*  
By: *Nat Clayton*  
Date: *Apr 28 1961*

SUBJECT: (Uncl) Projects BASS and TRIAS TOWERS - Critical List (Cont)

BaDecks has been designated as construction agency and AFIM/NAI will monitor this project. BaDecks and Air Force has agreed to a construction schedule which provides for completion of one (1) Tower during CY 1955 and four (4) Towers during CY 1956.

2. Lt Colonel A. B. Parsons, AFOPF-OP/D, room BD951, telephone: 78456 and Lt Colonel J. L. Crossley, AFGIE-CS, room 50431, telephone: 71975 will furnish additional information on above projects as required.

3. Request this office be included for coordination on all action papers pertaining to these projects and be furnished information copies of all action papers, reports, etc.

HAROLD C. SMITH  
Colonel, USAF  
Chief, Special Projects Branch  
Construction Division  
Directorate of Construction, ACE/I

COORD: AFGIE-CS

*876*

Classification canceled or changed to:

*Unclassified*  
By Authority of ~~CONFIDENTIAL~~ *Nat Clayton*  
By: *Nat Clayton*  
Date: *Apr 28 1961*

AFCEC-CS/Col White/BJR/54443

AFCEC-CS

Classification Control (Changed to 30 November 1994) of

MEMORANDUM FOR RECORD

C. W. Hoover

65-15

(Other authorized)

14 JUL 1965

SUBJECT: Status of Action - ~~Project "Rag Mop"~~

1. A discussion was held this date with AFCEC representative Colonel Rockwell and AFCEC-XI representative Lt Col Perlberg pertaining to status of action on project RAG MOP. Following points were noted or emphasized as requiring further actions:

a. Lt Col Perlberg stated that the project has been presented for JCS approval, and that he will take necessary action for project to be included in programming guidance documents to give it some official status.

b. A memorandum was prepared by Mr. Hoover (DCS/Comptroller) for General Bogart to present to Secretary of Defense, requesting \$10,000,000 in contingency funds to cover complete project. It is unknown at this time if these funds are applicable to PWP requirements. AFCEC-CS will follow-up on authorization and funding for this project.

c. Budget estimate prepared by General Electric indicates a PWP fund requirement as follows:

(1) Initial Cost	-	\$ 550,000
(2) Transportation	-	96,000
(3) Erection & Installation	-	<u>495,000</u>
		\$ 1,141,000
10% Contingency	-	<u>114,000</u>
TOTAL		\$ 1,255,000

d. Lt Col Perlberg presented a schedule which showed the desired phasing of equipment delivery and installation with timing of construction operations. A copy is to be furnished this office as basis for establishing a construction schedule with the construction agency.

e. General Electric's study on this project provides basic data for preparation of design guidance to field agency. Lt Col Perlberg will provide additional G.E. contacts on generators, etc. AFCEC-CS will take immediate steps to issue design guidance instructions. Target date is 2 December 1964.

Memo for Record, 30 Nov 54, Subj: Status of Action - Proj RAG MOP

f. Site survey team is expected to return to Washington by 3 Dec 54. Confidential Message Q5681, 27 Nov 54, from the survey team, stated that all survey team members and representatives of JAMMAT concur that JCA is the logical construction agency, and further recommend immediate release of construction funds.

g. Design and Construction Channels:

- (1) USAFE has AFIE responsibilities for subject area. Issue design guidance to USAFE.
- (2) JCA is design and construction agency through CINCEUR. 378's will be issued to CINCEUR.
- (3) Adequate design funds are in hands of JCA to carry out design.

h. Coordinate all project action papers with AFOTV, AFIRD, and AFICIE-CO.

i. A query was raised concerning a similar Z.I. site. Lt Col Perlberg indicated that operational requirement was so phased that project could be included in FY 56 program. Lt Col Perlberg was requested to contact Mr. Ulinski, AFICIE-W, to insure that the project is included in the FY 56 program.

HAROLD C. WHITE  
Colonel, USAF  
Chief, Special Projects Branch  
Construction Division  
Directorate of Construction, ACS/I

cc: Coord Cy  
Comeback  
Stayback  
AFICIE-CS  
Col White  
AFICIE-W  
AFICIE-C









FINAL PAGE (Continued)

RECOMMENDATIONS:

- 3. It is recommended that Tab A be signed and dispatched.

WILLIAM E. LOCKHART

2 Incls

- 1. Prop ltr to SAIS Tab A
- 2. Ltr from SAIS 20 Oct 54 Tab B

*AFOAC  
M/Gen Blakey*

COORD: AFCEA

AFOCS

OSAF

*W. Lockhart*

Coord Cy  
 Comback Cy  
 AFCEA-CS  
 Off of Sig OSAF  
 AFCEA  
 AFOCS

AFCIB-CS/RLCrockett/mol/71975  
Wrtn 21 Oct 54

*Ins 3-3*

22 OCT 1954

AFCIB-CS

SUBJECT: Schedule of Construction for Texas Towers

TO: Bureau of Yards and Docks  
ATTN: O-270A  
Department of the Navy  
Washington 25, D. C.

1. Reference is made to your letter dated 20 October 1954, subject: "Texas Towers - Design and Construction of", and to Schedules "A" and "B" inclosures #1 and #2 thereto.
2. The problem areas outlined in your letter in adhering to Schedule "B" for construction of Texas towers are recognized as probable trouble spots. However, the Air Force has an immediate urgent requirement for construction of at least two (2) of the towers during calendar year 1955. Therefore, after careful consideration of all the factors involved, it is requested that your planning be predicated on Schedule "B" and that every effort be made to complete the towers at Nantuxet and Georges Bank during calendar year 1955.
3. The progress of design, construction, outfitting and erection will be closely followed during the next few months. If at any time it appears that factors beyond your control will make 1955 completion of the two (2) towers not feasible, the construction schedule may be modified by mutual agreement accordingly.
4. Action is being taken to secure immediate release of funds required to permit advertising and award of contracts for construction of the two (2) towers referred to above, and for completion of design on the remaining three.

FOR THE CHIEF OF STAFF:

C. PRATT BROWN  
Lieutenant General, U. S. Air Force  
Assistant Chief of Staff, Installations

COORD: AFCIB

AFCOS

OSAF

Coord By  
Comeback By  
AFCIB-CS  
Off of Sig - OSAF  
AFCIB  
AFCOS

AF HQ-50 (REV. 21 JUNE 48)  
HQT 10-5

DEPARTMENT OF THE AIR FORCE

**AIR STAFF SUMMARY SHEET**

TO	ROUTE	DESIRED ACTION	INITIALS	OFFICE OF PREPARATION Special Projects Branch Construction Division Directorate of Construction
AFCSB	1	Coordination & Ag.	<i>CB</i>	GRADE - SURNAME MR. R.L. CROCKETT
<del>AFCSB</del>	2	<del>Approval</del>		
USAF	<del>3</del>	Signature		DATE 22 OCT 1954

SUBJECT TEXAS TOWERS

**SUMMARY**

1. Letter from Department of the Navy (Bureau of Yards & Docks) 20 October 1954, (Tab B), presents two (2) schedules of construction for the five (5) Texas Towers. Schedule "A" recommended by Bureau of Yards & Docks calls for completion of all five (5) towers during period May - August 1956. Schedule "B", submitted at the request of the Air Force, calls for completion of two (2) of the towers during June - August 1955, balance in 1956. The Navy outlines various reasons why completion of any of the towers in 1955 is not recommended.

2. By attached letter, (Tab A), the Navy is requested to adhere to Schedule "B" with periodic reexamination of all factors to determine if we should proceed as planned. Factors in this decision are as follows:

a. There is an immediate Air Force requirement for a seaward extension of the Air Defense Radar Net to afford coverage of strategic areas not presently covered.

b. The USAF operating program phases personnel into these facilities starting in October 1955 with full occupancy on an operating basis during July, August and September 1956.

c. Electronic equipment will be available January 1955 for installation as the towers are completed.

d. By building at least two (2) of the towers in 1955, experience will be gained which will permit improvement on the 1956 installations.

e. Two (2) sets of temporary legs, at a cost of \$1/2 million each, required in 1955 can be reused during the 1956 installations.

f. By erecting two (2) of the towers in 1955 and three (3) in 1956, the load on the Air Force in installing and testing of electronic equipment will be distributed.

g. Contingency factors outlined by Bureau of Yards & Docks could just as easily affect Schedule "A" as Schedule "B". For example, if Schedule "A" is used and bad weather prevails during the summer of 1956, the possibility of getting none of the facilities prior to calendar year 1957 is apparent.

AF 20-50 (REV. 21 JULY 48)  
HQT 10-5

DEPARTMENT OF THE AIR FORCE

**AIR STAFF SUMMARY SHEET**

TO	ROUTE	DESIRED ACTION	INITIALS	OFFICE OF PREPARATION	
				GRADE - SURNAME	TEL
				DATE	

**SUBJECT** TEXAS TOMBS (Continued)

**SUMMARY**

**RECOMMENDATION:**

- 3. It is recommended that Tab A be signed and dispatched.

- 2 Incls  
 1. Prop ltr to BuY&D Tab A  
 2. Ltr from BU&D 20 Oct 54 Tab B

*W.E. Leonard*  
 WILLIAM E. LEONARD  
 Colonel, U. S. Air Force  
 Director of Construction  
 Assistant Chief of Staff, Installations



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

IN REPLY REFER TO:

C-270A/RCB:wfp/Tb  
Wll

From: Chief, Bureau of Yards and Docks  
To: Department of the Air Force

Subj: TEXAS TOWERS Design and construction of

Ref: (a) USAF ltr AFDAI dtd 8 Mar 1954  
(b) Conference of 19 Oct btwn representatives of BUDOCKS and  
Hdqtrs USAF

Encl: (1) Schedule "A"  
(2) Schedule "B"

1. By reference (a) the Department of the Air Force requested this Bureau to proceed with the preparation of plans and specifications for construction of the subject project.

2. A feasibility report has recently been completed and tentatively approved by Department of the Air Force representatives. A thorough technical review of this feasibility report, by BuDocks in consultation with the Architect-Engineer representatives, has been made. Based upon this review a schedule which follows sound established design and construction procedures has been prepared providing for erection of all towers during the summer of 1956. This schedule is outlined in enclosure 1 forwarded herewith.

3. This schedule (enclosure 1) contemplates the completion of plans and specifications for all towers by 1 May 1955. Lump sum bids for construction of the towers would be received from selected bidders lists and awards would be made on four towers prior to 1 May and on the fifth tower prior to 15 June 1955 under contracts which would stipulate completion dates not later than 1 August 1956. This schedule allows several weeks for partial installation by the Air Force of electronic equipment during the dockside outfitting period, with completion to be accomplished at the sites after the towers have been completely erected and outfitted. The schedule is designed to take full advantage of lower costs resulting from concurrent construction of identical platforms and onshore or dockside outfitting and installation of electronic equipment. The schedule is considered realistic and provides optimum completion dates from the standpoint of economy, thoroughness of design and good construction practice.

4. By reference (b) Air Force representatives expressed desire for a plan that would envisage completion of two towers during the summer of 1955, with the remaining towers to be completed in the summer of 1956.



C-270A/OCE:vfp;Rb  
W11

Accordingly, enclosure 2 has been prepared to indicate maximum time allocations which could be assigned to various phases of work in order to permit erection of two towers prior to 10 August 1955. To attempt to meet this schedule, highly accelerated and abnormal design, construction and bidding procedures would be required, with no assurance that they would result in construction completion by the date desired. As examples:

- (a) It would be necessary to immediately advertise for bids on fabrication and installation of the structures on the basis of the limited information contained in the Feasibility Report.
- (b) The fabrication portion of the bid would be based on an estimated tonnage with adjustment at a later date.
- (c) Outfitting might have to be added to the contract by change order upon completion of plans and specifications.
- (d) Contractors, both design and construction, would demand sizeable contingencies for overtime work.
- (e) Additional costs would be involved in the dovetailing of A&E design with the preparation of fabricators shop drawings.
- (f) Contractors would include cost contingencies to cover possible necessity for major outfitting at the sites after erection in lieu of complete outfitting at dockside prior to erection.
- (g) All electronic equipment installation by the Air Force would have to be accomplished at the sites, rather than on shore.
- (h) Thorough review and double checking of the unique design of the structure would not be possible
- (i) Any number of difficulties such as strikes, unusual weather, transportation problems, etc. could occur and cause delays. The probability of such delays is completely realistic and, even if of only two to four weeks, would make adherence to the outlined schedule impossible. This would result in the payment of premium prices for completion on desired dates with the benefit not being actually realized. That premium is estimated at 30%.

5. The Bureau accordingly considers that it would be extremely unwise to adopt a construction schedule similar to enclosure (2) and feels that it can only accept the responsibility for the full design and construction of this project on basis of a schedule along the lines of enclosure (1). The unusual design and construction requirements inherent in this operation which is completely different in scope and character from any previously undertaken similar marine work dictates engineering prudence and no variation from sound practice.

Copy to:  
DMS One

*James Henry*  
E. A. McHenry  
Acting Chief of Bureau

AFCIE-EA/S/Mr Roehr/wmw/73541  
Wrtn 6 Oct 54

RM

Inc - 3-3

12 OCT 1954

Industrial Machine and Tool Company  
ATTN: Mr. Donald H. Roberts  
615 North Sheridan Road  
Tulsa 1, Oklahoma

Gentlemen:

Your letter of September 13, 1954, to the Commanding General, Headquarters U. S. Air Force, requesting an opportunity to participate in the proposed construction program for "Texas Towers," has been referred to this office for reply.

Design and construction of these contemplated facilities is performed for the Air Force by the Bureau of Yards and Decks, First Naval District, as contract construction agent.

It is, therefore, suggested that you refer inquiries to the above-mentioned First Naval District, Navy Building, 495 Summer Street, Boston 10, Massachusetts.

Your interest in this matter is greatly appreciated.

Sincerely,

C. W. HARRIS  
Deputy Chief, Engineering Division  
Directorate of Construction  
Assistant Chief of Staff, Installations

cc: USAF Instls Repr  
NPR

M/R: Cy b/ltr dtd 13 Sep fr above company retained in EA File.

COORDINATION: AFCIE-EA AFCIE-E

*[Handwritten signatures and stamps]*  
C. W. HARRIS  
Lt Col, USAF  
C. R. PATTERSON  
Lt Col, USAF  
D. H. ROEHR  
Lt Col, USAF

Coordination cy

1054



**INDUSTRIAL MACHINE & TOOL CO.**

615 N. SHERIDAN ROAD TULSA 1, OKLAHOMA TELEPHONE 8-3328

September 13, 1954

Commanding General  
Headquarters U. S. Air Force  
Pentagon Building  
Washington 25, D. C.

Gentlemen:

We recently have been advised through public releases of the anticipated radar tower fabrication and installation program that the Air Force will be initiating in the near future.

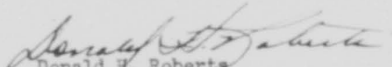
It is requested that we be provided with whatever information you have available at this time pertaining to the design, fabrication and installation of these radar towers known as "Texas Towers". We have done quite a design study on this type of structure and feel that we have a qualified staff to assist or to do preliminary design on this program if same is available. In addition thereto, we have complete facilities for the fabrication of these units, and we would certainly appreciate the opportunity of working with the Air Force and the United States Government on a project of this nature and magnitude.

If there is a formal application form required to receive bid sets or this data, it is requested that this information be forwarded to the undersigned so that they can be completed and our firm placed in a position to receive bid sets, engineering data, etc., pertaining to your program.

Thanking you in advance for your cooperation and assistance,

Yours very truly,

INDUSTRIAL MACHINE & TOOL CO.

  
Donald W. Roberts  
Sales Director

DHR:lb

AFGID-00/11001/rousey/wol/71973  
arta 30 Sep 54

AFGID-00

30 September 1954


MEMORANDUM FOR AFGID-E

SUBJECT: Texas Towers Preliminary Plans


1. Request that your Division make an immediate engineering review of the attached plans for the above referenced subject. This review should be accomplished prior to 4 October 1954 at which time representatives from your Division and Construction Division will depart for Boston to attend a conference with Department of the Navy and architectural Engineering representatives.

2. A meeting is now scheduled at 0900 hours, 5 October 1954, AFIRD NER, Boston. Request adequate representation from your office attend this meeting in order that decisions may be made at this meeting. It is expected that, at the conclusion of this meeting, Department of the Navy will be able to proceed with detailed plans and specifications for these towers. Contract award is estimated to be 1 January 1955, construction to be accomplished on shore during spring of 1955 and erection on site in summer of 1955.

1 Incl  
Set Page 1-10  
Texas Towers

  
E. A. SWANK  
Lt Colonel, USAF  
Chief, Special Projects Branch  
Construction Division  
Directorate of Construction, ACG/I

COPIES: AFGID-00

  
1. E. SWANK  
Lt Col. USAF

Coord by  
Comback  
AFGID-00  
Stayback

AFGIB-03/100000000/001/71975  
Wrtm 22 Sep 54

24 SEP 1954  
3-3

AFGIB-03

SUBJECT: General Security Classification - Project Texas Towers

TO: Commander  
Air Defense Command  
Ent Air Force Base  
Colorado Springs, Colorado

In order to clarify numerous inquiries and to establish a policy on the general security classification of Project Texas Towers, the attached copy of a letter to Bureau of Yards & Docks, Department of the Navy, dated 17 September 1954, (Incl 1) is forwarded for your information and guidance.

BY ORDER OF THE CHIEF OF STAFF:

1 Incl  
Cy Ltr as cited

DISTRIBUTION:  
AMC  
Middletown ABMA  
Rome, N.Y.  
RAAF  
AFIBO-NER  
First Naval District

Z. A. Swenke  
Lt. Colonel, U. S. Air Force  
Chief, Special Projects Branch  
Construction Division  
Department of Construction, AFM/1



COPIES: AFGIB-03

AFGIB-0

AFGIB

*Handwritten notes:*  
7/1/54  
[unclear]

*Handwritten notes:*  
Apr 1954

*Handwritten notes:*  
7/2/54

Coord Cy  
Comback  
AFGIB-03

31

First Naval Dist, DD-300, Subject: HQ-2761: Project Texas Towers

ADMIS C-2 (6 Aug 54) 3d Ind 18 AUG 1954

HQ AIR DEFENSE COMMAND, Ent Air Force Base, Colorado Springs, Colorado

TO: Assistant Chief of Staff, Installations, Headquarters USAF,  
Washington 25, D. C.

This headquarters concurs with the recommendation for declassification of information pertaining to Texas Towers, to the extent defined by the District Public Works Officer, First Naval District, as outlined in basic letter. It is requested that you initiate directives to all echelons and agencies to accomplish the required declassification.

FOR THE COMMANDER:



Info cys  
FNO First Naval Dist  
AFIR-MER  
Comdr BADF

HO ADC AAG  
DISPATCHED

SEP 15 13 39 '54

RECEIVED

1954 SEP 20 12 04

ASST. CHIEF OF STAFF  
INSTALLATIONS

First Naval District DB-300 Subject: NOy-82761: Project Texas Towers

EACPR-2 (6 Aug 54)

2d Ind

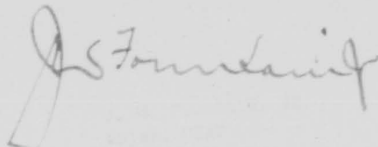
27 AUG '54

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, New York

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. This headquarters concurs in principle with the proposal outlined in the basic letter.
2. Although the provisions of ADCR 205-5 are believed appropriate in determining security classification pertaining to Texas Tower installations, a review of paragraph 4a(1) as pertains to the purpose and location does not appear applicable in view of the widespread publicity already afforded this project.
3. Request this headquarters be advised of the current classification policies as pertains to various elements of the Texas Towers project.

FOR THE COMMANDER:



33271



S/L Dist. Pub. Wks Office, First Naval District, Boston, Mass.  
Subj: NY-2761: Project Texas Tower

REF ID: A66084 (6 Aug. 1954) 1st Ind.

USAF Instlt. Secy. Office, NEA, Boston, Mass.: 10 Aug. 1954

To: Commander, Eastern Air Defense Force, Stewart AFB, Newburgh, N.Y.

1. Concur in desirability.
2. Request clearance through Command and Public Relation channels.

BY ORDER OF THE CHIEF OF BASE:

cc: SAC First Div. West.

*Alfred C. Anderson*  
 ALFRED C. ANDERSON  
 Lt. Colonel USAF  
 700 Instlt. Secy. Office  
 New England Region

12808



DISTRICT PUBLIC WORKS OFFICE  
FIRST NAVAL DISTRICT  
NAVY BUILDING  
495 SUMMER STREET, BOSTON 10, MASS.

Address reply to  
District Public Works Officer  
First Naval District  
and refer to:

DB-300  
RSS:mg  
NOy-82761

6 AUG 1954

From: District Public Works Officer, First Naval District  
To: Lt. Col. L. B. Reppert, USAF IRO NED, Representative's Office,  
Officer in Charge of Installations, U. S. Army Engineers,  
857 Commonwealth Avenue, Boston

Subj: NOy-82761: Project Texas Towers

1. In view of the widespread publicity regarding subject structures contained in recent newspaper articles and magazines, this office considers that the "Secret" classification should be confined solely to the type and capabilities of equipment to be installed. The articles, in general, point out that a chain of offshore radar warning stations called "Texas Towers" will be built as an extension to the system now in existence from Alaska to Greenland. They further state that the towers will be linked to shore-based warning stations.

2. It is requested that necessary steps be taken to declassify all portions of the project except that noted above.

A handwritten signature in cursive script that reads "J. J. Albers".

J. J. ALBERS  
By direction

AFSIB-OS/LtColCrossey/mol/71975  
Wrtn 14 Sep 54

17 SEP 1954

AFSIB-OS

SUBJECT: General Security Classification - Project Texas Towers

TO: Bureau of Yards & Docks  
ATTN: C-270  
Department of the Navy  
Washington 25, D. C.

1. In reference to your inquiry on classification of construction concerning Project Texas Towers the following policy should govern:

- a. When the project is discussed without specifically mentioning either the type of electronic gear, electronic coverage, the number of towers, and/or the general area covered, correspondence can be unclassified.
- b. When the type of electronic equipment to be used on the tower is indicated, correspondence should be confidential unless specific equipment requires a higher classification.
- c. When the general electronic coverage is given, the correspondence should be classified secret.

2. It is quite difficult to specifically place a classification on all facets concerning Texas Towers as many individual elements in themselves are unclassified, however, the grouping of these elements can require classification. For example, the locations of two sites would not be classified in themselves, but to state that they are adjacent would show the possibility of a gap, thereby providing information upon which to analyze the capability of this system which would require classification of confidential or higher.

3. Classification of correspondence relating to Texas Towers must necessarily be decided by the originator exercising good judgment.

FOR THE CHIEF OF STAFF:

WILLIAM E. LEONHARD  
Colonel, U. S. Air Force  
Deputy Director of Construction  
Assistant Chief of Staff, Installations

COORD: AFCSIB-OS  
K. A. SWANKE  
LA OAS  
LT Col  
W. E. VALENZ  
R. E. VALENZ

AFSIB

W. E. VALENZ

AFSIB

CO/FRENCH

AFSIB-OS

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AFCIS-CB/LtColCrossey/m01/71975  
Wrtn 23 Jul 54

Classification changed to: Unclass  
By Authority of: 205-1-14/58  
Date: 7/8/81

SUBJECT: (Uncl) AGSW Program  
TO: Director of Operations, USAF

SEE PARA 1C FOR T-1 REFERENCE  
28 JUL 1954  
AFCIS-CB/LtColCrossey/m01/71975

1. Information concerning design and construction of facilities listed in paragraph 1 Comment 1 is outlined below:

a. Low Altitude Gap Filler Radar

- (1) Action Taken: The services of an A/E firm to prepare plans, specifications and working drawings for these facilities has been obtained. These plans should be available by second quarter FY 1955, in time to meet the proposed schedule to start construction during this period. The Chief of Engineers has been requested to assist Air Defense Command in siting these facilities.
- (2) Action Contemplated: Providing the siting surveys will be accomplished as scheduled, it is expected that OGE will provide construction of facilities as scheduled for all sites in the FT 55-56 PWP, 125 and 100 sites respectively.
- (3) Additional Information Required: Criteria as to weight, size and power required by the equipment to be used for these facilities. Since this information has not been furnished it is anticipated the A/E selected along with representatives from this Headquarters will secure this information in the near future.
- (4) Problems Encountered: In addition to criteria mentioned in paragraph 3 above, the realization of completed site surveys upon which to base design and construction will be a continuing problem.

b. Third Phase Augmentation Radar Program

- (1) Action Taken: Design guidance issued for twenty-five (25) third phase mobile sites as contained in the FT 55 PWP. OGE has been requested to assist A/C in the siting of these facilities.
- (2) Action Contemplated: OGE will construct these facilities upon approval of the site survey reports by this Headquarters. If the site survey reports are accomplished and approved as scheduled, it is expected that the construction of these 25 sites will meet the target date.

13  
317

~~SECRET~~  
SUBJECT: (Uncl) -CAM Program (Continued)

b. Third Phase Augmentation Radar Program (Continued)

- (3) Information Required: Approval of Site Survey Reports.
- (4) Problem Areas Encountered: Delay in receiving site survey reports.

c. Installation of Texas Towers

- (1) Action Taken: Design Guidance issued to Department of Navy, Bureau Harle & Becke was, in turn, have awarded a contract to an A/E firm to investigate and design these five (5) sites. Preliminary drawings have been submitted to this Headquarters and will be discussed at a conference at HQAF, Stewart AFB, 23 July 1954.
- (2) Action Contemplated: It is anticipated that the design of the Texas Towers will be accomplished by 1 December 1954. Construction will start on the superstructures about February 1955. Installation at the locations should begin approximately June 1955 with the exception of the one (1) site off New York City which is in deep water. This site presented a design and construction problem which has not as yet been resolved.
- (3) Additional Information Required: Manning, logistic plans and type of communication from site to shore.
- (4) Problem Areas Encountered: The means of providing a site in 100 ft depth of water is presenting a major engineering problem.

2. A series of Field Conferences with AF, OAF and HQAF are to be conducted during first quarter, FY 1955. Siting, criteria, real estate and design problems will be discussed and resolved to the greatest possible extent. These conferences will reveal additional information and problem areas which will be furnished as appropriate.

M/R: Comments 2 thru 4 & 6 are not applicable to this Directorate.

WILLIAM E. LEONHARD  
Colonel, U. S. Air Force  
Deputy Director of Construction  
Assistant Chief of Staff, Installations  
AFIC-6 AFIC-6

*Swank*  
*W. E. Leonard*  
COPIES: AFIC-6S

*Col Brown* *at Lantab*  
Classified - changed to *Uncl*  
By *W. E. Leonard*  
Date: \_\_\_\_\_  
Sgd: \_\_\_\_\_ *(14)*

3-3

Lt Col Crosssey/ Wrtn: 27 Apr 54 / mol/71975  
Re-Wrtn: 29 Apr 54/Col Leonhard/cn/73311

AFCIE 1  
AFCGS 2  
CSAF - *M Ferry* 3

Coordination  
Approval  
Signature

Special Projects Branch  
Construction Division,  
D/Construction, ACS/I

Lt Col J.L. Crosssey 71975

3 MAY 1954

Texas Towers Construction

1. Admiral Jelly, Director of Construction, Office, Secretary of Defense, has requested a sketch of the floor plan for the Texas Towers. The memorandum, as Tab "A", transmits the requested sketch and explains the current status for design for these towers.

RECOMMENDATION:

2. It is recommended that the attached memorandum to the Director of Construction, OSD (Tab "A") be signed by the Special Assistant for Installations and dispatched.

L. J. ERLER  
Colonel, U. S. Air Force  
Director of Construction  
Assistant Chief of Staff, Installations

1 Incl  
"Tab A"

Com. dn. cy - AFCIE  
Cmbk cy - AFCIE-CS  
Stayback cy - AFCIE-CS  
Reading cy - AFCIE--3  
Office of Signature  
Office of Sec of A/S  
CSAF Files  
Gen Washbourne

AFCIE-CS

AFCIE-3

AFCIE

*AFOODOP-D  
for [unclear]  
WAS FLAHERTY  
20/4/54*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

OSAF # 2558-54

MAY 4 1954

MEMORANDUM FOR THE DIRECTOR OF CONSTRUCTION, OFFICE, SECRETARY OF DEFENSE

SUBJECT: Texas Towers Construction

1. As requested in your Memorandum of 16 April 1954, there is inclosed a copy of floor plan recently submitted to the Department of the Navy for guidance in the design of subject named facilities.
2. Design and construction responsibilities having been assigned to the Bureau of Yards and Docks, a meeting was held 12 and 13 April 1954, at the Headquarters, First Naval District regarding the design criteria to be used. In addition to this Headquarters, the Air Defense Command, the First Naval District, and the Architect-Engineer retained by the Navy for this project were represented. The actual size of the tower structure will be determined by the Navy based upon criteria furnished at this meeting and other data to be developed.
3. Some reduction in area may result from the adoption of a square, rather than rectangular, platform but the ultimate area will be primarily dependent on the required spacing of the three radomes. Our instructions to the Navy require the most economical type of structure capable of supporting the assigned mission which contemplates three large radomes and a heliport on the top deck. The area below the deck should accommodate thirty seven (37) Air Force personnel, power equipment, 30-day supply storage and radio equipment. In addition this Headquarters has for consideration a Navy requirement for space to accommodate twenty (20) of their personnel and certain additional equipment.

(Signed)

JOHN M. FERRY

Special Assistant for Installations

Inclosure  
Plan (2 pages)

*at hand*  
*John M. Ferry*

MAY 11 1954  
1067

(2)



AF HQ-66 (Rev 21 June 48)  
 HOI 10-5

DEPARTMENT OF THE AIR FORCE

**AIR STAFF SUMMARY SHEET**

TO	ROUTE	DESIRED ACTION	INITIALS	OFFICE OF PREPARATION Special Projects Branch Construction Division, Air Construction, ACS/T
<del>AFHQ</del>	1	Coordination	<i>[Handwritten Initials]</i>	GRADE - SURNAME L. Col J.L. Crossay TEL. 71975
<del>AFHQ</del>	2	Approval	<i>[Handwritten Initials]</i>	
CSAF - Mr. Ferry	3	Signature	<i>[Handwritten Signature]</i>	
				DATE 3 MAY 1954

**SUBJECT**  
 Texas Towers Construction

**SUMMARY**

1. Admiral Jelly, Director of Construction, Office, Secretary of Defense, has requested a sketch of the floor plan for the Texas Towers. The memorandum, as Tab "A", transmits the requested sketch and explains the current status for design for these towers.

**RECOMMENDATION:**

2. It is recommended that the attached memorandum to the Director of Construction, OSD (Tab "A") be signed by the Special Assistant for Installations and dispatched.

*[Handwritten Signature: L. J. Erler]*

L. J. ERLER  
 Colonel, U. S. Air Force  
 Director of Construction  
 Assistant Chief of Staff, Installations

1 Incl  
 "Tab A"

CSAF # 2558-54



AFCIE-35/LtColCrossey/mol/71975  
Wrtn 27 Apr 54

AFCIE	1	Coordination
AFCOS	2	Approval
OSAF	3	Signature

Special Projects Branch  
Construction Division  
Air/Construction, 400/1  
Lt Col J. L. Crossey 71975

Texas Towers Construction

1. The attached memorandum and plan describing the present situation is submitted  
at the request of Admiral Jelley.

RECOMMENDATION:

2. It is recommended that memorandum to Assistant Secretary of Defense (Properties  
and Installations), Tab A, be signed and dispatched.

COORDINATION

1 Inclosure  
Memo for Signature  
w/1 Inclosure, Tab A

- c) Coord Cy AFCIE-1AM
- Comback Cy AFCIE-35
- Ofc of Sigc OUSAF
- OUSAF File Cy
- AFCOS
- AFCIE

AFCIE

*Shank*  
*4/28/54*  
*21 [unclear]*



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE  
WASHINGTON 25, D. C.

PROPERTIES AND INSTALLATIONS

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE ARMY

FROM: Special Assistant for Installations

SUBJECT: Texas Tower Construction

In view of the limited personnel strength scheduled to occupy the Texas Tower installations included in your FI-65 construction program, it is understood that substantial reductions in the initially proposed size of these towers can be made. In order that the interior arrangement of the space to be provided on these towers may be simplified, it is requested that a floor plan covering the interior layout of these towers be furnished to the office.

THE VIK LODGE  
OFFICE SECRETARY  
1M  
APR 12 11 44 AM '51

THE VIK LODGE  
OFFICE SECRETARY  
100  
APR 12 15 51 PM '51

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS	
1	NAME OR TITLE <i>Gen Washburn</i>	INITIALS	CIRCULATE
	ORGANIZATION AND LOCATION	DATE <i>4/29/57</i>	COORDINATION
2			FILE
3			INFORMATION
4			NECESSARY ACTION
			NOTE AND RETURN
			SEE ME
			SIGNATURE
REMARKS <i>Recommend you coord on S/S and send to Ferry for sig</i>			
FROM NAME OR TITLE <i>886</i>		DATE	
ORGANIZATION AND LOCATION		TELEPHONE <i>74901</i>	

DD FORM 1 FEB 50 95

Replaces DA AGO Form 880, 1 Apr 48, and AFHQ Form 12, 10 Nov 47, which may be used.

GPO : 1950 - O - 60386

ACS/I REFERRAL SLIP

DATE MAR 31 1954

TALLY NO. \_\_\_\_\_

AFCIE SUSPENSE

TO:

- CIE-1     CIE-5     CIE-6
- CIE-2     CIE-3     CIE-4
- CIE-P     CIE-E     CIE-A
- CIE-R     CIE-C     CIE-M
- CIE-H

ATTENTION:

FOR:

- Necessary or appropriate action
- In coordination with \_\_\_\_\_
- Coordination and/or Comment
- Direct reply
- Prepare reply for signature in \_\_\_\_\_
- Information
- File
- Action has gone to \_\_\_\_\_
- Info has gone to \_\_\_\_\_
- Return to ACS/I
- Monitor all aspects for ACS/I
- Gen Washbourne has noted

*amd*  
 ALBERT M. DOHERTY  
 Major, U. S. Air Force  
 Assistant Executive  
 Assistant Chief of Staff, Installations

WRTH 20 Apr 54

~~SECRET~~

12214

(Uncl) Project Texas Towers

Director of Operations, DSO/O

21 APR 1954

Directorate of Construction, ADI/I

AFM-33/11001Grossway/mol/71975

1. Request your review and comments on the attached letter from Dept. of the Navy.
2. As this project is presently being designed by the Navy for the Air Force, it is imperative that a decision be made on whether space for material and personnel for the Navy be provided in these structures.
3. The increased cost of design because of the inclusion of this additional space would be negligible and could be covered with our presently available design funds, although the cost of the additional construction may be considerable and it is possible that the Navy will be requested to cite a source of funds if their request for space is approved.
4. Many items must be considered in regard to this request such as prorating of cost of upkeep and operation, command jurisdiction of the site, etc.
5. A meeting was held at Office of First Naval District, Boston, Mass., 12 April 1954, with representatives of this Headquarters, Dept. of the Navy and ADI to resolve problems of design regarding these Texas Towers. It was decided at that time that the Navy should design for 31 AF permanent personnel and 6 AF transit personnel and that criteria to be used in the design such as water, messing, cooking, laundry, etc., would be of Navy standards.

COORDINATION

WILLIAM E. LEONARD  
 Colonel, U. S. Air Force  
 Director of Construction  
 Assistant Chief of Staff, Installation

1 Incl  
 Ltr from Dept Navy  
 20Mar54

cc: AFMAG

*Swartz*  
*12/21*

COORDINATION: AFMAG-33

AFMAG-C

AFMAG

\* enclosure No. 1 is withdrawn  
 (not attached) the classification of  
 correspondence will be cancelled  
 in accordance with par. 33c, AFM 205-1.

~~SECRET~~

5/4

APR 1 1954

~~SECRET~~

175. 3-3 *mm*

(Uncl) Texas Towers

AFIRO NND

AFOSD-CS

5 APR 1954 1  
AFOSD-CS/FWMcCarthy/mol/  
71975

Reference your message AETAR 3-1714. Copies of correspondence requested in referenced message are enclosed.

CHARLES C. DUDMAN  
Lt. Colonel, U. S. Air Force  
Executive, Construction Division  
Directorate of Construction  
Assistant Chief of Staff, Installations

3 Incls

- 1. Ltr to BUY&E dtd 12Jan54
- 2. Memo frm BUY&E dtd 19 Jan 54
- 3. Conf rpt-Texas Towers dtd 11Feb54

If enclosed *172* are returned  
(or if returned) to the address of  
this message. If not returned  
in accordance with *AFM 200-1*.

AFOSD-CS

*McCarthy*  
*-R. L. ...*

AFOSD

*J. H. Crossley*  
*81 1/2th May*  
*Post Office*  
*FWMcCarthy*  
*2441st 1024th*  
*[Signature]*

~~SECRET~~

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION

UNCLASSIFIED MESSAGE

CLASS 12

R 290000Z

VII USAFIRO NEW ENGLAND DIV BDN

TO JEPHQ/COFS USAF WASHDC

INFO JEDEN/COM ADC INT AVB COLORADO SPRINGS COLO

JEPHQ/COM AIR MATERIEL CENTER WRIGHT PATTERSON AFB OHIO

JEPHQ/COM BOMC AF BOPOR CRIFFISS AFB OHIO

DEPM/CHIEF NAVAL OPERATIONS DEPT OF NAVY WASHDC

DEPM/BUREAU OF SHIPS DEPT OF NAVY WASHDC

DA GING

APR 30 02 06 '54

HQ USAF

*CIE-C*

COFS USAF WASHDC/FOR AFCEC-C PD WRIGHT PATTERSON AFB/AFR WCHTC PD  
CRIFFISS AFB/AFR WCHTC PD USAFIRO BDN 2 PD REQUEST THIS OFFICE BE  
FURNISHED CYS CORRESPONDENCE & DATA REFERRED TO IN PAR 1A CMI 1B AND  
3D BY YOUR LTR SUBJECT CLM DATE 27 55 ADVANCE PLANNING DIRECTIVE  
TEXAS TOWERS WCHTC DTD 15 JAN 54 PD PRELIMINARY RPT PREPARED BY  
LINCOLN LAB DTD 1 AUG 53 IS AVAILABLE TO THIS OFFICE PD UPON RECEIPT  
OF REFERENCED DATA W/INTENT TO ESTABLISH JOINT COORDINATE TO PERMIT  
INITIATION OF DESIGN BY YOUR COMMANDS AND/OR CONCURRENCE IS REQUESTED  
WEDMAR 3-1714

**ACTION COPY**

*C. S. Sch...*

CFM USAFIRO BDN 2 14 15 16 17 18 19 20 1 1954 WEDMAR 3-1714

29/2111

ACTION: CIE

AS IN 1 20265 (30 MAR 54)

979

FROM:	AFCEC CABLE DESK
TO:	
SUSPENSE DUE DATE:	4/6/54
ACTION TAKEN:	answered by Rpt #1. etc.
	<i>Mr. McCarthy</i>

AFHQ FORM 0-309d  
19 JAN 51  
PREVIOUS EDITIONS OF THIS FORM MAY BE USED

2706

1075

~~CONFIDENTIAL~~

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION

OUTGOING CLASSIFIED MESSAGE

CONFIDENTIAL  
PRIORITY

PARAPHRASE NOT REQUIRED. NOTIFY  
CRYPTOCENTER BEFORE DECLASSIFYING

HQ USAF AFCAI-PP  
Colonel L. G. Griffin 55623

TO : COMAIRDEPCOM ENT AFB COLO

NR : 53945 23 March 1954 (DTG 230908Z)

**PERSONAL FROM**  
PERSONAL TO CHIDLAW FROM WHITE

Ref URMSGs ADHCR 08720 dtd 17 Mar 54, ADHCR 0383 dtd 11  
Mar 54, and Personal to Chidlaw from White dtd 15 Mar 54, and  
URMSG ADHCR 0433 dtd 18 Mar 54.

Just completed second reclama to OSD on FY-55 Public Works  
Program. This reclama, as did the first, included essential ADC  
facilities expressed in your personal messages. Mr. Douglas and  
myself personally appeared before OSD to urge their approval of  
the minimum operational facilities sponsored for the FY-55 Public  
Works Program. Even though every possible effort was made to  
secure their approval of these facilities, for reasons beyond  
control of Air Staff, OSD declined to approve all items requested.  
For instance, they did not allow the ADC maintenance facilities  
program for McClellan nor did they approve the family housing at  
ADC bases. We were able to secure approval on the following ADC  
items which have now been reinstated in the FY-55 Public Works  
Program:

Readiness Hangars

Lockbourne	26,800 sq. ft. hangar
Wurtsmith	14,000 sq. ft. "
Bismark	21,640 sq. ft. "
	5,160 sq. ft. "
	4,750 sq. ft. "
K. I. Sawyer	151,000 sq. ft. hangar
	100,000 sq. ft. shop

CAF OUT: 53945

Classification *Confidential* assigned to *OSAF* by authority of *AFSA*  
 Page *2* of *2* copies  
 Date *14 JUL 1965*  
 Name & Grade of Official making the change, including his signature: *[Signature]* Date

~~CONFIDENTIAL~~

COPY NO.



**CONFIDENTIAL**

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
OUTGOING CLASSIFIED MESSAGE

CONFIDENTIAL

NR : 53945 (cont'd)

Readiness Hangars (cont'd)

McChord	21,640 sq. ft. hangar 5,160 sq. ft. shop
Minn.-St. Paul	21,640 sq. ft. hangar 5,160 sq. ft. shop
Suffolk Co.	21,640 sq. ft. hangar 5,160 sq. ft. shop 2,733 sq. yd. access apron

Maintenance Hangars

Duluth	21,640 sq. ft. hangar 5,160 sq. ft. shop 2,164 sq. yd. access apron
Youngstown	21,640 sq. ft. hangar 5,160 sq. ft. shop 2,500 sq. yd. access apron

Texas Towers

Approval is granted for the inclusion in the FY-55 Authorization Bill of an item for Texas Towers in the amount of \$8 million. This item will be included in the overall line item for the Lincoln Transition System.

It is planned to resubmit as firm operational requirements in the FY-56 Public Works Program, those items which failed to receive OSD approval for FY-55.

CAP OUT: 53945

Page 2 of 3 pages

**CONFIDENTIAL**

COPY NO.

~~CONFIDENTIAL~~

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
OUTGOING CLASSIFIED MESSAGE

CONFIDENTIAL

NR : 53945 (cont'd)

NOTE : ADMCR 03720 1a AF IN 11721 (17 March 1954).  
ADMCR 0383 1a CAP IN 66675 (11 March 1954).  
ADMCR 0433 1a CAP IN 68290 (18 March 1954).

ORIGINATOR : CIE

DISTRIBUTION: OFC

CAP OUT : 53945

Page 3 of 3 pages

CAR/gcg

AHQ FORM  
15 JAN 51 0-309h

PREVIOUS EDITIONS OF THIS FORM MAY BE USED.

~~CONFIDENTIAL~~

COPY NO.

16-4870-1 GPO

1078

COL W. E. LEONHARD/amh/73311  
WRTR: 12 March 54

113  
AFGAI-C

15 March 1954

SUBJECT: Design Instructions

TO: Chief, Bureau of Yards & Docks  
Department of the Navy  
Washington 25, D. C.

1. An unacceptable time lag exists between the date funds are appropriated for Public Works construction and the date these programs are placed under contract. This delay is largely attributable to (1) the need to re-program funds before the program can be implemented because of inadequate cost estimating in the initial program preparation, and (2) the late initiation of design in the program cycle.

2. Letter, this Headquarters, subject "Preparation of Project Planning Reports", this date, is designed to overcome the first problem listed above. The purpose of this letter is to delegate to Air Force Installations Representatives the authority for issuing design instructions to design agencies, and to outline a procedure for implementing this authority as a means of overcoming the second obstacle cited above.

3. Effective immediately, this Headquarters will discontinue the preparation and issuance of detailed line item design directives for all years programs worldwide. Instead, this Headquarters will:

a. For the FY-1955 and FY-1956 programs, advise the AFIRs, major commands and design agencies of the USAF Construction Program, including real estate items, approved by the Office, Secretary of Defense for submittal to the Congress, and identify the design agency for each line item.

b. For the FY-1954 and prior years programs, furnish the AFIRs, major commands and design agencies with a consolidated listing of all projects included in current Air Force programs.

c. Furnish the AFIRs, major commands and design agencies, general design criteria and standards, list of definitives and standard working drawings, and specific design guidance as may be necessary to insure compliance with program objectives.

d. Allocate advance planning funds to the design agencies (P-313), as necessary to accomplish authorized design.

19

1079

B/L to Chief, Bureau of Yards & Docks, Dept of Navy, Wash., D.C., subject Design Instructions.

e. Advise the AFIRs, major commands and design agencies of changes in scope in all programs, including real estate items, as a result of actions by the Congress or the Department of Defense, changes in base utilization or other reasons.

f. Monitor for adherence to approved scope and technical adequacy, all design instructions issued by the AFIRs.

4. Major commands will promptly furnish siting, and specific criteria for non-standard items to AFIRs as a basis for design instruction.

5. AFIRs will:

a. Screen listing of projects contained in current program for FY-1954 and prior, and insure that a valid design directive is in force for each line item not under contract.

b. Upon receipt of FY-1955 program, as approved by the Office, Secretary of Defense, screen design directives currently in effect for revisions and omissions.

c. Upon receipt of FY-1956 programs, as approved by the Office, Secretary of Defense, screen project planning reports on file for required changes.

d. Following screening in sub-paragraphs a, b and c above, issue appropriate instructions, including requests for real estate planning reports, to the design agency at Naval District level to design projects in accordance with designated scope and criteria. Design will be in accordance with Air Force outline specifications and will not exceed the scope specifically authorized by this Headquarters, except for nominal changes (not to exceed 10%) to (1) adjust to a standard definitive or (2) meet special on-site conditions.

e. Forward two copies of all design instructions issued to this Headquarters, ATTN: AFGAI-C and AFGAI-AE. Information copy will also be furnished to major command concerned.

f. Revise design instructions upon directions from this Headquarters to reflect changes in approved scope and correct errors, omissions and ambiguities.

6. Design agencies will:

a. Advise this Headquarters of the need for advance planning funds (P-313) for accomplishment of design.

20

E/L to Chief, Bureau of Yards & Docks, Dept of Navy, Wash., D.C.,  
subject: Design Instructions.

b. Prepare preliminary and/or working drawings as requested  
by AFIRs in design instructions.

7. Current procedures with respect to review and approval of  
preliminary plans will continue to apply.

8. Where an Air Force major command is designated the design  
agency, relationship of the AFIR to that command and the procedure  
to be followed are identical with those in effect for design agencies  
outside the Air Force unless specifically exempted by this Headquarters.

9. Construction directives, program authorization vouchers  
(AF Forms 376) and budget allocations for construction will continue  
to be issued to construction agencies directly from this Headquarters.

10. Previous instructions in conflict with the foregoing are  
rescinded.

FOR THE CHIEF OF STAFF

WILLIAM E. LEONARD  
Colonel, USAF  
Chief, Constr. Division  
Directorate of Installations, DCS/O

AFOAI-C

AFOAI

*W. Leonard*

DEPARTMENT OF THE ARMY  
Headquarters United States Air Corps  
Washington 25, D. C.

100-6-2

AFSA-C

14 March 1954

SUBJECT: Design Instructions

To: Chief of Engineers  
Department of the Army  
Washington 25, D. C.

1. An unacceptable time lag exists between the date funds are appropriated for Public Works construction and the date these programs are placed under contract. This delay is largely attributable to (1) the need to re-program funds before the program can be implemented because of inadequate cost estimating in the initial program appropriation, and (2) the late initiation of design in the program cycle.

2. Letter, this Headquarters, subject "Preparation of Project Planning Reports," 1414 100, is designed to overcome the first problem listed above. The purpose of this letter is to delegate to Air Force Installations Representative the authority for issuing design instructions to design agencies and to outline a procedure for implementing this authority as a means of overcoming the second obstacle cited above.

3. Effective immediately, this Headquarters will discontinue the preparation and issuance of detailed line item design directives for all new programs world-wide. Instead, this Headquarters will:

a. For the FY 55 and FY 56 programs, advise the AFIs, Major Commands and design agencies of the USA Construction Program, including real estate items, approved by the Office, Secretary of Defense for submission to the Congress, and identify the design agency for each line item.

b. For the FY 56 and prior year's programs, furnish the AFIs, Major Commands and design agencies with a consolidated listing of all projects included in current Air Force programs.

c. Furnish to the AFIs, Major Commands and design agencies, general design criteria and standards, lists of deficiencies and standard working drawings, and specific design guidance as may be necessary to insure compliance with program objectives.

d. Allocate advance planning funds to the design agencies (P-113), as necessary to accomplish authorized design.

e. Advise the AFIs, Major Commands and design agencies of changes in scope in all programs, including real estate items, as a result of actions by the Congress or the Department of Defense, changes in base utilization or other reasons.

041 11111

3. Monitor for adherence to approved scope and technical adequacy, all design instructions issued by the AFDPs.

4. Issue demands will precisely describe writing, and specific criteria for non-standard items, to AFDPs as a basis for design instruction.

5. AFDPs will:

a. Screen history of projects contained in current program for AF 24 and prior, and insure that a valid design directive is in force for each item item not under contract.

b. Upon receipt of AF 24 program as approved by the Office, Secretary of Defense, screen design directives currently in effect for revision and deletion.

c. Upon receipt of AF 24 program issued by the Office, Secretary of Defense, screen project planning reports on file for required changes.

d. Following screening in sub-paragraphs 4, 5, and 6 above, issue appropriate instructions, including requests for real estate planning reports, to the design agency at Division Director or Naval District level to design projects in accordance with designated scope and criteria. Design will be in accordance with Air Force outline specifications and will not exceed the scope specifically authorized by this Headquarters except for essential changes (not to exceed 10%) to (1) adjust to a standard definition or (2) meet special on-site conditions.

e. Forward two copies of all design instructions issued to this Headquarters, AFDP AF 41-G and AF 41-AE. Information copy will also be furnished the major command concerned.

f. Revise design instructions upon directions from this Headquarters to reflect changes in approved scope and correct errors, omissions and ambiguities.

6. Design agencies will:

a. Advise this Headquarters of the need for advance planning Form (7-113) for accomplishment of design.

b. Prepare preliminary and/or working drawings as requested by AFDPs in design instructions.

c. Prepare real estate planning reports as required.

7. Current procedures with respect to review and approval of preliminary plans will continue to apply.

SUBJECT: Design Instructions

8. Where an Air Force Major Command is designated the design agency, requirements of the AIRR to that command and the procedure to be followed are identical with those in effect for design agencies outside the Air Force unless specifically exempted by this Headquarters.

9. Construction directives, program authorization vouchers (AF Form 707) and budget allocations for construction will continue to be issued to construction agencies directly from this Headquarters.

10. Previous instructions in conflict with the foregoing are rescinded.

FOR THE CHIEF OF STAFF:

*E. F. Edwards*

E. F. EDWARDS  
Colonel, USAF  
Chief, Construction Division  
Directorate of Installations, DCS/O



AFOAI-35/MajorLittle/mol/71975  
ReWrtin 4 MAR 54

~~SECRET~~  
Classification changed to: Uncl  
By Authority of: AER 305-1 11 MAR 1954  
Date: 15 Apr 64  
Sgd: TSK

A-11218

AFOAI-35

SUBJECT: (Uncl) FY 1955 Advance Planning Directive - Texas Towers

TO: Chief, Bureau Yards & Docks  
Department of the Navy  
Washington 25, D. C.

1. References:

a. USAF letter, subject: "(Uncl) Texas Towers", with brochure dated 12 January 1954;

b. (Secret) Bureau Yards & Docks letter G-2012/ins 111, 29 January 1954, to Directorate of Installations, DCS/O, USAF.

2. As a part of the seaward extension of contiguous radar coverage of the U.S. Air Defense System, there is a requirement for five (5) radar facilities identified as "Texas Towers". Subject to subsequent provisions of this directive, you are authorized to proceed with the preparation of contract plans and specifications for these radar facilities. The site surveys, ocean floor and geological investigation, design and preparation of contract drawings and specifications, cost estimates and all other phases of design necessary to provide complete bidding documents will be prepared.

3. General provisions:

a. Current procedures and policies relative to standards of construction, siting of facilities, approval of plans, specifications and coordination with agencies concerned will govern the administration of this program.

b. Initiation of this advanced planning work will be based upon reference 1a above and conclusions established by conference in this Headquarters, 5 February 1954, a report which has been furnished.

4. Special provisions:

a. Preliminary plans and specifications will be subject to approval prior to proceeding with final drawings for the purpose of establishing the actual scope of work of these projects and determining the validity of the construction requirements.

b. A current working estimate for each tower will be developed on the basis of the preliminary plans and specifications.

NOTIFICATION

⑦ (T)  
3/3

Classification changed to: Unclass  
 By: AFR 305-1  
 Date: 18 April 64  
 Sgd: [Signature]

SUBJECT: (Uncl) FY 1955 Advance Planning Directive - Texas Towers  
 (Continued)

4. Special provisions: (Continued)

c. The AF Installations Representative, New England Division, Corps of Engineers, Department of the Army, 857 Commonwealth Avenue, Boston 15 Mass., telephone: ALCONQUIN 4-2050, Extension 35, is the Air Force agency designated to monitor this project in accordance with AFM 93-17.

d. Technical radar plans and engineer assistance will be furnished by the Home Air Force Depot (SAFONCOR) through Air Materiel Command.

e. Coordinate location and project number for each site is as follows:

Project No.	Name	Location
TT-1	Cashes Ledge	42°-45' N 68°-57' W
TT-2	Georges Shoal	41°-44' N 67°-45' W
TT-3	Nantucket Shoal (Asia Rip)	40°-45' N 69°-19' W
TT-4	Shoal (Unnamed)	39°-48' N 72°-40' W
TT-5	Brown's Bank	42°-47' N 65°-37' W

f. Additional specific design criteria will be furnished in the near future as it becomes available and is approved for utilization on this project by the Air Force.

5. Action has been initiated by this headquarters to make available to your office design funds in the amount of \$200,000.

FOR THE CHIEF OF STAFF:

cc: ATG  
 ANS:W.MTG  
 HASTINCOR  
 Lincoln  
 Dept of Navy: CRO  
 Dept of Navy: Bu Ships  
 AFIS:RST  
 AFCS  
 AFCCP  
 AFCCB

AFCCAI-25 AFCCP-CP-D AFCCAI-A/B  
 AFCCAI-00 AFCCAI-0 AFCCAI

[Signature]  
 WILLIAM E. LICOMBERG  
 Colonel, USAP  
 Chief, Constr. Division  
 Directorate of Installations, DCS/D

A-10559

L/C White/AE/R/vhf/52641  
12 Jan 54

AFDAI-AE/R

19 JAN 1954

SUBJECT: Texas Towers (Uncl)

TO: Chief Bureau of Yards and Docks  
Department of the Navy  
Washington 25, D.C.

1. Informal discussions have been conducted between representatives of this Headquarters and your Bureau concerning the design of certain off-shore facilities called "Texas Towers".

2. This Headquarters believes that the design and supervision of construction can best be performed under your guidance and requests that you indicate if you are desirous of prosecuting this work as outlined in the enclosed brochure. The urgency of this program dictates that site surveys, soil investigations, design and preparation of construction drawings, cost estimates and all other phases must be completed in sufficient time to permit construction during calendar year 1955.

3. If you <sup>are in a position</sup> desire to undertake the work outlined above, it is requested that you provide this Headquarters with an estimate of planning funds required and a time schedule of contemplated actions.

FOR THE CHIEF OF STAFF:

SIGNED

E. V. M. SCHUYLER  
Colonel. USAF  
Chief, Architectural & Engineering Div  
Directorate of Installations, DCS/O

AFDAI-AE/R

AFDAI-AE/A

AFDAI-P

AFDAI-C

AFDAI-AE

*White*  
*L/C White*

*McL...*  
*Mc...*

*Lockman*

*at...*

Classification changed to: *Uncl*  
By Authority of: *AFR 205-1*  
Date: *18 Apr 64*  
Sgt: *DK*

9

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1012656

1092

27 TEXAS TOWERS  
1 JAN 61 - 31 DEC 61

RETURN TO  
AFSHRC  
MAXWELL AFB AL 36112

1093

STANDARD MESSAGE

DEPARTMENT OF THE ARMY  
STAFF MESSAGE BRANCH

UNCLASSIFIED

AF IN : 3757 (6 Jul 65) G/sah  
INFO : OCE-2 (3)  
SMB BOM9

RTTU JAW RUCIFHAW085 1871935-0000--

000000

R 261930Z

FM 26AIRDIV STEWART AFB NY

TO RUCIEW/551AEMCONWG OIIS WFA PASS

INFO RUMWFVA/ACC

RUEBHQW/CSAF

BT

UNCLAS 261FS-B 00521 JUL 65.

FOR 551ACE. INFO: ACC (AD1FS-153); USAF (APOCE-KB).

DISPOSITION OF RECORDS AND DOCUMENTARY DATA PERTAINING

TO TEXAS TOWER NR 4. THE INSTRUCTIONS CONTAINED IN PAR-

2 OF OUR 2ND IND, 261FS-B, 23 JUN 1965, CONCERNING DISPOSITION

OF SUBJ RECORDS TO MAXWELL AFB, ALA, ARE RESCINDED.

NEW INSTRUCTIONS REGARDING DISPOSITION WILL BE ISSUED

IN THE NEAR FUTURE.

BT

*K*

AFHQ MAXWELL AFB AL 36814 PUBLIC	RETURN TO	<i>acc</i> <i>1012656</i>
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*14574*  
*1012656*

*1094*

INFLIGHT  
MESSAGE

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH

UNCLASSIFIED

AF IN : 3757 (6 Jul 65) G/snn

INFO : OCE-2 (3)

SMB 8029

BTIU JAW RUCIFHAR085 1871935-0000--

PUECHCA

NR 00000

N 261930Z

FM 26 AIRDIV STEWART AFB TX

TO RUCIEW/251AENCONV/0113 WFO PASS

INFO RUMWFWA/ADC

PUEBQW/CSAF

BT

UNCLAS 261FS-B 02521 JUL 65.

FOR 551PCE. INFO: ADC (WD1FS-05); USAF (OCE-KD).

DISPOSITION OF RECORDS AND DOCUMENTARY DATA PERTAINING

TO TEXAS 10WEP NR 3. THE INSTRUCTIONS CONTAINED IN P. P.

2 OF OUR 2ND IND, 261FS-B, 23 JUN 1965, CONCERNING DISPOSITION

OF SUBJ RECORDS TO MAXWELL AFB, ALA, ARE RESCINDED.

NEW INSTRUCTIONS REGARDING DISPOSITION WILL BE ISSUED

IN THE NEAR FUTURE.

BT



*filed in Powers*  
*with*  
*Mr. [unclear]*

25 June 1964

APOCE-FD

MEMO FOR THE RECORD


SUBJECT: Texas Towers Nos. 2 and 3 - Disposal Status

1. Mr. Berglund, New England Div Engr (Ext 308) gave the following information on disposal of Texas Towers:

a. Texas Tower No. 2. The remaining Sea Leg was levelled 21 June 1964. Last fall the other two legs were levelled and platform removed.

b. Texas Tower No. 3. Forecast drop date is between 17 and 20 July 1964. It is predicted that 18 July 1964 will be the most favorable date because of tide conditions. The contractor plans to drop platform and level legs the same day. The bottom of the platform will be filled with 140,000 cubic feet of polyurethane to keep it afloat.

EDWARD J. CROUCH

Copies to:  
NAF-ILI  
NAF-LL  
APOCE-X    
APOCE-FD  rf  
APOCE-C  
APOCE-FDD



TYPE	DATE	PLACE	DETAILS
Prototype Aircraft Shelter (UNCLASSIFIED)	Construction is expected to be completed by 13 May 1963	Wallops, Florida	Testing of the structure with a broad spectrum of weapons and under varying conditions will take place promptly after construction is completed. Testing is expected to continue through May and part of June. Primary tests will be concerned with effects of weapons under conditions of optimum employment against the targets, rather than tactical conditions. Tabulating data obtained from the tests and preparing reports will follow concurrently with testing and immediately upon conclusion of the tests. (Mr. E. C. Kocher, AFOSR-EB, 1 77474)
Opening and awarding of bids for disposal of Texas Towers Nos. 2 and 3 by demolition and removal from sites (UNCLASSIFIED)	1 June to 10 June 1963	New England Division Engineers, Boston, Mass.	The Corps of Engineers, New England Division, Boston, Mass., will open bids on 1 June 1963, for the disposal of Texas Towers Nos. 2 and 3 by demolition and removal. Award to be made as soon as feasible thereafter but prior to 10 June 1963. (Mr. E. C. Hodgson, AFOSR-EB, 1 77474)
TIT-2 III Integrated Transfer and Launch Complex - Cape Canaveral Missile Testing Annex (UNCLASSIFIED)	23-24 April 1963	Space Systems Division, Los Angeles, California	Review conference for final design documents for package 4. This includes the Vertical Integration Building, Solid Motor Assembly Building, Solid Motor Segment Inspection and Checkout Building and supporting utilities. Estimated construction cost \$30 million. (Mr. E. P. Reid, AFOSR-EB, 1 77474)

AFCEC-EB  
26 February 1964

SIGNIFICANT ITEM FOR DIVISION STAFF MEMORANDUM

SUBJECT: Texas Tower No. 4 - Demobilization - BuDocks

1. Hq USAF letter to BuDocks, 8 June 1962, requested action be taken to demobilize wreckage of Texas Tower No. 4.
2. No action taken by BuDocks in regard to this matter until June 1963 (one year later). At this time neither the Navy's Commander, Force Service nor the Coast and Geodetic Survey ships could locate the wreckage of TT #4. Search has continued by Commander, Force Service, since June 1963 until February 1964 when the wreckage was located approximately one mile from the buoy marker. The top of the radio mast and radar tower superstructure were found to be about 70' below the surface.
3. BuDocks is submitting a report to Hq USAF of its findings and proposed action recommended.
4. Colonel E. V. H. Schuyler, ADC, was advised of this situation by telecon 25 February 1964.

WAT C. BRIDEN

STATEN ISLAND ADVANCE, THURSDAY, JULY 9, 1964

## Demolition Under Way on Last Texas Tower

One of the most unique demolition jobs in history is presently under way off the coast of Massachusetts, where the Speltz Division of Inaria Brothers & Co., Inc., is removing the last of the famous "Texas Tower" radar stations, which once guarded the coast of the United States against sneak air attacks.

The giant platform, located 20 miles southeast of Nantucket Island, will be blasted from its supports and will fall into the ocean 30 feet below.

To prevent its sinking, the entire lower deck of the tower has been filled with a special formulation of lightweight, rigid urethane foam. The foam made by combining liquid

chemicals which increase approximately 30 times in volume, was sprayed into lower deck rooms by Dayco Corp. The firm, a pioneer in large-scale industrial foaming applications, furnished engineering assistance and a three-man crew to operate the special mixing and metering equipment.

Prior to blasting, individual rooms on the lower deck were welded shut. The foam was poured from above into each room through holes cut in the deck plates.

After the tower is blasted into the ocean, Lipsitt plans to float the giant structure to Kearny, N.J.

ERECTED from 1955 to 1957, the giant radar stations, first called Texas Tower nickname because of their resemblance to the offshore drilling rigs used in the Gulf of Mexico.

The military versions differed from their commercial cousins in that they were intended to be permanent stations, fixed in place on huge tubular legs which had been

jacked down to the ocean floor, raising the three-story high platforms more than 80 feet above the water.

Of the three towers originally built, only two remained when the U.S. Air Force abandoned them in June of 1962. One platform was lost in a tragic collapse during a severe Atlantic winter storm in January 1961.

The second was dismantled and sunk.

While occupied by the military, the towers had been supervised by the North American Air Defense Command and crews of as many as 100 men staffed each platform. Gradual automation reduced the number of men necessary to operate the equipment to about 60 at the time the Air Force decided the towers had completed their mission.

STATEN ISLAND ADVANCE, THURSDAY, JULY 9, 1964

## Demolition Under Way on Last Texas Tower

One of the most unique demolition jobs in history is presently under way off the coast of Massachusetts, where the Lapssett Division of Luria Brothers & Co., Inc., is removing the last of the Lapssett "Texas Tower" radar stations, which once guarded the coast of the United States against sneak air attacks.

The giant platform, located 30 miles south of Nantucket Island, will be blasted from its supports and will fall into the ocean 80 feet below.

To prevent its sinking, the entire lower deck of the tower has been filled with a special formulation of lightweight, rigid urethane foam. The foam, made by combining liquid

chemicals which increase approximately 30 times in volume, was sprayed into lower deck rooms by Davco Corp. The firm, a pioneer in large-scale industrial foaming applications, furnished engineering assistance and a three-man crew to operate the special mixing and metering equipment.

Prior to foaming, individual rooms on the lower deck were welded shut. The foam was poured from above into each room through holes and in the deck plates.

After the tower is blasted into the ocean, Lapssett plans to float the giant structure to Kearny, N.J.

BUILT from 1955 to 1962, the giant radar stations got their "Texas Tower" nickname because of their resemblance to the offshore drilling rigs used in the Gulf of Mexico.

The military versions differed from their commercial cousins in that they were intended to be permanent stations, fixed in place on huge tubular legs which had been

jacked down to the ocean floor, raising the three-story high platforms more than 30 feet above the water.

Of the three towers originally built, only two remained when the U.S. Air Force abandoned them in June of 1963. One platform was lost in a tragic collapse during a severe Atlantic winter storm in January 1961.

The second was dismantled and sunk.

While occupied by the military, the towers had been supervised by the North American Air Defense Command and crews of as many as 100 men

staffed each platform. Gradual automation reduced the number of men necessary to operate the equipment to about 65 at the time the Air Force decided the towers had completed their mission.

AFOCE-KB  
7 August 1964

SIGNIFICANT ITEM FOR DIVISION STAFF MEETING

SUBJECT: Texas Tower No. 4 - Wreckage Demobilization

A report has been received from BuDocks which indicates that Commander Service Force, Atlantic Fleet, have made some underwater surveys of this wreckage to determine that all parts of the superstructure is approximately 70' below the surface. This is ample clearance for navigation without any further action being taken to lower this platform to the ocean floor. It is still supported by part of leg A and rests at the angle it assumed at the time of the disaster. No extensive search was made for dangling bracing that could break off and float to the surface.

Commander Service Force recommends that nothing further be done. This would save the Air Force approximately \$300,000. This matter has been referred to AFJAG for an opinion and recommended action be taken.

HAT C. HODGSON

AFOCE-KB

Mr. Hodgdon/ald/77474/27 Aug 64

31 AUG 1964

Wreckage of TT #4, Navigational Clearance over, Survey  
by Commander Service Force, U. S. Atlantic Fleet

Chief, Bureau of Yards and Docks (41.202B/JHA/24C/WHS/11h)  
Department of the Navy  
Washington, D. C. 20390

1. Your letter 28 July 1964, together with detailed reports of under water survey has been reviewed and the recommendation of no further action is concurred in by this Headquarters.

2. It is agreed that in view of all of the circumstances, an expenditure of \$300,000 is not warranted to further lower the immobilized wreckage of Texas Tower No. 4 as directed in our letter of 8 June 1962. However, it is also important that no change be made in the decision not to use this wreckage as a demolition training area, because it is felt indiscriminate demobilization of this wreckage could disturb some of the buoyant braces to the point where they could again create potential hazards to navigation.

3. Accordingly, it is requested that this Headquarters be assured in writing that the wreckage of Texas Tower No. 4 will not at any time be used as a demolition training area without prior approval of all concerned.

FOR THE CHIEF OF STAFF

RICHARD C. HARDING  
Colonel, U. S. Air Force  
Directorate of Civil Engineering

Copy to:  
AFJALF (Colonel Yandala)

M/R: Copy of this ltr, ltr to AFJAG, 10 Aug 64, w/ atch  
and 1st Ind from AFJALF, 24 Aug 64 sent to AFOCE-FD  
(Mr. Ceconi) also to ADC (Col. Schuyler)  
M.C.HODGDON/9 Sep 64

AFOCE-KB

AFJALF

AFOCE-K

M. C. HODGDON

*Yandala*  
28 Aug 64

Coord AFOCE-KB  
Stbk AFOCE-KB  
R/File AFOCE-K

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON, D.C.



REF: V TO  
ATTN OF: AFOCE-KB

SUBJECT: Wreckage of TT #4, Navigational Clearance over, Survey of Site by Commander Service Force, U.S. Atlantic Fleet

10 AUG 1964

TO: AFJAG (AFJAL/Colonel Yandala)

In accordance with the understanding reached 3 August 1964, with Mr. Nat C. Hodgdon, AFOCE-KB, the attached correspondence and report on status of wreckage of Texas Tower No. 4 are being forwarded for comment and guidance as to the position of the Air Force and the action to be taken in this matter.

1 Atch  
Ltr, BuDocks, USN,  
28 Jul 64, w/atc

C. W. HARRIS  
Deputy Chief, Engineering Division  
Directorate of Civil Engineering

1st Ind (3 FMAIF)

24 AUG 1964

Dept of the AF, Hq USAF, Washington, DC

TO: AFOCE-KB

We have carefully reviewed the attached file. In addition we have had extensive discussions with the legal personnel of the Bureau of Yards and Docks and the Admiralty and Shipping Section of the Department of Justice. We agree that in all the circumstances that an expenditure of \$300,000 is not warranted to further lower and immobilize the wreckage of Texas Tower No. 4. Should any further legal problems arise they shall be dealt with under the normal rules of law which apply to abandoned shipwrecks. It should be important however to make certain that the Navy not change its decision concerning use of the wreckage as a demolition training area. Any indiscriminate demolition could break loose some of the buoyant braces and bring them to the surface where they would be a hazard to navigation.

GUST J. YANDALA  
Colonel, USAF  
Chief, Litigation Division  
Office of The Judge Advocate General

1 Atch  
n/c

JAG 3339





DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON, D. C. 20390

BU YARDS LETTER TO

41.2025/JPA  
240/MS/11h

28 JUL 1964

From: Chief, Bureau of Yards and Docks  
To: Directorate of Civil Engineering, DCS/C Headquarters,  
United States Air Force (AFCEC-38)  
Subj: Wreckage of Turret Tower No. 2, Navigational Clearance over,  
Survey of Site by Commander Service Force, U.S. Atlantic Fleet  
Ref: (a) BuDocks ltr of 5 Sept. 1963 to (AF 44-...)  
Incl: (1) Co, USS Preserver (AGS-1) ltr Ser. 3-64 of 7 February 1964 to  
COMNAVANT  
(2) COMNAVANT ltr Code 70 (44-20) 444 Ser. 70/1701 of 23 March  
1964 to COMNAVANT  
(3) COMNAVANT ltr Ser. 200/1001 of 4 July 1964, to DND

1. By reference (a), the Bureau advised you regarding further plans on the part of the Chief of Naval Operations to locate the wreckage and to conduct the diver survey originally contemplated.

2. On 30-31 January 1964, the USS Preserver located the tower wreckage by means of sonar, fathometer and grapnel. Several teams of Scuba Divers went underwater to a maximum depth of 170 feet. A summary of the accomplishments during the operation as described in enclosure (1), amplified in enclosure (2) and forwarded by enclosure (3), is as follows:

(a) The location of the wreckage with respect to the Coast Guard lighted buoy is 1,520 yards at 240 degrees true.

(b) The minimum water depth over the wreckage is 70 feet, this being the distance from water surface to highest corner of the triangular deck of the tower. This dimension was obtained by numerous readings of divers' wrist gauges and photofathometers.

(c) The tower platform still remains in the same general position as indicated on earlier sketch prepared from diver reports of survey by USS Scudbird soon after the tower collapse. Two legs are broken off so that one of the triangular sides contacts the ocean bottom. The upper portion of the third leg, leg "A", supports the third corner so that the minimum distance to water surface is 70 feet.

(d) The radar structures have disintegrated to the deck level of the tower platform.

(e) The radio towers have collapsed so that the highest point of these towers is 64 feet below the water surface.

28 JUL 1964

(f) The base of the tower crane is located over one of the two corners of the platform in contact with the ocean bottom. The crane boom hangs downward from this corner over the edge of the platform.

(g) No information regarding the status of the end fastenings or the watertightness of the originally sealed buoyant members was obtained during the course of this latest underwater survey.

3. The platform structure has a number of large openings through which seawater has entered and filled the entire compartmental interior as is clearly evidenced by the reports from the original diver survey by the USS Sunbird. There is no question but that the platform proper has sufficient weight to remain submerged. The 70 feet clear depth over the wreckage is ample for any surface shipping to prevent collision. Therefore, from the standpoint of navigational clearance, no effort to lower the wreckage by blasting off the remainder of leg "A" appears to be necessary.

4. Bureau of Yards and Docks Counsel have investigated the question of the responsibility of the Government to take further steps to make the wreck of Texas Tower No. 4 safer and of its possible liabilities and have discussed these questions with lawyers in the Coast Guard and the Admiralty and Shipping Section of the Department of Justice. Counsel conclude that the Government has no legal obligation to take further steps and that the possibilities of any liability are remote. So far as further steps to make the wreck safer are concerned, by the nearest analogy of a wrecked vessel, the owner has no responsibility after abandonment, and the Government would not be liable for failing to remove. The possibility of liability under the Federal Tort Claims Act cannot be completely foreclosed. However, the minimum depth of 70 feet appears to be enough to assure against a surface vessel colliding with the wreck, and no structural members have floated up for two years. The possibilities of damage to persons and property appear too remote to justify an expenditure of as much as \$300,000 and the danger to divers which would be involved in an attempt further to lower and immobilize the wreckage.

5. Accordingly, this Bureau recommends that the Department of Defense take no further action with regard to the tower wreckage and so advise the Coast Guard and the Department of Justice.

Copy to:  
CAG-Att: CP-300-07 w/o Encls.

*J. G. Dillon*

J. G. DILLON  
CAPTAIN, USN  
Asst Chief of  
Naval Facilities Design

USS PRESERVER (AGS-9)  
 c/o Fleet Post Office  
 New York, New York

AGS/CFR/ops  
 4780  
 Date: 5-6-64  
 7 February 1964

To: Commanding Officer, USS PRESERVER (AGS-9)  
 Commander Service Force, U. S. Atlantic Fleet

Subj: Search for and Investigation of, U. S. Air Force Texas Tower #4;  
 report of

- Ref: (a) COMSERVCON EIGHT msg 021541Z of NOV 63  
 (b) COMSERVCON EIGHT msg 151924Z of JAN 64  
 (c) CIG 81.0 Op-Order 1-64  
 (d) COMSERVCON EIGHT INST 5100.1  
 (e) CO, USS PRESERVER (AGS-9) ltr ser 393-63 of 31 DEC 1963  
 (f) CO, USS PRESERVER (AGS-9) ltr ser 5-64 of 2 JAN 1964  
 (g) COMSERVCON INST 4740.2A of 5 NOV 1963

Encl: (1) Sketch of Texas Tower Wreckage

1. Reference (a), amended by reference (b), assigned PRESERVER the task of locating and investigating the underwater wreckage of U. S. Air Force Texas Tower #4. PRESERVER was to investigate contacts indicated by COMSERVCON surface units, utilizing sonar and fathometer, and these units were to be assisted by aircraft employing MB3 equipment. The Texas Tower, a triangular shaped, measuring approximately 135 feet on the side, and supported by three tubular steel and concrete legs, each 12 feet in diameter, embedded in the ocean floor, collapsed and sank during a severe storm in January, 1961. Previous reports indicated that one of the tower legs was projecting to within 25 feet of the ocean surface, and that one corner of the tower platform, which was supported by the one remaining vertical leg, was projecting to within 65 feet of the ocean surface. Verbal instructions from COMSERVCON EIGHT directed PRESERVER to demolish the wreckage to a depth of 70 feet. CIG 81.0 promulgated the air and surface search plan in reference (c). Surface units assigned were USS HOWELL (DE-1014) (OTC) and USS DAILEY (DE-1006).

2. Preliminary Planning:

a. Personnel. Since SCUBA divers of over 90 feet were indicated, PRESERVER, in compliance with reference (d), requested the services of a Submarine Medical Officer in reference (e). Ten additional divers were requested by reference (f), to augment the ship's divers, and these were provided from other SERVRON EIGHT units before PRESERVER departed Norfolk. A Submarine Medical Officer, from the U. S. Naval Research Laboratory, New London, Conn. boarded PRESERVER in Brooklyn, New York prior to the commencement of the operation.

b. Equipment. Additional mooring equipment and underwater lights were procured from SERVRON EIGHT Salvage Officer, and additional explosives were loaded prior to departure Norfolk.

Enclosure (1)

ENCLOSURE TO BUDDOCKS LTR TO AF0064-K3

intelligence. It was verified that during the two years the tower was active, there were no explosive accidents, and that final investigation should not be undertaken. Further, the area of the tower was surveyed by the U.S. Navy and the U.S. Coast Guard. Preliminary information regarding the tower was obtained from the Bureau of Naval Affairs, and a Survey Report of the U.S. Coast Guard Ship WHEATON was studied, as was the article in the Naval Institute Proceedings of March 1963, and a request was made to Life Magazine for a copy of the story, with pictures, that they had published. It was interesting to note that one of the pictures provided by Life showed the detail of additional bonding, which could have been used as a base for explosives, was not on the Bureau of Yards and Docks prints. A civilian diving photographer, Mr. Elgin CHAMPI was contacted in New York, but could provide nothing concrete to information already held. A copy of the Area Survey Report submitted by the USS J. K. TRUMBIG (DE-1030) was obtained and a final conference on all information available, and plans was conducted on the USS CROSSBELL (DE-1014) on 22 January 1963.

### 3. Operational Planning.

a. The surface units would locate the wreckage with sonar and fathometer, and a buoy would be dropped on datum by CROSSBELL.

b. PRESERVER would employ the workboat, manned by grappelling crew and SCUBA divers, to attach a buoy to the wreckage when a contact was made and confirmed.

c. When positive identification was made and the buoy attached, PRESERVER would moor over the wreckage in a 3 point moor.

d. When the ship was secured in the moor, SCUBA divers would descend to the wreck and note wrist depth gauge, and pressure/fathometer readings at pre-assigned sectors. Additional divers would take confirmation readings with different equipment, at the same locations, to reduce the possibility of error.

e. After completion of the depth survey, if previous depth reports were confirmed, the divers would secure 3,000 lbs. of M16 explosives in M1 133, M1 2, 20 lb. haversacks, at the intersection of the corner of the platform and the remaining leg on which it was resting. A trunk line of primocord would be attached to the 3,000 ft. firing lead. A crew in a rubber boat would attend the firing line and fire the charge when the ship was clear of the area.

f. After the explosives had been detonated another depth survey would be made, and additional charges detonated to reduce the wreckage to the prescribed depth if necessary.

4. This report is submitted in accordance with reference (g).

5. Operation. PRESERVER departed Brooklyn, New York at 1454, 27 January 1963 and anchored 1500 miles from wreckage area at 0100, 28 January. Sequence of events indicated by RCICG time follows:

a. 28 January

- (1) 0652 - Underway
- (2) 0733 - GRAMMILL dropped marker buoy near strong contact
- (3) 0740 - Lowered workboat
- (4) 0815 - Commenced grappling from workboat
- (5) 1000 - After 3 grapple contacts which could not be confirmed, secured boat operations due to sudden increase in wind to 35 knots and state 5 seas.
- (6) Unable to hoist workboat due to heavy seas. Anchored and streamed boat astern.

b. 29 January

- (1) 1307 - Underway with workboat in tow
- (2) 1650 - Hoisted workboat
- (3) 1824 - Anchored in Op area

c. 30 January

- (1) Remained at anchor due to continued heavy seas.

d. 31 January

(1) Modified the search and securing plan to expedite the operation, and to minimize the use of a small boat. A 2,000 pound Danforth anchor, attached to 130 feet of 7 inch nylon line, was substituted for the original. It was intended for the ship to proceed at the slowest speed consistent with steering way over the wreckage area until the anchor engaged the wreckage. At this time 600 feet of nylon line, under strain, would be paid out and a bow anchor dropped. Then the bow anchor chain veered, and the stern nylon line recovered until the angle indicated a close proximity to the wreckage.

- (2) 0705 - Underway, proceeded to Op area
- (3) 0810 - Danforth anchor engaged without obstruction
- (4) 0825 - Completed two point turn over wreckage on bearing 340° from Texas Tower obstruction buoy, distance 1230 yards. Ship's head 288°. Ship's position by Loran 39°48'02"W. 72°49'04"N; Loran Coordinates 1H-5 2649, 1H-4 4709.
- (5) 0854 - Schaeffold diving operations
- (6) 0900 - Divers surfaced and reported they had identified wreckage as Texas Tower, commencing survey operations on underwater obstruction.
- (7) 1325 - Sources from diving operations, results as follows:

(a) Rope and wrist depth gauge and pressure gage readings indicated - least depth of 70 feet beneath the surface of the highest point of the Texas Tower. (This reading was obtained by pressuremeter, wrist gauges indicated 75 feet).

(b) The radio mast, previously reported at 25 feet beneath the surface, had toppled, and was now at 24 feet beneath the surface.

(c) The angle of the tower platform, measured from the horizontal was  $35^{\circ}$  -  $40^{\circ}$ .

(d) There were numerous apertures and segments of bracing material in the immediate area of the remaining leg, that could be employed as a base for explosives should further demolition be required.

(e) All loose material on the exterior of the tower has been carried away.

(f) 1403 - Underway for Norfolk, Virginia.

6. Material Expended

- a. 450 ft. of 5/8" wire
- b. One 150 lb. diving descending weight
- c. One 35 lb. Danforth anchor
- d. Two diving lights

7. Summary of Diving

- a. Divers on board - 21
- b. Dives Made - 21 (10 buddy pairs)
- c. Average depth - 132 ft.
- d. Maximum depth - 170 ft.
- e. Total diving time - 4 hours and 2 minutes
- f. Water temperature -  $47^{\circ}$ ; visibility - 30 ft.
- g. Sea conditions - State 1.

8. Recommendations

a. In view of increased diving commitments by SUBRON EIGHT Units, and increased diver personnel allowance, strongly recommend initiation of request for the assignment of one Submarine Medical Officer to COMSUBRON EIGHT Staff.

9. Comments

- a. The two legs of the tower which were broken off were not sighted.

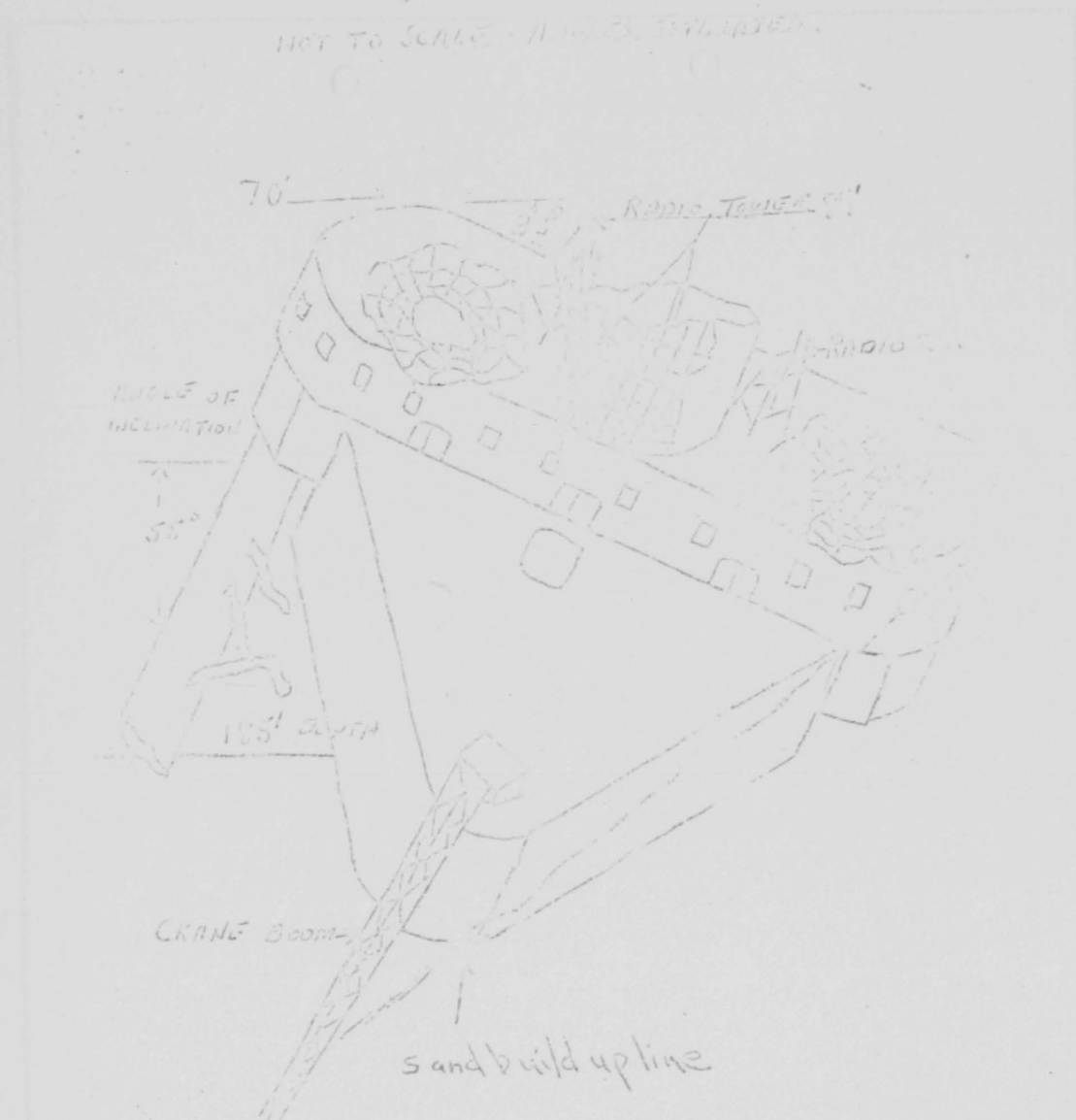
b. The tower is easily located by Sonar and Pathometer, seering ground is good, and traffic was slight to non-existent during the operation. These factors would seem to indicate that the tower wreckage would make an excellent demolition training area during the summer season.

*C. F. Knight*  
C. F. KNIGHT

Copy to:

CGS SERVICE TWO  
CGS SERVICE FOUR  
CGS SERVICE EIGHT  
USS VULCAN (AR-5)  
USS MERRICK (AR-13)  
USS GARDNER (AR-14)  
USS TUDORIA (ARG-4)  
USS ESCAPE (ARS-6)  
USS ROIST (ARS-40)  
USS OPPORTUNE (ARS-61)  
USS RECOVERY (ARS-63)  
USS SALVAGER (ARSD-3)  
USS WINDLASS (ARSD-4)  
USS AIGLE (ATF-72)  
USS SENECA (ATF-91)  
USS ATAKAPA (ATF-149)  
USS LUISENO (ATF-15)

USS NIKING (ATF-157)  
USS HOSKELSA (ATF-158)  
USS PRINCE (ATF-159)  
USS PRINCO (ATF-160)  
USS SAILMAN (ATF-161)  
USS SHAIKORI (ATF-162)  
USS UTINA (ATF-163)  
YFWD-12  
YFWD-17



TEXAS TOWER  
 AS PER DIVERS' R.  
 1/31/64  
 U. S. S. PRESERVER 125-

ENCLOSURE (1)



COMMANDER SERVICE FORCE  
UNITED STATES ATLANTIC FLEET  
NORFOLK 11, VIRGINIA

Code 70(N-3:jrd)

4740

Ser 70/1751

23 MAR 1964

From: Commander Service Force, U. S. Atlantic Fleet  
To: Commander in Chief U. S. Atlantic Fleet

Subj: Search for and Investigation of, U. S. Air Force Texas  
Tower #4; report of

Encl: (1) CO, USS PRESERVER (ARS-8) ltr ARS8/CFK:wpg 4740 ser 58-64  
of 7 Feb 1964

1. Enclosure (1) is forwarded for information.

2. The recommendation contained in paragraph 9 of enclosure (1) has merit but cannot be substantiated at this time. No further action will be taken in regards to this recommendation.

3. The following questions by Commander Service Squadron EIGHT with answers by Commanding Officer, USS PRESERVER is in amplification of the comments made in paragraph 8 of enclosure (1):

a. Q. Of the original 40 sealed buoyant members (braces between legs of tower), how many were seen and inspected?

(1) Of a, how many were seen to be secured at both ends?

(2) Of a, how many were secured at one end only?

(3) Of a, how many were punctured or collapsed?

A. No positively buoyant members determined. Bracing material referred to in paragraph 5.d of reference (a)(Note: Enclosure (1) hereto) pertains to structural members joining remaining leg to platform. Inspection restricted to upper face of tower platform in search of appendages projecting above 70 feet requiring demolition. Wreckage of bracing on remaining leg sighted from platform and not positively identified as buoyant.

Q. In your opinion would collapsing third leg increase or decrease possibility buoyant members breaking loose?

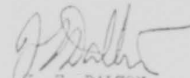
A. Believe demolition of remaining leg could loose buoyant members. To obtain positive reply to queries concerning buoyant members would require minute inspection of wreckage for that purpose.

ENCL 2 To BUDOCKS LTR To APOCE-KB

2025 RELEASE UNDER E.O. 14176

Code 70(H-3:jfd)  
4740

4. In view of paragraph 3 above no further action will be taken on the  
comment in paragraph 8 of enclosure (1) as to utilizing the wreck of  
the tower for demolition training exercises.

  
G. F. DALTON  
Chief of Staff

Copy to:  
COMSERVRON EIGHT

41.26210  
4303/0011/13

See 202 / 11201

9 JUL 1964

From: Commander in Chief U. S. Atlantic Fleet  
To: Chief of Naval Operations  
Subj: Texas tower number 9; information concerning  
Encl: (1) CONSERVANT ltr see 70/17-1 of 21 March 1964 with  
encl (1) thereto

1. Enclosure (1) is forwarded for information.

C. E. POND  
By direction

Copy to:  
BUDOCKS (w/cy encl (1))

ENCL 3 TO BUDOCKS LTR TO AFCE-KB

AFOCE-KB

Mr Hodgdon/ald/77474/6 Aug 64

10 AUG 1964

Wreckage of TT #4, Navigational Clearance over, Survey of Site by Commander Service Force, U.S. Atlantic Fleet

AFJAG (AFJAL/Colonel Yandala)

In accordance with the understanding reached 3 August 1964, with Mr. Nat C. Hodgdon, AFOCE-KB, the attached correspondence and report on status of wreckage of Texas Tower No. 4 are being forwarded for comment and guidance as to the position of the Air Force and the action to be taken in this matter.

C. W. HANFIS  
Deputy Chief, Engineering Division  
Directorate of Civil Engineering

1 Atch  
Ltr, BuDocks, USN,  
28 Jul 64, w/atc

M/R: Reproduced copies of atch  
in AFOCE-KB File #27 - Texas Towers

AFOCE-KB

AFOCE-K

Coord AFOCE-KB  
Stbk AFOCE-KB  
R/FILE AFOCE

N. C. HODGDON

TEXAS TOWER #4

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO <i>Mr Powers</i>	INITIALS	CIRCULATE		
		DATE	COORDINATION		
2	<del>Mr Hodges</del> <i>Mr</i>	FILE			
		INFORMATION	<i>(B)</i>		
3		NOTE AND RETURN			
		PER CONVERSATION			
4		SEE ME			
		SIGNATURE			
REMARKS					
<p><i>(2) a. Check w/ AFCJA</i></p> <p><i>b. Staff Direct item in order.</i></p> <p><i>Col Yandala 55287 -</i></p> <p><i>→ when reply is received from Col Yandala.</i></p>					
FROM		<i>(Signature)</i>		DATE	<i>29 July 64</i>

*Miss Deming - file Texas Tower*

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO Col I. H. Impson	INITIALS	CIRCULATE		
		DATE	COORDINATION		
2	<i>NEW</i> <i>Mr. Hodgson</i>		FILE		
			INFORMATION		
3			NOTE AND RETURN		
			PER CONVERSATION		
4	<i>E. June 1962</i>		SEE ME		
			SIGNATURE		
REMARKS					
<p>1. The attached letter from BuDocks, 28 July 1961, is in reply to a letter from this office (of 8 July 1961). The Navy has not moved very quickly on this for administrative reasons within the department.</p> <p>2. It is interesting to note that the Coast Guard buoy was supposed to mark the location of the tower deck, and that the Navy now finds it located nearly a mile from the buoy location.</p> <p><i>Original</i></p> <p>1 Atch Ltr, 28 Jul 1961, Wreckage of Texas Tower No. 4, Navigational Clearance over, Survey of Site by Commander Service Force, U.S. Atlantic Fleet</p>					
FROM J. W. McCall Lieut. Chief, Engineering Division Directorate of Civil Engineering				DATE 7 Aug	
				PHONE 9622	

DD FORM 95 1 OCT 60 95 Replaces DD Form 94, 1 Feb 50 and DD Form 94, 1 Feb 50 which will be used until exhausted.

TO: Editor, STAFF DIGEST, AFES-MC, 5E 1037

STAFF DIGEST Item

For Release As Soon As Possible

Programs and Requirements

TEXAS TOWER No. 4

U

Hq USAF, in June 1962, directed BuLocks to demobilize the wreckage of Texas Tower No. 4 or determine, to the satisfaction of all concerned that it is not a menace to navigation.

In June 1963 it was reported that neither the Coast Guard nor the Navy could locate this wreckage any where near the original marker buoy. Navy finally in February 1964 located the wreckage about 4500 feet away. A partial underwater survey was conducted at that time and Navy reported 70' clearance above the highest portion of the wreckage. Navy's report was referred to AFJAG for an opinion as to the action to be taken with respect to any further demolition of this wreckage. It was decided to leave the wreckage alone and take no further action to demobilize it.

BuLocks was directed not to use this wreckage for demolition training at any time in the future without prior approval of this Headquarters.

(AFOSI-KB, Mr. Hodgson, 77474)

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO AFCERB (MR. HODGSON) <i>Ret</i>	INITIALS	CIRCULATE		
		DATE	COORDINATION		
			FILE		
			INFORMATION		
2			XXXX		
3			NOTE AND RETURN		
4			PER CON-VERSATION		
			SEE ME		
			SIGNATURE		
REMARKS					
FROM <i>F. B. Roche</i> F. B. ROCHE AFOCFD		DATE 24 Sep 64		PHONE 66973	

DD FORM 95  
1 OCT 60

Replaces DD Form 94, 1 Feb 50 and DD Form 96, 1 Feb 50 which will be used until exhausted.

GPO 1961 O-348713





[Faint, illegible text at the top of the page, possibly a header or subject line.]

The whole crew... will be nearly or... within a short time... has decided... operation for 28 September 1964 for the purpose of... the latest condition of the logs on the... the... satisfactory covering of the logs... to remove the buoys by 15 October 1964. The discontinuance... will result in a monthly savings of approximately \$100.00... each buoy.

Your comments are invited, if possible, before the next scheduled diving operation.

Very truly yours,

[Faint signature and title of the official.]

Copies furnished:

- Mr. Barrett, Regional Dir., Bureau of Commercial Fisheries, Dept. of Interior, Cincinnati, Ohio.
- Chief of Engineers, United States Army, Vicksburg, Mississippi.
- 1st Naval District, United States Navy, Norfolk, Virginia.
- United States Air Force, [illegible]

Enclosed letter to Mr. [illegible]

**COPY**

SAF-III Sig

15  
B

Mr. Field      OH-14      AFOCEKB 77474      saf  
Transmittal, Quarterly Calendar Year Report  
Architect-Engineer Contract Awards

1. Paragraph D3, Enclosure 1, DOD Directive 4105.56 - Change 1, requires the Air Force to furnish the Assistant Secretary of Defense (IAL) a calendar year quarterly report. The report is on a cumulative calendar year basis and includes all architect-engineer contracts over \$100,000 awarded during the fourth quarter of calendar year 1964. This report is due on or before 31 January 1965.

2. Attached proposed memorandum (TAB 1) to the Assistant Secretary of Defense (IAL) forwards two copies of this report.

RECOMMENDATION

3. That attached proposed memorandum (TAB 1) to the Assistant Secretary of Defense (IAL) be signed and dispatched.

ORAN O. PRICE  
Brigadier General, U. S. Air Force  
Deputy Director for Construction  
Directorate of Civil Engineering

1 Atch  
Prop memo to ASD (IAL) for sig of  
SAF-III, w/atrch (TAB 1)

Copies to:  
SAF-III, Ofc of Sig  
SAF-OS  
AFWC  
AFDC

COORD: AFOCEKB  
STYBK: AFOCEKB  
R/FILE: AFOCEK  
R/FILE: AFOCEH

6

COORD: AFOCEKB

*Handwritten initials*

AFOCEK

*Col. Caprio*

AFOCE-M

FEB 4 1965

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS & LOGISTICS)

SUBJECT: Quarterly Report of Architect-Engineer Contract Awards

Attached are two copies of report required by paragraph D3, Enclosure 1, DOD Directive #105.96 - Change 1. This is a consolidated cumulative report for the fourth quarter of calendar year 1964, (October 1 - December 31) of architect-engineer contract awards during that quarter in excess of \$100,000 for military construction projects.

(Signed)  
LEWIS E. TURNER  
Deputy for Installations

1 Attachment  
A-E Awards Report  
4th Qtr CY 64 (Dup)

Copies to:  
SAF-ILI, Ofc of Sig (2)  
SAF-OS  
AFVC  
APOEC

~~COORD:~~ APOCEB  
STYBK: APOCEB  
R/FILE: APOCEK  
R/FILE: APOCEH

COORD: APOCEB      APOCEK

*Handwritten initials*

*file Texas Towers*  
*200*  
*Mr. Hodgson*

551BCE

12 November 1964

Texas Tower Obstruction Lighted Whistle Buoy

Commander  
Third Coast Guard District  
U.S. Custom House  
New York 4, N.Y.

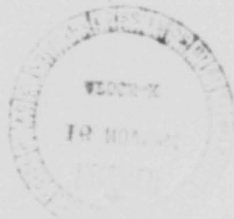
1. According to information furnished by the Navy, the navigational clearance above the wreckage of Texas Tower #4, is now approximately seventy (70) feet. This is considered, by all concerned, as more than sufficient for all forms of shipping.
2. In view of the ample clearance now existing over the wreckage there is no further need for a lighted whistle buoy to mark its location. It may now be removed.
3. Please accept the appreciation of the Air Force for the excellent cooperation and services rendered in this matter.

FOR THE COMMANDER

ANTHONY E SANFILIPPO  
Major, USAF  
Base Civil Engineer

Info Copy to:  
USAF (AFOCEKE)  
ADC (ADIFS)  
26 AIR DIV (26IFS-R)

USAF (AFOCERB)



FILE: M/M - Whiteman AFB

JOINT MESSAGEFORM		<small>RESERVED FOR COM</small> LOCATION CENTER	
SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>		STF. MSG BP	
TYPE MSG	BOOK	MULTI	SINGLE
		X	
PRECEDENCE ROUTINE		H.U. USAF	
FROM: CSAF		DTG	
TO: AFSC		SPECIAL INSTRUCTIONS	
INFO: SAC		DISTRIBUTION AFOLBY - 2	
BSD NORTON AFB CALIF			
UNCLAS AFOSCLA 79458			
AFSC FOR SCMCC; SAC FOR DEWA; BSD FOR BSCFF & BSS. Subj: SMSB Facility, Whiteman MINUTEMAN. Ref BSD ltr same subj dtd 11 Sep 64 and your 1st Ind dtd 29 Sep 64. You are authorized to commence design subject facility, as delineated in DD Form 1391 dtd 10 Sep 64, attach to ref ltr. Requirement and schedule this facility <sup>CONTINGENT</sup> based on approval PCP 64-65, which has not yet been received; therefore, design only auth at this time. Furnish design and construction schedule ASAP. This Hq desires to be represented at concept review.			
		DATE	TIME
		6	1040
		MONTH	YEAR
		OCT	1964
		PAGE NO.	NO. OF PAGES
TYPED NAME AND TITLE		PHONE	SIGNATURE
R. A. PEREZ Lt Colonel, USAF		71019	<i>L B McCloud</i>
SECURITY CLASSIFICATION		REGARDING INSTRUCTIONS	
UNCLASSIFIED		L. B. McCLOUD Deputy Chief, Construction Division Directorate of Civil Engineering	

DD FORM 173 NOV. 63

REPLACES EDITION OF 1 MAY 55 WHICH MAY BE USED.

JOINT MESSAGEFORM			RESERVED FOR COMMUNICATION CENTER	
SECURITY CLASSIFICATION UNCLASSIFIED			CIP, MSC BR	
TYPE MSG	BOOK	MULTI	SINGLE	
		X		8001 10 0 9 2
PRECEDENCE ROUTINE			H.Q. USAF	
FROM: CSAF			SPECIAL INSTRUCTIONS	
TO: AFSC			DISTRIBUTION AFOSCM - 2	
INFO: SAC				
BSD NORTON AFB CALIF				
<p>UNCLAS AFOSCM 79458</p> <p>AFSC FOR SCNCC; SAC FOR DEDW; BSD FOR BSCPF &amp; BSS. Subj: SMSB Facility, Whiteman MINUTEMAN. Ref BSD ltr same subj dtd 11 Sep 64 and your 1st Ind dtd 29 Sep 64. You are authorized to commence design subject facility, as delineated in DD Form 1391 dtd 10 Sep 64, such to ref ltr. Requirement and schedule this facility based on approval PCP 64-65, which has not yet been received; therefore, design only auth at this time. Furnish design and construction schedule ASAP. This Hq desires to be represented at concept review.</p>				
		DATE	TIME	
		6	1040	
		MONTH	YEAR	
		OCT	1964	
		PAGE NO.	NO. OF PAGES	
TYPED NAME AND TITLE		PHONE	SIGNATURE	
A. A. FINEZ		71019	<i>L B McCloud</i>	
Lt Colonel, USAF			TYPED BY (Typed Name and Title)	
			L. B. McCLOUD	
			Senior Chief, Construction Division	
			Directorate of Civil Engineering	
SECURITY CLASSIFICATION		REGARDING INSTRUCTIONS		
UNCLASSIFIED				

DD FORM 173 NOV 63

REPLACES EDITION OF 1 MAY 58 WHICH MAY BE USED.

*File - Texas Towers*  
*not*

Ltr, 3d CG Dist, U. S. Custom House, N. Y. 4, N. Y., 1 Sep 64,  
Texas Tower Obstruction Lighted Whistle Buoy

18 OCT 1964

4th Ind (AFOCEK)/Mr. Hodgdon/ cvl/14 Oct 64/52641

Dept of the AF, Hq USAF, Wash D.C. 20330

TO: Hq ADC (ADIFS)

1. According to the information furnished by the Navy in reference  
is of the 3rd Ind the navigational clearance above the wreckage of  
Texas Tower #1 is now approximately seventy (70) feet. This is  
considered, by all concerned, as more than sufficient for all forms  
of shipping.

2. In view of the ample clearance now existing over the wreckage  
there is no further need for a lighted whistle buoy to mark its  
location. It is therefore requested that your Hq take the necessary  
action to advise the Coast Guard that the buoy can be removed and to  
express appreciation of the Air Force for the joint service that has  
been rendered in this matter.

FOR THE CHIEF OF STAFF

C. W. HARRIS  
Deputy Chief, Engineering Division  
Director, AF Engineering Center

Cy to: 2d Air Div (IXC)  
551 Cont Spt Gp (SCG)

COORD: AFOCEK  
STYBK: AFOCEK  
R/FILE: AFOCEK

COORD: AFOCEK

AFOCEK

AFOCEFD

AFJALF

*Sanford*  
*ER*  
R. C. HODGDON *not*


*Elmer Cooney*  
*by phone - 14 Oct 64*  
*not*

*G. J. ...*

SEARCHED  
SERIALIZED  
INDEXED

*Ch*



*file - Texas Towers - 22H*  
*File Hodgdon*  


TELE: RAYMOND 4-2100  
EXT: 6794

HEADQUARTERS  
NEW YORK AIR DEFENSE SECTOR  
UNITED STATES AIR FORCE  
MCGUIRE AIR FORCE BASE, NEW JERSEY 08641

REPLY TO  
ATTN OF: NYIFS

8 December 1965

SUBJECT: Disposition of Texas Tower #4 Debris

TO: USAF (AFOCE-KB)

1. Reference paragraph 1, 2nd indorsement to Hq USAF letter, AFOCE-KB, 5 June 1965, subject as above.
2. Texas Tower #4 debris was removed from restrictive storage, McGuire Air Force Base, on 22 October 1965. Disposal was made to Base Redistribution and Marketing Section on Base Work Order No. 60876, and AF Form 595-7 action.

FOR THE COMMANDER

*Fred V Mayhue*  
FRED V MAYHUE, Major, USAF  
Director of Administrative Services

6794

NYIFS

8 December 1965

Disposition of Texas Tower #4 Debris

USAF (AFOCE-KB)

1. Reference paragraph 1, 2nd indorsement to Hq USAF letter, AFOCE-KB, 5 June 1965, subject as above.
2. Texas Tower #4 debris was removed from restrictive storage, McGuire Air Force Base, on 22 October 1965. Disposal was made to Base Redistribution and Marketing Section on Base Work Order No. 60876, and AF Form 695-7 action.

FOR THE COMMANDER

FRED V MAYHUE, Major, USAF  
Director of Administrative Services

AFOCEKB/Mr. Hodgdon/saf/28 May 65/TT474/REWRITE

Disposition of Texas Tower #4 Debris

5 JUN 1965

Hq ADC (ADIPS)

1. References:

a. 3rd Ind, Hq ADC (ADIPS-B), 16 Nov 64, Disposition of Texas Tower #4 Debris.

b. Ltr, BUDOCKS, 5 Mar 65, Texas Tower #4 - Sinking.

2. The letter from the Department of the Navy, reference 1b above, indicates that the Navy has completed all of its examinations and tests of the salvaged material and authorizes the Air Force to dispose of the excess material which it is holding. However, this authorization has neither been confirmed nor denied by the Justice Department. Therefore, since 90 days have elapsed from the date this authorization was given, it is assumed that the Justice Department has no objection to the disposal of this material.

3. Accordingly, your headquarters is authorized to dispose of the salvage material from Texas Tower #4 now being stored at McGuire AFB. This headquarters is to be notified when disposition of the material has been completed.

4. The files in connection with this project or case can also be retired as there is no foreseeable need for reference to this material. For all intents and purposes this case is closed.

FOR THE CHIEF OF STAFF

C. W. HARRIS  
Deputy Chief, Engineering Division  
Directorate of Civil Engineering

Copy to:  
AFJAG  
1 Atch  
Cy ltr, BUDOCKS, 5 Mar 65  
Texas Tower #4 - Sinking

M/R/ Rewrite remains substantially the same and coord remains valid. Coord: AFOCEKB  
Styb; AFOCEKB  
R/File; AFOCEK

COORD: AFOCEKB AFOCEK AFJAG

*Att*

OCE-F

*Mr Black*  
*Att*

APOCEKB/Mr. Hodgdon/saf/27 May 65/77474

Disposition of Texas Tower #4 Debris

HQ ADC (ADIPS)

1. References:

a. 3rd Ind, HQ ADC (ADIPS-B), 16 Nov 64, Disposition of Texas Tower #4 Debris.

b. Ltr, BUDOCKS, 5 Mar 65, Texas Tower #4 - Sinking.

2. The letter from the Department of the Navy, reference 1b above, indicates that the Navy has completed all of its examinations and tests of the salvaged material and authorizes the Air Force to dispose of the excess material which it is holding. However, this authorization has neither been confirmed nor denied by ~~either the Air Force Judge Advocate General or~~ the Justice Department. Therefore, since 90 days have elapsed from the date this authorization was given, it is assumed that the Justice Department, ~~in past practice~~, has no objection to the disposal of this material.

3. Accordingly, your headquarters is authorized to dispose of the salvage material from Texas Tower #4 now being stored at McGuire AFB. This headquarters is to be notified when disposition of the material has been completed.

4. The files in connection with this project or case can also be retired as there is no foreseeable need for reference to this material. For all intents and purposes this case is closed.

FOR THE CHIEF OF STAFF

Copy to:  
AFJAG

COORD: APOCEKB

STYBK: APOCEKB

R/FILE: APOCEK

1 Atch

Cy ltr, BUDOCKS, 5 Mar 65,  
Texas Tower #4 - Sinking

COORD: APOCEKB APOCEK AFJAG

*cc*  
E. S. HODGDON *[Signature]*

*[Signature]*  
28 May 65

*[Handwritten mark]*

*[Handwritten mark]*

*file Texas Tower No. 4.*



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON, D. C. 20390

IN REPLY REFER TO

24C/WES/beg  
5 March 1965

Louis S. Greco, Esq.  
Attorney in Charge  
Admiralty and Shipping Section  
U. S. Department of Justice  
New York Office  
42 Broadway, Room 600  
New York, New York 10004

RE: Texas Tower No. 4 - Sinking

Dear Mr. Greco:

With regard to your letter of 1 February 1965 and the liability of subcontractors and suppliers, we report as follows.

Mr. Alan Rayvid of the Admiralty and Shipping Section had indicated to us that he visited Boston and would look at our very bulky files on this work there, and by letter of 22 June 1964 (copy to Mr. Rayvid) we asked our Counsel in Boston to collect the materials there for his inspection. Since Mr. Rayvid has not looked at the files, we have had our Boston Counsel search them. We had sent a copy of the Tour reports to the Department of Justice of 15 May 1964.

We find that the Bureau has no copies of any subcontracts, purchase orders, or mill certificates for steel except the attached enclosure (1), which is not a true subcontract but is instead a settlement agreement referring to invoices. Therefore, we confirm our advice on 15 May 1964 that the Bureau does not have copies of the subcontracts and add also that the Bureau has no purchase order or mill certificates. We ask you to return the enclosure to Counsel for the DEWO, First Naval District, 455 Summer Street, Boston, Massachusetts 02110, when you have satisfied yourself as to its irrelevance.

The only possible defect discovered in the steel lay in the assembly of brace plates with the direction of rolling transverse to the length of the member. See subparagraph 4e of BuDocks letter of 3 April 1964 to the Directorate of Civil Engineering, USAF, which was sent to the Department of Justice with our letter of 3 April 1964. We refer you to pages 19 and 23 of the Tour report, where the direction of rolling on six plates was found to be transverse to the length and to result in a reduction in strength of 5-16%. However, Mr. Tour and Professor Nielson reported this difference was not excessive and did not result in a significant variation.

*M/R This letter shown to CW Harris 16 Mar 65 - This copy furnished by Col Yandala - 15 Mar 65  
CW Harris made two copies - One to be sent to Col Imprescia information.*

*24C*

- 2 -

5 March 1965

In its letter of 15 May 1964 the Bureau had reported that it was unable to trace the specification requirements as to steel and fabrication with regard to the Tour report. Particularly, the Bureau's engineers did not know for the particular steels and plates how they were to be rolled, and whether they were to be installed with regard to a direction of rolling. The Bureau has made no more progress in attempting to make a determination, but has concluded that no such determination is necessary.

The Bureau had looked to specification AWS D1.1 paragraph 2.1.4: "In general, sheared plates shall be used for structural work. Universal rolled plates shall not be used for strength members unless they are fitted so that the direction of principal rolling of the plates coincides with the direction of the principal tensile or compressive stresses of the member." The Bureau had been unable to determine the type of steel, whether sheared or universal rolled, and the direction of rolling, whether principal or in several directions. However, closer examination reveals that specification 2.1.4 may apply only to steel in the Tower Platform, which is defined in specifications 1.12.1 and 1.12.2 as different from the Tower Legs. The steel for the legs and bracing is described in specification 2.2 without reference to direction of any rolling. However, see specifications 2.2 (next to last sentence) which might make 2.1.4 applicable to flat plates, but which we think inconclusive. Accordingly, the Bureau concludes that installation of plates in the leg bracing with direction of rolling transverse to the principal stress cannot be found to violate the specifications. The Bureau also concludes that this installation does not violate any standards of good workmanship, especially since the variation in strength between transverse and longitudinal placement is slight and here was within the expected strength.

You are perhaps aware that the Bureau investigated the possibility of obtaining additional samples of brace connections, perhaps in connection with lowering of the tower on the bottom. Such work would have been dangerous, would have cost in the neighborhood of \$300,000, and will not be undertaken.

Accordingly, the Bureau has completed all investigations that are feasible and finds no basis for demand upon or recovery against the manufacturers or fabricators of the steel. We are authorizing the Air Force and the Navy to dispose of the brace materials they have been holding.

Copy to:  
Thomas MacDonald,  
DEMO, 1st MD.  
Alan Rayvid,  
Justice.  
Col. Gus Yandala, ←  
AFJAL.

Yours very truly,

RECEIVED  
MARGED GOLD  
1965  
Counsel

RECEIVED

Ltr, 539 Ftr Intep Sq (539CCR), 21 October 1964, Disposition of Texas Tower #4 Debris

8 NOV 1964

2nd Ind (26IFS-B)

Hq 26 Air Division (SAGE), Stewart AFB, NY 12554

TO: ADC (ADIFS)

1. Request favorable consideration be granted for the request contained in the basic letter.
2. Much of the litigation in connection with the Texas Tower 4 tragedy has been consummated and there appears to be no reason why the debris cannot be disposed of by selling it as scrap steel to produce revenue for the government.
3. If reasons of a legal nature continue to preclude disposition, we will take action to relocate the debris to a new storage area at McGuire AFB as indicated in paragraph 3 of the basic letter.

FOR THE COMMANDER



HARRY C. FENBEN  
Lt Col, USAF  
Director of Facilities Support

Copy to:  
NYADS  
539 Ftr Intep Sq

3rd Ind (ADIFS-B)

16 NOV 1964

Hq ADC, Ent AFB, Colo 80912

TO: Hq USAF (AFOCE)

INFO TO: 26 Air Div (IFS)

Request authority to permanently dispose of all Texas Tower #4 debris presently stored at McGuire AFB.

FOR THE COMMANDER



JOHN B. ROSE, JR.  
3 Colonel, USAF  
Director of Facilities Support  
DCS/Civil Engineering





TEL: RAYMOND 4-2100  
EXT: 2297

539TH FIGHTER INTERCEPTOR SQUADRON (ADC)  
UNITED STATES AIR FORCE  
MCGUIRE AIR FORCE BASE, NEW JERSEY 08641



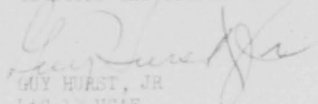
REPLY TO  
ATTN OF: 539CCR

21 October 1964

SUBJECT: Disposition of Texas Tower #4 Debris

TO: NYADS (NYCVC)

1. Request this organization be relieved of responsibility for the storage of debris from Texas Tower #4. The debris consists of five 25' lengths of 30" diameter tubular structural material which has been stored in the squadron area since March 1962, pending outcome of litigation.
2. The area occupied by this organization is a compact one and the limited storage space available is sorely needed for critical mission equipment. This debris which has been dead storage for such an extended period is occupying space which could be put to far more advantageous use for storage of essential items of unit equipment. Of lesser importance, but still significant, is the unsightly appearance of the debris which has subjected this unit to criticism on several occasions.
3. Request that disposition instructions for the material be obtained. In the event this is not possible, request favorable consideration be given to re-locating the debris at another location at McGuire AFB. It is believed that the base, with its ample storage facilities, has a far greater capability to store the debris than this organization.

  
GUY HURST, JR  
LtCol, USAF  
Commander



Ltr, 539 Ftr Intcp Sq (539CCR), 21 Oct 64, Disposition of Texas Tower  
#4 Debris

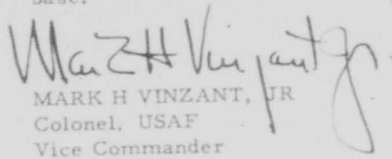
1st Ind (NYGVG)

23 October 1964

Hq NYADS, McGuire AFB, NJ 08641

TO: 26 Air Div (26MDC)

1. This headquarters concurs with the request contained in basic letter. This debris has been on station for an extensive length of time. Previous attempts to obtain disposition instructions have been unsuccessful.
2. If disposition instructions can not be obtained at this time, request that action be taken to relieve this squadron of the storage responsibility and place the responsibility for storage with the host organization at this base.

  
MARK H VINZANT, JR  
Colonel, USAF  
Vice Commander

*File: Texas Towers*  
*"Fini"*  
*nett* X/B

Ltr, Hq USAF (APOCS-IB), 5 Jun 65, Disposition of Texas Tower & Debris

2nd Ind (ADIPS-S)

23 JUN 1965

Hq 26 Air Division (SAGE), Stewart AFB, NY 12554

TO: NYADS

1. NYADS is designated as the responsible agency for the disposition of the subject debris which is currently in restricted storage at McGuire AFB. NYADS will decide how disposition will be made and issue necessary instructions for its accomplishment. After disposition is effected, NYADS will report this information through channels to Hq USAF as indicated in paragraph 4 of the preceding 1st Indorsement.

2. Otis AFB will take action as indicated in paragraph 2 of the preceding 1st Indorsement. All files and documentary data now in Otis' possession will be mailed direct to Maxwell AFB with information copies of your letter of transmittal only to this headquarters and to Hq ADC.

FOR THE COMMANDER

HARRY C JENSEN  
Lt Colonel, USAF  
Director of Facilities Spt

1 Atch n/c

Copy to:  
539 FIB, McGuire AFB, NJ  
1611th AT Sq, McGuire AFB, NJ  
551 AESSC Wg, Otis AFB, Mass.  
ADC (ADIPS-IB)  
USAF (APOCS-IB)

COPY TO: USAF (APOCS-IB)

Ltr, Hq USAF (AFOCE-KB), 5 Jun 65, Disposition of Texas  
Tower #4 Debris

1st Ind (ADIFS-BS)

Hq ADC, Ent AFB, Colo 80912

TO: 26 Air Div (IDC)

1. Request your Headquarters take action as necessary to dispose of the subject debris.
2. In addition, as there is no foreseeable need for reference to records regarding the collapse of Texas Tower #4, all files in connection with this occurrence may be retired. This includes all files held either at Otis AFB or at 26 Air Div. Retired files should be forwarded to the following address:

USAF Historical Division  
Archives Branch  
Aerospace Studies Institute  
Air University  
Maxwell AFB, Ala  
Attn: Miss M Kennedy

3. Recommend 26 Air Div files be forwarded by 26 Air Div Historian.
4. Request this Headquarters and Hq USAF (AFOCE-KB) be notified when disposition of the debris and retirement of the files has been completed.

FOR THE COMMANDER

1 Atch n/c

Copy to:  
351AEW&CON Wg (BIDC)

## Texas Tower Failure Suit Settled

All claims arising out of the collapse of Texas Tower No. 4 were settled last week under the terms of a consent decree of the United States District Court for the Southern District of New York.

The settlement was negotiated under the guidance of Chief Judge Sylvester J. Ryan and will avoid what might have been a long and costly litigation in the Federal courts.

Involved in the settlement were the personal representatives of the Air Force and civilian personnel who lost their lives, the United States Government, the engineers and the contractors. The settlement of the claims was made without admission of liability by any of the defendants.

The private defendants were Moran, Proctor, Munser & Rutledge, of New York, and Anderson-Nichols & Co., Inc., of Boston, consultants who collaborated in the design; J. Rich Steers, Inc., of New York, and Morrison Knudsen Co., Inc., of Boise, Idaho, which as a joint venture erected the structure.

Since the settlement was the result of a consent decree, no breakdown of the amounts contributed by each of the private firms is available. It is a matter of public record, however, that the government paid about \$600,000 leaving a balance of \$1.1 million in

claims to be paid by the other four defendants on a negotiated basis known only to them.

Tower No. 4, actually the third and last of the early warning radar defense stations erected in the Atlantic Ocean between 1955 and 1957—stood in 185 ft of water 80 miles off the New Jersey shore. It broke up and sank during a storm on Feb. 15, 1961, with a loss of all on board. Included were 14 civilian construction workers who were trying to strengthen the tower, which, according to a congressional subcommittee report, was "beset with structural difficulties from the time it was first built some 1 1/2 years earlier." The remaining 14 dead were Air Force men.

The two other completed towers were demolished on government orders after No. 4 collapsed. No. 2, located in 50 ft of water 160 miles east of Cape Cod, was dropped into the water and floated to shore for salvage early this year. No. 3, removed last year from its location in 80 ft of water some 80 miles south of Nantucket, sank during salvage and was not recovered.

Two other towers planned under the same coastal defense program were never built. No. 1 was to have been set up in 50 ft of water on Cashes Ledge 7 1/2 miles east of Portland, Me. No. 5 was slated for Brown's Bank 200 miles east of Boston in 150 ft of water.

NY 1164

THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK  
IN SENATE CHAMBERS  
JANUARY 11, 1962  
ALL CLAIMS ARISING OUT OF THE COLLAPSE OF TEXAS TOWER NO. 4  
WAS SETTLED UNDER THE TERMS OF A CONSENT DECREE OF THE  
COURT. THE SETTLEMENT WAS NEGOTIATED UNDER THE GUIDANCE OF  
CHIEF JUDGE SYLVESTER J. RYAN AND WILL AVOID WHAT MIGHT  
HAVE BEEN A LONG AND COSTLY LITIGATION IN THE FEDERAL COURTS.  
INVOLVED IN THE SETTLEMENT WERE THE PERSONAL REPRESENTATIVES  
OF THE AIR FORCE AND CIVILIAN PERSONNEL WHO LOST THEIR LIVES,  
THE UNITED STATES GOVERNMENT, THE ENGINEERS AND THE CONTRACTORS.  
THE SETTLEMENT OF THE CLAIMS WAS MADE WITHOUT ADMISSION OF  
LIABILITY BY ANY OF THE DEFENDANTS.  
THE PRIVATE DEFENDANTS WERE MORAN, PROCTOR, MUNSER & RUTLEDGE,  
OF NEW YORK, AND ANDERSON-NICHOLS & CO., INC., OF BOSTON,  
CONSULTANTS WHO COLLABORATED IN THE DESIGN; J. RICH STEERS,  
INC., OF NEW YORK, AND MORRISON KNUDSEN CO., INC., OF BOISE,  
IDAHO, WHICH AS A JOINT VENTURE ERECTED THE STRUCTURE.  
SINCE THE SETTLEMENT WAS THE RESULT OF A CONSENT DECREE,  
NO BREAKDOWN OF THE AMOUNTS CONTRIBUTED BY EACH OF THE  
PRIVATE FIRMS IS AVAILABLE. IT IS A MATTER OF PUBLIC RECORD,  
HOWEVER, THAT THE GOVERNMENT PAID ABOUT \$600,000 LEAVING  
A BALANCE OF \$1.1 MILLION IN CLAIMS TO BE PAID BY THE OTHER  
FOUR DEFENDANTS ON A NEGOTIATED BASIS KNOWN ONLY TO THEM.  
TOWER NO. 4, ACTUALLY THE THIRD AND LAST OF THE EARLY WARNING  
RADAR DEFENSE STATIONS ERECTED IN THE ATLANTIC OCEAN BETWEEN  
1955 AND 1957—STOOD IN 185 FT OF WATER 80 MILES OFF THE  
NEW JERSEY SHORE. IT BROKE UP AND SANK DURING A STORM ON  
FEBRUARY 15, 1961, WITH A LOSS OF ALL ON BOARD. INCLUDED  
WERE 14 CIVILIAN CONSTRUCTION WORKERS WHO WERE TRYING TO  
STRENGTHEN THE TOWER, WHICH, ACCORDING TO A CONGRESSIONAL  
SUBCOMMITTEE REPORT, WAS "BESET WITH STRUCTURAL DIFFICULTIES  
FROM THE TIME IT WAS FIRST BUILT SOME 1 1/2 YEARS EARLIER."  
THE REMAINING 14 DEAD WERE AIR FORCE MEN.  
THE TWO OTHER COMPLETED TOWERS WERE DEMOLISHED ON GOVERNMENT  
ORDERS AFTER NO. 4 COLLAPSED. NO. 2, LOCATED IN 50 FT OF  
WATER 160 MILES EAST OF CAPE COD, WAS DROPPED INTO THE  
WATER AND FLOATED TO SHORE FOR SALVAGE EARLY THIS YEAR.  
NO. 3, REMOVED LAST YEAR FROM ITS LOCATION IN 80 FT OF  
WATER SOME 80 MILES SOUTH OF NANTUCKET, SANK DURING  
SALVAGE AND WAS NOT RECOVERED.  
TWO OTHER TOWERS PLANNED UNDER THE SAME COASTAL DEFENSE  
PROGRAM WERE NEVER BUILT. NO. 1 WAS TO HAVE BEEN SET UP  
IN 50 FT OF WATER ON CASHES LEDGE 7 1/2 MILES EAST OF  
PORTLAND, ME. NO. 5 WAS SLATED FOR BROWN'S BANK 200 MILES  
EAST OF BOSTON IN 150 FT OF WATER.

FILE: TEXAS TOWERS  
JCH



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON, D. C. 20390

IN REPLY REFER TO  
41.202B/JRA:ew

23 SEP 1964

From: Chief, Bureau of Yards and Docks  
To: Directorate of Civil Engineering, APOCE-KB DCS/O Headquarters,  
United States Air Force  
Subj: Wreckage of Texas Tower #4, Instructions Concerning Non-Use  
of Wreckage for Demolition Training  
Encl: (1) Cy of CNO ltr Op-33207/ajc Ser 187AP3 of 17 Sep 64 to  
CINCLANTFLT  
Ref: (a) APOCE-KB ltr of 31 Aug 64 to BuDocks

1. By reference (a), your Headquarters requested assurance in writing that the subject wreckage will not at any time be used as a demolition training area without prior approval of all concerned.
2. Accordingly, the Bureau has arranged with the Chief of Naval Operations for issue of appropriate instructions to Commander-in-Chief, Atlantic Fleet, to preclude this possibility. A copy of these instructions is forwarded herewith as enclosure (1).

*J. G. Ellison*

J. G. ELLISON  
CAPTAIN, USN  
Asst Chief for  
Planning and Design

Copy to:  
CNO (Attn: OP-33207)



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
WASHINGTON 25, D. C.

4120

IN REPLY REFER TO  
Op-332C7/ajc  
Ser 1874P33

17 SEP 1964

From: Chief of Naval Operations  
To: Commander in Chief Atlantic Fleet

Subj: Texas Tower #4; instructions concerning

Ref: (a) COMSERVLANT ltr ser 70/1751 of 23 Mar 1964, with CINCLANTFLT  
endorsement of 9 July 1964, ser 2025/332C1

1. As a result of the report submitted by reference (a), the Air Force has determined that further action to lower the immobilized wreckage of Texas Tower #4 is not warranted and has further requested written assurance that the wreckage will not be used for demolition training without prior approval of all concerned.

2. CINCLANTFLT is directed, therefore, not to use the wreckage of Texas Tower #4 for demolition training without prior approval of CNO (Op-33), BUDOCKS (Code 41.202B) and Chief of Staff, Air Force (AFOCE-KB).

H. H. Barton  
By direction

Copy to:  
BUDOCKS (Code 41.202B) ←



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON, D. C. 20390

IN REPLY REFER TO  
AL.202E/WTA:ew

23 SEP 1964

From: Chief, Bureau of Yards and Docks  
To: Directorate of Civil Engineering, AFCEE-EB DCS/O Headquarters,  
United States Air Force

Subj: Wreckage of Texas Tower #4, Instructions Concerning Non-Use  
of Wreckage for Demolition Training

Encl: (1) Cy of CNO ltr Op-33207/a/c Ser 1874PS of 17 Sep 64 to  
CINCLANTFLT

Ref: (a) AFCEE-EB ltr of 31 Aug 64 to BuDocks

1. By reference (a), your Headquarters requested assurance in writing that the subject wreckage will not at any time be used as a demolition training area without prior approval of all concerned.
2. Accordingly, the Bureau has arranged with the Chief of Naval Operations for issue of appropriate instructions to Commander-in-Chief, Atlantic Fleet, to preclude this possibility. A copy of these instructions is forwarded herewith as enclosure (1).

J. L. DUFF  
CHIEF, BUREAU OF YARDS AND DOCKS  
WASHINGTON, D. C.

Copy to:  
CNO (Attn: OP-33207)



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
WASHINGTON 25, D. C.

417

IN REPLY REFER TO  
Op-33207/ajc  
Ser 1874P33

17 SEP 1964

From: Chief of Naval Operations  
To: Commander in Chief Atlantic Fleet

Subj: Texas Tower #4; instructions concerning

Ref: (a) COMSERVANT ltr ser 70/1751 of 23 Mar 1964 with CINCLANTFLT  
endorsement of 9 July 1964 ser 2025/33201

1. As a result of the report submitted by reference (a), the Air Force has determined that further action to lower the immobilized wreckage of Texas Tower #4 is not warranted and has further requested written assurance that the wreckage will not be used for demolition training without prior approval of all concerned.
2. CINCLANTFLT is directed, therefore, not to use the wreckage of Texas Tower #4 for demolition training without prior approval of CNO (Op-33), BUDOCKS (Code 41.202B) and Chief of Staff, Air Force (AFOCE-KB).

H. H. Barton  
By direction

Copy to:  
BUDOCKS (Code 41.202B) ←



MEMO ROUTIN. SLIP		NEVER USE FOR APPROVALS, DISAPPROV. CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO AFOCE-2 Colonel Fowler	INITIALS	CIRCULATE		
		DATE	COORDINATION		
2		T R	FILE		
			INFORMATION		
3		NOTE AND RETURN			
		FOR CONVERSATION			
4		SEE ME			
		SIGNATURE			
REMARKS					
<p>1. The attached letter from ADC, subj: Deficiencies and Repairs of Texas Towers #2 and #3" is transmitted for necessary action.</p> <p>2. One copy of the report has been retained in this Division.</p>					
FROM C. W. HARRIS Deputy Chief, Engineering Division Directorate of JMW Engineering, DCS/O				DATE	14 Dec 61
				PHONE	71215
DD FORM 95 1 OCT 60		Replaces DD Form 94, 1 Feb 50 and DD Form 96, 1 Feb 50 which will be used until exhausted.		GPO: 1960-O-56234	

MEMO ROUTING SLIP		NET USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO	INITIALS	CIRCULATE		
	<i>Col Harris</i>				
2		DATE	COORDINATION		
	<i>Col Hitters</i>	<i>34</i>	<i>34</i>		
3			INFORMATION		
	<i>Miss Dennis</i>	<i>52</i>	<i>52</i>		
4			NOTE AND RETURN		
			PER CONVERSATION		
			SEE ME		
			SIGNATURE		
REMARKS					
FROM		DATE			
<i>Hoagdon</i>		<i>1 Dec 61</i>			
		PHONE			
		<i>77474</i>			

DD FORM 95 1 OCT 60  
 Replaces DD Form 94, 1 Feb 50 and DD Form 95, 1 Feb 50 which will be used until exhausted.  
 GPO: 1960-O-1

FILE TEXAS TOWERS

Texas Tower survival compartments. Photographs of first unmanned underwater tests, Texas Tower compartment #3. (Tests made one mile off shore, Niantic, Connecticut, in Long Island Sound, 1 Oct 62).

Photo  
No.

- 1 - Barge and crane with TT3 compartment aboard.
- 2 - Barge with TT3 compartment resting on test platform.
- 3 - TT compartment #3 resting on underwater testing platform.
- 4 - Same as for Photo #3.
- 5 - TT3 compartment on underwater test platform being lowered by crane into the water for an unmanned test (all mechanism releases to be accomplished by underwater divers).
- 6 - TT3 compartment being lowered into water for first underwater test (unmanned).
- 7 - Same as for Photo #6.
- 8 - Same as for Photo #6.
- 9 - Same as for Photo #6.
- 10 - Barge operation for underwater testing of compartment #3 showing underwater divers preparing for ascent.
- 11 - Close-up of underwater testing platform after first underwater test of compartment TT3 showing damaged structural members resulting from premature release of mechanisms at ocean bottom.
- 12 - Close-up of structural members of underwater test platform after first unmanned test of TT3 compartment showing bent condition of structural tiedown bolts for center release mechanism as damaged by premature release at ocean bottom.

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH

FILE: TEXAS TOWERS  
TT-2, TT-3

APR IN : 04074 (23 Dec 61) N/vpd  
INFO : STP-1, OOP-CF-1, OCE-2 (5)  
**INCOMING**

*Mr. H. G. ...*  
*net*

SMB 5 166  
CZCHQB394ZC9JA249  
PP RJEZMO  
DE RBEGUF 061  
ZNP  
P 232318Z  
FM COMEASTAREA  
TO RJEZKN/BOADS  
INFO RJEZSN/TWO SIX AD  
RJVWAL/CDR ADC ENT AFB COL  
RJEZHO/COFS USAF WASH  
RBEXHC/CINCLANTFLT  
RJEZDG/FOUR SIX ZERO FOUR SUP SQ OTIS  
RBEGMH/CCGD ONE  
RBEGUK/COMSTSLANTAREA  
ZEN/CCGD THREE  
RBRJD/COMDT COGARD  
USCG 6RNC  
BT  
UNCLAS

2  
3

TEXAS TOWER SURVEILLANCE

A. YGUR 232135Z NOTAL.

1. CGC ACUSHNET PRESENTLY PROVIDING SURVEILLANCE TOWER 2.
2. CGC OWASCO ASSIGNED SURVEILLANCE TOWER 3. ETA YET UNKNOWN.
3. BOTH VESSELS ARE SUBJECT TO DIVERSION FOR SEARCH AND RESCUE OR OTHER PRESSING COAST GUARD STATUTORY DUTIES IF REQUIRED

BT

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
EXCLUDED MESSAGE

AT 11:00 (23 Dec 41) **IN OBTAINING**

INFO : OOP-CP-1, OCE-2, STP-1, (5)

END B 162

ZCHQA411ZCKNA245

OO RJEZHO

DE RJEZKN 4

ZNR

O 232135Z

FM COMDR BOADS STEWART AFB NY

TO RBEGUH/COMEASTAREA NY

INFO RJEZSN/COMDR 26TH HANCOCK FLD NY

RJVFAL/COMDR ADC-ENT AFB COLO

RJEZHO/CHIEF OF STAFF USAF WASHINGTON DC

RBEXDA/CINNLANTFLT NORFOLK VA

RJEZDB/4604TH SUPRON OTIS AFB MASS

RBEGUM/1ST COAST GUARD DISTRICT BOSTON MASS

RBEGUK/COMSLANTAREA NY

AF GPNC

BT

UNCLAS/BOCCP 1246. SUBJECT: TEXAS TOWER EVACUATION

4-61. REF TELECOM BOADS/COMEASTAREA. REQUEST SURVEILLANCE

TEXAS TOWERS 2 AND 3 DUE EVACUATION FORECAST STORM UNTIL

TOWERS REMANNED AND RADIO COMM ESTABLISHED. EVACUATION

COMPLETED 23/1820Z. WILL KEEP COMEASTAREA ADVISED.

BT NOTE: ADV CY DEL TO OOP-CP (231745R)

23/2214Z DEC RJEZKN

4  
3

1148

AFCJA-15

18 DEC 1961

Texas Tower No. 4 Sinking, January 15, 1961

AFOCE

ATTN: Mr. Harris

1. Attached is a copy of a notice of a motion for an order compelling the Government "to produce and make available for discovery, inspection and copying, the following books, papers, records, documents, reports, plans, letters, memoranda, logs, and photographs".
2. We call your attention specifically to Items 6 and 7 thereof. These two demands make it necessary for us to have specific and definite knowledge of every document which comes within the purview thereof. Will you please prepare an inventory of all your files and forward it as expeditiously as possible but no later than 10 January 1962.
3. A request similar to this is being forwarded to the Air Defense Command.

SIGNED

J. FRANCIS FOWLES, JR.  
Colonel, USAF  
Chief, Tax and Litigation Division  
Office of The Judge Advocate General

1 Atch  
Notice of Motion for Order

U.S. DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

On the matter

of

SI AD. 858

The petition of the United States of America, as owner of the United States Air Force Texas Tower No. 4, a public vessel of the United States, for exoneration from or limitation of liability.

PLAINT TAKEN UP, that upon the annexed affidavit of George J. Angelsen, proctor for the Plaintiffs Alfreda Abbott, et al. SI AD. 858, and on all proceedings had herein, said Plaintiffs will move this Honorable Court, pursuant to rule 34 and rule 30-b, of the rules of practice in admiralty and maritime cases, on the 7th day of December, 1961, at 10:30 A.M., at the motion part of this Court, Room 306, at the Courthouse, Foley Square, Borough of Manhattan, City of New York, for an order compelling the petitioner, the United States of America, to produce and make available for discovery, inspection and copying, the following books, papers, records, documents, reports, plans, letters, memoranda, logs and photographs:

1. The stenographic record of the Court Martial Trial of Colonel William M. Banks, U.S.A.F., which convened at Stewart Air Force Base, Newburgh, New York, on August 22nd, 1961, to the conclusion of the trial, including all exhibits received in evidence, marked for identification and referred to on the trial.

2. The stenographic record of the testimony and proceedings before a Board of Inquiry headed by Major General James C. Johnson and convened under Air Force Regulations, including all exhibits, documentary and other evidence considered by the Board and referred to in testimony before the Board.
3. The stenographic record of the testimony and proceedings before a Board of Inquiry headed by Colonel William C. Green under Article 14 U.C.M.J., including all exhibits, documentary and other evidence considered by the Board and referred to in testimony before the Board.
4. All United States Air Force Regulations pertaining to the operation, management, control, repair, warning and evacuation of Texas Tower No. 4 from the date the United States Air Force accepted said tower, to its collapse and thereafter all regulations the United States Air Force promulgated with respect to Texas Towers No. 2 and 3 to date.
5. United States Air Force Regulations 28 to 34.
6. All books, papers, records, documents, reports, letters, memoranda, plans, sketches and photographs with respect to all surveys, inspections and studies the United States of America, any of its agents or agencies, made of the collapsed and wrecked Texas Tower No. 4, and any such data it received from others, with respect to the collapsed and wrecked Texas Tower No. 4.
7. The report and entire record, including exhibits, of any study, investigation or inquiry made with respect to the collapse of Texas Tower No. 4 by the United States, any of its agents or agencies, other than the report of the Preparedness Investigating Subcommittee of the Committee on Armed Services of the United States Senate.



8. All books, papers, records, documents, reports, plans, sketches, memoranda, photographs, motion pictures, models and other material in the files of the Preparedness Investigating Subcommittee of the Committee on Armed Services of the United States Senate and a transcript of testimony taken at closed hearings before the Committee.

and for such other and further relief as may be just and proper in the premises.

D-TED. New York, New York.  
November 30th, 1961.

Yours, etc.,

GRACE J. ENGBLUM  
MARRY R. ISAAC  
Proctors for Claimants  
Alfreda Abbott et al  
61 AD. 8-61  
Office & Address  
44 Whitehall Street  
New York 4, New York.

TO:  
ROBERT M. MURGENTHAU, Esq.,  
United States Attorney,  
Proctor for petitioners.

LEWIS E. GRIGG, Esq.,  
Attorney in Charge,  
Admiralty & Shipping Section,  
Department of Justice,  
Of Counsel,  
615A U.S. Courthouse,  
Foley Square, New York 7, New York.

TO:  
NEVILLE JARVIS & HILL, Esqs.,  
Proctors for Claimants,  
J. Rich Steers, Inc. and Morrison  
Knudsen Co., Inc.,  
Office & P. O. Address,  
115 Broadway,  
New York 6, New York.

MAXLIM, SPER, HANAN & MCKERNAN, ESQS.,  
Of Counsel.

To:

WHITMAN, HANS W & GULMAN, ESQS.  
Proctors for Claimant  
Moren, Proctor, Muever & Rutledge,  
Office & address,  
522 Fifth Avenue,  
New York 26, New York.

To:

KUZMIR, WYRON, SCHMITT & CHAMBERLY, ESQS.  
Proctors for Claimants, Miraceth Gudnik, et al  
AL AD, ESQ.  
Office & address,  
12 East 41st Street,  
New York 17, New York.

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE

E

INCOMING

AF IN : 55856 (12 Dec 62)

D/pms

Page 1 of 2

ACTION: OCE-2

INFO : OOP-1, OOP-CP-2 (6)

SMB B 015

CHOB322ZCWDJ158

MM RUEAHQ

DE RUMGAL 49

ZNR

M 121820Z

M/R: Action taken by ltr to  
ADC/wrtn 16 Jan 63  
N.C.H.

*Mr. Haskydon*

FM HQ ADC ENT AFB COLO

TO RUEAHQ/CSAF

INFO RUEASM/26AIRDIV HANCOCK FLD NY

RUEAKM/BOADS STEWART AFB NY

RUEADG/551AEWCOMWG OTIS AFB MASS

RUEADG/4604SPTSQ OTIS AFB MASS

BT

UNCLAS ADIFS 43124.

ACTION USAF (AFCE-E) INFO 26AIRDIV (IDC) BOADS

551 AEWCOMWG (BCE) 4604SPTSQ (IT). TEXAS TOWER SURVIVAL

COMPARTMENTS - SALVAGE PLAN. THIS MESSAGE IN THREE

PARTS. PART 1 - LETTER THIS HQ, ADIFS, 27 NOV 62.

SUBJECT AS ABOVE, FORWARDED A SALVAGE PLAN TO YOUR HQ

FOR COORDINATION WITH CHIEF NAVAL OPERATIONS, APPROVAL

AND INSTRUCTIONS FOR DISTRIBUTION. IT WAS UNDERSTOOD

IN TELECON WITH YOUR HQ 11 DECEMBER THAT THIS PLAN HAS

BEEN REFERRED TO A NAVY SUB-COMMAND AT NEW LONDON, CONN.

27193

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE

INCOMING

AF IN : 55856 (12 Dec 62)

Page 2 of 2

PAGE TWO RUMGAL 49

FOR REVIEW AND APPROVAL. PART II - BECAUSE OF SERIOUS OCEAN BOTTOM SCOUR AT TEXAS TOWERS AND REDUCTION TO A 7-MAN CREW ON EACH AS DIRECTED BY YOUR HQ, THE SURVIVAL COMPARTMENTS ARE THE FINAL LIFE-SAVING FEATURE FOR SAFETY OF THESE MEN. IT IS IMPERATIVE DURING THIS CRITICAL PERIOD THAT PREPAREDNESS FOR NAVY RESCUE FROM THESE COMPARTMENTS BE EFFECTIVE. IN THE MEANTIME, UNAPPROVED SALVAGE PLANS AS SUBMITTED WITH REFERENCED LETTER ARE BEING FURNISHED BY SUPSHIPS, GROTON, CONN. TO NAVY ASR SHIPS AT NEW LONDON NAVY BASES. PART III - REQUEST NAVY APPROVAL OR CHANGE REQUIREMENTS AND DISTRIBUTION INSTRUCTIONS BE FURNISHED EARLIEST POSSIBLE DATE.

BT

12/1838Z DEC RUMGAL

AF IN : 31628 (12 Dec 61)  
DEPARTMENT OF THE AIR FORCE  
MESSAGE BRANCH  
CLASSIFIED MESSAGE F/scc  
INFO : OCE-2, OOP-2, OOP-CP-1 O M(6)N G

*Mr. Hodgson*  
*from*  
*EV*  
*FILE: TEXAS TOWERS*  
*201*

SMB A 116  
CZCHQC111ZCBA215  
PP RJEZHQ  
DE RBEGUF 045  
ZNR  
P 121715Z  
FM COMEASTAREA  
TO RBEGMH/CCGD ONE  
ZEN/CCGD THREE  
INFO RJEZKN/BOADS  
RJEZDG/FOUR SIX ZERO FOUR SUQRON OTIS  
RJEZSF/TWO SIX AIR DIV  
RBEGUH/COMEASTSEAFRON  
RBKHC/CINCLANTFLT  
RJWFAL/COMDR ADC ENT AFB  
RJEZYQ/COFSSUSAF  
RBEGUK/COMSTSLANTAREA  
RBEGMH/USKGC BARATAREA  
ZEN/USK: 63-TON  
USCG GRNC  
BT  
UNCLAS  
SURVEILLANCE TEXAS TOWERS

14497

DEPARTMENT OF THE AIR FORCE  
MESSAGE BRANCH  
INCOMING

AF IN : 31628 (12 Dec 61)

Page 2 of 2

A. MY 121628Z NOTAL

1. CHOP CURRENTLY AVAILABLE DISTRICT SAR VESSEL TO COMEASZAREA FOR DUTY SURVEILLANCE TEXAS TOWERS. SICGD VESSEL PROCEED TT NR 2 AND JCGD VESSEL PROCEED TT NR 3 FOR SURVEILLANCE TO PREVENT UNAUTHORIZED BOARDING OR TAMPERING.D

2. THESE SAR VESSELS WILL BE AVAILABLE FOR DIVERSION TO SAR OR OTHER STATUTORY DUTIES AND CAN BE CHOPPED BACK TO DISTRICT FOR THIS PURPOSE IF SITUATION WARRANTS.

3. ABOVE ACTION TAKEN ASSINTERUM MEASURE PENDING REPLY TO REF A.

BT

12/1715Z

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE  
AF IN : 31702 (12 Dec 61)  
INFO : OCE-2, GCP-2, ODP-1, N-C O M M O N G

F/sec

*EV*  
*E/A*  
*M*

*FILE: TEXAS TOWERS*  
*rest*  
*+*

SMB B 171  
CZCH0A0869ZCSOB989  
OO RJEZHQ  
ZNR ZFH1  
SOB847ZCZBJB234  
OO JEZKN RJEZDG RJEZHU  
DE RBEGUK 028  
ZNR  
O 121733Z  
FM ADMINS COMSTSLANTAREA  
TO RBEPYN/COMSTS  
INFO RJWFAL/HU ADC  
RJEZKN/BOAD  
RJEZDG/4 04TH SUPP SODRN, OTIS AFB  
RJEZHQ/ U USAF  
MSTS. GRNC  
BT  
UNCLAS  
TEXAS TOWER EVACUATION  
A. MY 062144Z  
B. COMEASTAREA 120911Z  
1. MRIFAK EVACUATED 55 PERS TT3 AT 720917Z. REDBUD EVACUATED  
98 PERS TT2 AT 127030Z. NO IERS REMAINING AT EITHER TOWER. BOTH  
SHIPS REMAINING VICINITY TOWERS UNTIL RELIEVED BY SURVEILLANCE  
SHIPS.  
2. AT CONFERENCE REPORTED REF (A) ORIGINATOR AGREED THAT AFTER  
TEXAS TOWER EVACUATION MSTS SHIPS WOULD AWAIT SURVEILLANCE SHIPXS

*1403*

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE

I N C O M I N G

AF IN : 31702 (12 Dec 61)

Page 2 of 2

PAGE TWO RBEGUK 028

ABOUTBKVV HOURS SUBJECT TO MASTERS RESPONSIBILITY FOR SAFETY SHIP  
AND PERS. AIR FORCE WAS TO ARRANGE FOR TOWER SURVEILLANCE BY  
OTHER THAN MSTs EVACUATION SHIPS. COAST GUARD REPORTS CANNOT DO  
IN REF B.

3. )LIMITS OF SMALL CARGO SHIP HABITABILITY AND SEA CONDITIONS MAY  
REQUIRE SHIPS PROCEED IORT AT ANY TIME DEEMED NECESSARY BY SHIP  
MASTER AND THIS OPERATIONAL COMD TO AVOID UNNECESSARY  
HAZARDING PEOPLE AND SHIPS. THIS NECESSITATES EARLY RESOLUTION  
SURVEILLANCE EMPTY TOWERS EMHASIZED NOW BS WEATHER FORE-CAST  
THAT AREA

BT



DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE

FILE: TEXAS TOWERS

*mc*  
*E/A* *E*  
*M*

INCOMING

STB C 001

ZONOC475ZCZBJBAGP

FM RJEZNC

DE RREPYN 039

ZNP

M 131950Z

FM ADMINO COMSTS

TO RJEZGN/25 ABF HANCOCK FLD, SYRACUSE, NY

INFO RJEZNC/COFS USAF

RJWFAL/ADC ENT AFB COLO

RREQUY/COMSTSLANTAREA

RJEZYN/BOADS STEVAPT AFB NY

MSTS CRNC

BT

UNCLAS.

FOR COFS USAF AFSTP-RA AND AFABF

FUNDING FOR TEXAS TOWER VESSELS OPERATED BY MSTS

A. ADC ENT AFB COLO ADABF-0 57024 MSG 072325Z DEC 61

B. HQ BOSTON ADS STEVAPT AFB NY B00DC 0838 MSG 072015Z DEC 61

1. REF A REQUESTS ESTIMATED MSTS COSTS BY QUARTER FY 62 FOR  
ADDITIONAL TEXAS TOWER VESSELS WHICH ARE

A. REIMBURSEMENTS FOR: FS 219 ACTIVATION/MODIFICATION \$266,000;

FS 219 INACTIVATE TO RRS AFTER 30 APR 62 \$25,000; REDBUD MODIFICATIONS

\$82,000; NEW BEDFORD MODIFICATIONS \$50,000.

14580

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE

i N C O M I N G

AF IN : 33510 (13 Dec 61)

page 2 of 2

PAGE TWO BBEPYN 839

B. PER DIEM BILLINGS FOR: REDBUD AT \$1,400 25 NOV 61 TO 30 APR 62 \$219,800; MIRFAK AT \$2,110 28 NOV 61 TO 31 JAN 62 \$137,150; FS 219 AT \$1,400 1 FEB 62 TO 30 APR 62 \$124,600; NEW BEDFORD EXCLUDED AS OPERATING FUNDS HAVE ALREADY BEEN ALLOCATED PER REF B. TOTAL ABOVE ESTIMATE IS \$922,550, DISTRIBUTED \$496,240 2ND QTR, \$292,310 3RD QTR AND \$114,000 4TH QTR. REIMBURSEMENTS ARE ESTIMATED; USAF WILL BE BILLED ON ACTUAL COST BASIS. DATE FOR REPLACING MIRFAK WITH FS 219 IS ESTIMATED.

C. FOR PLANNING PURPOSES ESTIMATED FY 63 COST OF OPERATING REDBUD AND FS 219 1 OCT 62 TO 30 APR 63 INCLUDING ACTIVATION AND INACTIVATION FS 219 IS \$675,000.

BT

13/1950Z

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE  
INCOMING

61553

1E  
M  
~~XXXXXXXXXX~~

E/A

AF IN : 28360 (8 Dec 61) G/doc  
INFO : STP-1, OCE-2, OOP-2, OOP-CP-1

-7-

FILE: TEXAS TOWERS  
~~net~~

SMB A 143

CZCHQB975ZCRJA342

PP RJEZHQ

DE RBEGUX 037

ZNR

P 081943Z

FM ADMINO COMSTSLANTAREA

*Commanding Officer Military Sea Transportation Service Atlantic Area*

*M/R This message refers to remodeling work involved to outfit the claudy ships used for evacuation of towers.*

*Info obtained from*

*Ernest H Newman - OCE M*

*13 Dec 61*

TO RJEZKN/HQ BOSTON ADS STEWART AFB NYK

INFO RJWFAL/ADC ENT AFB COLO SPGS COLO

RJEZDG/4604 SUPP SQDRN, OTIS AFB

RJEZHQ/HQ USAF WASHDC

RBEPYN/COMSTS

RJEZSN/26AIR DIV HANCOX FLD NY

RJEZDG/551 AEMCON WG OTIS AFB

BT

UNCLAS

TEXAS TOWERS EVACUATION CONFERENCE

A. YOUR BOODC 0838. 072015Z

B. TELCON KYLE MSLANT - CDR GILLIAN BOADS

1. CONCUR REF A EXCEPT REQUEST CHANGE SENTENCE "CONTRACTUAL APPROVALS OF PLANS AND CHANGE ORDERS TO BE APPROVED BY PROCUREMENT AGENCIES TO BE NAMED AND DESIGNATED BY HQ ADC" TO READ "

1/4/56

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE

INCOMING

AF IN : 28360 (8 Dec 61)

Page 2 of 2

CONTRACTUAL APPROVAL PLANS AND CHANGE ORDERS IS RESPONSIBILITY  
OF CAPT. L. B. RAMSEY, USN, CONTRACTING OFFICE COMSTSLANTAREA  
WITHIN FUNDING LIMITATIONS ESTABLISHED BY AIR FORCE WITH COMSTS.  
RECOMMEND ANY ADDITIONAL AIR FORCE REQUIREMENTS AND DESIRED  
CHANGES BE COMMUNICATED TO CAPT RAMSEY BY CO 4604TH SUPP SODRN,  
OTIS AFB, MASS PRIOR TO 15 DEC TO MEET SCHEDULED BID OPENING  
22 DEC.

2. CMDR BOADS CONCURS PER ABOVE CHANGE REF B

BT

08/1930Z

NOTE: 838 IS AF IN : 27017 (7 Dec 61)

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
INFLIGHT MESSAGE

FILE: TEXAS TOWERS

*non*

INCOMING

SMB B 238

ZCHQC185ZCKNA685

PP RJEZHQ

AF IN : 27017 (7 Dec 61) G/c

DE RJEZKN 72

INFO : STP-1, OCE-2, OOP-2, OOP-CP-1 (7)

ZNR

P 072015Z

FM HQ BOSTON ADS STEWART AFB NY

TO RJWFAL/ADC ENT AFB COLO SPGS COLO

INFO RJEZDG/4604SPTRON OTIS AFB MASS

RJEZHQ/HQ USAF WASH DC

RBEPYN/COMSTS WASH DC

RBEGUK/COMSTSLANTAREA BROOKLYN NY

RJEZSN/26AIRDIV HANCOCK FLD NY

RJEZDG/551AEWCON WG OTIS AFB MASS

AFSGRNC

BT

UNCLAS BOODC 0838.

UNCLAS COMSTSLANTAREA 062144Z OF DEC REFERS SUBJ TEXAS  
TOWER EVACUATION CONFERENCE. THIS HQS CONCURS THE AGREE-  
MENTS REACHED AS STATED IN REFERENCED MSG WITH THE  
FOLLOWING EXCEPTION. RE PARA 7, THE AUTHORIZATION OF  
APPROVAL OF PLANS AND CHANGES IS NOT EXPRESSED IN TERMS OF  
ACTUAL TWO PARTY UNDERSTANDING AND IS RECOMMENDED TO BE  
CLARIFIED AS FOLLOWS: HQ ADC REPRESENTATIVE AUTHORIZED  
4604SPTRON TO ORIGINATE AND APPROVE FOR ADC RECOMMEND-  
ED CHANGES TO PLANS RELATIVE TO HABITABILITY HOTEL FACILITIES.

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE  
INCOMING

AF IN : 27017 (7 Dec 61)

page 2 of 2

PAGE TWO RJEZKN 72

CONTRACTUAL APPROVALS OF PLANS AND CHANGE ORDERS TO BE APPROVED BY PROCUREMENT AGENCIES TO BE NAMED AND DESIGNATED BY HQ ADC. NEW SUBJECT. FOR INFORMATION. THE COST OF MANNING THE EVACUATION SHIPS ON STATIONS INCLUDING INITIAL OUTFITTING AND OPERATIONAL COSTS WAS ESTABLISHED AT THE CONFERENCE IN APPROXIMATE FIGURES AS STATED HERIN. COSTS OF OUTFITTING AND PLACING ON STATION INCLUDING THE FIRST DAY OPERATIONS INCLUDES MODIFICATION OF THE REDBUD, RECOMMISSIONING AND OUTFITTING OF THE FS219 AND MODIFICATIONS TO THE USNS NEW BEDFORD TOTALED \$396,000. THE COST OF OPERATION OF THE TWO ADDITIONAL SHIPS APPROXIMATES 2800 DOLLARS PER DAY. THIS DOES NOT INCLUDE THE USNS NEW BEDFORD AS OPERATING COSTS FUNDS HAVE ALREADY BEEN ALLOCATED FOR THIS PURPOSE. THE TARGET DATE FOR COMPLETION OF REFITTING, SEA TRIALS AND PROCEEDING TO STATION FOR FS 219 WAS GIVEN AS ABOUT 1 FEB 62, IT WAS FURTHER INDICATED THAT MODIFICATIONS TO REDBUD MAY IN PART BE PERFORMED BY SHIPS COMPANY WHILE ON STATION. ALL COSTS ABOVE ARE ESTIMATED WITH UNDERSTANDING THAT SHOULD COSTS BE LESS CHARGES TO USAF WOULD SO REFLECT THESE LESSER COSTS.

BT

07/2036Z DEC RJEZKN

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS	
1	TO Mr Hodgdon <i>self</i> AFOCE - EA	INITIALS	CIRCULATE
		DATE	COORDINATION
2			FILE
			INFORMATION
3			NOTE AND RETURN
			PER CON- SULTATION
4			SEE ME
			SIGNATURE
REMARKS <i>attached is copy of TWX which you requested for your records</i>			
FROM <i>Newman</i> AFOCE MS		DATE <i>13 Dec 61</i>	PHONE <i>Y-69753</i>

DD FORM 95  
1 OCT 60

Replaces DD Form 94, 1 Feb 50 and DD Form 95,  
1 Feb 50 which will be used until exhausted.

GPO: 1960-O-560294

FILE: TEXAS TOWER 2

AFOCE-EA/Mr. Hodgdon/lhg/77474/7 Dec 61

AFOCE-EA

Request for Disposal Approval - Texas #4

8 31 1961

AFJAG (Lt Colonel Yandala)

1. The attached copies of correspondence between this headquarters and Headquarters ADC are being forwarded to your office as information on the status of action relative to the Disposal Approval for Texas Tower #4.
2. It is understood that nothing can be done relative to disposing of Texas Tower #4 until permission is granted by the court. However, in order to prevent any premature action by uniformed individuals, it is recommended that your office either hold these papers until such time as approval can be given to proceed with the proposed disposal action or return same to AFOCE-R with the appropriate instructions as to the action to be taken or permitted.

*BJ*

G. W. HARRIS  
Deputy Chief, Engineering Division  
Directorate of Naval Engineering, DCS/O

Atch  
Ltr fr AFOCE-ED w/2 atchs

✓ AFOCE-EA Coord  
AFOCE-EA Stybk  
AFOCE-E R/File  
AFOCE-R  
551st AEW Con Wg  
26th Air Div  
Hq ADC

COORD: AFOCE-EA AFOCE-E AFOCE-R

*Samford*  
H. G. HODGDON *Red*

*CHH*



AFOCE-RD

Request for Disposal Approval - Texas Tower #1

28 NOV 1961

AFOCE-RA

Reference is made to the attached copies of correspondence from Hq ADC and TWX from this Hq regarding the disposal of the remaining portion of Texas Tower #1. Your comments in connection with this disposal are requested.

2 Atch

1. Cy 2nd Ind fr ADC, 20 Nov 61  
w/Bsc Ltr, 1st Ind & 1 Atch
2. Cy TWX AFOCE-RD 71813, 19 Oct 61

ELMO J. CECONI  
Directorate of Civil Engineering, DCS/O

Hold. 30 Nov 61  
Suggestion Texas was  
to call upon the Navy (1st Marine)  
to be on call for the  
service? W.H.

FILE: TEXAS TOWER

*HCW*  
11

MEMORANDUM FOR RECORD

30 November 1961

Resume of Telephone Call from Colonel Schuyler, 30 November 1961

SUBJECT: Texas Towers

1. Colonel Schuyler advised that they are now in meetings at ADC, working out an operations plan in regard to the evacuation and reoccupancy of Texas Towers, in accordance with the 50 knot wind criteria, et al.
2. He further advised that there is a requirement for a qualified structural engineer to be available on call to go in on the first helicopter during reoccupancy activities. This qualified engineer is to make a visual survey prior to helicopter landing followed by more detailed structural surveys after landing to determine extent of any damage and the structural stability of the tower following the storm.
3. Colonel Schuyler reports that the support base and their subordinate command does not have engineers sufficiently qualified or in the numbers required to accomplish this requirement. He therefore proposes as a solution that a D&F be obtained to cover an AE contract for the furnishing of the needed engineers on a call basis. He does not think that this is the only method of providing this capability but he believes that perhaps this is the best and most reliable method. While we are considering the pros and cons of this problem he is preparing a message to this hq recommending the action.
4. In the meantime, it is appropriate that we evaluate his proposal, considering other means that we might determine, with the intent of being prepared to take rapid action on a proposal after we receive his message.
5. Mr. Harris will monitor - copies to EA & EE for support action.

PAUL W. STEPHENS  
Colonel, United States Air Force  
Chief, Engineering Division  
Directorate of Civil Engineering, DCS/O

*EA 24*

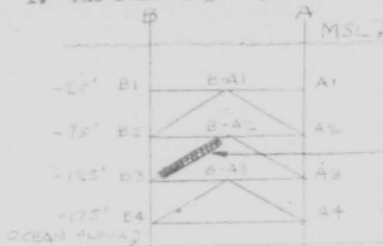
30 November 1961

AFOCE-EA

MEMORANDUM FOR RECORD

SUBJECT: Telecon with Mr. J. R. Ayers, BuDocks - RE: Verification of Location of the Salvaged Braces from TI-4

1. The following diagram:



Marking inside of the tube brace was noted as A2 - 3B. The brace to which these markings would apply is shown in red. The pin connection would be at the B-3 end.

2. This information was relayed to Mr. C. W. Harris this date.

*Nat C. Hodgdon*  
 NAT C. HODGDON  
 AFOCE-EA

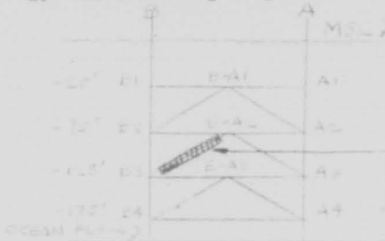
AFOCE-EA

30 November 1961

MEMORANDUM FOR RECORD

SUBJECT: Telecon with Mr. J. R. Ayers, DuDocks - RE: Verification of Location of the Salvaged Braces from TT-4

1. The following diagram:



Marking inside of the tube brace was noted as A2 - 3B. The brace to which these markings would apply is shown in red. The pin connection would be at the B-3 end.

2. This information was relayed to Mr. C. W. Harris this date.

*Nat C. Hodgdon*  
 NAT C. HODGDON  
 AFOCE-EA

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, CONCURRENCES, OR SIMIL.		APPROVALS, ACTIONS
1	NAME OR TITLE AFOCE-EA ORGANIZATION AND LOCATION AFOCE-EE	INITIALS <i>R</i>	DATE	<input checked="" type="checkbox"/> CIRCULATE
2	AFOCE-M <i>Cot. Stalioff</i> <i>by phone 10/11</i>			<input type="checkbox"/> COORDINATION
3	AFOOP <i>J. E. Hanson</i> <i>by phone 10/11</i>			<input type="checkbox"/> FILE
4	AFOCE-E			<input type="checkbox"/> INFORMATION
				<input type="checkbox"/> NECESSARY ACTION
				<input type="checkbox"/> NOTE AND RETURN
				<input type="checkbox"/> SEE ME
				<input type="checkbox"/> SIGNATURE
REMARKS  Page 2 rewrt'n 21 Nov. Coords again procured.				
FROM NAME OR TITLE N. C. Hodgdon			DATE 16 Oct 61	
ORGANIZATION AND LOCATION AFOCE-EA			TELEPHONE 77474	

FORM 95 1 FEB 50  
Replaces DA AGO Form 895, 1 Apr 49, and AFHQ Form 12, 30 Nov 47, which may be used. GPO 1961 O-479884



JOINT MESSAGEFORM		SECURITY CLASSIFICATION							
		UNCLASSIFIED							
SPACE BELOW RESERVED FOR COMMUNICATION CENTER									
22 NOV 61 22 20m VJSCAF									
PRECEDENCE	TYPE MSG (Check)		ACCOUNTING SYMBOL						
ACTION ROUTINE	BOOK	MULTI	SINGLE						
INFO ROUTINE		X							
FROM:	HQ USAF		ADIF'S 49432 1s: AF IN: 26016 (12 Oct 61)						
TO:	ADC ENT AFB COLO		SPECIAL INSTRUCTIONS						
INFO:	26 AIRDIV HANCOCK FLD NY								
	BOARDS STEWART AFB NY 551 AEMCONWG OTIS AFB MASS								
UNCLAS AFOCE-EA	80704								
<p>Your ADIF'S 49432. Subject: Texas Towers Nos. 2 and 3. BuDocks letter 3 Oct 61 relative to its review of Investigation Report by Moran, Proctor, Mueser and Rutledge on TT-2 and TT-3 June 61, indicates concurrence by other hydrographic institutions with Pierson Neumann, Wind and Wave Studies as noted in the report. Therefore BuDocks according to its recommendation is preparing a program of further instrumentation and simulated wave experiment in a model test basin in order to check the validity of the report findings and verify specific criteria to be followed should extended use of the towers be determined an operational necessity. BuDocks is also preparing an estimate of time and cost of this program to be</p>			<p>Coord AFOCE-EA Stbk AFOCE-EA R/File AFOCE AFOCE-M <del>AF</del> AFOOP-DE (L/Col Hansen) BuDocks - Eng Div (Mr. J.R. Ayers)</p>						
			<table border="1"> <tr> <td>DATE</td> <td>TIME</td> </tr> <tr> <td>22<sup>TH</sup></td> <td>1145</td> </tr> <tr> <td>NOV</td> <td>1961</td> </tr> </table>	DATE	TIME	22 <sup>TH</sup>	1145	NOV	1961
DATE	TIME								
22 <sup>TH</sup>	1145								
NOV	1961								
SYMBOL		SIGNATURE							
AFOCE-EA									
TYPED NAME AND TITLE (Signature, if required)		TYPED (or stamped) NAME AND TITLE							
MAY C. HODGDON		C. W. HANSEN							
PHONE	PAGE NO.	NR. OF PAGES							
7742A	1	2							
SECURITY CLASSIFICATION									
UNCLASSIFIED									

DD FORM 173 1 MAY 56

REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED



JOINT MESSAGEFORM - CONTINUATION SHEET		SECURITY CLASSIFICATION UNCLASSIFIED	
HQ USAF			
<p>submitted to this Hq for further consideration. No action will be taken to start instrumentation tests until operational life of the towers has been firmly established and will justify time and cost required for such testing. BuDocks considers towers now comply with original wind and wave design criteria. Cited report stresses primarily the possible wave heights that could be produced by extra tropical hurricane storms generating over deep water and converging on the towers. BuDocks has not conducted any further studies either in-house or by A/E firm to apply the Pierson-Neumann new wind and wave criteria to the structural design of TT-2 and TT-3 and TT-4. Relative to TT-4 further effort along this line is not considered of sufficient value from an engineering standpoint and expenditure of time and money. Relative to TT-2 and TT-3 it is not justified until operational tenure of the towers is determined to be of sufficient duration to warrant the time and costs involved in the study as well as new design and construction. Future tenure of the tower should be resolved by competent authority at earliest possible date.</p>		80704	
AFOCE-EA <i>Col Winters</i> 22 Nov 61	AFOCE-EE <i>Smith</i>	AFOCE-M <i>Col N Steieroff</i> by phone 22 Nov 61 <i>WCA</i>	AFOOP-DE <i>1st Col Paul Hansen</i> by phone 22 Nov 61 <i>WCA</i>
<i>McGregor</i> N. C. MCGREGOR 132a 22 Nov 61	<i>WCA</i>	<i>Bu Docks</i> Mr. TR Ayers, Eng Div by phone 21 Nov 61 <i>WCA</i>	<i>WCA</i>
SYMBOL AFOCE-EA	NO. OF PAGES 2	SECURITY CLASSIFICATION UNCLASSIFIED	INITIALS

DD FORM 173-1  
MAY 58

JOINT MESSAGEFORM				SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER					
PRECEDENCE		TYPE MEG (Check)		ACCOUNTING SYMBOL	ADIF OR REFERS TO
<del>ROUTINE</del> ROUTINE		REG	MULTI	AF	ADIFS 49432 1st
INFO		X			AF IN: 26016
<del>ROUTINE</del>					(12 Oct 61)
FROM: HQ USAF					SPECIAL INSTRUCTIONS
TO: ADC ENT AFB COLO					
INFO: 26 AIRDIV HANCOCK FLD NY					
BOADS STEWART AFB NY					
551 AEMCONWG OTIS AFB MASS					
UNCLAS FROM AFOCE-EA M-40-61					
<p>Your ADIFS 49432. Subject: Texas Towers Nos. 2 and 3. BuDocks review dated 2 Oct 61 of Investigation Report TT-2 and TT-3 June 61, indicates agreement with Pierson-Neumann, Wind and Wave Studies by other hydrographic institutions. Therefore BuDocks is preparing a program of further instrumentation and simulated wave tests in the model basin to check the report findings and verify specific criteria to be followed should extended use of the towers be determined an operational necessity. BuDocks is preparing an estimate of time and cost of this program to be submitted to this Hqs. No action will be taken to start instrumentation tests until</p>					
					AFOCE-EA Coord AFOCE-EA Stbk AFOCE R/File
					DATE 21 16 1130 MONTH NOV YEAR OCT 1961
SYMBOL <b>AFOCE-EA</b> TYPED NAME AND TITLE (Signature, if required)				SIGNATURE <i>Revised 22 Nov 61</i>	
<b>NAT C. HODGSON</b>				TYPED (OR HANDWRITEN) NAME AND TITLE	
PHONE		PAGE NR.	NR. OF PAGES		
77474		1	2		
SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>					

DD FORM 173 1 MAY 58

REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

UNCLASSIFIED

FROM:

HQ USAF

operational life of the towers has been firmly established and will justify time and cost required for such testing. BuDocks considers towers now comply with original wind and wave design criteria. Cited report stresses primarily the possible wave heights that could be produced by extra tropical hurricane storms generating over deep water and converging on the towers. BuDocks has not conducted any further studies either in-house or by A/E firm to apply the Pierson-Neumann new wind and wave criteria to the structural design of TT-2 and TT-3 and TT-4. Further effort along this line is not considered advisable at this time in the case of TT-4 nor justified for TT-2 and TT-3 unless operational tenure of the towers will be of sufficient duration to warrant the time and costs involved in new design and construction. *Review 22 Nov*

M/P: Nov 21 61. Mr. James Ayers, BuDocks, was contacted by phone. He advised that a program of instrumentation is being prepared for submission to Hq USAF together with time and costs involved. He also advised that the 1st Naval District did not take any action on applying the Pierson-Neumann wind and wave criteria to TT-2 and TT-3 or to the former TT-4 and that BuDocks does not expect to make any further studies along this line unless the Air Force finds it necessary for operation requirements. N.C.H./21 Nov 61

Page 2 rewrtn 21 Nov 61. Coordinators again contacted for their approval of the additional data included.

N.C.H./21 Nov 61

AFOCE-EA

AFOCE-EE

AFOCE-M

AFOOP-DE

AFOCE-E

SYMBOL

AFOCE-EA

~~XXXXXXXXXXXX~~

PAGE

2

NO. OF

2

SECURITY CLASSIFICATION

UNCLASSIFIED

INITIALS

DD FORM 173-1

JOINT MESSAGEFORM - CONTINUATION SHEET		SECURITY CLASSIFICATION UNCLASSIFIED
FROM: HQ USAF		
<p>operational life of the towers has been firmly established and will justify time and cost required for such testing. BuDocks considers towers now comply with original wind and wave design criteria.</p> <p><i>Orted</i> Report stresses primarily the possible wave heights that could be produced by extra<sup>5000</sup>tropical hurricane storms generating over deep <sup>4500</sup>water and converging on the towers.</p> <p style="text-align: center;"><i>Review 21 Nov</i></p>		
AFOCE-BA <i>Cal Walters</i> 16 Oct 61 ARTHUR G. WITLERS Colonel USAF <i>Dr. Bond</i> <i>N. C. Houghton</i> N. C. HOUGHTON 10/16 - 1400 hrs.	AFOCE-EE <i>Tellie</i>	AFOCE-M Col. N. Stalinski by phone 10/16 <i>act</i>
AFOCP-DE Lt Hanson by phone 10/16 <i>act</i>	AFOCE-B <i>off</i>	
<p>M/R: This page rewrtn. Coordinators contacted for their approval of additional data. N.C.H./21 Nov 61</p>		
SYMBOL AFOCE-BA	PAGE NO. 2	NO. OF PAGES 2
SECURITY CLASSIFICATION UNCLASSIFIED		INITIALS

AFOCE-EA

22 November 1961

MEMORANDUM FOR RECORD

SUBJECT: Texas Towers - Structural Analysis TT-2, TT-3 and TT-4

1. Telecon with Mr. James Ayers this date indicates the following relative to subject matter:

a. TWX 551 IDC, 14 Jun 61, to 1st Naval District, Message #6-386 was not answered by 1st Naval District. It was referred to Chief of BuDocks because it called for structural analysis of TT-4 which the contract on TT-2 and TT-3 did not cover. Such analysis of TT-4 would have to be an extension to the contract. Copy of the transmittal letter to BuDocks was furnished the 551 AEW Con Wg.

b. The structural analysis of TT-4 was not agreed to by BuDocks in its letter to 1st Naval District, 29 June 1961. BuDocks requested that the message be forwarded to BuDocks for action.

2. BuDocks has done nothing further on this matter. It is awaiting future decision on the operational tenure of the towers.

NAT C. HODGSON  
AFOCE-EA

AFOCE EA

✓  
Nov 20 1954

MEMORANDUM FOR ASSISTANT SECRETARY OF THE NAVY  
SPECIAL ASSISTANT FOR FACILITIES

SUBJECT: Schedule of Construction for Texas Towers

1. Reference is made to a discussion held in my office on 23 November 1954 with Admiral J. E. Perry of the Navy concerning the schedule of construction for Texas Towers.

2. By letter of 22 October 1954 on this subject, the Air Force requested, as an immediate urgent requirement, the construction of two (2) towers during CY 1955. Following a discussion of the Air Force request for Texas Tower type facilities during CY 1955 and anticipated design and construction difficulties, enumerated by Bureau of Naval Facilities representatives, it was concluded to be in the best interest of the service and agreed by those present (subject to telephone confirmation by Department of the Navy which was received on 24 November 1954) that:

a. The Air Force accepts a design and construction schedule which will provide one (1) completed facility in CY 1955 with four (4) additional towers to be completed in CY 1956.

b. The Air Force recognizes the difficulties that may arise in maintaining this schedule in an unsmooth construction development field, however, the Air Force is prepared to accept the additional cost incurred in attempting to maintain this priority schedule.

3. A construction directive covering the construction of this facility will be issued prior to 3 December 1954. The Air Force will procure and install all electrical and communications equipment, less generators. Generators will be procured by the Air Force and installed by the construction agency. All other construction for the facility will be provided by the construction agency.

*Applicable?*

AFMAG  
*Col Conn*

AFDP-CP

AFMME  
AFMME  
AFMME-CP

Command  
Staff/Task

2558-54

AFOCE EA

16 November 1961

Ltr: AFOCE to BuDocks - 5 Sep 61

Subject: Wind and Wave Conditions at Texas Towers Locations on  
Georges Bank and Nantucket Shoals (U)

This is CONFIDENTIAL paper.

"The height of waves to be expected should be resolved as soon as  
possible."  
(See BuDocks letter 3 Aug 61, same subject)

-----  
1st Ind AFOCE-EA to BuDocks - 12 Oct 61

Ltr, BuDocks, D/N (E 2029/JRA;bmy) 3 Oct 61, Review of Final Report on  
Examinations of Texas Towers No. 2 and No. 3

Program of Instrumentation - Hq USAF requested to be advised as to  
the extent of time and cost that would be involved.

(No reply to date - Informal estimates given verbally to Mr. C. W.  
Harris by Mr. Ayers)

-----  
Ltr: AFOCE-EA to BuDocks - 31 Oct 61

Subject: Texas Towers Nos. 2 and 3 - Evacuation Computation Graph

Graph preparation suggested by Mr. Ayers at 18 Oct 61 meeting  
at ADC.

Hq USAF requested to be advised if such a graph is to be  
prepared and when it will be available.

(No answer to date)

AFOCE-EA

16 November 1961

TWX  
551 AEWCONWG OTIS AFB MASS

TO: 1st Naval District Boston Mass  
551 IDC 6-386 (Info copy furnished Hq USAF - Not BuDocks)

Subject: Structural Investigation, by A-E contract, Texas Towers

Quote ADC

"Existing A/E contract for applying new wind and wave data to design calculations for TT-2 and TT-3 should be changed per Hq USAF request to include the following studies for TT-4:

- (1) Apply new wind and wave criteria developed since 16 Feb 61 to structural stability as designed and constructed.
- (2) Determine if original criteria was adequate to take care of new criteria.
- (3) Coordinate new criteria against wind-wave records to determine if actual conditions exceeded new criteria or if safety factors in present design were exceeded.
- (4) Further study into structural design based on new criteria.

It being assumed that above analyses will be performed within BuDocks Organization.

NOTE: No record of structural analysis along these lines having ever been furnished this Hq or the Air Force by the Navy.



Telecon with Mr. Schuyler, Norton, Ext 25204/25209, 16 November 1961, 1220 hours

Wishes your coordination on a letter to AFLC (MCMTC) on which you have had a conversation with him previously.

1. List references of correspondence with 86 AD - letter 11 May 61 G&R 1D2a Missile Barrier Ranges \*\*\*\*\*
2. The potential safety hazard presented to populated communities and industrial area by range motors is increasing continually as thrust and ranges are multiplied. This is an area of concern to this Hqs. The specific case set forth in above referenced correspondence points up one portion of the general problem.
3. Attached extract from initial review and analysis of reference correspondence is furnished for general information and guidance for statement of immediate problem. Request initial explosive engineering studies of barriers and possibilities be undertaken to (a) To provide as much explosive safety and technical assistance to the 86 Air Division in connection with the solution or resolution of their stated safety requirements; (b) Provide an up-to-date review of general problem area upon basis of current developments.
4. The foregoing studies should be confined to explosive engineering considerations without extensive testing or full scale engineering projects of type required in designs for Air Force wide use.
5. Request advice of action taken and final result of investigation be furnished this Hqs. Consideration will be given to results of the investigation in event areas of sufficient promise are revealed in either the G&R or the overall range safety problems.

Copy for AFOCE-EA will sent of the finalized letter. The attachment does not apply in any way to engineering solely explosives.

16 November 1961

AFOCE-BA

TWI  
551 AEWCOMG OTIS AFB MASS

TO: 1st Naval District Boston Mass  
551 IDC 6 356 (Info copy furnished Hq USAF - Not BuDocs)

Subject: Structural Investigation, by A-E contract, Texas Towers

Quote ADC

"Existing A/E contract for applying new wind and wave data to design calculations for TT-2 and TT-3 should be changed per Hq USAF request to include the following studies for TT-4:

- (1) Apply new wind and wave criteria developed since 16 Feb 61 to structural stability as designed and constructed.
- (2) Determine if original criteria was adequate to take care of new criteria.
- (3) Coordinate new criteria against wind-wave records to determine if actual conditions exceeded new criteria or if safety factors in present design were exceeded.
- (4) Further study into structural design based on new criteria.

It being assumed that above analyses will be performed within BuDocs Organisation.

NOTE: No record of structural analysis along these lines having ever been furnished this Hq or the Air Force by the Navy.

UNITED STATES GOVERNMENT

Memorandum

TO : 40

DATE: 27 October 1961

FROM : E-2023

SUBJECT: Testing of Structural Bracing Member recovered from Elmer Tower  
Radar 4

1. The following types of tests are considered proper:
  - a. The chemical analysis of the steel.
  - b. Tests of tensile specimens.
  - c. Impact tests on specimens at several temperature values to determine transition temperature between ductile and brittle fracture. This would include such tests as Charpy Impact Tests, Robertson Crack Test, Pellini Dropweight Tests and Clipper Notched Tensile Tests.
2. The pin assembly at the one end of the member should be disassembled to permit measuring of the diameter of the pin end of the pin holes in the pin plates.
3. The type of fracture of the pin plates should be revealed by a competent metallurgist to determine, visually, the type of failure suffered by the pin plates. Any evidence of initial cracks and apparent fabrication defects would be sought.
4. In order to simplify the transport and handling of extremely heavy weights, it would appear to be more practical to determine the pin sizes and to examine for type of fracture at the location of top member rather than to attempt to transport the entire end assembly to a laboratory. Likewise, the expense for testing should be reduced by the metallurgist for recovery so that only the minimum weight portion of the specimens will have to be shipped.
5. An approximate estimate of the cost involved for transportation and testing effort would be of the order of \$100K. Contacts with the Bureau of Standards indicate that they would perform this testing and that request by the Bureau. The Naval Research Laboratory would also be capable of doing this testing but probably do not have equipment readily available as the Bureau of Standards.

*R. J. ...*  
R. J. ...



## DEPARTMENT OF THE NAVY

BUREAU OF YARDS AND DOCKS

WASHINGTON 20374

E-202B/JEA:bay

3 00 163

From: Chief, Bureau of Yards and Docks  
 To: Director of Civil Engineering, DCS/O, Headquarters,  
 U. S. Air Force (Attn: AFOCE-E)

Subj: Review of Final Report on Examinations of Texas Towers  
 No. 2 and No. 3

Ref: (a) HQUSAF ltr AFOCE-E of 6 Jul 1961 to BUDOCKS  
 (b) BUDOCKS ltr E-202B/JEA/lead of 7 Aug 1961 to HQUSAF

1. In accordance with the request of the Department of the Air Force, the Public Works Officer, First Naval District instituted an investigation into the physical condition of Texas Tower No. 2 on Georges Bank and Texas Tower No. 3 on Nantucket Shoals. The work was performed by several specialty organizations under the general supervision of an architect-engineer, the firm of Moran, Proctor, Mueser and Rutledge. The results of the investigation were formalized in a report under Contract N8y-37417 entitled "Report on Examinations of Texas Towers TT-2 on Georges Bank, TT-3 on Nantucket Shoals" dated June 1961. Several copies of this report were made available to the Department of the Air Force by the District Public Works Officer. In accordance with the request in reference (a), the Bureau was to review the final report of the architect-engineer and to advise the Air Force as to the safety and seaworthiness of the two towers.

2. The purpose of the engineering examination and evaluation reported by the architect-engineer was as stated in their report, "to determine the present structural adequacy and safety of the structures of the off-shore radar stations designated TT-2 and TT-3 in terms of the original design criteria, the construction plans and specifications, and the condition of these structures at completion of construction in the Fall of 1955 and 1956, respectively."

3. The physical condition of the towers was critically examined by the latest accepted techniques for the several operations of inspecting welded structural connections, determining the extent of corrosion in the structural elements of the platform structure below and above water level, measuring of depths to the ocean bottom around the tower legs to determine the extent of bottom scour, and examination of density of bottom sands and their effectiveness for foundation support. The Bureau believes that this work was thoroughly and effectively done and that with the correction of the deficiencies discovered, as outlined in the final report, that the two towers are fully within the originally intended structural capacity to resist the forces defined by the original design criteria.

E-202R/JRA:bmy

4. The investigation of the stability of the towers included an evaluation by oceanographic experts of all available information with respect to wind and wave conditions experienced at these locations both before and since the erection of the towers in 1955 and 1956. This work was done by Professors Neumann and Pierson of the Department of Meteorology and Oceanography of New York University. Their source data included reports of wind and wave conditions occurring during hurricanes and tropical storms together with interviews of personnel stationed aboard the towers during heavy weather. The conclusions reached by these investigators were that Towers 2 and 3 have not yet experienced the worst possible combination of wind and wave which is conceivable at their place of location. They estimated that the worst conditions would occur for winds exceeding 90 knots for a 5-minute average with gusts exceeding 120 knots and that rare waves high enough to strike the tower platform broadside could occur such that the crests of the waves would be about 5 feet higher than the bottom of the platform structure. This finding, if valid, constitutes the most serious threat to the stability of these structures.

5. As reported in reference (b), the Bureau found reason to question the validity of some of the arguments leading to the conclusions of Neumann and Pierson. During interviews with Bureau personnel, these authors held to their opinions of extreme wave height probability from tropical hurricanes. With their permission, the Bureau has referred their report to the Woods Hole Oceanographic Institution, the Scripps Institution of Oceanography, and the Navy Hydrographic Office. Replies have been received from all three of these, having been prepared by Dr. G. O'D. Inghin of Woods Hole, Dr. Walter Munk of Scripps, and Dr. R. W. James of Hydro, all of whom are widely recognized for their knowledge in this field. The consensus of these replies is that the conclusions reached by Neumann and Pierson are as valid as can be made with the present knowledge of ocean waves in general and the conditions at the tower locations in particular. Consequently, the only avenue which would lead to changes in these predictions is that of effort directed toward increasing present general wave knowledge and making extensive analysis of the effects of refraction and focusing of swells at the particular sites. The Bureau is interested in instituting a program looking toward these objectives and plans to outline such a program which will be forwarded to the Department of the Air Force in the near future with a request for sponsorship. This program would include instrumentation for obtaining accurate wind and wave observations, frequency and magnitude of platform motions, and stress measurements. Also included would be an analytical study of the refraction and focusing of swells at the particular sites. In addition, consideration is being given to the feasibility of a model investigation for demonstrating the possibility of experiencing exceptionally high waves within the limitations of the bottom hydrography peculiar to the tower sites themselves and to the offshore and near-shore approach areas.

E-202B/JRA:bmy

6. The program of correcting the physical deficiencies which were discovered during the investigation last spring and are summarized in the A&E final report, has been progressing satisfactorily. Correction of all minor structural deficiencies has been completed. Placement of the rock to replace material lost by bottom erosion has been underway since mid-summer and has been proceeding continuously, except as limited by difficult weather. Periodic telegraphic reports have been supplied to the Air Force on a routine basis covering the progress of the rock placement. A total of 3,100 tons was placed around the legs of TT-2 to complete the requirement for this tower. A small volume remains to be placed before completion is accomplished at TT-3. Diver inspection reports indicate the deposition of the rock conforms sufficiently well to the configuration intended. Upon completion of this work, the towers may be considered restored to their originally designed capability.

7. At this writing, reports are not yet available on the conditions experienced during the passage of the recent hurricane, Esther. Although it may be possible to make comments of a general nature upon receipt of information regarding this storm at a later date, specific quantitative statements regarding conditions prevailing during similar future storms will be possible after implementation of the program of adequate instrumentation described above.

Copy to:  
DPWG IND  
ADC, Ent AFB, Colorado Springs, Col.  
551st AEWGCRWG, Otis AFB, Mass.  
26th Air Division, Hancock Field,  
Syracuse, N. Y.

*Esther*  
1. 1. 1. 1.  
26th Air Division, Ent, OSN  
Chief of Station

AFGIB-02/AmJ/andgriff/and/70907  
10 Oct 55

✓ 66

AFGIB-02

MEMORANDUM FOR CHIEF, BUREAU YARDS & DOCKS, DEPT OF NAVY  
WASHINGTON 25 3 0

SUBJECT: Transfer and Acceptance of Tanna Towers

1. Reference is made to telephone conversation between  
Captain Clark and the Director of Construction, this Headquarters,  
19 October 1955.

2. It is requested that normal transfer and acceptance  
procedure outlined in AFM 88-9 be followed in transferring Tanna  
Towers from Bureau, Yards and Docks to the using agency. Necessary  
copies of the transfer documents (NA Eng Form 898) will be made  
available to the construction agency by the USAF Installation  
Representative Office, New England Region, 257 Commonwealth Avenue,  
Boston, Mass.

FOR THE CHIEF OF STAFF:

ALBERT T. PERRY  
Lieut. Col., U. S. Air Force  
Military Assistant  
Construction Division  
Directorate of Construction, AFM/T

COORD: AFGIB-02

AFGIB-C

AFGIB-J

AFIR HR

Coord G/ GIB-CS  
Comeback GIB-CS  
AFGIB-02  
Stayback

*fa*  
*Handwritten signature*

FILE: TEXAS TOWERS



TEL: MELROSE 5-8911  
EXT: 2415

HEADQUARTERS  
**AIR DEFENSE COMMAND**  
UNITED STATES AIR FORCE  
ENT AIR FORCE BASE, COLORADO

REPLY TO  
ATTN OF: ADIFS

SUBJECT: Texas Tower Survival Compartments

11 OCT 1962

TO: HQ USAF (AFOCE-E)  
Wash 25, DC

Attached are two sets of 16 each 35 mm color slides  
(with caption sheets) of Texas Tower survival  
compartments under construction.

FOR THE COMMANDER

*John F. Hill*

**JOHN F. HILL**  
Colonel, USAF  
Director of Facilities Support  
AFCE, AFCE Engineering

1 Atch (2 sets)  
Color Slides

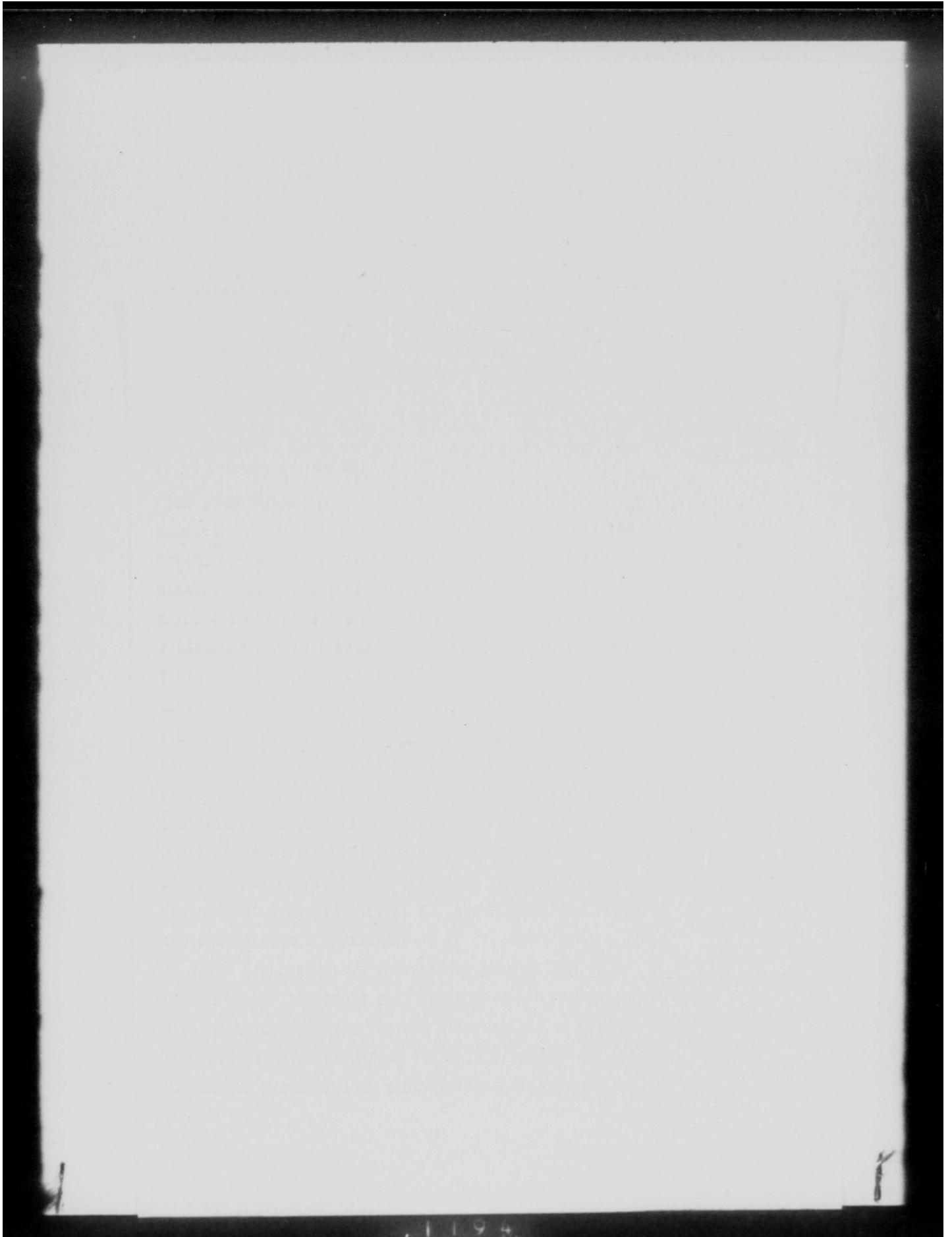
M/R: Atch filed in SAFE 4; Drawer 18











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THIS PAGE IS DECLASSIFIED IAW EO 13526

AFOCE-EA

4 October 1961

MEMORANDUM FOR RECORD

SUBJECT: Texas Towers #2 and #3 - Status Briefings

1. On 3 October 1961 the following briefings were given on the current status of the investigation of the structural integrity of TT #2 and #3 and the action taken:

a. Vice Chief of Staff, General F. H. Smith, was briefed at 1100 hours 3 Oct 61. B/General Curtin made the introductory remarks. Colonel Paul Stephens gave the briefing. Mr. Nat C. Hodgdon attended as a technical adviser.

(1) General Curtin in his introductory remarks indicated that, since BuDocks had furnished this Hq its review of the Investigation Report on TT 2 and TT3, AFOCE had prepared a briefing to show the status of this program and corrective action taken to date.

(2) Colonel Stephens gave the briefing and pointed out that:

(a) The wind and wave study by Pierson and Neumann, with which BuDocks did not entirely agree, was referred by BuDocks to Woods Hole Organization, Hydrographic Office; Scripps Institution Hydrographic office and the Navy's Hydrographic office for further comments. BuDocks review indicated that each of these offices concurred in the principal findings of Pierson and Neumann as noted in the original report. These findings cited the possibility of waves from extra tropical hurricanes of such height that a breaking crest could be as much as five feet above the bottom platform of the tower. BuDocks considers that these towers were not designed to withstand such pounding and would probably collapse. In view of the shallow waters around these towers BuDocks considers that this condition would affect wave heights and that a model test should be made to simulate the wave action possible under the conditions visualized by the Neumann and Pierson report.

(3) BuDocks in its review report recommends a program of instrumentation with possibly a simulated wave study to be conducted at the Model Test Basin to verify or reject the findings of Professors Pierson and Neumann.

b. The cost of such an instrumentation program or the time required is not known. In addition the length of time or operational use requirement for the towers has not been firmly established by AFOOP. Therefore, any instrumentation program while desirable to improve the state of the art relative to wind and wave criteria cannot be justified by the Air Force unless the proposed use of these towers is determined as a firm requirement for a period of several years.

2. Subsequent to the briefing for General Smith at 1100 hours, it was repeated for Dr. Charyk, Under Secretary of the Air Force, and Mr. Max Golden, General Counsel, at 1430 hours in Dr. Charyk's conference room with the following comments and/or requests:

a. Determine the Operating Rules (Ground Rules for evacuation) (This was done by AFOOP).

b. Keep the possibilities of an instrumentation program open. Do not say "No" until it has been finally determined we will not do any such instrumentation program. This depends on the use life anticipated by AFOOP for these towers.

3. Subsequent to briefing for Dr. Charyk at 1430 hours, B/General Curtin, AFOCE-3, and Lt/Colonel Paul, AFOOP, briefed Lt/General Strother, DCS/O, with the following comments and/or requests:

a. Firm operational plan for evacuation to be furnished for submission to Dr. Charyk.

b. Operation plan re: Length of time towers will be required.

4. Subsequent to these briefings, Colonel Paul Stephens, AFOCE-E, was informally advised by Colonel Rector, ADC, that General Smith, Vice Chief of Staff, had personally contacted General Lee, ADC, and requested answers to the following:

a. ADC's reaction to the instrumentation program proposed.

b. Evacuation plan, BOAS Reg 55-16. (Does not meet report.)

c. Reduce operational requirements for TT-2 and TT-3.

NAT C. HODGDON  
AFOCE-EA

AFGIB-03

30 September 1954

MEMORANDUM FOR AFGIB-3

SUBJECT: Tams Towers Preliminary Plans

1. Request that your Division make an immediate engineering review of the attached plans for the above referenced subject. This review should be accomplished prior to 4 October 1954 at which time representatives from your Division and Construction Division will depart for Boston to attend a conference with Department of the Navy and Architectural Engineering representatives.

2. A meeting is now scheduled at 0900 hours, 5 October 1954, AFIBD HSB, Boston. Request adequate representation from your office attend this meeting in order that decisions may be made at this meeting. It is expected that, at the conclusion of this meeting, Department of the Navy will be able to proceed with detailed plans and specifications for these towers. Contract award is estimated to be 1 January 1955, construction to be accomplished on shore during spring of 1955 and erection on site in summer of 1955.

1 Incl  
Set days 1-18  
Tams Towers

R. A. SHAKER  
Lt Colonel, USAF  
Chief, Special Projects Branch  
Construction Division  
Directorate of Construction, AOC/I

FORM: AFGIB-03

*[Handwritten signature]*  
J. L. GIBSON  
13 SEP 1954

Coord By  
Comelank  
AFGIB-03  
Stephank

*Lot 2  
Hansen  
Clary*

Extra ✓

MAY 4 1954

MEMORANDUM FOR THE DIRECTOR OF CONSTRUCTION, OFFICE, SECRETARY OF DEFENSE

SUBJECT: Texas Towers Construction

1. As requested in your Memorandum of 16 April 1954, there is inclosed a copy of floor plan recently submitted to the Department of the Navy for guidance in the design of subject named facilities.

2. Design and construction responsibilities having been assigned to the Bureau of Yards and Docks, a meeting was held 12 and 13 April 1954, at the Headquarters, First Naval District regarding the design criteria to be used. In addition to this Headquarters, the Air Defense Command, the First Naval District, and the Architect-Engineer retained by the Navy for this project were represented. The actual size of the tower structure will be determined by the Navy based upon criteria furnished at this meeting and other data to be developed.

3. Some reduction in area may result from the adoption of a square, rather than rectangular, platform but the ultimate area will be primarily dependent on the required spacing of the three radomes. Our instructions to the Navy require the most economical type of structure capable of supporting the assigned mission which contemplates three large radomes and a heliport on the top deck. The area below the deck should accommodate thirty seven (37) Air Force personnel, power equipment, 30-day supply storage and radio equipment. In addition this Headquarters has for consideration a Navy requirement for space to accommodate twenty (20) of their personnel and certain additional equipment.

(Signed)

JOHN M. HARRY

Director, Office of Construction for Installations

Inclosure  
Plan (2 pages)



*Extra* ✓

APCAL-10/11/12/13/14/15/16/17/18/19/20/21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100  
SUBJECT: Texas Towers (Incl)

L/C White/AS/TS/whc/52641  
12 Jan 54

19 JAN 1954

TO: Chief Bureau of Ports and Docks  
Department of the Navy  
Washington 25, D.C.

1. Informal discussions have been conducted between representatives of this Headquarters and your Bureau concerning the design of certain off-shore facilities called "Texas Towers".

2. This Headquarters believes that the design and supervision of construction can best be performed under your guidance and requests that you indicate if you are desirous of prosecuting this work as outlined in the enclosed brochure. The urgency of this program dictates that site surveys, soil investigations, design and preparation of construction drawings, cost estimates and all other phases must be completed in sufficient time to permit construction during calendar year 1955.

3. If you desire to undertake the work outlined above, it is requested that you advise this Headquarters with an estimate of planning funds required and a time schedule of contemplated actions.

FOR THE COMMANDANT:

SIGNED

W. S. ...  
...  
... Architectural & Engineering Div  
... Installations, DCS/O

APCAL-10/11

APCAL-12/13

APCAL-14/15

APCAL-16/17

APCAL-18/19

*W. S. ...*

AFGIE-CS/LtColCaldwell/mc1/71975  
Wrtm 7Sep55

7 SEP 1955

AFGIE-CS

MEMORANDUM FOR CHIEF, BUREAU OF YARDS & DOCK, DEPARTMENT OF THE NAVY,  
WASHINGTON 25 D. C.

SUBJECT: Advance Advertisement for Additional Texas Towers

1. Reference:

- a. Letter, Bureau of Yards & Docks G-270A/GCR:rvh A16-1, "Texas Towers", Funds for Construction of, undated, to USAF;
- b. Air Force memorandum AFGIE-CS, TEXAS TOWERS, TT-1 and TT-3, dated 30 June 1955;
- c. Letter Bureau Yards & Docks G 270A/GCR:rvf A16-1, TEXAS TOWERS TT-1 and TT-3
- d. Bureau Yards & Docks letter G-2710/YD:rvh A16-1 "Texas Towers", Funds for Construction of, dated 18 August 1955.

2. It is requested that immediate action be taken to advertise for the construction of three (3) additional Texas Towers (Nos. 4, 3 and 1). Bids should be solicited in such a manner that only Towers 4 and 3 can be awarded, in accordance with the operational requirements, if costs (as reflected by the bids) should exceed present authority and availability of funds.

2. Immediate action is being taken to secure apportionment of additional funds to permit award in accordance with the above.

FOR THE CHIEF OF STAFF:

PAUL C. EDGEE  
Colonel, U. S. Air Force  
Chief, Construction Division  
Department of the Navy, AFCE

COORD: AFGIE-CS

AFGIE-C

*Handwritten signature*

*Handwritten signature*  
E. L. CHOCUTT

Coord  
AFGIE-CS  
Comeback  
Stayback

DEPARTMENT OF THE AIR FORCE  
STATE MESSAGE SEARCH  
UNCLASSIFIED MESSAGE

INCOMING

AF IN : 49255 (8 Sep61)

F/scc

ACTION: OCE-2 (3)

SMB C 151

ZCZCHQB292ZCDGA294

RR RJEZHQ

DE RJEZDG 8

ZNR

R 281315Z

FM 551AEWCON WG OTIS AFB MASS

TO RJEZHQ/HQS USAF WASH DC

INFO RJWFAL/ADC ENT AFB COLO

RJEZSN/26ADIV HANCOCK FLD NY

BT

UNCLAS 551 IDC-E 9-193 FOR AFOCE-E (MR CLAUDE HARRIS); INFO ADIDC, 26IDC. YOUR AFOCE-E 99655 6 SEP. FOLLOW-UP TO OUR MSG 551IDC 8-597 WAS QUOTE (UNCLAS) 551IDC 8-818 FOR AFOCE-E (MR CLAUDE HARRIS); INFO ADIDC, 26IDC. YOUR AFOCE-E 93210 11 AUG. FINAL SPECIFICATIONS, DESIGN ANALYSIS AND A-E REPORT NOT AVAILABLE LOCALLY FROM FWD. RECOMMEND CONTACTING BUREAU YARDS AND DOCKS WASH DC DIRECTLY. UNQUOTE MSG 551IDC 8-818 DATED 23 AUG.

BT

08/1333Z SEP RJEZDG

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO	INITIALS	CIRCULATE		
	APRICE BA (Mr. Hodgdon)	<i>WSP</i>		DATE	COORDINATION
2			<input checked="" type="checkbox"/>		FILE
	<i>Miss Dennis</i>				INFORMATION
3					NOTE AND RETURN
	<i>File - Texas Powers</i>				FOR CONSERVATION
4					SEE ME
					SIGNATURE
REMARKS					
<p><i>Marked Please submit another copy at the office submitting by [unclear] found for the [unclear] Powers [unclear]</i></p>					
FROM				DATE	
C. W. PALMER				17 Aug 61	
				PHONE	
				73164	

DD FORM 1 OCT 60 95

Replace DD Form 95, 1 Feb 50 and DD Form 95, 1 Feb 50 which will be used until exhausted.

GPO: 1960-O-56294



*TEXAS TOWERS*  
*TT-2, TT-3*  
*WCH*

UNCLASSIFIED

AFOCE-E/Mr. Harris/tp/71215/11 Aug 61

DEFERRED  
DEFERRED

I                      AF                      I

HQ USAF

551AENCOMG OTIS AFB MASS

INFO: ADC ENT AFB COLO

26AIRDIV HANCOCK FLD NY

UNCLAS AFOCE-E

Confirming telephone conversation with Major Mix, request  
one copy each of the following documents be sent to this hq,

Attn: AFOCE-E, Mr. Harris: (1) Feasibility Report, (2)  
Design and Construction Manual, (3) Plans and Specifications  
(Structural), (4) Design Analysis and (5) A/E Report.

*TT-2 - TT-3*

DISTRIBUTION:  
Coord OCE-E  
R/F OCE-E  
OCE-M  
OCE-EA ✓  
Stybk

*of what?*

AFOCE-E

11      1340  
AUG      61

AFOCE-E

Mr. C. W. Harris  
71215

1                      1

UNCLASSIFIED

AFUGB-BA  
7 August 1961

RADNOTE received by Mr. Ayers, BuDocks, D/W

Friday diver inspected stone placing at C & B leg - TT 2.

Inspection indicates 4' to 5" depth of rock at C - uniform distribution 50' out all around leg - Low side of fender 2' above fill. Diver to check further on fender at later date. No apparent damage to leg by stone dumping.

"B" leg - 2' deep at leg - 4' deep 20' out from leg tapering out to 55'. Area around B leg - where stone has not covered.

Practical barge load 400 tons not 1000 tons as originally contemplated. Accordingly 2 barge loads at each leg.

One more barge load required at B leg and two more barge loads at A.

Diver to make final inspection and photos after final dumping.

Wind, waves and fog bad. Tug forced to turn back when within 40 miles. Round trip 30 hours.

TT-3 - Barge moored at Cutty Hunk and ferried to TT-3.

TT-2 - Visibility (Diver) 7' - 10' on bottom.

They are not putting down two layers.

Crushed rock about 8" - 5% of deposit. Balance 1-1/2 to 5" size.

Notes by Mr. N. C. Hodgdon

AFOCE- EA/Mr Hodgdon/ald/77474  
Wrtn: 1 Aug 61/Rewrtn: 3 Aug 61

AFOCE EA

Suggestion No. 4058, Personnel Safety

AUG 3 1961

Chief Signal Officer, Department of the Army (SIGPT-1e)

1. Suggestion No. 4058, Personnel Safety, was forwarded to the using agency Headquarters Air Defense Command for its consideration and recommendation.
2. The attached 1st Indorsement from Headquarters Air Defense Command is being forwarded in explanation of why this suggestion cannot be adopted.

FOR THE CHIEF OF STAFF:

C. W. HARRIS  
Deputy Chief, Engineering Division  
Directorate of Civil Engineering, DCE/O

- 2 Atch
- 1. DF, 12 Jun 61, subj above, w/atc
- 2. 1st Ind fr ADC, 26 Jul 61

M/R: This rewrite is substantially the same as previous writing; thus coords still valid.

COORD AFOCE-EA  
STBK AFOCE EA  
R/FILE AFOCE

*W. Hodgdon*  
2 Aug 61



AFOCE-EA/Mr Hodgdon/ald/77474  
1 Aug 61

AFOCE-EA

Suggestion No. 4058, Personnel Safety

Chief Signal Officer, Department of the Army (SIGPT 1e)

1. The subject Suggestion No. 4058, Personnel Safety, was forwarded to the using agency Headquarters Air Defense Command for its consideration and recommendation.
2. The attached 1st Indorsement from Headquarters Air Defense Command is being forwarded in explanation of why this suggestion cannot be adopted.

FOR THE CHIEF OF STAFF:

*Review  
3 Aug 61*

- 2 Atch
1. DF, 12 Jun 61, subj above, w/atch
  2. 1st Ind fr ADC, 26 Jul 61

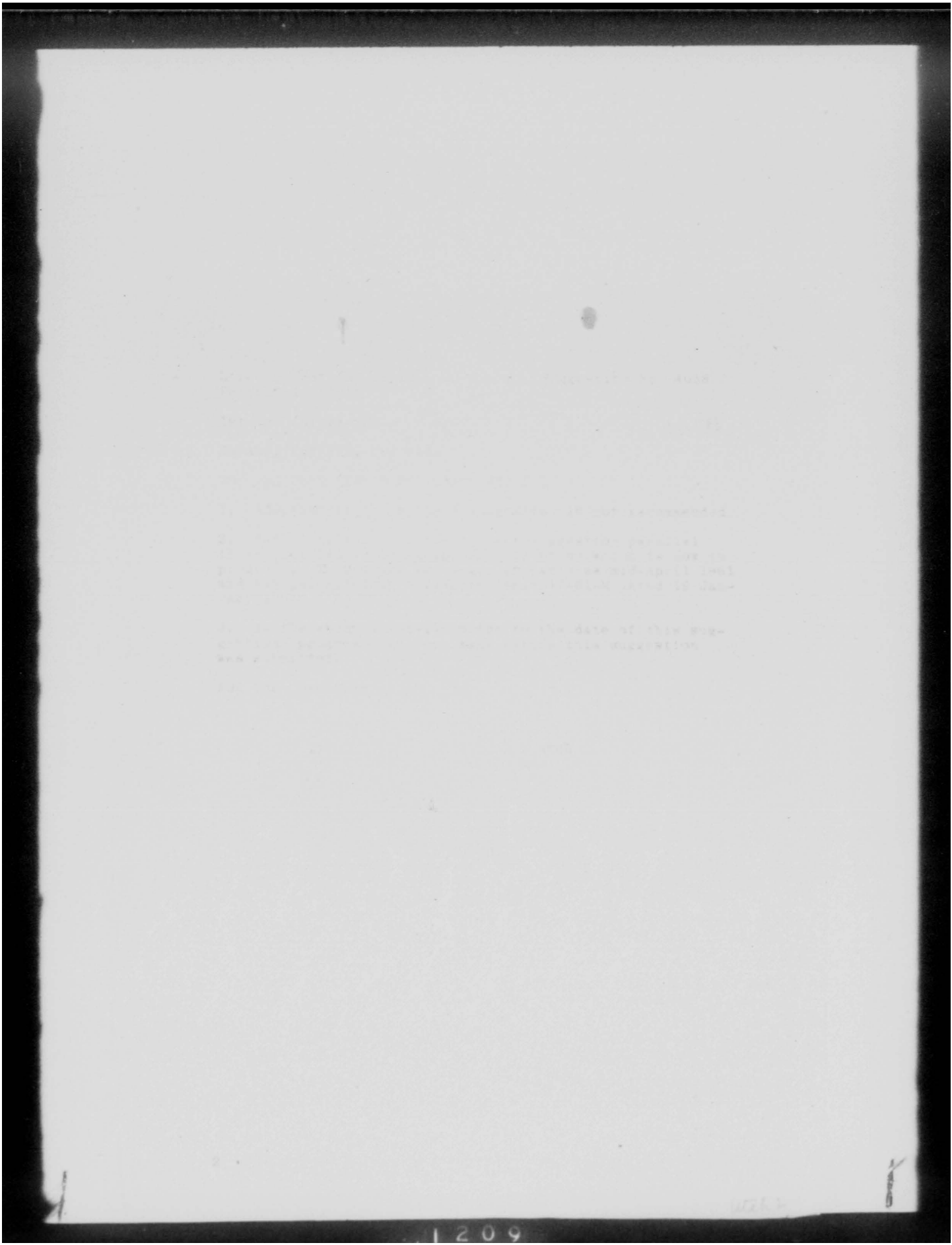
AFOCE EA  
*Col Cressman*  
*2 Aug 61*

AFOCE-E  
*[Signature]*

*N. C. Hodgdon*  
N. C. HODGDON  
*Aug 10 1961*

*[Signature]*

Coord AFOCE-EA  
Stbk AFOCE-EA  
R/File AFOCE



AFOCE-BA

Suggestion No. 4058, Personnel Safety

23 JUN 1961

ADC

The attached Disposition Form, 12 June 1961, subject as above, is being forwarded for your consideration and comments since the application of this suggestion would be pertinent to the operation of the Texas Towers.

FOR THE CHIEF OF STAFF:

RICHARD J. COVYNE  
Lt Colonel, USAF  
Directorate of Civil Engineering, DCS/O

1 Atch  
Disp Form, 12 Jun 61,  
subj above

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D.C.



REPLY TO  
ATTN OF AFOCE-EA

SUBJECT: Suggestion No. 4058, Personnel Safety

23 JUN 1961

TO: ADC

The attached Disposition Form, 12 June 1961, subject as above, is being forwarded for your consideration and comments since the application of this suggestion would be pertinent to the operation of the Texas Towers.

FOR THE CHIEF OF STAFF:

RICHARD J. CARTER  
1. Colonel, USAF  
Department of Civil Engineering, DCS/O

1 Atch  
Disp Form, 12 Jun 61,  
subj above

AFOCE-EA/Mr Hodgdon/ald/77174  
21 Jun 61

AFOCE-EA

23 JUN 1961

Suggestion No. 4058, Personnel Safety

ADC

The attached Disposition Form, 12 June 1961, subject as above, is being forwarded for your consideration and comments since the application of this suggestion would be pertinent to the operation of the Texas Towers.

FOR THE CHIEF OF STAFF:

WALTER J. GIBBS  
12 JUN 61, 1961  
Directorate of Civil Engineering, DCS/O

1 Atch  
Disp Form, 12 Jun 61,  
subj above

AFOCE-EA

AFOCE-E

Coord AFOCE-EA  
Stbk AFOCE-EA  
R/File AFOCE

*Sanford*  
*Hodgdon*  
H. G. HODGDON

MEMO ROUTING SLIP		KEY: USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1 TO	E/A	INITIALS	CIRCULATE		
		DATE	COORDINATION		
2		FILE			
		INFORMATION			
3		NOTE AND RETURN			
		PER CONVERSATION			
4		SEE ME			
		SIGNATURE			
REMARKS					
FROM				DATE	
				PHONE	

DD FORM 95 1 OCT 60 Replaces DD Form 94, 1 Feb 50 and DD Form 95, 1 Feb 50 which will be used until exhausted. GPO: 1960-O-56234

AFOCE-3

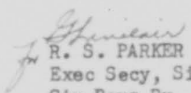
ROUTING SLIP

DATE JUN 16 1961

1. BRIG GEN KELLEY	COORDINATION	
2. COL FOWLER	INFORMATION	
3. COL HURLBURT	ACTION	
4. MISS SCHOPPER	FILE	
5. JUNE	SIGNATURE	
	APPROVAL	
AFOCE	AFOCE-1	AFOCE-2
AFOCE-C	AFOCE-E	AFOCE-H

REMARKS:

3-E

<b>DISPOSITION FORM</b>		SECURITY CLASSIFICATION (If any)	
FILE NO. SIGPT-1e	SUBJECT Suggestion No. h058, Personnel Safety		
TO Dept of Air Force	FROM CSigO	DATE JUN 12 1961	COMMENT NO. 1
<del>ASAF</del> AFOCE		Mrs Sinclair/67810	
<p>1. Subject suggestion is submitted for consideration. If the suggestion is approved for adoption, it is requested that the date of adoption, a statement of estimated first year's savings, and/or intangible benefits derived from its use (para 12 and 13, AR 672-301) be furnished this office, as the basis for an appropriate award to the suggester.</p> <p>2. If the suggestion is not adopted, information that will permit a satisfactory explanation to the suggester is required.</p> <p style="text-align: center;">FOR THE CHIEF SIGNAL OFFICER:</p>			
1 Incl Sugg File	 R. S. PARKER Exec Secy, SigC IAC Civ Pers Br, Pers & Tng Div		



AFOCE-~~ea~~/Mr Hodgdon/ald/TTL74  
Wrtn: 25 Jul 61/Rewrn: 25 Jul 61  
(Para 4 changed)

AFOCE

15 JUL 1961

Texas Towers Nos. 2 and 3  
Engineering Examination

Under Secretary of the Air Force

1. I refer to your recent question concerning the Architect-Engineer employed by the First Naval District to conduct the engineering examination of the remaining Texas Towers Nos. 2 and 3. Shortly after the incident involving Texas Tower No. 4, the Navy was requested by the using command to make an engineering examination of the remaining Texas Towers Nos. 2 and 3. The Navy, through its First Naval District Office, Boston, Massachusetts, contracted with Moran, Proctor, Mueser & Rutledge, Architect Engineers, to conduct this engineering examination. The Navy's authorization to Moran, Proctor, Mueser & Rutledge for this work states that: "A major portion of the examination work would be carried out by other organizations with specialized qualifications. The functions of Moran, Proctor, Mueser & Rutledge would be organization, management, supervision where required, and evaluation of results in a final report, summary and recommendations." The Navy expects to submit its initial evaluation of this engineering examination in about ten days and its final report about 1 October 1961.

2. In response to a question relative to the choice of this particular Architect-Engineer firm, Admiral Church, BuDocks, reaffirmed the Navy's confidence in the engineering qualifications of this firm and indicated that he would select them again if he had to initiate new designs. For many years this Architect-Engineer has been successful in the fields of soil mechanics and foundations, particularly underwater foundations.

3. In this engineering examination other firms under the supervision of the Architect-Engineer have covered specialized areas, such as Corrosion by The Hinckman Corporation; welds by New York Testing Laboratories; Underwater Explorations by H. W. Tiedeman & Co., Inc.; and wind and wave Criteria by Professors Gerhard Neumann and Willard J. Pierson, Jr., of New York University.

4. In view of the fact that each of the technical examinations have been conducted and separately reported by specialists in their respective fields, and that the Architect-Engineer furnished only management of the work and evaluation of the reports, there should be no objection to the Navy's selection of this Architect-Engineer firm.

A. M. MINTON  
Major General, U.S. Air Force  
Director of Civil Engineering  
Deputy Chief of Staff, USAF

M/R: The contents of this  
rewrite substantially  
same as previous writing;  
thus coords still valid.

✓ Coord AFOCE-EA  
Stbk AFOCE-EA  
R/File AFOCE  
AFOCE-M(Col.Fowler)

*M. Hodgdon*  
20 July 61

AFOCF-EA/Mr Hodgdon/ald/77474  
25 Jul 61

AFOCE

Texas Towers Nos. 2 and 3  
Engineering Examination

Under Secretary of the Air Force

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4. The Air Force has no objection to the selection of this Architect-Engineer firm for this engineering examination.

100-32711-1  
W. G. HODGDON  
*[Signature]*

*Revised 25 Jul*

✓ Coord AFOCE-EA  
Stbk AFOCE-EA  
R/File AFOCE  
AFOCE-M

GROUP 1    GROUP 2    GROUP 3    GROUP 4    GROUP 5    GROUP 6

JOINT MESSAGEFORM		SECURITY CLASSIFICATION	
		UNCLASSIFIED	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER			
21 JUL 61 22 10z HQ USAF			
PRECEDENCE	TYPE MSG (Check)	ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION <del>DEFERRED</del> DEFERRED	DCRP MULTI SINGLE	AF	ADIDC 038656 1st AF IN: 59162
INFO	Y		CLASSIFICATION OF REFERENCE UNCL
FROM:	HQ USAF		SPECIAL INSTRUCTIONS
	(20 Jul 61)		AFOCE EA (6 cys)
TO:	ADC ENT AFB COLO		
INFO:	26 AIRDIV HANCOCK FLD SYRACUSE NY	(MAIL)	
	551 AEWAC WG OTIS AFB MASS	87904 (MAIL)	
	BUDOCKS NAVY DEPT WASH DC	(MAIL)	
	BOARDS STEWART AFB NY	(MAIL)	
UNCLAS FROM AFOCE EA			
Your ADIDC 038656. Subject: Texas Towers 2 and 3. Actual as built drawings for TT 2 and 3 indicates a penetration below the ocean floor at time of construction of 45 feet for TT 2 and 60 feet for TT 3. Less compact sand for the upper 10 feet was noted only at the TT-2 site. On this basis the 45 feet of penetration provided 35 foot depth in very compact sand at TT-2. According to Examination of TT-2 and TT-3 just completed by MPMR and reported on TT-3 only, the change in the ocean floor together with the scouring has only reduced the depth of penetration at TT-3 to approximately 50 to 51.5 feet of compact sand. Advance info reported on TT-2 indicates that			
			<input checked="" type="checkbox"/> AFOCE-EA Coord <input type="checkbox"/> AFOCE-EA Stbk <input type="checkbox"/> AFOCE- R/File <input type="checkbox"/> AFOCE-M
SYMBOL		SIGNATURE	
AFOCE-EA		PAUL W. STEPHENS	
TYPED NAME AND TITLE (Signature, if required)		TYPED (or stamped) NAME AND TITLE	
Mr. Nat C. Hodgdon		Colonel, U. S. Air Force	
PHONE		Chief, Engineering Division	
SECURITY CLASSIFICATION		Directorate of Civil Engineering, DCS/O	
7747A		UNCLASSIFIED	
PAGE NO. 1		NO. OF PAGES 2	
DATE		TIME	
JUL 21		1630	
MONTH		YEAR	
JUL		1961	

DD FORM 173  
1 MAY 58

REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM - COI		SITUATION SHEET		SECURITY CLASSIFICATION	
				UNCLASSIFIED	
FROM: HQ USAF					
<p><del>Indicates that</del> scour and ocean action have lowered the ocean floor level by only <sup>approximately</sup> 5 feet. Therefore the penetration of compact sand has not been affected.</p>				<p><i>not</i> <i>not</i></p> <p>87904</p>	
<p>AFOCE-EA <i>Col Hunter</i></p>		<p>AFOCE-M Copy to AFOCE-M with copy of AF IN: 59182 (20 Jul 61) (UNCLAS ADIDC 038656)</p>		<p>AFOCE-EE <i>Stephen</i></p>	
<p><i>20th August</i> M. G. BRIDGEMAN 1650-2 July 61</p>		<p><i>Shaw</i></p>			
SYMBOL		PAGE NR	NR OF PAGES	SECURITY CLASSIFICATION	
AFOCE KA		- 2	2	UNCLASSIFIED	
					INITIALS

DD FORM 173-1  
MAY 55

U. S. GOVERNMENT PRINTING OFFICE: 1953-422228

SMB C 145

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE

INCOMING

SUSPECTED DUPLICATE

CZCHQD854ZCWJA163

AF IN : 59162 (20 Jul 61) F/jhs

PP RJEZHQ

ACTION: OCE-2

ZNR ZFD RJWFAL

INFO : OOP-2, OOP-CP-1 (6)

PP RJEZHQ RJEZSN RJEZDG RBEPG RJEZKN

DE RJWFAL 2

ZNR

M/R: Copy to AFOCE-M (Col Stoliaroff)  
for info as requested on phone.  
N. C. Hodgdon/21 Jul 61

P 200301Z ZEX

FM ADC ENT AFB COLO

TO RJEZHQ/COFS USAF WASH DC

INFO RJEZSN/26AIRDIV HANCOCK FLD SYRACUSE NY

RJEZDG/551 AEW&C WG OTIS AFB MASS

RBEPG/BUDOCKS NAVY DEPT WASH DC

RJEZKN/BOADS STEWART AFB NY

AF GRNC

BT

UNCLAS ADIDC 038656

FOR AFOCE DELIVER DURING NORMAL DUTY HOURS. SUB-

JECT TEXAS TOWERS 2 AND 3. MORAN PROCTOR REPORT

INDICATES NINE FOOT SCOUR AND

CAUTIOUS THAT FIFTEEN FOOT SCOUR WOULD PRESENT

CRITICAL CONDITION. HOWEVER, REPORT DOES NOT

MENTION FACTO ORIGINAL DESIGN BASED ON MINIMUM

EMBEDMENT REQUIREMENT OF THIRTY FEET COMPACT RE-

PEAT COMPACT SAND ALTHOUGH ACTUAL REPEAT ACTUAL

CONDITION OF TOP TEN FEET OF OCENA BOTTOM LOOSE

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

AF IN : 59162 (20 Jul 61)

Page 2 of 2

PAGE TWO RJWFAL 2

REPEAT LOOSE SAND. APPEARS HERE THAT POSSIBILITY  
OF ADDITIVE LOSS NINE FEET OF BOTTOM PLUS  
INACTIVE TEN FOOT LAYER EQUALS NINETEEN FOOT  
EFFECTIVE LOSS LEAVING ONLY TWENTY SIX FOOT  
EFFECTIVE EMBEDMENT OF ORIGINAL FORTY FIVE FOOT  
EMBEDMENT. REQUEST IMMEDIATE EVALUATION AND  
ADVICE AS TO DEGREE OF RISK PENDING REPLACEMENT  
OF SCoured SAND WITH ROCK. ADMIRAL CHURCH  
ADVISED OF AOB E BY TELEPHONE 2120 EDT 19 JULY.

BT

20/0305Z JUL RJWFAL

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, REFERENCES, OR SIMILAR ACTIONS	ACTION
1 TO	<del>AFOCE-ER</del> Col. Witter	INITIALS MW	CIRCULATE
2	<del>AFOCE-E</del>	DATE	COORDINATION
3	AFOCE E 3 Mr. Garrison		FILE
4	Gene Curtis		INFORMATION
			NOTE AND RETURN
			PER CONVERSATION
			SEE ME
			SIGNATURE
REMARKS For info. ✓ AFOCE-E			
FROM NAT C. HODGDON		DATE 20 Jul 61	
		PHONE 77474	

DD FORM 95 1 OCT 60 Replaces DD Form 94, 1 Feb 50 and DD Form 95, 1 Feb 50 which will be used until exhausted. GPO: 1960-O-365294

FOR OFFICIAL USE ONLY

AFOCE-EA

19 July 1961

MEMORANDUM FOR RECORD

SUBJECT: Texas Towers TT-2 and TT-3

1. A meeting was held at Bureau of Yards and Docks, 19 July 1961 for the purpose of discussing the Report on Examination of Texas Towers Nos. 2 and 3, as prepared by Moran, Proctor, Muesser and Rutledge, Architect-Engineers, under the First Naval District, Boston, Mass.

2. Those present at this conference were:

Admiral W. C. G. Church	USN
Captain H. Stevens, Jr.	USN
Mr. Gordon Edwards	CME, Elec & Comm
Mr. Ayers	BuDocks, Structural Engineer
Mr. C. W. Harris	AFOCE-E, Hq USAF
Mr. Nat C. Hodgdon	AFOCE-EA, Hq USAF
Mr. Irvine Hamburger	AFOCE-MG, Hq USAF
Colonel N. S. Stoliaroff	AFOCE-M, Hq USAF
Lt. Colonel Thrash	( 26th Air Division
Mr. DiCocco	) Otis AFB
Major Robert Mix	( 551st AEW & C Wing
Lt. Phillip P. Weaver	) IDC - Otis AFB
C. P. Hardy, W. O.	Utilities Engineer, 4604 Support
	Sodrn (TT) Otis AFB
Mr. Hugh Burnett	ADC - C & E Maintenance

3. Admiral Church opened the meeting by advising that BuDocks had not completely evaluated the subject report. However, they had reached certain conclusions based on the material contained in these reports as follows:

a. It is reasonable to assume that Drs. Pierson and Neumann in reaching their conclusions as to the wind and wave action, as well as probable size and occurrence of same, have been very conservative and allowed generous safety factors in order to be more certain than lucky.

b. Admiral Church and Captain Stevens indicated that should storms occur which could produce waves of the size indicated in Dr. Pierson's and Dr. Neumann's report, Towers TT 2 and TT-3 would be destroyed because neither tower was designed to withstand pounding of waves against the side of the platform.

c. Admiral Church and Captain Stevens both consider that the best policy for the Air Force, in light of Dr. Pierson's and Dr. Neumann's wind and wave Study, would be to evacuate the towers in the face of any serious storm regardless of what figures show.

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d. Weld deficiencies are minor. Correction should be performed in the normal manner. Admiral Church recommended that the work be done this year.

e. It was pointed out to Admiral Church that Commander Seitz and Captain Quinn of the First Naval District had shown reluctance about undertaking some of Air Force's work. Admiral Church stated that he did not want any of the lower echelons refusing to do work for the Air Force. He said the Navy will do whatever the Air Force wants done. They will do whatever maintenance the Air Force desires but they do not want to be responsible for the maintenance work as such.

f. Corrosion - This is not serious. Corrective measures to be taken should depend on the operational life expected of these facilities.

g. The most important corrective action to be taken at this time is the placing of the rip-rap around the base of the tower legs.

h. Completion of rip-rap for both towers is scheduled for 15 August 1961.

i. Contract award for the rip-rap work is scheduled for 20 or 21 July 1961.

j. BuDocks complete review of the report will be completed about 1 October 1961. However, Admiral Church indicated that the Air Force is entitled to a letter from BuDocks relative to the action to be taken based on its evaluation of the report. A generalized letter should be dispatched by BuDocks immediately.

k. Admiral Church stated that Sections E and F of Moran, Proctor, Meusser and Rutledge's contract were eliminated by BuDocks. This work to be performed by BuDocks in conjunction with Woods Hole Organization.

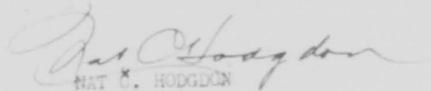
l. Instrumentation - The only instrumentation recommended by BuDocks would be for deterioration and possibly a wave pattern study over a period of time.

m. Fenders - Admiral Church recommended that the fenders now existing around some of the caissons and resting on the ocean bottom should be removed to protect the caissons from abrasion and damage during ocean actions.

4. The meeting was adjourned and the Air Force representatives returned to AFOCE-E, Room 5C 369 in the Pentagon, to continue the discussion of this problem and resolve further action to be taken. This follow on meeting was for the purpose of clarifying the course of action to be taken by Colonel Stolliaroff, AFOCE M.

5. Those in attendance at this follow on meeting were:

Colonel N. S. Stollaroff	AFOCE-M
Lt. Colonel Sanford	AFOCE M
Mr. Irvine Hamburger	AFOCE-ME
Mr. C. W. Harris	AFOCE-E
Mr. Nat C. Hodgdon	AFOCE-EA
Lt. Colonel Joe Thrash	( 26th Air Division
Mr. Diococo	) Otis AFB
Mr. Hugh Barnett	ADC - C & E Maintenance
Major Robert Mix	( 551st AEW & C Wing
Lt. Phillip F. Weaver	) IDC - Otis AFB
C. P. Hardy, W. O.	Utilities Engineer, 4604 Support Sqdrn (TT) Otis AFB



NAT C. HODGDON  
Architectural Branch  
Engineering Division  
Dir/Civil Engineering, DCS/O

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MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIGNATURES	
NAME OR TITLE Captain H. Stevens, Jr., USN, Y&D	INITIALS T	<input type="checkbox"/>	CIRCULATE
ORGANIZATION AND LOCATION Room 2C53 Y&D	DATE	<input type="checkbox"/>	COORDINATION
2		<input type="checkbox"/>	FILE
		<input type="checkbox"/>	INFORMATION
3		<input checked="" type="checkbox"/>	NECESSARY ACTION
		<input type="checkbox"/>	NOTE AND RETURN
4		<input type="checkbox"/>	SEE ME
		<input type="checkbox"/>	SIGNATURE
REMARKS SUBJECT: Texas Towers Nos. 2 and 3			
<p>1. The attached brochure from Basic &amp; Experimental Physics, Consulting Scientists and Engineers, Box 689, Falmouth, Cape Cod, Mass., is being forwarded to your office in accordance with verbal direction, by phone, from Major Hartman, SAFLL, I 57394, who received it from Senator Galtonstall's office. Reply to the letter is not required.</p> <p>2. The services offered by the firm may be considered of value in connection with the corrective actions to be taken on Texas Towers Nos. 2 and 3. It is suggested that this brochure be brought to the attention of the First Naval District for their information and use as may be necessary.</p>			
Copy to: Major Hartman, SAFLL			
FROM NAME OR TITLE RAY C. HODGDON		DATE 17 Jul 61	
ORGANIZATION AND LOCATION APOCE-RA The Pentagon Room 5C 440		TELEPHONE 77474	

DD FORM 95 1 FEB 50 1950 Edition DA Form 95, 1 Feb 50, and AFHQ Form 12, 19 Nov 51, which may be used. 16-48874 GPO

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIGNATURE ACTIONS	
1 NAME OR TITLE <b>Captain H. Stevens, Jr., USN, Y&amp;D</b>	INITIALS <b>X</b>	CIRCULATE	
ORGANIZATION AND LOCATION <b>Room 2C53 Y&amp;D</b>	DATE	COORDINATION	
2		FILE	
		INFORMATION	
3		NECESSARY ACTION	<b>X</b>
		NOTE AND RETURN	
4		SEE ME	
		SIGNATURE	
REMARKS SUBJECT: Texas Towers Nos. 2 and 3			
<p>1. The attached brochure from Basic &amp; Experimental Physics, Consulting Scientists and Engineers, Box 609, Falmouth, Cape Cod, Mass., is being forwarded to your office in accordance with verbal direction, by phone, from Major Hartman, SAFLL, I 57394, who received it from Senator Saltonstall's office. Reply to the letter is not required.</p> <p>2. The services offered by the firm may be considered of value in connection with the corrective actions to be taken on Texas Towers Nos. 2 and 3. It is suggested that this brochure be brought to the attention of the First Naval District for their information and use as may be necessary.</p>			
FROM NAME OR TITLE <b>NAT C. HODGSON</b>	DATE <b>17 Jul 61</b>		
ORGANIZATION AND LOCATION <b>AFOCE-BA The Pentagon Room 5C 440</b>	TELEPHONE <b>77474</b>		

DD FORM 1352 1 FEB 59 95 (Supplies DIA, AFHQ, FPO, etc., 1 Apr 61, and AFHQ Form 12, 10 Nov 51, which may be used.) 11-48487-4 GPO

File Texas Towers

ACR

UNCLASSIFIED

14 July 61

86091

ROUTED  
ROUTED

BY MAIL

ACT AND APP. DIV.

INFO: OAL AND OIR HQ OIR AND OIR

UNCLASSIFIED FROM [unclear]

Reference message [unclear] [unclear], dated 13 July 1961.  
Representative of [unclear], [unclear] headquarters has obtained information  
agreement from representative of [unclear], U.S. Navy, 1st Fleet Area.  
District will accomplish work indicated in above referenced message.

Request expeditious action be taken to contact First Naval District

AFOCE-NE AFOCE M AFOCE-E  
for initiation of subject work. Hodgkn.  
13 Jul 61  
by phone

cys to:  
AFOCE-NE  
AFOCE-M  
AFOCE-E  
~~AFOCE-NE~~ AFOCE-ER  
AFOCE  
BUOCCAS ATIS  
Capt. Stevens

13 1600  
Jul 1961

AFOCE-NE  
Mr. Lt. Col. Sanford  
9903

S/V Winston Lawler

JOINT MESSAGE FORM		SECURITY CLASSIFICATION	
		UNCLASSIFIED FOR OFFICIAL USE ONLY	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER			
PRECEDENCE	TYPE MSG (C/M/S)	ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION: ROUTINE	CLASS: MULTI	AF	
INFO: ROUTINE	I		
FROM: HQ USAF	SPECIAL INSTRUCTIONS		
TO: ADC HBT AFB COLO			
INFO: 551 AEW CON WD OTIS AFB MASS			
UNCLAS AFOCE-EA 85476			
FOR OFFICIAL USE ONLY. Reference: Report on Examination of Texas Towers TT-2 and TT-3 - June 1961 by Moran, Proctor, Masser and Rutledge under First Naval District. Request immediate action to properly maintain foundations Texas Towers Nos. 2 and 3. Engineering investigation reports need for rip-rap adjacent to tower legs to correct and preclude further scouring of adjacent ocean bottom. This work is properly a P & I & maintenance charge and should be undertaken soonest with funds available your command. Provisions of AFR 93-3 as it relates to approval of Class A maintenance will apply. Proper size and extent of rip-rap to be verified with the First Naval District. Every effort must be made to have work completed prior to storm season. Request advice your proposed action.		Coord AFOCE-EA Stbk AFOCE-EA R/File AFOCE AFABY BuDocks ATTN: Captain Stevens AFOCE-M	
		DATE	TIME
		12 <sup>TH</sup>	1525
		JULY	1961
SYMBOL		SIGNATURE	
AFOCE-EA		E. H. CURTIN	
TYPED BY: SAJ G. HENNING		Brigadier General, U. S. Air Force	
PHONE: 7747A		Deputy Director for Construction	
SECURITY CLASSIFICATION: UNCLASSIFIED		Civil Engineering, DCS/O	
FOR OFFICIAL USE ONLY			

DD FORM 173 1 MAY 57

REPLACES DD FORM 173, OCT 49, WHICH WILL BE REQUIRED UNTIL EXHAUSTED

JOINT MESSAGE FORM		SECURITY CLASSIFICATION <b>UNCLASSIFIED</b> (FOR OFFICIAL USE ONLY)		
SPACE BELOW RESERVED FOR COMMUNICATION CENTER				
PRECEDENCE	TYPE MSG (Check)		ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION <b>ROUTINE</b>	BOOK	MULTI	SINGLE	
INFO <b>ROUTINE</b>		<b>X</b>		AF
FROM: <b>Hq USAF</b>				SPECIAL INSTRUCTIONS
TO: <b>AFC INT AFB GORD</b>				
INFO: <b>22L AMN COM US OTIS AFB MASS</b>				M/R: This approval is in consonance with definition of Maintenance contained in "Glossary of Terms" DOD/TOAD.2 <sup>nd</sup> Edition  Send AFCE-2A Send AFCE-2B R/FILE AFCE R/AF Release ATTN: Captain Steven AFCE-2
UNCLAS AFCE-2A FOR OFFICIAL USE ONLY. Reference Report on Examination of Tonne Tonne TT-2 and TT-3 - June 1961 by Moran, Proctor, Hesser and Rutledge under First Naval District. Request immediate action to properly maintain foundations Tonne Tonne Nos. 2 and 3. Engineering investigation reports need for rip-rap adjacent to tower legs to correct and provide further securing of adjacent ocean bottom. This work is properly a P & I S maintenance charge and should be undertaken consistent with funds available your command. Provisions of AFM 93-3 as it relates to approval of Class A maintenance will apply. Proper size and extent of rip-rap to be verified with the First Naval District. Every effort must be made to have work completed prior to storm season. Request advise your proposed action.				
SYMBOL		SIGNATURE		
SYMBOL <b>AFCE-2A</b> TYPED NAME AND TITLE (Signature, if required) <b>LTJG G. BRENDS</b>		TYPED (or stamped) NAME AND TITLE <b>AFCE-2</b>		
PHONE UNCLASSIFIED (FOR OFFICIAL USE ONLY)		DATE TIME 12 MTH 1962		



*Western Electric Company*

INCORPORATED

220 CHURCH STREET NEW YORK 13, N.Y.

WOrth 4-5400

July 12, 1961

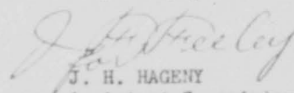
Subject: Automatic Time-Phased Downgrading and Declassification System

To: All Agencies Receiving the Schedule for SAGE Buildings Report

Based on the revision to the Industrial Security Manual for Safeguarding Classified Information, dated May 1, 1961, all classified material originated by, or under the jurisdiction of the Department of Defense, its components, and its contractors, is subject to a continuing system of automatic downgrading and declassification. Based on the descriptions of classified material contained in this manual the Schedule for SAGE Buildings Report is judged to be classified as group 4, and should be treated as such. The document received by your office should, therefore, be marked plainly as follows:

Downgraded at 3 Year Intervals  
Declassified After 12 Years  
DOD DIR 5200.10

Very truly yours



J. H. HAGENY  
Assistant Superintendent  
Prod. Control, Scheduling  
and Funding



DEPARTMENT OF THE AIR FORCE  
OFFICE OF THE SECRETARY

MEMORANDUM

11 July 1961

NOTE FOR MR. HODGDON, APOCE

Returned pursuant to our conversation.  
Instead of the attached, we would suggest a  
letter to Mr. Harrington for Colonel McHugh's  
signature. This is the normal practice.

Lt Colonel Stoddard, SAFLL, Ext 7-6716,  
can help on White House liaison procedures.

*BZG*

BERT Z. GOODWIN  
Assistant to the General Counsel

*Handwritten notes:*  
I have  
returned 14 July 61 w/ Goodwin  
should be advised of  
to a part of the...  
Call Stoddard next week  
help action on this paper  
should be...  
BZG

AFCEE-2 71215

- 1 SAFCO Coord
- 2 AFCSA Coord
- 3 AFCEC Coord
- 4 AFCEC Appr
- 5 AFCCS Appr
- 6 SAFIE Coord
- 7 SAFS Sig

Mr. C. W. Harris

ned

Texas Tower #4

1. Following the unfortunate collapse of Texas Tower #4, the White House received a message dated 12 March 1961 from the Vice President, Massachusetts State Council of Carpenters, requesting that the wreckage of the tower not be destroyed pending underwater surveys by counsel for the survivors. He further indicated that he had "unearthed appalling design and construction condition". In reply, the White House indicated that the tower would not be destroyed and that an examination of the remaining tower structure would be made as soon as weather conditions permit. The reply also invited the presentation of the information regarding the design and construction condition to an Air Force investigator. To date, no information has been furnished.

2. Testimony before the Senate Preparedness Investigating Subcommittee of the Committee on Armed Services by a qualified, disinterested witness indicated that further underwater investigation of the wreckage would be of no value. The Bureau of Yards & Docks, construction agency for the tower and, therefore, experienced in the matter, has formally advised that the cost of an underwater survey would be in excess of \$500,000. In view of the high cost and the relatively limited amount of information to be gained, the Bureau does not recommend further underwater investigation.

3. Testimony before the Senate Subcommittee by experts in the marine design and construction field was to the effect that the failure was due to accumulative damage caused by severe storms creating loadings approaching and exceeding the original design criteria. Repairs could not be completed for damage caused by one storm before another came along. The tower failure therefore occurred due to this accumulative damage rather than to overstrengthening because of metal fatigue. Since divers found the structure to be in a twisted, broken condition, a costly and hazardous survey will provide little, if any, information as to the cause of failure.

RECOMMENDATION

4. In view of the above, it is recommended that the attached letter to the President, which requests relief from the commitment to make further underwater surveys of the collapsed tower, be signed and dispatched.

M/R: These papers not dispatched  
 X Orig and copies DESTROYED

1 Atch  
 Ltr to the President  
 w/2 Incls

AFCSA SAFIE  
 SAFCO AFCEC

- X AFCEE-E Stybek
- X AFCEE-E R/File
- X AFCEE-E Coord
- X Info of Sig
- X AFCCS
- X AFCEC
- X SAFS File cy

1233

Dear Mr. President:

Reference is made to telegram of March 12, 1961 from Mr. Mike Harrigan, Vice President of the Massachusetts State Council of Carpenters and to your reply thereto under date of March 22, 1961 relative to an underwater survey of the wreckage of Texas Tower #4.

In addition to the considerable amount of information obtained by the divers after the collapse of Texas Tower #4, investigation by an Air Force Board of Officers and the Senate Preparedness Investigating Subcommittee of the Committee on Armed Services has developed extensive engineering reasons as to the cause of the failure. The Board and the Senate Subcommittee obtained testimony from operations and maintenance personnel and outstanding experts in the field of marine design and construction.

The testimony indicates that in the succession of storms approaching and exceeding the original design criteria, it was impossible to maintain and repair the damage of one storm prior to the onslaught of the next storm. This resulted in an accumulation of damage that finally caused the failure of the structure.

The Bureau of Yards & Docks, after study of the matter, indicated that it would cost in excess of \$500,000 to make the hazardous additional underwater surveys and review of design. The Bureau recommends against the surveys because of the high cost with no expected appreciable amount of information resultant therefrom. The Bureau's belief that small or no gain could be obtained was confirmed during the Senate Hearings by a disinterested marine design and construction witness.

In view of the extremely high cost of the additional underwater surveys with only a probability that some information as

AFCCB-3 Stybok  
AFCCB-3 Coord  
AFCCB-3 R/File  
AFCCB Cy  
AFCCB Cy  
C/O of Sig-SAFS  
SWS File Cy  
AFCSA AFCSB  
SAFIE SAFSC  
Cy for Navy

In the event the lower failure could be gained, it is recommended that Mr. Garrison be informed that such matters will not be made.

Respectfully yours,

Enclosures

- 1. Telegram, March 15, 1961
- 2. Reply from the Air Force side to the President, March 17, 1961

The President

The White House

COORD: AFCE-E AFCE-3 AFCE BuDocks SAFLL AFOP

Adm Church  
by phone  
14 June 61

*Chapman*  
*Stowers*  
*McDonald*

AFCIG AFCJA SAFCE SAFIE

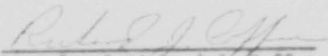
*Arbuck*

Boston, Mass -- March 12

The President  
The White House

Respectfully request appointment with you regarding recent Texas Tower disaster. All but 3 of the civilian dead were pile drivers and divers of our union. 2 of the others were operating engineers. Have unearthed appalling design and construction condition which should be brought directly to your attention. Tower should not be destroyed as menace to navigation until survivors counsel agents can make surveys and tests of ocean floor and tower structure; prior to doing anything that will change the wreck's present condition. This wire confidential and is not being released to press or any other parties or agencies. kindest personal regards. Mike Herrigan, VP, Mass. State Council of Carpenters.

This is a certified true copy.

  
Lt Colonel Richard J. Coffee  
Executive Officer, Engineering Division  
Directorate of Civil Engineering, DCS/C

Transcript of Wire sent by Colonel McHugh to Mr. Harrington, relayed over phone by White House secretary 27 March 1961.


FROM: White House, Washington dated 22 March 1961

TO: Mike Harrington  
Vice President  
Massachusetts State Council of Carpenters  
546 E. Fifth Street  
South Boston, Massachusetts

The President asked me to reply further to your telegram of March 12, and to convey to you the assurance that he fully appreciates and shares your deep concern regarding the Texas tower disaster. Further, he hoped you will understand that an appointment at this time to discuss design and structural matters would be premature in as much as the complete facts regarding underwater conditions which caused the disastrous breakdown of Texas Tower No. 4, and the tragic loss of lives are not yet available. The extremely adverse weather conditions in the North Atlantic during this season preclude completion of necessary examination of the remaining tower structure. The President has been assured that this phase of the investigation will be accomplished as soon as weather conditions permit, and until this is completed, no action whatsoever will be taken to destroy the remaining vestiges of the tower. In the meantime it would be most helpful if you could present your information concerning this tragic accident to an Air Force investigator. Please let me know by return telegram if you wish to meet with this investigator, and the time and place most convenient to you.

Signed... GODEFREY T. MCHUGH,  
Colonel, USAF  
Air Force Aide to the President

This is a certified true copy.

  
Lt Colonel Richard J. Coffey  
Executive Officer, Engineering Division  
Directorate of Civil Engineering, DCS/C

AFCJA 53260

- 1 SAFOC Coord
- 2 APOCE Coord
- 3 AFCIG Coord
- 4 APOIC Appr
- 5 AFCCS Appr
- 6 SAPIO Coord
- 7 SAFS Sig

Colonel Averbuck yrt

Texas Tower #4

1. I concur in the recommendation that the President be requested to withdraw the requirement to make an underwater survey of the wreckage of Texas Tower No. 4. It is unlikely, according to marine experts, that information of value would be obtained, sufficient to warrant the hazards and expenditure necessary to conduct such an investigation. However, the Department of Justice received a letter from George J. Engelman, attorney for next-of-kin of certain of the civilian construction workers who lost their lives when the tower collapsed, in which Mr. Engelman requested permission to make an underwater inspection of the tower. Such permission was withheld pending the determination as to whether the Air Force would make an inspection. Should it now be decided that the Air Force will not undertake this task, opportunity should be offered Mr. Engelman to have such an inspection made at his own expense and risk and without any expense, liability, obligation or responsibility on the part of the Government. The Department of Justice and the Air Force have no objection to such an inspection upon these terms.

RECOMMENDATION

2. It is therefore recommended that the order countermanning the requirement for an underwater investigation by the Air Force be subject to the condition that Mr. Engelman be offered the opportunity to have such an investigation made and that the wreckage of Texas Tower No. 4 not be destroyed unless he declines; or if he accepts, that the wreckage not be destroyed until he has had a reasonable time to complete such an investigation.

- \*SAFWE \*APOCE Off Sig
- \*SAFOC \*AFCCS APOIC
- \*AFCIG \*SAFS File Cy

Col Averbuck

Col Taggart

Gen Kuhfeld

X Copies DESTROYED also original

M/R: No record of dispatch

11 July 61.

Harry - Mr Gordon Edwards 74934

Meeting to discuss A's final report on TT-2+3.  
Now scheduled for week of 24 July -  
Has desired to advance this if possible -

Capt Stevens - 77274.

Talked to Mr G. Edwards <sup>(at 1520 hrs.)</sup> He did not  
prepare the letter setting up the meeting  
not later than 24-28 July - He indicated  
that Capt Stevens - 77274 handled this  
paper.

Mr Edwards concurs with any effort to  
stabilize the ocean bottom at TT-3. He  
also feels this should be done without  
further delay - He will talk to Capt  
Stevens about this and convey the AF  
idea that it should be done now -  
He will also have Capt Stevens call  
Col Stephenson in regard to his problem.

(over)



<sup>1034</sup>  
Mr. Edwards - Budo - called back -  
They are awaiting call from their representative  
at present in the A/E's office and will call  
this day (Col Stephens) tomorrow morning  
12 July 61

12 July 61  
Working in Gen Burton's office - Jack Johnson  
Col Stephens - Doughton - Fardis  
re: Texas Power foundations  
Cost estimator's Reprap -

Note: Called Mr Edwards - Budo -  
He will contact Capt Stevens before he call.  
my. in order to get something from the  
A/E on the cost of placing this rep-rap.

AFMIS-03/LtColCrossey/mel/71975  
Wrtm 23 Jul 54

MEMORANDUM (Encl) AEW Program  
TO: Director of Operations, ICS/O

*See per 1c for TET*  
23 JUL 1954  
MEMO NO 7  
AFMIS-03/LtColCrossey/mel/71975

1. Information concerning design and construction of facilities listed in paragraph 1 comment 1 is outlined below:

a. Low Altitude Radar Filler Radar

- (1) Siting Issues: The services of an A/E firm to prepare plans, specifications and working drawings for these facilities has been obtained. These plans should be available by second quarter FY 1955, in time to meet the proposed schedule to start construction during this period. The Chief of Engineers has been requested to assist Air Defense Command in siting these facilities.
- (2) Actions Contemplated: Providing the siting surveys will be accomplished as scheduled, it is expected that OGE will provide construction of facilities as scheduled for all sites in the FY 55-56 PWP, 125 and 100 sites respectively.
- (3) Additional Information Required: Criteria as to weight, size and power required by the equipment to be used for these facilities. Since this information has not been furnished it is contemplated the A/E selected along with representatives from this Headquarters will secure this information in the near future.
- (4) Problem Areas Encountered: In addition to criteria mentioned in paragraph 3 above, the realization of completed site surveys upon which to base design and construction will be a continuing problem.

b. High Altitude Documentation Radar Program

- (1) Action Target: Design Guidance issued for twenty-five (25) third phase mobile sites as contained in the FY 55 PWP. OGE has been requested to assist ICS in the siting of these facilities.
- (2) Actions Contemplated: OGE will construct these facilities upon approval of the site survey reports by this Headquarters. If the site survey reports are accomplished and approved as scheduled, it is expected that the construction of these 25 sites will meet the target date.

SUBJECT: (Uaci) C&W Program (Continued)

b. Third Phase Augmentation Radar Program (Continued)

- (3) Information Required: Approval of Site Survey Reports.
- (4) Problem Areas Encountered: Delay in receiving site survey reports.

c. Implementation of Texas Towers

- (1) Action Taken: Design Guidance issued to Department of Navy, Bureau Yards & Docks who, in turn, have awarded a contract to an A/E firm to investigate and design these (1) (5) sites. Preliminary drawings have been submitted to this Headquarters and will be discussed at a conference at MAW, Stewart AFB, 23 July 1954.
- (2) Action Contemplated: It is anticipated that the design of the Texas Towers will be accomplished by 1 December 1954. Construction will start on the superstructures about February 1955. Installation at the locations should begin approximately June 1955 with the exception of the one (1) site off New York City which is in deep water. This site presented a design and construction problem which has not as yet been resolved.
- (3) Additional Information Required: Manning, logistic plans and type of communication from site to shore.
- (4) Problem Areas Encountered: The means of providing a site in 100 ft depth of water is presenting a major engineering problem.

2. A series of Field Conferences with MAWP, CAWP and NAWP are to be conducted during first quarter, FY 1955. Siting, criteria, real estate and design problems will be discussed and resolved to the greatest possible extent. These conferences will reveal additional information and problem areas which will be furnished as appropriate.

*Swank*  
*LT Col*

COGND: AF01X-03

M/R: Comments 2 thru 4 & 6 are not applicable to this Directorate.

WILLIAM E. LEONHARD  
Colonel, U. S. Air Force  
Deputy Director of Construction  
Assistant Chief of Staff, Installations  
AF01X-0 AF01X-3

*37 Col. H. J.*

*Col. Jewell*  
Approved: \_\_\_\_\_  
Special Agent in Charge  
Date: \_\_\_\_\_  
Sgt: \_\_\_\_\_

AFOCE-E/Mr. Harris/71215/mcd/6 Jul 61  
REWRTN: " " " " "

AFOCE-E

Wind and Wave Conditions at Texas Tower Locations

6 JUL 1961

Chief, Bureau of Inade - Decks

1. Reference is made to your letter of 5 July 1961, subject as above.
2. In view of the continuing requirement for Texas towers No. 2 and 3, this headquarters is concerned at the conclusion in paragraph 4 of referenced letter that these towers have probably not experienced conditions as severe as those which may occur in the future. This appears to indicate or anticipate future damage to the towers which could result in interruption of operations.
3. The completion and evaluation of the Architect-Engineer report, which was initiated last January, should be accomplished at the earliest possible date in order that current Air Force hurricane and storm evacuation plans can be reviewed and revised if necessary.
4. Upon completion of your review of the Architect-Engineers final report, your recommendation as to the safety and seaworthiness of the two towers is desired.
5. This headquarters concurs in meeting with your Bureau to discuss the condition and future of the towers. It is believed, however, that the contemplated date for the week of 24 - 28 July should be advanced as much as possible in view of the impending hurricane and winter storm seasons. Request earliest possible notification of firm date for the meeting in order that representatives of the using agency can be made available.

R. H. CURTIN  
Brigadier General, U. S. Air Force  
Deputy Director for Construction  
Directorate of Civil Engineering, DCS/O

cc: SDC  
26th Air Div  
SCMDS  
551st  
AFCEP  
AFCSA  
AFOCE-E R/File  
AFOCE-E Coord  
AFOCE-E Stybak

COORD: M/R/ This rewrite is substantially same as previous writing thus coordinations remain valid.

*U. W. Harris*  
U. W. HARRIS

AFOCE-E/Mr. Harris/6 July 1961/med//1445

AFOCE-E

Wind and Wave Conditions at Texas Tower Locations

Chief, Bureau of Yards and Docks

1. Reference is made to your letter of 5 July 1961, subject as above.
2. In view of the continuing requirement for Texas Towers 2 and 3, this headquarters is concerned at the indication in paragraph 2 of referenced letter that these towers have probably not experienced conditions as severe as those which may occur in the future. The completion and evaluation of the report should be accomplished at the earliest possible date in order that current Air Force hurricane and storm evacuation plans can be reviewed and revised as necessary.
3. Upon completion of your review of the architect-engineers final report, your recommendation as to the safety and seaworthiness of the two towers is desired.
4. This headquarters concurs in meeting with your Bureau to discuss the condition and future of the towers. It is believed, however, that the contemplated date for the week of 24 - 26 July should be advanced as much as possible in view of the impending hurricane and winter storm seasons. Request earliest possible notification of firm date for the meeting in order that representatives of the using agency can be made available.

cc: ADC  
 26th Air Div  
 BUJDS  
 551st  
 AFOP  
 AFCJA

COORD: ADC  
 Col Schyler by  
 phone 6 Jul 61

AFOOP  
 Col Hansen by  
 phone 6 Jul 61

AFCJA      AFOCE-E      AFOCE-3      AFOCE

AFOCE-E R/File  
 AFOCE-E Coord ✓  
 AFOCE-E Stybek



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

IN REPLY REFER TO  
6-110/E-202B/JRA:bmy

5 JUL 1961

From: Chief, Bureau of Yards and Docks  
To: Chief, Air Defense Division, Directorate of Operations,  
Headquarters, U. S. Air Force

Subj: Wind and Wave Conditions at Texas Tower Locations

1. At the request of the Department of the Air Force, the Public Works Officer, First Naval District instituted an investigation into the physical condition of Texas Tower No. 2 at Georges Shoals and Texas Tower No. 3 at Nantucket Shoals. The Architect-Engineer who designed the towers was employed to assist in this investigation.
2. As a part of the work, a study of the wind and wave design criteria for these towers has been made and a report, dated 25 May 1961, has been prepared by Professors Neumann and Pierson of New York University. An advance copy of the report was forwarded to the Commanding Officer, Otis Air Force Base, Massachusetts. The report concludes that these towers have probably not experienced conditions as severe as those which may occur during the passage of hurricanes in the future.
3. In a preliminary review, the Bureau finds several questionable areas in the arguments leading to the conclusions. These matters will be taken up with the authors in an attempt to resolve them.
4. The Bureau expects to receive the Architect-Engineer's complete report in the near future. After an evaluation of it, the Bureau desires a meeting with the Air Force to discuss the present condition and the future outlook for these towers. It should be possible to schedule the meeting not later than the week of 24 to 28 July 1961. Further information on arrangements will be forwarded as soon as possible.

Copy to:  
AFDCE

P. CORRADI  
Rear Admiral, CEC, USN  
Deputy Chief of B. Y. D.





DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

IN REPLY REFER TO

C-311/GCE/ce

23 MAY 1961

From: Chief, Bureau of Yards and Docks  
To: Headquarters, U.S. Air Force  
Directorate of Civil Engineering  
Engineering Division  
The Pentagon  
Washington 25, D.C.

ATTENTION: Mr. Harris

Subj: Architectural and Structural Plan; Specifications and  
Design Analysis for Texas Towers Nos. 2 and 3

Ref: (a) Department of the Air Force letter  
to BuDocks of 5 May 1961

1. Information requested by reference (a) is not available in this Bureau. It is understood that all tracings of as-built plans are being held by the Department of the Air Force at Otis Air Force Base. It is believed that final design analysis may be obtained from the office of Moran, Proctor, Mueser and Rutledge at 415 Madison Avenue, New York, New York.

2. There is only a single copy of Specification No. 47140 held in this Bureau. This is a voluminous document which will be expensive to reproduce and it is therefore suggested that the architect-engineer may also have a spare copy of the specification. If it is not available, however, and an information copy is still desired the Bureau will initiate reproduction of an additional copy for your use.

*J.H. Gehring*  
J.H. GEHRING  
By direction





DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

IN REPLY REFER TO  
C-311/GCE/cer

23 MAY 1961

From: Chief, Bureau of Yards and Docks  
To: Headquarters, U.S. Air Force  
Directorate of Civil Engineering  
Engineering Division  
The Pentagon  
Washington 25, D.C.

ATTENTION: Mr. Harris

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J.H. GEHRING  
By direction

FOCE-EA/Mr Hodgdon/ald/77474  
3 May 61

MAY 5 - 1961

AFOCE-EA

Architectural and Structural Plans, Specifications  
and Design Analysis for Texas Towers - #2 and #3

Bureau of Yards and Docks, D/W

It is requested that one copy of the Architectural and Structural  
Plans, together with specifications and the final Design Analysis  
for Texas Towers # 2 and #3 be furnished this Headquarters for  
information purposes as soon as possible.

FOR THE CHIEF OF STAFF:

C. W. HARRIS  
Chief, DCS, Engineering Division  
Department of Civil Engineering, DCS/O

AFOCE-EA

AFOCE-E

*[Handwritten signature]*  
*[Handwritten signature]*  
W. C. Hodgdon  
1635-32461

Coord AFOCE-EA  
Stbk AFOCE-EA  
R/File AFOCE

26 April 1961

ELIAS TORRES  
(P-321 FUND)

	<u>BUDGET</u>	<u>OCG</u>	<u>TOTAL</u>
GEORGETOWN SHOAL, TT-2	\$12,078,380	\$298,970	\$12,377,350
LAZARUS SHOAL, TT-3	2,985,615	75,372	10,060,907
NEW YORK SHOAL, TT-4	10,300,616	60,550	10,369,166
TOTAL	\$32,360,611	\$334,892	\$32,695,503

1. A

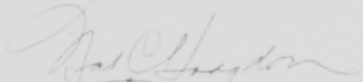
AFCE-EA

24 April 1961

MEMORANDUM FOR RECORD

SUBJECT: Texas Tower Letter 15 March 1960 from District Public Works Office, 1st Naval District to AFCE-NE

1. In order to determine what action was taken on subject letter a telecon with Colonel Dusenbury, AFCE-NA, revealed that there was no direct answer made to the 1st Naval District. However, a copy of the basic letter was forwarded by Lt. Colonel R. C. Stephany, AFCE-NE, to Colonel White, Base Commander, 551st AEW&C Wing, Otis AFB on 18 March 1960.
2. In a later telecon with Mr. McConnell, Deputy to Lt. Col. Cochrane, Base Engineer, it was found that A-E services had been contracted for to perform the work of designing additional bracing for TT4 prior to receiving the copy of the letter by the 1st Naval District Public Works Officer. Therefore it could not be acted on.



NAT C. HODGDON  
Architectural Branch  
Engineering Division  
Dir/Civil Engineering, DCS/O

1 Atch  
Cy ltr fr 1st Nav Distr to  
AFCE-NE, 15 Mar 60

TEXAS TOWER #4

C-100  
WOO:FT  
4130

Lt. Colonel R. C. Stephany  
U. S. Air Force  
New England Civic Engineer Region  
424 Trappole Hill Road  
Waltham 34, Massachusetts

13 March 1969

Dear Lt. Colonel Stephany:

Several weeks ago Colonel Cipolla discussed with me the motion difficulties being experienced by Texas Tower #4. At that time, the basic cause for the exaggerated motion was not definitely known. However, it was suspected that it was probably due to motion of the underwater collars to which the horizontal and diagonal bracing members are attached. It was contemplated that correction of the motion difficulty would involve installation of additional bracing above the water level at an estimated cost of \$500,000.00. I advised Colonel Cipolla that while I definitely did not wish to become involved in problems of a purely maintenance nature on the Texas Towers, the motion difficulty appeared to be related to the original design and for this reason I would look favorably upon a request for the Navy to administer both the engineering and repair contracts required for correction of the difficulty.

Last week I received your memo furnishing me copies of the diving contractor's data and Otis Air Force Base request for authority to engage an A&E to develop plans, specifications and cost estimate for necessary repairs to the underwater structural bracing. However, I have not as yet received any correspondence of a formal nature which would indicate the intention of your office for the Navy to award and administer the A&E contract.

If it is your intention that the District Public Works Office award and administer the A&E contract, it is suggested that formal notification be furnished. Also, since the Otis Air Force request for A&E authority did not mention funds, it is considered appropriate to mention that the A&E fee will probably approximate \$30,000.00 based upon the \$500,000.00

With best personal regards,

Sincerely,

A CERTIFIED TRUE COPY:

CHARLES A. HARRIS, JR.  
Major, USAF  
Administrative Officer  
331 Aerospace Wing

T. J. WHITE  
Capt. (CDR) USN  
District Public Works Officer

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS	
1 NAME OR TITLE	INITIALS		CIRCULATE
Mr C. W. Harris (AFOCE-E)			
ORGANIZATION AND LOCATION	DATE		COORDINATION
Hq USAF			
2			FILE
			INFORMATION
3			NECESSARY ACTION
			NOTE AND RETURN
4			SEE ME
			SIGNATURE
REMARKS			
<p>In accordance with your verbal request, the following information is furnished:</p> <p>a. Statement of Work, Safety Inspection of Texas Towers 2 and 3.</p> <p>b. Listing of maintenance and repair contracts, Texas Tower 4. (for Col Gill)</p>			
FROM NAME OR TITLE	DATE		
John J. McConnell <i>John J. McConnell</i>	28 Apr 1961		
ORGANIZATION AND LOCATION	TELEPHONE		
Asst Deputy Comdr for Civil Engineering	817		

NEGOTIATED CONTRACT	NAVI	DATE OF AWARD	DATE OF COMPLETION
District Public Works Office First Naval District 495 Summer Street Boston, Massachusetts	Officer in Charge of Contract WBY-17417 District Public Works Office FIRST Naval District 495 Summer Street Boston 10, Massachusetts	1 Feb 1956	1
Moran, Proctor, Hueser & Rutledge 415 Madison Avenue New York 17, New York	Officer in Charge U. S. Navy Regional Accounts Office THIRD Naval District 3rd Avenue & 29th Street Brooklyn 32, New York		
Investigation and Report pertaining to Structural Condition of Texas Towers TT-2 and TT-3 (George's Bank and Nantucket Islands)	Officer in Charge of Contract WBY-17417 District Public Works Office FIRST Naval District 495 Summer Street Boston 10, Massachusetts		
<p>Appropriation FUNDING MONEY, ReControl No. 62464/01201, Expenditure Account Class. No. 50017 Object Class. No. 070- O/A No. 4- (1951), \$63,057.00.                  Appropriation FUNDING MONEY, Allotment No. 62464/99231 issued to PCMO, LTD. Allot Acct'g by: 62464 Expenditure Account Class. No. 50017 Object Class. No. 070 \$63,057.00 (Ultimately reimbursable by Standard Form 1-60 from AF Appropriation: 571340; Allotment Serial 179-2611, Project App. No. 01-0790, Station No. 2407400 ON Advice No. 01-134 Onis (7B) -</p>			
<p>CONTRACTOR REPRESENTS</p> <p>1. That the CONTRACTOR IS NOT a small business concern; A small business concern is the construction industry, for the purpose of Government procurement, is a concern that: (1) is independently owned and operated, (2) is not dominant in its field of operation, and (3) the average annual receipts of the concern and its affiliates for the preceding three years are \$7,500,000.00 or less. (See Code of Federal Regulations, Title-43, Chapter II, part 101, 21 Fed. Reg. 9799).</p> <p>2. (a) That CONTRACTOR HAS NOT employed or retained any company or person other than a full-time bona fide employee working full-time exclusively to solicit or secure this contract, and (b) that CONTRACTOR HAS NOT, paid or agreed to pay any company or person other than a full-time bona fide employee working solely for the contractor any fee, commission, brokerage or kick-back fee, contingent fee or resulting from the award of this contract, and agrees to furnish information relating to (a) and (b) above as requested by the Contracting Officer. (For interpretation of the representation including the term "bona fide employee" see Code of Federal Regulations, Title 48, Part 101-11.6)</p> <p>3. That CONTRACTOR OPERATES AS <input checked="" type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> CORPORATION incorporated in the State of _____</p> <p>The Contractor agrees to furnish and deliver all the supplies and perform all the services set forth in the attached Schedule for the consideration stated therein. The rights and obligations of the parties to this contract shall be subject to and governed by the Schedule and the General Provisions. In the event of any inconsistency between the Schedule or the General Provisions and any specifications or other provisions which are made a part of this contract by reference or otherwise, the Schedule and the General Provisions shall control. To the extent of any inconsistency between the Schedule and the General Provisions, the Schedule shall control.</p> <p>The total amount of this contract is \$3,057.00</p>			
MORAN, PROCTOR, HUESER & RUTLEDGE NAME OF CONTRACTOR	UNLESS NOTED OTHERWISE		
BY /s/ Philip C. Rutledge Philip C. Rutledge TITLE NAME	BY /s/ W. R. Boyer W. R. Boyer, Capt. (USN) USN Civil Engineer Corps, USN Port Chief, Bureau of Yards and Docks Contracting Officer		

DD FORM 1281

Navdock 403 (Rev. 4-50)

SCHEDULE

It has been determined that the execution of this contract is advantageous to the national defense and that the existing facilities of the Naval Establishment are inadequate.

1. SERVICES. The Contractor, in the shortest reasonable time, shall investigate the structural condition of Texas Towers 2 and 3 and shall furnish the Government a report thereof. The Contractor shall:

a. Make an examination of all accessible critical welded connections in the tower structures by means of magnafixing, radiographic examination, or other means necessary to provide maximum possible evidence of absence or presence of defects in or near these connections. The critical connections shall include those of the shear plates between the tower legs and the main structural members of the platforms, connections within the main structural members near the tower legs, top and bottom deck plates near the tower legs, and joints in the legs themselves close to the platform.

b. Make spot checks of welded joints in the main structural members of the platforms at points away from the critical stress points.

All services to be rendered hereunder shall be subject to the direction and approval of the Officer-in-Charge.

2. COMPENSATION. The Contractor shall be paid the lump sum of \$3,057.00 as full compensation for all services, labor, material, travel and subsistence required hereby. Partial payments may be made as the work progresses at intervals determined by the Officer-in-Charge and on estimates made and approved by the Officer-in-Charge of services rendered to the time of each payment, provided, however, that 10% of the estimated amounts may be retained until final completion and acceptance of all work covered by the contract. Prior to final payment and as a condition precedent thereto, the Contractor shall execute and deliver to the Government a release in form approved by the Contracting Officer of claims against the United States arising under or by virtue of this contract.

The consideration for labor and subsistence at the towers included in the above consideration is based on the following:

- a. 60 12-hour workdays of scaffolding crew.
- b. 30 12-hour workdays per tower of examining crew.

and, if the number of workdays or workdays actually required, as determined by the Officer-in-Charge, should be varied, the consideration hereunder shall be increased or decreased at the following rates:

- a. \$151.00 per 12-hour workday of scaffolding crew, including subsistence.
- b. \$201.00 per workday per Tower of examining crew, including subsistence.



C-310  
 MH:arc  
 HDY-37417

DISTRICT PUBLIC WORKS OFFICE  
 FIRST NAVAL DISTRICT  
 495 Summer Street, Boston 10, Mass.

HDY-27417

27 January 1961

Moran, Proctor, Messer & Rutledge  
 415 Madison Avenue  
 New York 17, New York

The Government hereby awards you a contract to make an investigation and prepare a report pertaining to the structural condition of Texas Towers TT-2 and TT-3 (George's Bank and Hantucket Shoals), for a lump sum fee to be negotiated at a later date. Under the authority of this notice, you are directed to proceed with the investigation, based on but not limited to the following work, to determine the present capability of the towers to meet the requirements of the original design:

- a. Magnaflux all primary welds and spot check secondary welds.
- b. Inspect Towers at all locations for possible corrosion, damage or structural deficiency.
- c. Determine bottom scour or build-up of material around the Tower legs.
- d. Re-evaluate structural design based on possible revised information to be procured by this office from the Woods Hole Oceanographic Institute concerning increased magnitudes of wind and wave effect that might be encountered.

In performing this work you are authorized to incur expenses in an amount not to exceed \$20,000.00 without the prior written approval of the Officer in Charge.

The formal contract will be prepared on the Bureau's standard contract form for similar projects with such modification therein as the Bureau may determine proper under the particular circumstances. The contract will provide that payments will be made by the Officer in Charge, U. S. Navy Regional Accounts Office, Third Naval District, 3rd Ave. & 29th Street, Brooklyn 32, New York and the cost of the work will be chargeable to Appropriation 17XL205 MOON; Allotment 62404/99201 issued to DFWO, LHD; Allotment Acct'g By 62404; ReControl No. 99201; Expenditure Account No. 98017; Object Class. No. 079. (UL. Initially reimbursable by Std Form 1000 from AF Appropriation 5713400 Allotment Serial 179 3611 Project 499.2 Object 0790 Station No. 8667400 OA Advice No. 61-134 Otis AFB).

The Bureau's standard provisions for termination, at the convenience of the Government or otherwise, shall be applicable to this notice of award.

You are urgently requested to expedite this investigation to the fullest extent.

Please acknowledge receipt and acceptance on the original of this notice and return such original to the District Public Works Officer immediately.

The above award received and accepted  
 this            day of            1961

Very truly yours,

MORAN, PROCTOR, MESSER & RUTLEDGE  
 (Contractor)

By \_\_\_\_\_  
 (Name and Official Title)

Civil Engineer Corps, USN  
 For Chief, Bureau of Yards and Docks  
 Contracting Officer

Encl: Notice w/poster

Copy to:  
 BuDocks(6)  
 FinActg Off, Otis AFB  
 CO, Otis AFB

Copy for: C-320(5)  
 A-500(4) C-300  
 A-400 C-310(5)  
 30(2)

Encl(2)

## LISTING OF MAINTENANCE AND REPAIR CONTRACTS - TEXAS TOWER #4

*PROJECT NR	PROJECT DESCRIPTION	CONTRACT AMOUNT	COST FOR TT #4 ONLY	REMARKS
- FY-59 -				
TT234-9	I&R Cathodic Protection	\$ 11,264	\$ 4,000	
TT24-4-9	I&R Distilling Equipment	3,200	1,600	
TT234-14-9	I&R Boiler Controls	1,560	500	
TT234-26-9	I&R Heating Controls	7,200	2,400	
TT4-37-9	Repair Rectifiers	1,590	1,590	
TT4-29-9	Repr & Inspect Underwater Bracing	35,664	35,664	Obligation Authority 59-46 Navy Contract FY-59 459.1 Project (by Navy) OA 59-18
TT4-7-9	Misc Improv TT #4	12,325	12,325	Work transferred to J R Steers by Navy Completed Jun 1959 (Navy Contr NBY 1648 (Dark Rm Facil, Elect Feeder fr Battery Add'l Lights, Diesel Rm, Thermostat Reloc, Surfacing Deck Evap Rm)
TT234-39-9	Oil Analysis (I&R)	300	100	
	Sub-Total	\$ 58,179		
- FY-60 -				
TT234-15-0	Underwater Inspection	18,633	-0-	
TT234-26-0	I&R Cathodic Protection	11,264	4,000	
TT234-10-0	I&R Oil Analysis	783	260	
TT234-7-0	I&R Boiler Controls	5,620	1,875	
TT234-11-0	Hy drostatic Tests	2,191	730	
TT234-25-0	I&R Johnson Controls	4,800	1,600	
TT234-31-0	I&R Diesel Generator Equipment	11,861	4,000	
TT34-34-0	I&R York Water Chillers	8,900	4,500	
TT4-35-0	Repr Compressor (Chill Water)	734	734	
TT4-36-0	Repr Compressor (Chill Water)	2,812	2,812	
TT34-16-0	I&R Gantry Cranes	3,989	2,000	
	Sub-Total	\$ 22,511		

## \*Legend of Project Nrs:

TT234 - Towers 2, 3, & 4  
 TT24 - Towers 2, 4  
 TT34 - Towers 3, 4  
 TT4 - Tower 4

NOTE: "I&R" refers to service contract  
 related to inspection and repair  
 work.

PROJECT NR	PROJECT DESCRIPTION	CONTRACT AMOUNT	COST FOR TT #4 ONLY	REMARKS
- FY-60 Cont		Carried Forward -\$	22,511	
TT4-4-0	Extr Repainting TT #4	\$ 29,731	\$ 29,731	Scheduled for Summer 1960 - Held up due to above-water bracing contract
TT4-41-0	Repr Gantry Crane	5,860	5,860	
TT24-6-0	I&R Distilling Equipment	5,600	2,800	
TT4-42-0	Emerg Underwater Inspec of Bracing	4,415	4,415	
TT4-46-0	Install Above-water Bracing	560,000	560,000	459 Project
	Sub-Total	\$	625,317	
- FY-61 -				
TT234-101-1	Oil Analysis	2,048	300	Includes Bomarc, North Truro AFS
TT4-410-1	Repr Ventln Syst - Diesel Rm	23,665	23,665	
TT-4-402-1	Repr Insulation - Chill Water Syst	11,959	11,959	
TT24-104-1	I&R Distilling Equipment	7,020	3,510	
TT34-106-1	I&R Crane Equipment	9,778	5,000	459 Project
TT4-401-1	Install 50-ton Chiller	35,200	35,200	459 Project. Change order to J R Steers Contract (TT4-46-0). Includes Engineering (\$10,000), Diving Insp (\$20,000), & Bridge (\$50,000), Magnafluxing (\$20,000)
TT4-46-0	Replace Flying Bridge	100,000	100,000	Change order to JR Steers Contr (TT4-46-0). Under Construction at time of collapse. Includes A-E costs, \$15,000.
TT4-46-0	Install Cable Bracing System	460,000(E)	460,000	
TT4-417-1	Emerg Diving (Rescue & Search)	49,976	49,976	
TT234-26-0	Cathodic Protection	11,264	3,000	
	Sub-Total	\$	692,610	

GRAND TOTAL \$1,376,106

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

AF IN : 47320 (16 Jan 61)

C/WB

ACTION: CIS-3

INFO : CIG-2, OOP-2, OOP-CP-1, OCE-2 (11)

INFO A 878

UECHQC649ZCWB474

OO RJEZHQ

DE RJWFAL 7#

O P 162837Z ZEX

FM AFB COLO

TO RJEZSN/2/AIRDIV WANDOCK FIELD NEW YORK

INFO RJEZHQ/COFS USAF WAFHDC

BT

KNCLAF ADCCS 881754.

ACTION 2/AIR DIV, INFO HQ USAF FORAFOCE. TEXAF TOWERS  
2 AND 3. PART I. TAKE IMMEDIATE EMERGENCY ACTION TO  
CONDUCT A SAFETY INSPECTION OF TEXAF TOWERS 2 AND 3  
BY QUALIFIED ENGINEERING PERSONNEL TO INCLUDE CURRENT  
ARCHITECT ENGINEER AND AVAILABLE UNDER WATER SPECIALISTS.  
THIS ACTION IS TO BE TAKEN AT THE EARLIEST POSSIBLE DATE  
CONSISTENT WITH WEATHER CONDITIONS TO INSURE AGAINST LOSS  
FROM FORECASTABLE WEATHER FACTORS USING ANY AVAILABLE  
RESOURCES. PART II. SYSTEM SHOULD BE DEVELOPED AS SOON

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE

INCOMING

AF IN: 87320 (16 Jan 61)

2 of 2

PAGE TWO RJWFAL 76

AS POSSIBLE TO AFSURE INSTRUMENTATION OR OTHER INDICATORS WHICH WILL INFORM TOWER COMMANDERS OF POSSIBLE OR PROBABLE DANGEROUS CONDITIONS. PART III. INDICATOR REQUIRED ABOVE CAN INITIALLY BE RUDIMENTARY PENDING DEVELOPMENT MORE SOPHISTICATED SYSTEM. IN ANY EVENT INDICATORS SHOULD BE CLEARLY STATED AND IDENTIFIED WITH SPECIFIC STANDARD, EVACUATION, OR EMERGENCY RESCUE SOP. PART IV. ANY A/E OR CONSULTANT SERVICES AVAILABLE MAY BE USED. PART V. ADVISE OF ACTION TAKEN.

BT

16/2038Z JAN RJWFAL

1260



DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE

INCOMING

AF IN: 47380 (16 Jan 61)

2 of 2

PAGE TWO RJWFAL 76

AS POSSIBLE TO AFSURE INSTRIMENTATION OR OTHER INDICATORS WHICH WILL INFORM TOWER COMMANDERS OF POSSIBLE OR PROBABLE DANGEROUS CONDITIONS. PART III. INDICATOR REQUIRED ABOVE CAN INITIALLY BE RUDIMENTARY PENDING DEVELOPMENT MORE SOPHISTICATED SYSTEM. IN ANY EVENT INDICATORS SHOULD BE CLEARLY STATED AND IDENTIFIED WITH SPECIFIC STANDBY, EVACUATION, OR EMERGENCY RESCUE SOPs. PART IV. ANY AVE OR CONSULTANT SERVICES AVAILABLE MAY BE USED. PART V. ADVISE OF ACTION TAKEN.

BT

16/2238Z JAN RJWFAL

1202

AF IN : 50008 (1 Jan 2)

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE

FILE: TEXAS TOWERS

INFC : OOP-2, OOP-CP-1, OCE-2

INCOMING (6)

SMB B 024

OIHQB626ZCBJA068

PP RJEZHQ

DE RBEGUF 037

ZNR

P 012222Z

FM COMEASTAREA

TO RJEZKN/BOADS

INFO RBEGMH/CCGD ONE

ZEN/CCGD THREE

RBEXHC/CINCLANTFLT

RBEGUH/COMEASTSEAFRON

RJEZHQ/COFS HQ USAF WASH

RJWFAL/HQ ADC ENT AFB COLO

RJEZSN/TWO SIX AD HANCOCK FLD

RBEGUK/COMSTSLANTAREA

USCG GRNC

BT

UNCLAS

TEXAS TOWERS SURVEILLANCE

A. YOUR 011628Z

1. USCGC COOK INLET ASSIGNED SURVEILLANCE TEXAS TOWER TWO.

ETA 020730Z.

2. USCGC TAMAROA ASSIGNED SURVEILLANCE TEXAS TOWER THREE.

ETA 020730Z.

3. BOTH VESSELS ARE SUBJECT TO DIVERSION FOR SEARCH AND RESCUE

OR OTHER PRESSING COAST GUARD STATUTORY DUTIES IF REQUIRED

BT NOTE: Reference is not identified in SMB.

E/A

M  
VE

15177



United States Patent Office  
Washington, D. C. 20540



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D. C.

11 December 1958

*E/A*

ADDRESS REPLY TO:  
AF INSTALLATIONS REPRESENTATIVE  
NEW ENGLAND REGION  
424 TRAPELO ROAD  
WALTHAM 54, MASSACHUSETTS  
REFER TO FILE:

*ACOM FILED  
TEXAS TOWER*

SUBJECT: Minutes of On Board Review of Feasibility Study for Texas Tower #4

TO: Distribution List

1. Attached herewith are copies of minutes of On Board Review of the "Feasibility Report on Texas Tower #4". These minutes supplement design instructions issued to District Public Works Officer, First Naval District, Boston, Massachusetts.

2. Request that any corrections or additions to these minutes be forwarded this headquarters to arrive not later than 26 December 1958. Corrections and additions will be issued at that time if necessary.

FOR THE CHIEF OF STAFF:

Incl: a/s (see Dist. List)

*John H. Heath*  
JOHN H. HEATH  
Captain, USAF  
Assistant for Engineering  
AFIR, New England Region

DISTRIBUTION

- w/cys incl
- Cdr, MAAMA (MAAMT) (1 cy)
- Hqs USAF (APOIE-E) (APOIE-C) (3 cys ea)
- Cdr, Rome AMA
- (RCPY-7) (3 cys)
- (ROZM) (2 cys)
- (RCSGES) (RCERHG) (RCERHH) (1 cy ea)
- Anderson Nichols & Co. (6 cys)
- DPWO, 1st Naval Dist. (6 cys)
- Cdr, ADC (ADAIC) (ADAIR-R) (2 cys ea)
- Cdr, 460th Sup Sqdn (6 cys)
- Cdr, Otis AFB (2 cys)

AIR FORCE INSTALLATIONS REPRESENTATIVE  
 NEW ENGLAND REGION  
 124 TRAFLEO ROAD  
 WALTHAM 54, MASSACHUSETTS

8 Dec 1958  
 SJC/nad

1. Date, Location and Purpose of Conference:

A conference was held in the office of the AFIR-NER on 12 and 13 November 1958 for the purpose of conducting an On-Board Review of the "Feasibility Report on Texas Tower #4" prepared under Navy Contract #N8y 21983. The On-Board Review for Texas Tower #4 was followed with discussions pertaining to Texas Tower #2 and #3.

2. Personnel in Attendance:

<u>Name</u>	
Lt. Sergio J. Goszo	AFIR-NER
Captain John H. Heath	AFIR-NER
Mr. Calvin H. Smith	NAAMA (NAAMT)
Mr. Arthur I. Westrich	Hq USAF, AFOIE-E
Lt Col. Richard T. Choate	Hq USAF, AFOIE-C
Maj. George A. Flannery	Rome AIA ROPY-7
Mr. Irving F. Markham	" " ROYM
Mr. Ernest C. Wilkinson	" " ROYM
Mr. Dana A. Benson	" " RCGES
Mr. Eugene J. Swistak	" " RCERHG
Mr. Patrick D. Kogler	" " RCERHH
Mr. John H. Minnich	Anderson Nichols & Co.
Mr. Angus Nolan	" " "
Mr. Vincent K. Cates	" " "
Mr. William B. Rollins	" " "
Mr. William R. Fuller	" " "
Mr. Martin G. Holland	" " "
Mr. T.M. Kuss	Moran Proctor Mueser & Rutledge
Cdr. E.R. Foster	DPWO, 1st Naval District
Mr. Joseph G.A. Riccio	" " "
Capt. Allen R. Miles	Hq ADC (ADAIC)
Capt. James H. Withers	" " (ADAIR-R)
Maj. James Phelan	1404th Sup. Sqdn (SQGD)
Capt. Anthony L. Girillo	" " " (SQCE)
CWO William M. Roussett	" " " (SQAF0)
CWO Claude P. Hardy, Jr.	" " " "
Lt. Neil Matheson III	Otis AFB (ABIE)
Mr. J.F. Regan	Westinghouse, Boston
Mr. Frank N. Krantz	Westinghouse, Baltimore

Conference, 12 & 13 Nov 58 - Feasibility Report on Texas Tower #4

3. Problems:

This conference was held not to resolve any one problem but to review the Feasibility Study and determine which of the Architect Engineers recommendations would be adopted and which should be changed based on operational experience and other factors.

4. Discussion & Recommendations - Texas Tower #4:

a. The feasibility study indicated that it was feasible to install AN/FPS-26 and AN/FPS-27 Radars on Texas Tower #4. In view of this the Feasibility study was discussed at length and the following reflects the combined opinion of the conferees:

(1) The AN/FPS-27 Radar will be housed in a h-sided, arctic tower structure with 3 floors supported by a new rectangular deckhouse mounted on the existing main deckhouse at the centerline of Texas Tower #4. The h-sided tower was preferred to the 12-sided tower proposed by the A/E since a h-sided tower for AN/FPS-27 Radars is presently being developed by the New York District Corps of Engineers. In any event, the final determination shall be made by the A/E on the basis of whether it is more economical to modify the h-sided structure to fit on the Texas Tower or whether it would be more economical to develop the 12-sided structure mentioned in the feasibility study.

(2) The antenna and transmitter components of the FPS-26 radar unit will be housed on the first and top floors of a modified arctic tower structure, consisting of 2 floors, mounted on the existing main deckhouse at the "W" corner of Texas Tower #4. The exact shape of the modified arctic tower will depend on how easily existing designs can be adopted for use on this corner.

(3) Electrical power shall be provided by modifying the 7 existing Class "A", 250 KW, White Superior Diesel generators to Class "B", 400 KW, by increasing the engine speed from 720 rpm to 900 rpm, adding intercoolers, replacing the generators, and adding a new Class "B", 900 rpm, 400 KW unit identical to the modified units.

(4) Power will be generated at 208/120 volts. Power for the 480 volt components of the FPS-27 radar unit will be obtained by means of 208/480-volt transformers. The adequacy of the existing cable and circuit breakers will be checked and modifications made as necessary.

(5) A fourth chilled-water generator, identical to the existing York units will be installed to handle the increased chilled-water demand.

Conference, 12 & 13 Nov 58 - Feasibility Report on Texas Tower #4

(6) There will be installed additional salt-water pumps, submersible-type, to handle the increased cooling demands of the Diesel and the new radar equipment. These added pumps will be installed in caisson "C". An additional line will be placed down leg "C" to the pumps thereby providing a standby line. One trouble spot on the present tower installations is that any trouble on the existing line down "C" leg causes the tower to cease operations. Sizes of these pumps, 350 gpm as recommended by the Architect/Engineer, may have to be increased based on comments by the Utility Officers for the towers. A/E will check further.

(7) Emergency cooling equipment in the form of cooling towers will not be installed. It has been determined that an additional salt-water loop and the pumps mentioned in paragraph 6 above, should be constructed to provide necessary insurance for cooling purposes in the event of failure of some portion of the present system.

(8) Recommendation to reduce stresses in platform by reduction of fuel oil storage was acceptable. In connection with fuel oil, the operating personnel expressed their disapproval of the aductors used in pumping fuel from caissons "A" & "B". In view of the reduction of fuel oil storage at the platform level a more reliable fuel transfer system is needed. It was recommended that submersible-type pump be installed in caisson "A" and one in caisson "B".

(9) Quarters for additional airmen are to be created out of the present lounge areas in accordance with a plan submitted by Major Phelan. This plan would allow a certain amount of natural light for all quarters and also allow for a recreational area or lounge in the presently unassigned triangular area near caisson "C". It should be pointed out, however, that at this time there is no authorization for quarters on the tower. ADC representatives said they intended to rectify this by starting programming action for additional quarters immediately.

(10) Electronic shielding will be provided only where necessary in accordance with requirements of MAAMA and Rome Air Development Center. Shielding of a 14 ft. high triangular prism shaped area approximately 8 ft. on each side is all the shielding necessary for the AN/FPS-26. It is understood that all pieces of equipment that require shielding on the AN/FPS-27 will have it built in.

(11) There will be no requirement for an additional emergency generator. The second salt water loop will provide an additional means of cooling the main generators and as a result any

Conference, 12 & 13 Nov 58 - Feasibility Report on Texas Tower #4

one of the eight generators can serve as an emergency generator. The existing emergency generator will remain.

(12) Major Phelan recommended that the 1604th Support Squadron be allowed to maintain the tower during the six months that the tower is closed down for modifications. He also indicated that in the interests of the Government the 1604th Squadron also maintain the sick bay and food service. Another reason why a few men from the 1609th Squadron should remain was the protection of classified equipment aboard the tower.

(13) It was recommended that wind tunnel tests be conducted to determine what effect the arctic tower extensions would have on the rigidity of the radar platform. The AN/FPS-27 is said to require not more than 1/100 of one degree movement in a vertical arc. The wind tunnel tests will determine whether additional stiffening will be necessary.

(14) Information received subsequent to meeting indicated that problems in radiation did not appear serious and that they could be resolved as they arose.

(15) There was some question as to whether the AN/FPS-26 and AN/FPS-27 could operate properly with the small separation required on the tower. Following the meeting it was determined that design should proceed on the basis that they would operate properly.

(16) The question of whether translational motion of the Texas Tower would induce vertical angular motion was raised. It was indicated that a motion study on Texas Tower #4 is now under way and the results are expected in March of 1959. It was generally agreed that if the required maximum motion of 1/100 of one degree of vertical arc could not be met the using services would have to live with whatever motion there was. In any event it is intended that every reasonable means be used so that motion be kept to a minimum. No additional leg braces are to be considered at this time.

#### 5. Conclusions - Texas Tower #4

a. It was decided that the "Feasibility Report on Texas Tower #4" dated November 1958 and prepared under Navy contract #NBy 21983 be used as the basis of design and shall incorporate the changes listed above.

Conference, 12 & 13 Nov 58 - Feasibility Report on Texas Tower #4

6. Discussion and Recommendations - Texas Tower #2

a. It was recommended that a feasibility report encompassing the same scope as that for Texas Tower #4 be prepared for Texas Tower #2 to cover the installation of an AN/FPS-26 and an AN/FPS-27 radar unit on the tower. A separate feasibility study is necessary in view of the differences between the structural members of Texas Tower #2 and Texas Tower #4. The study will be less costly and require less time to prepare since a good portion of the information contained in the Texas Tower #4 report is applicable to Tower #2.

7. Conclusions - Texas Tower #2

a. It was agreed that a separate feasibility study be prepared for Texas Tower #2 as recommended above.

8. Discussions and Recommendations - Texas Tower #3

a. Programming for Texas Tower #3 indicates that only an AN/FPS-26 Radar will be installed on the tower. In order for the existing AN/FPS-20A radar to operate properly after the AN/FPS-26 is installed it will be necessary to raise the AN/FPS-20A radar approximately 12 to 13 feet.

9. Conclusions - Texas Tower #3

a. It was agreed that the design would include all modifications necessary to install the AN/FPS-26 and would also include the extension of the AN/FPS-20A arctic tower by approximately 13 feet. Applicable portions of the "Feasibility Study for Texas Tower #4" will be used where possible. Recommendations of the Architect Engineer insofar as power requirements are concerned will be forwarded this headquarters for approval in the event it is necessary to exceed the 250 KW Electric Power addition programmed for this tower.

10. Remarks:

a. It was recommended that any FY-59 MCP items in the Texas Tower program be deferred to the FY-60 MCP. This would simplify cost control, issuance of plans and specifications and insure only one contractor on a tower at any one time. Also, it was understood that the only purpose of placing these items in the



Conference, 12 & 13 Nov 58 - Feasibility Report on Texas Tower #4

FY-59 MCP was to justify the feasibility study. This has now been completed. JDC and Hq USAF would take action to defer these items to FY-60 MCP.

*[Handwritten signature]*  
SANTO J. GOZZO  
1st Lt., USAF  
Const. Mgt. Engr.

*[Handwritten mark]*



APCAL-AS/A  
SUBJECT: Texas Towers (Encl)

19 JAN 54

To: Chief Bureau of Yards and Docks  
Department of the Navy  
Washington 25, D.C.

1. Informal discussions have been conducted between representatives of this Headquarters and your Bureau concerning the design of certain off-shore facilities called "Texas Towers".
2. This Headquarters believes that the design and supervision of construction can best be performed under your guidance and requests that you indicate if you are desirous of prosecuting this work as outlined in the enclosed brochure. The urgency of this program dictates that site surveys, soil investigations, design and preparation of construction drawings, cost estimates and all other phases must be completed in sufficient time to permit construction during calendar year 1955.
3. If you desire to undertake the work outlined above, it is requested that you provide this Headquarters with an estimate of planning funds required and a time schedule of contemplated actions.

FOR THE CHIEF OF STAFF:

SIGNED

E. V. S. [Signature]  
Chief, Construction & Engineering Div  
Department of the Navy, Washington, D.C.

APCAL-AS/A    APCAL-AS/A    APCAL-P    APCAL-C    APCAL-AS

*Barlow*

COPY

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE  
Washington 25, D. C.

PROPERTIES AND INSTALLATIONS

MEMORANDUM FOR THE SECRETARY OF THE AIR FORCE

ATTN: Special Assistant for Installations

SUBJECT: Texas Tower Construction

In view of the limited personnel strengths scheduled to occupy the Texas Tower installations included in your FY-55 Construction Program, it is understood that substantial reductions in the initially proposed size of these towers can be made. In order that the interior arrangement of the space to be provided on these towers may be examined, it is requested that a floor plan covering the latest reduced size tower superstructure be furnished this office.

/s/  
J. F. Jelley

(17)

AIR DEFENSE COMMAND  
THE AIR FORCE BASE, COLORADO

TO: ADIFC

SUBJECT: Texas Tower Survival Compartments

HQ USAF (AFOCE-E)  
Wash 25, DC

Attached are two sets of 16 each 35 mm color slides  
(with caption sheets) of Texas Tower survival  
compartments under construction.

FOR THE COMMANDER

1 Atch (2 sets)  
Color Slides

M/N: Atch filed in EAFI as Cover 16

**ATTEN**  
CLASSIFIED  
EXCLUDED FROM AUTOMATIC  
DOWNGRADING AND  
DECLASSIFICATION

TEXAS TOWER SURVIVAL COMPARTMENTS  
35 mm. Color Slide Captions

Note: All views of compartments were taken during construction and show incomplete status. Interior views show stowage placed only for shipment and not finally arranged.

Slide  
No.

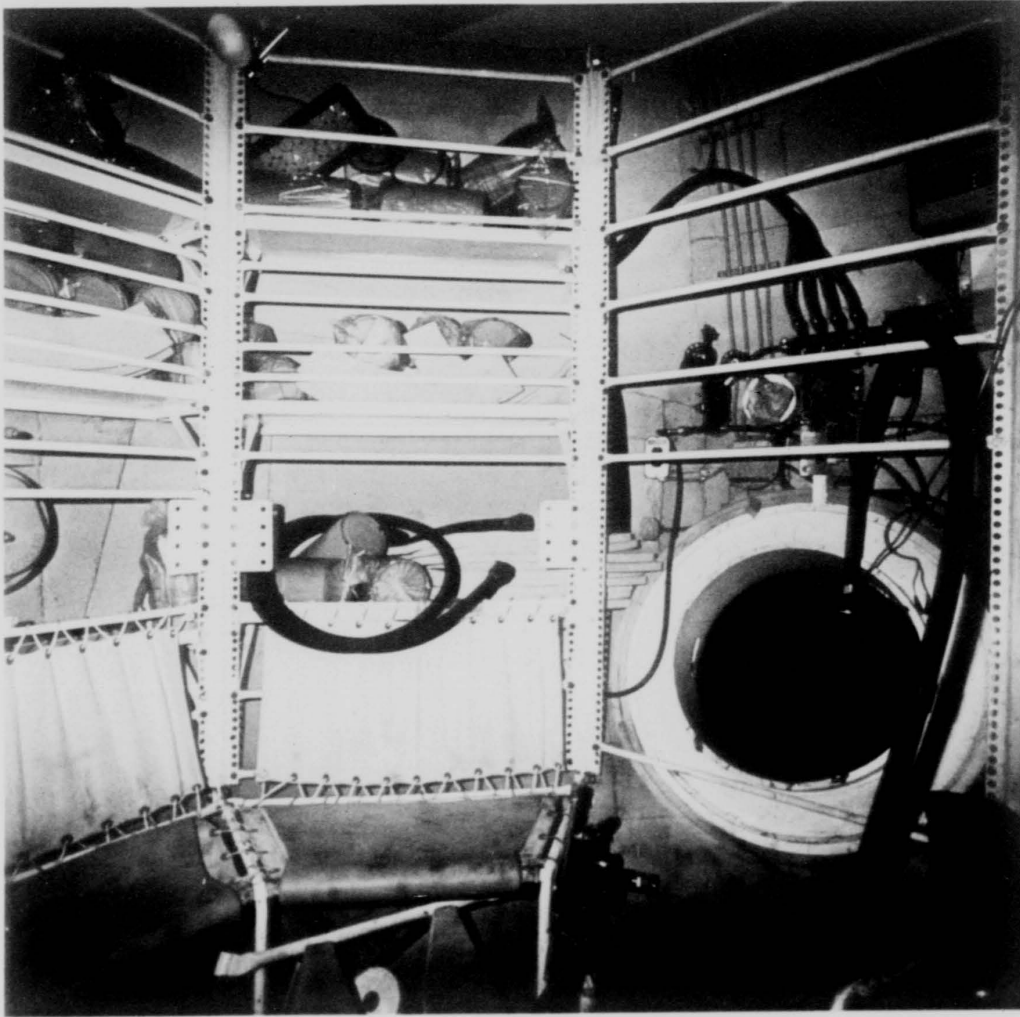
- 1 - Exterior view of TT3 compartment. Lower hatches open. Round opening in lower skirt is manhole for inspection of the center release mechanism and exterior oxygen systems. To right of manhole is one Sonar transducer. At top of foundation skirt, left side, is one padeye and ring for pelican hook tie-down assembly. Hole above lower left hatch opening is penetration for electric connections. Burned spots on sphere show where temporary lifting pads were attached for testing release mechanism.
- 2 - Two compartments under construction at EBDiv yards.
- 3 - Top view of compartment showing one escape hatch in closed position.
- 4 - Center final release mechanism attached to test platform showing clutch jaws and release lever with counterweight and spring.
- 5 - Test platform showing padeyes for compartment tie-down assemblies and center release mechanism (top flooded with rain water). Galvanized pelican hook and turnbuckle tie-down assemblies lay on floor in front.
- 6 - Test platform showing padeyes for compartment tie-down assemblies and center release mechanism. The galvanized pelican hook and turnbuckle tie-down assemblies lay on the platform.
- 7 - Interior view showing seating and stowage compartments (stowage not arranged) and CO<sub>2</sub> (gray) lithium hydroxide filter canisters.
- 8 - Interior view showing one lower escape hatch (closed); bilge pump discharge with hose (below); one CO<sub>2</sub> flask (green); one compressed air flask (black); O<sub>2</sub> flow meter (with red hoses attached); electric panel box (round); anemometer read-out instrument (covered with mastic); oxygen mask manifold with supply hoses attached; and electric heater.

- 9 - Interior view showing seating; one lower escape hatch; one salvage valve (wheel handle); O<sub>2</sub> flow regulator (with red hoses attached); oxygen mask manifold with supply hoses attached; and two O<sub>2</sub> flasks.
- 10 - Interior view showing seating and bilge pump discharge valve and hose.
- 11 - Interior view showing seating and bilge pump with intake hose; CO<sub>2</sub> removal apparatus with crank.
- 12 - Interior view showing seating arrangement and O<sub>2</sub> flasks.
- 13 - Interior view looking up showing top hatch closed and black plastic escape trunk in folded position. Grill at left for CO<sub>2</sub> removal intake and battery-powered lights.
- 14 - Interior view showing seating and stowage compartments (compartments are adjustable and shown not finally arranged).
- 15 - Interior view showing seating and stowage compartments; bilge pump in lower right.
- 16 - Interior view showing seating arrangement and stowage compartments; salvage valve at right (wheel handle).

PICTURE TITLES TEXAS TOWER SURVIVAL COMPARTMENTS

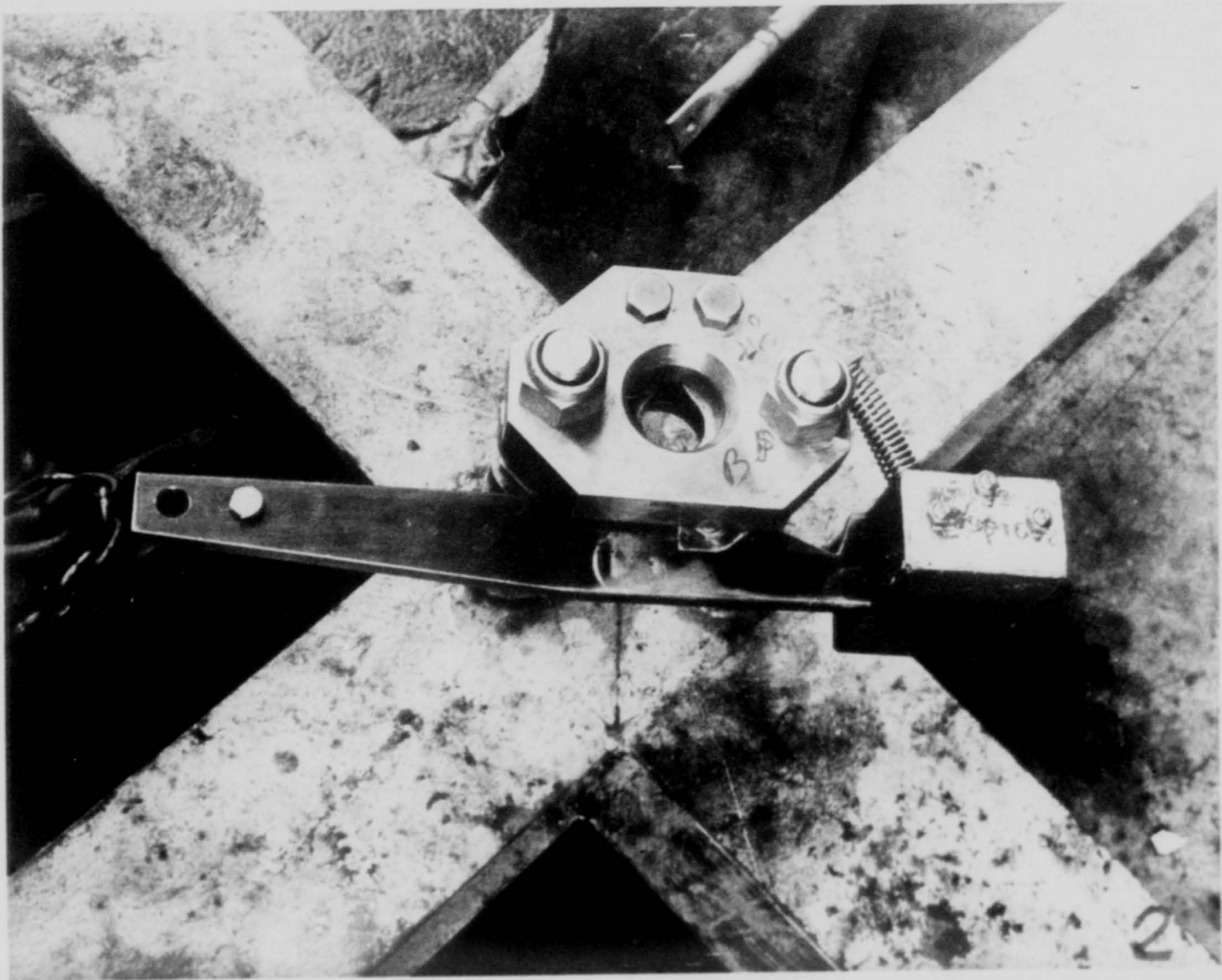
(All pictures taken during construction period - compartment equipment partially installed)

<u>Picture No.</u>	<u>Description</u>
1	Interior view showing stowage racks, seats and one escape hatch opening
2	Final release mechanism (center) mounted on test platform. Shows revised release arm with counterweight
3	Final release mechanism (center) as revised, mounted on test platform
4	Interior view showing stowage racks, seats and one oxygen and one air bottle
5	Interior view showing stowage racks, electric heater, seats, one open escape hatch, one oxygen bottle, one air bottle and oxygen manifold (control gauges not installed)
6	Exterior view under skirt showing bottles for one oxygen system, the pin for the final release gear and the internal release gear CAM
7	Interior view forward top escape hatch showing vinyl plastic escape hatch trunk in folded position; stowage racks and battery powered lights
8	Two compartments showing top escape hatches
9	Interior view showing stowage racks, two oxygen bottles, one escape hatch in closed position, safety harness bracket, O <sub>2</sub> flow indicator, O <sub>2</sub> manifold and salvage valve (with wheel)
10	Interior view showing stowage compartments, seats, CO <sub>2</sub> canisters, CO <sub>2</sub> absorption system and two O <sub>2</sub> bottles
11	Exterior view showing open escape hatch, pelican release clevis, salvage valve and one sonar transducer
12	Interior view showing floor, bilge pump and bilge pump valve (bases not connected) and seats

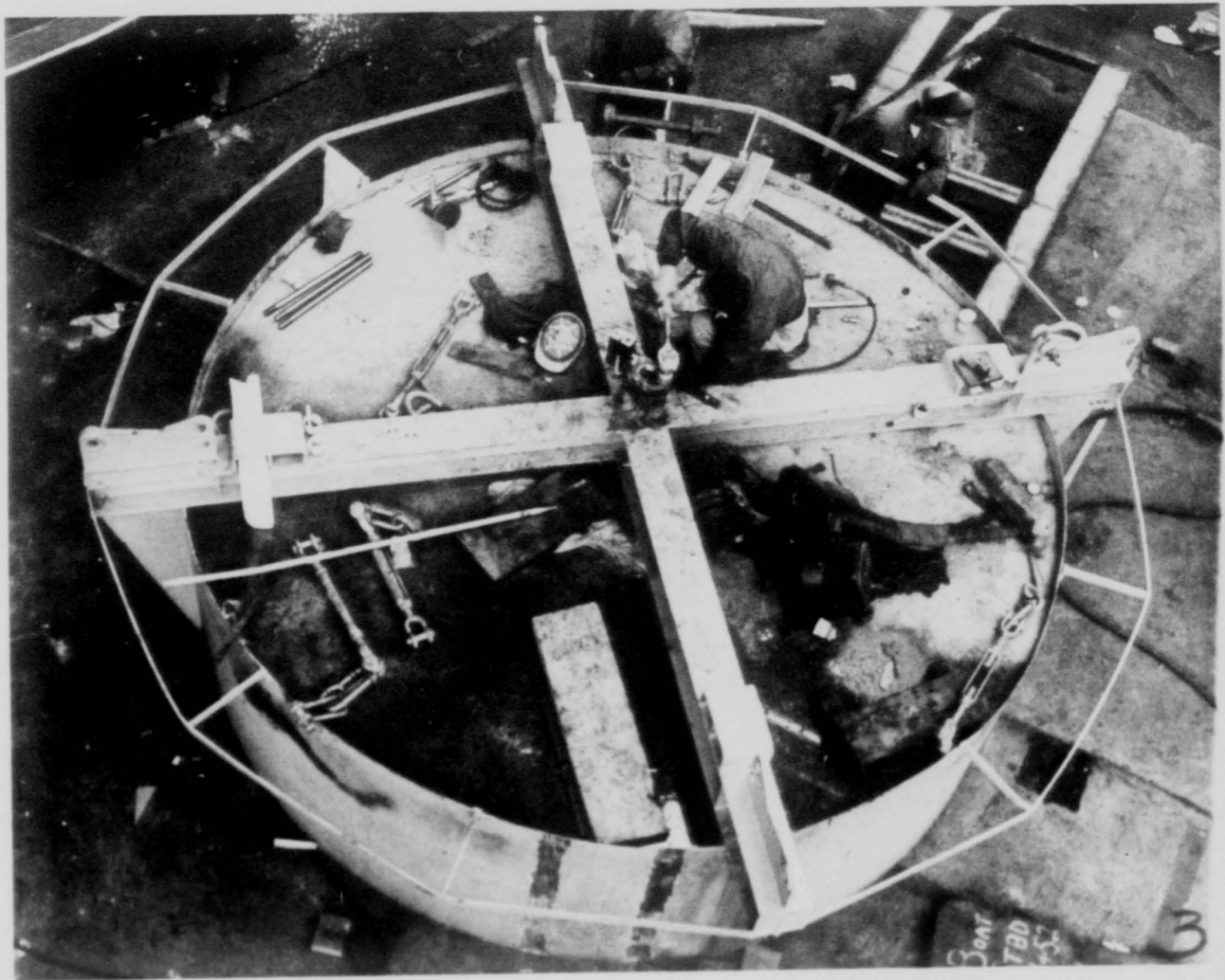


1278

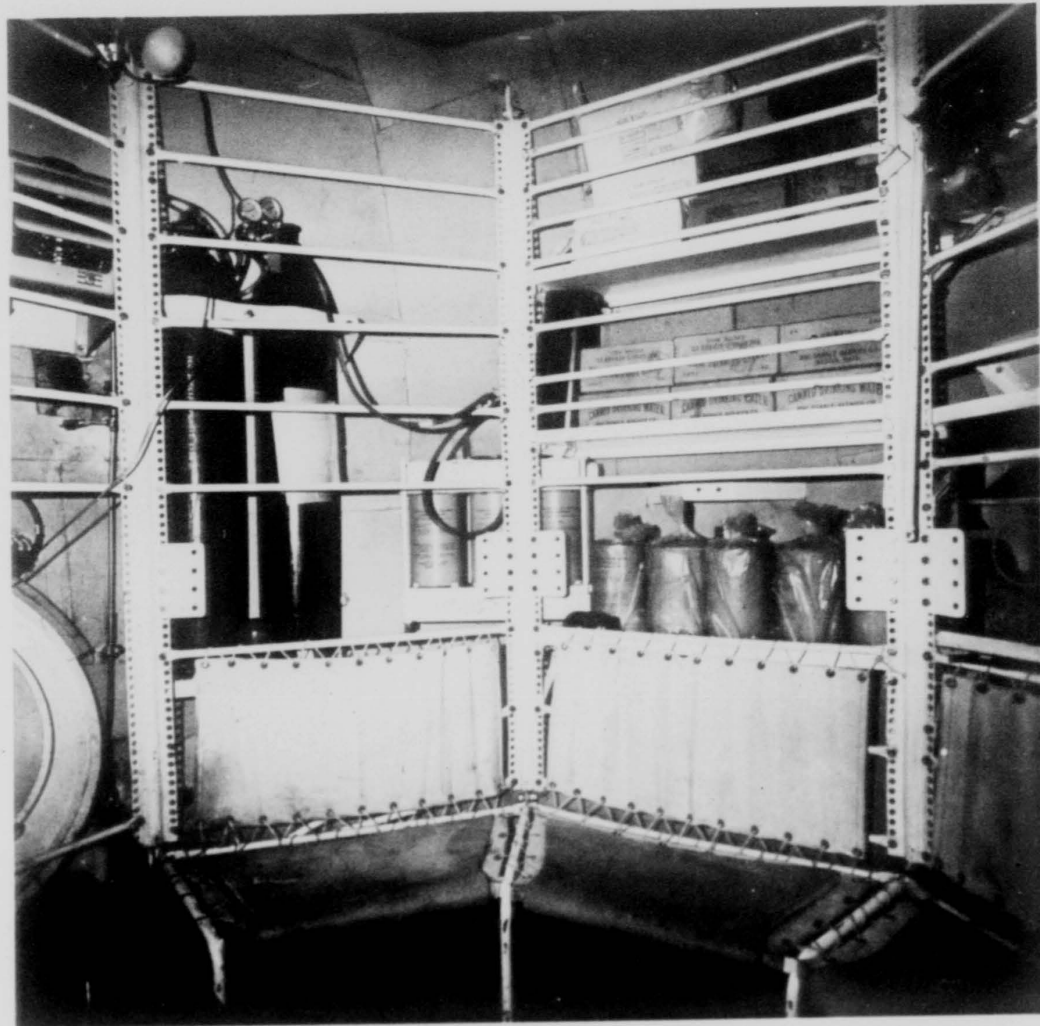




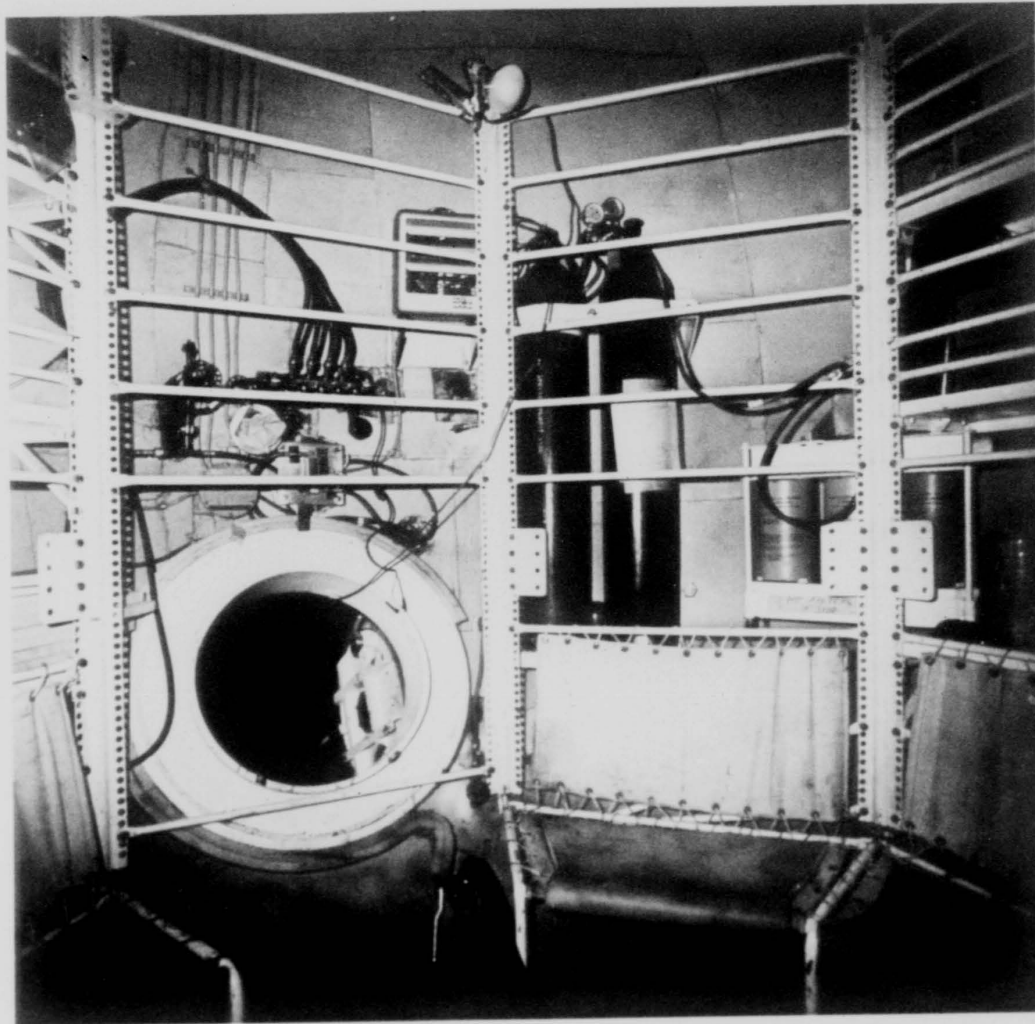




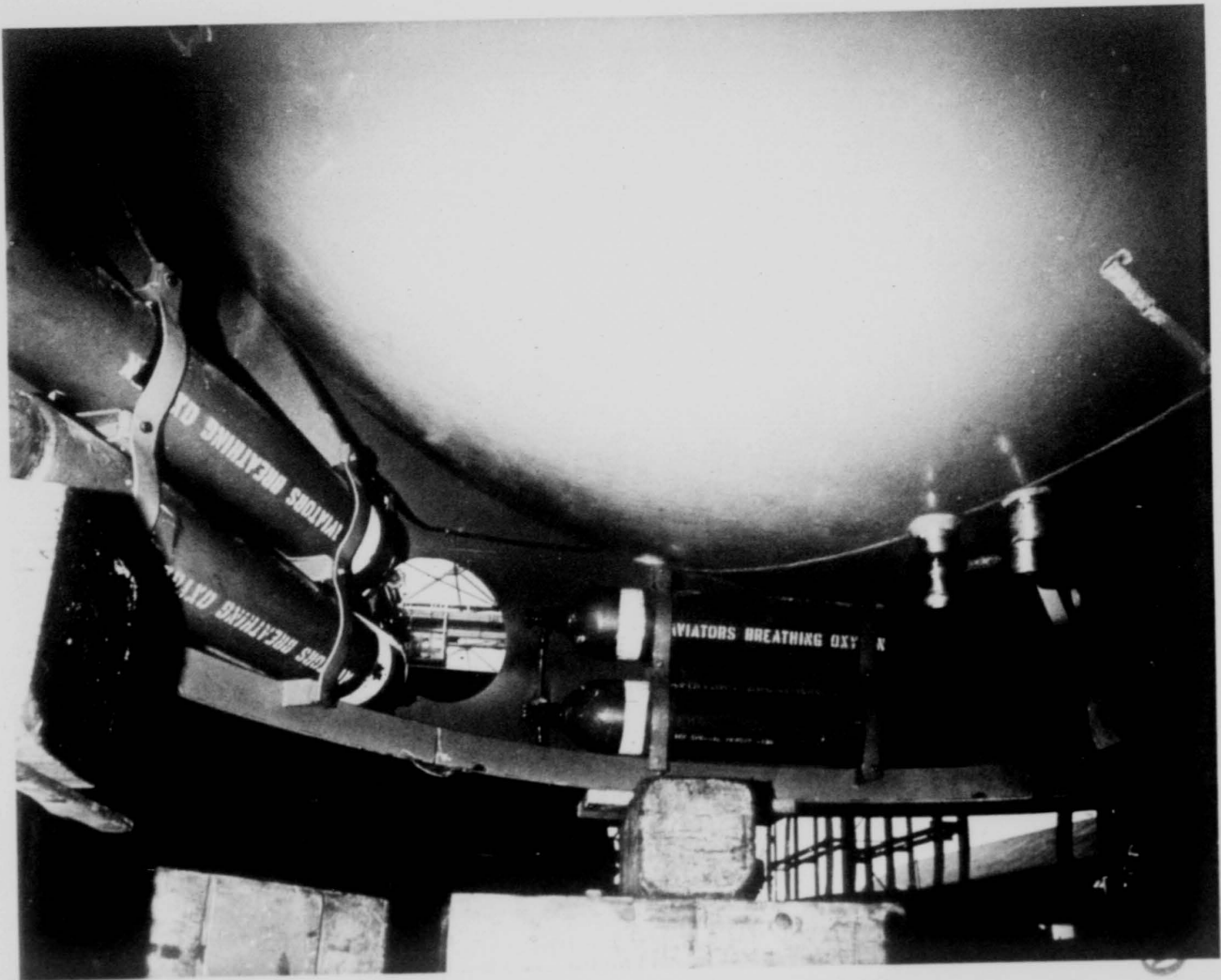
1280



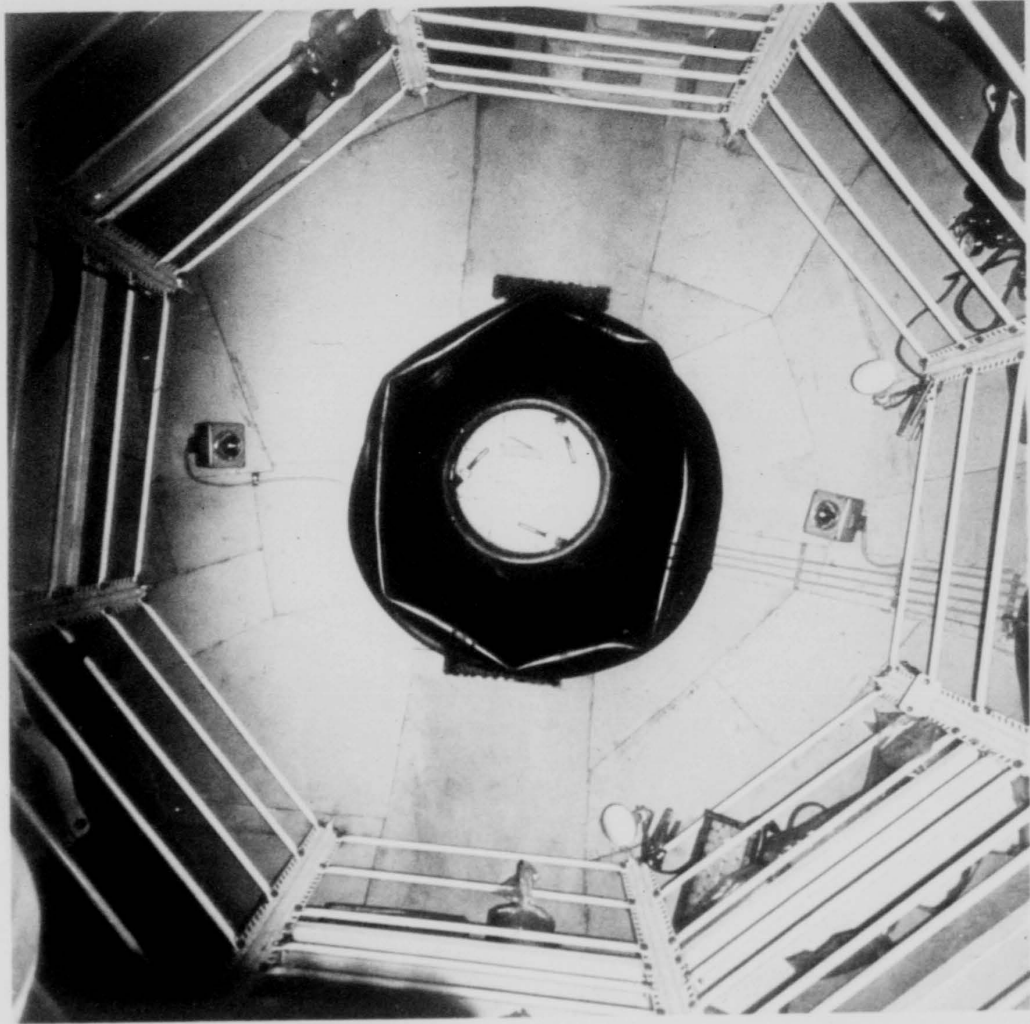
128-1



1282



1283

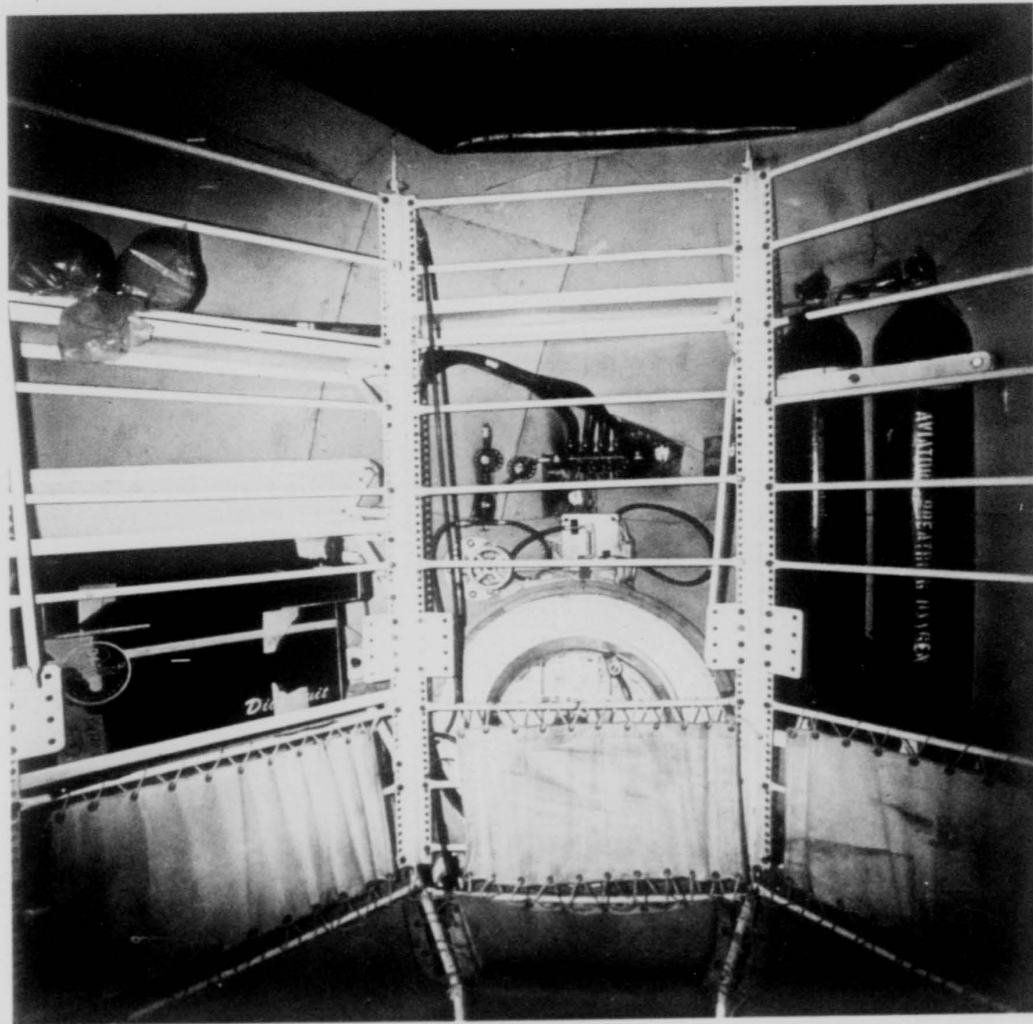


1284

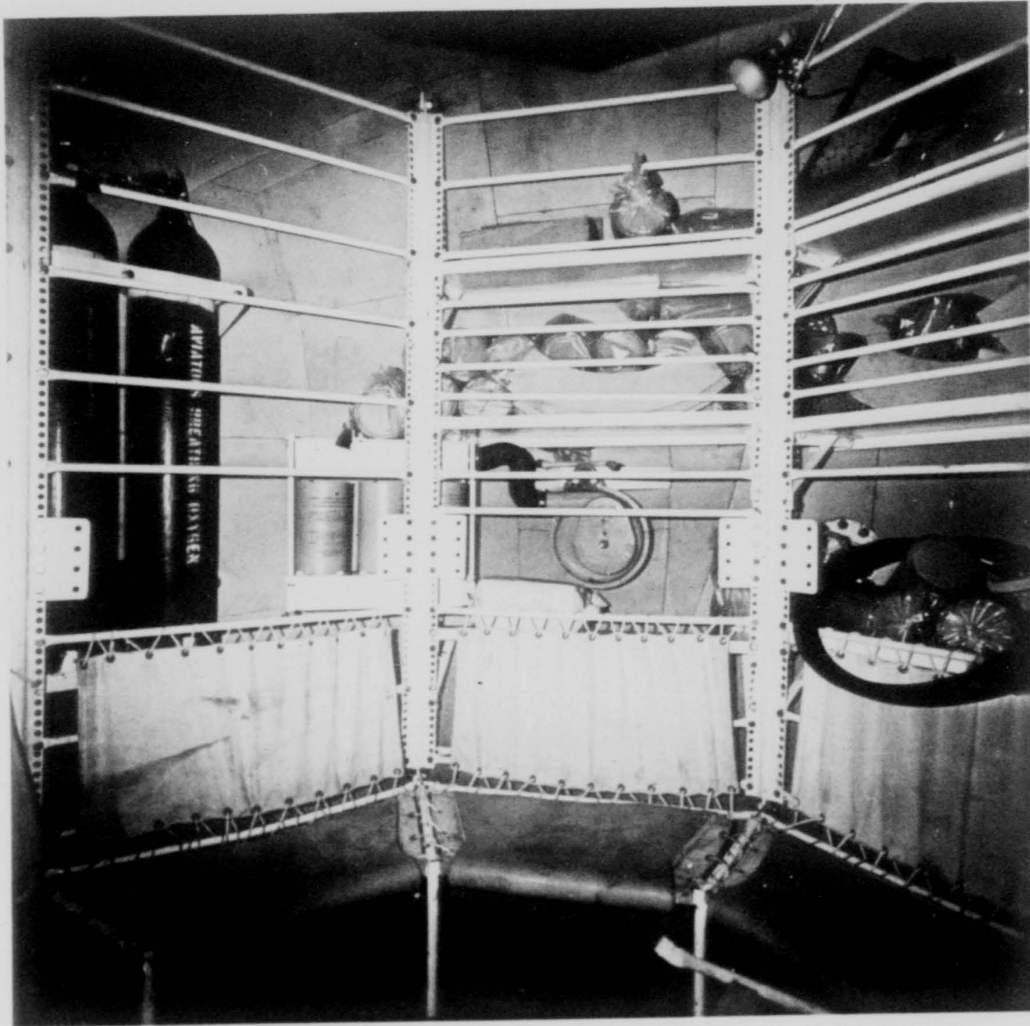




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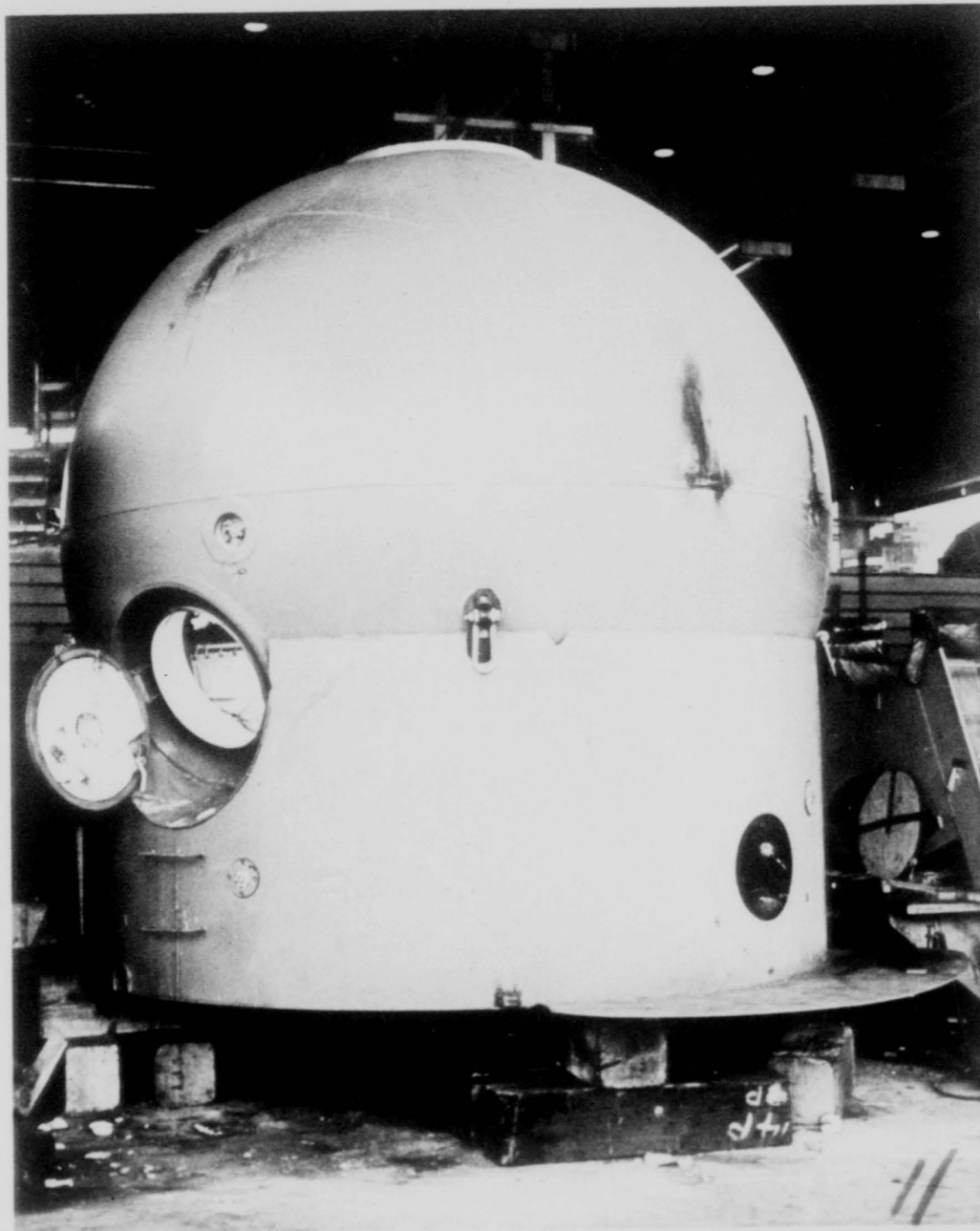


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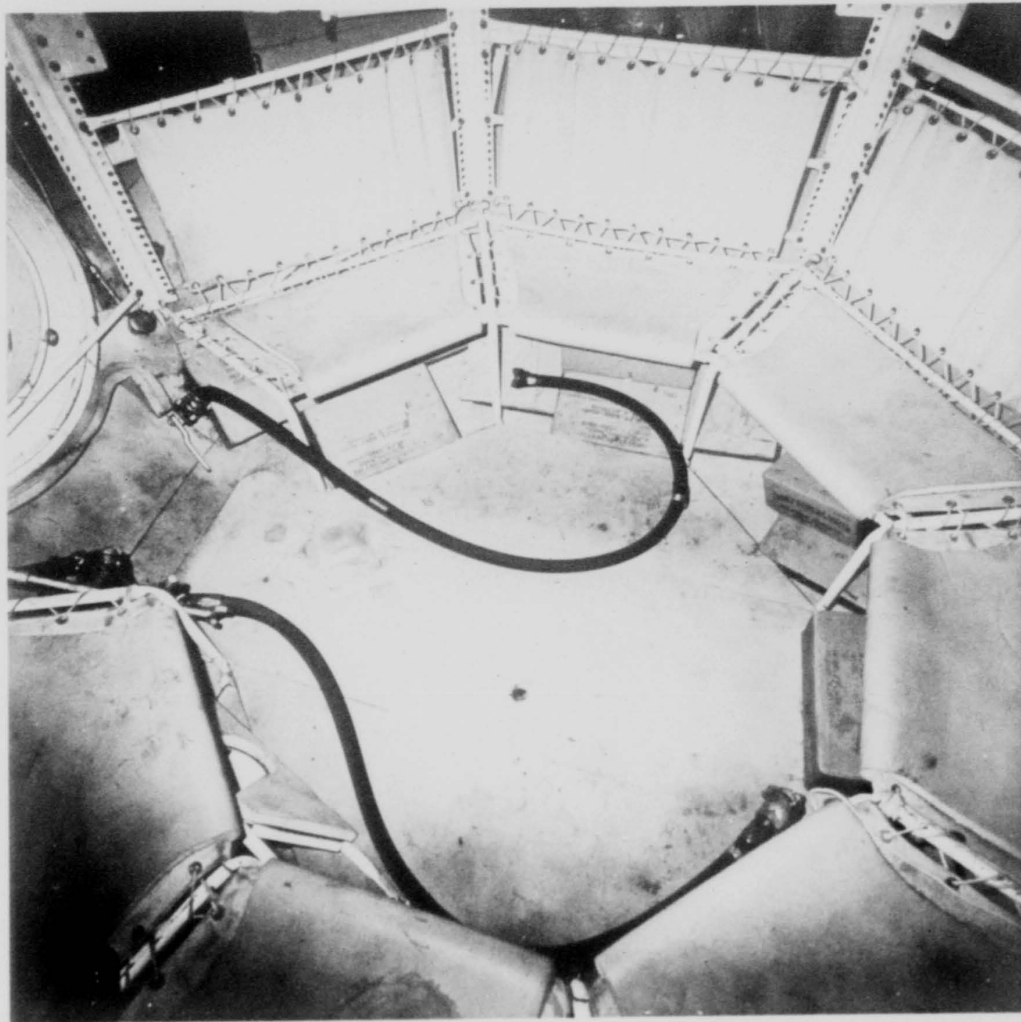


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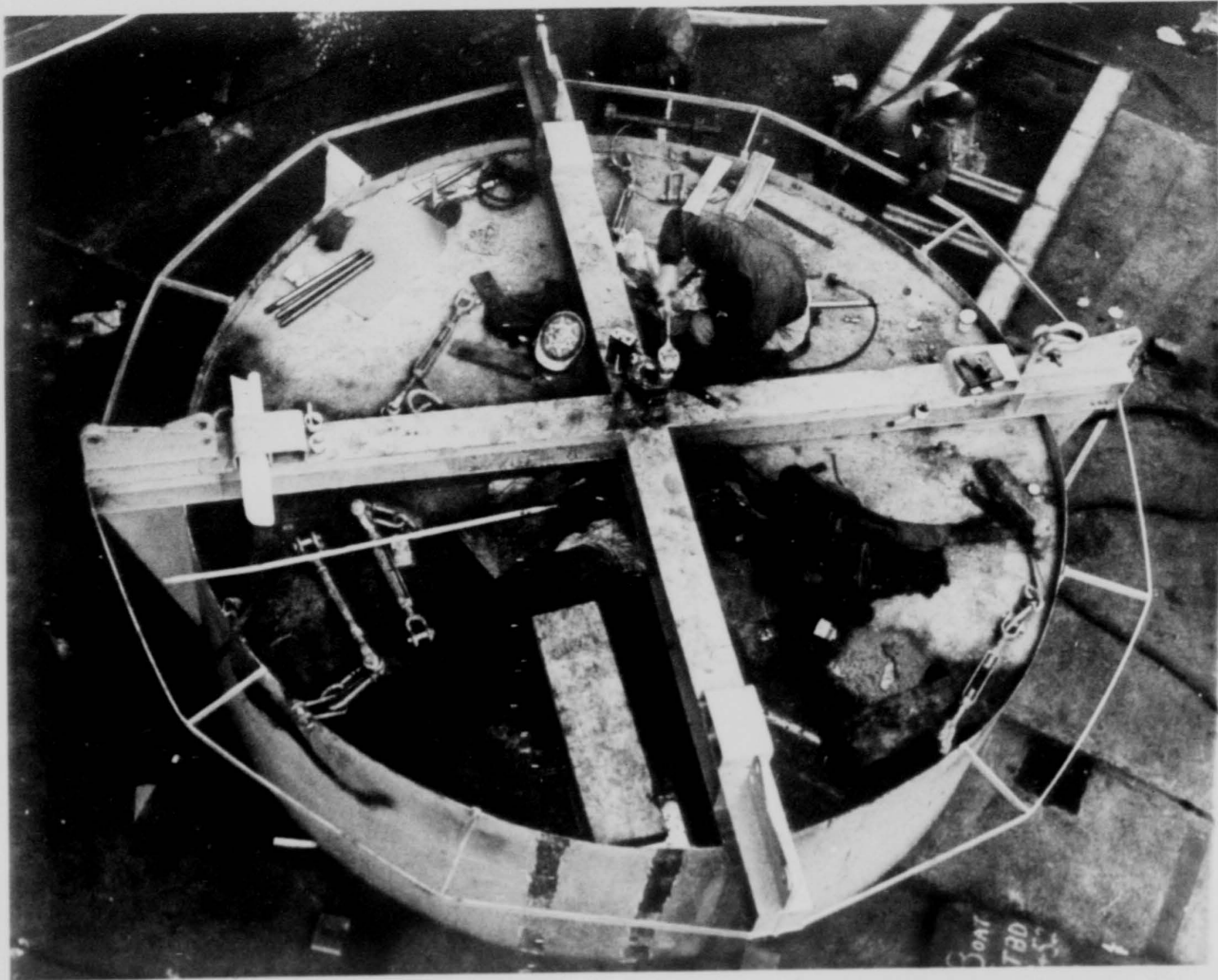


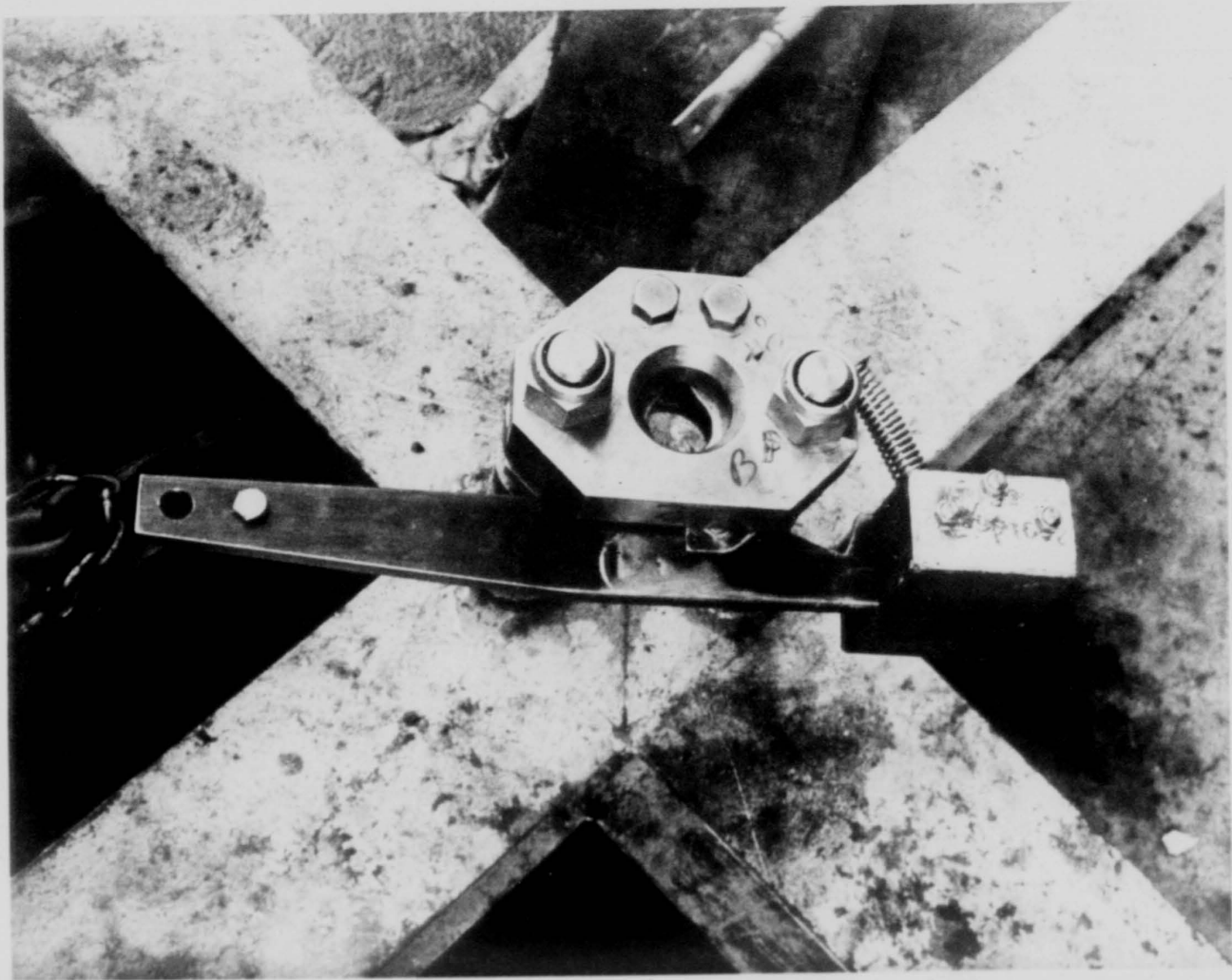
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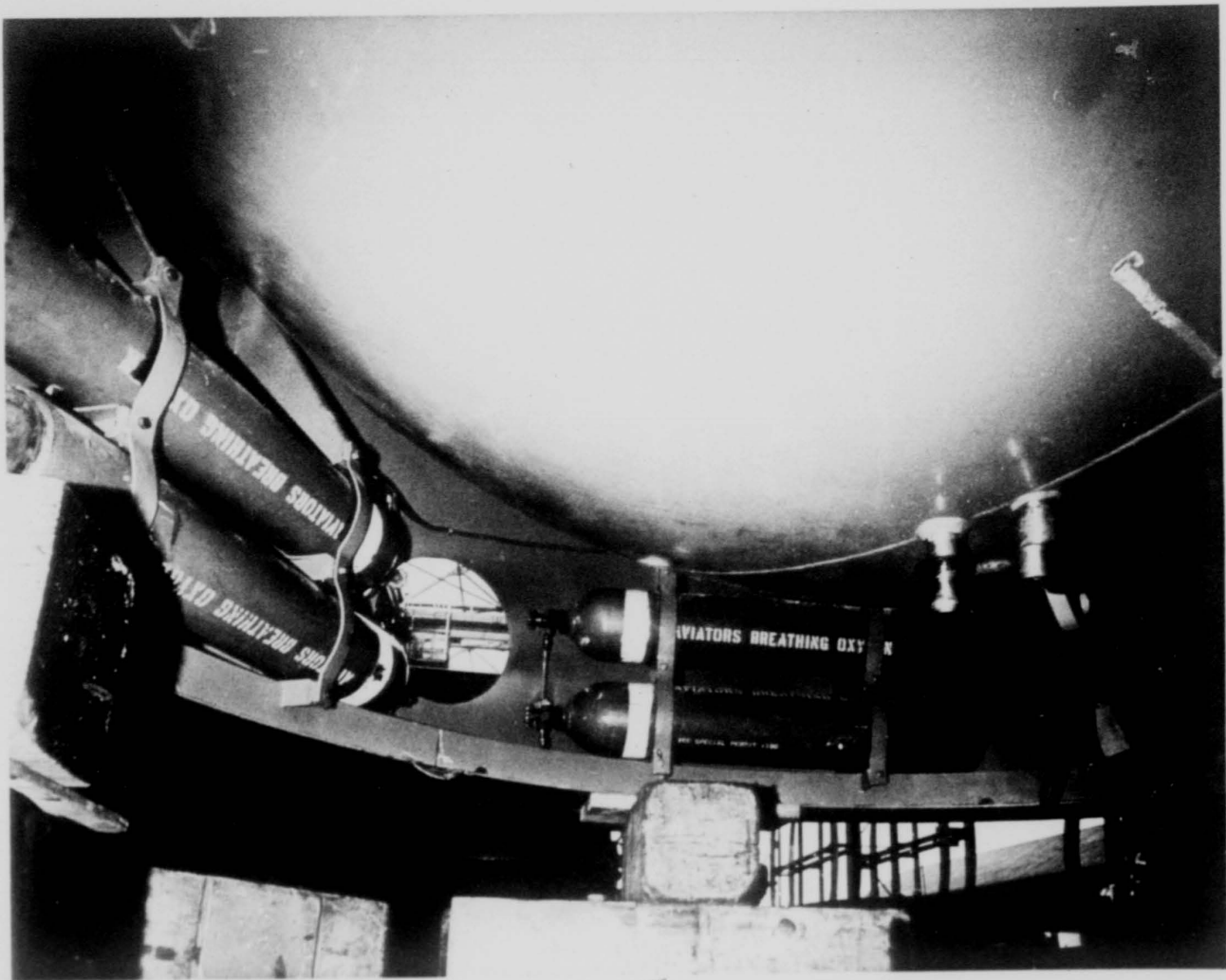


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1289







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TEXAS TOWER FILE VOLUME 1

1 JAN 61 - 31 MAR 61

1012657

RETURN TO  
AFSIRC  
MAXWELL AFB AL 36112

JACOB FELD, PH. D.  
CONSULTING ENGINEER  
44-60 EAST 23RD STREET  
NEW YORK 10, N. Y.

3/31/61

Data on Diving Inspection Costs.

from Frank Oberle, Mgr. Salvage Dept  
Merritt Chapman Scott Corp.

Inquiry was for possible 30 hrs. of inspection at 200 ft. depth.

at 200 ft depth, diver is limited to 15 min. exposure  
with 2 hrs. decompression in a 12 hour cycle.

This means 120 dives - probably over 30 day period  
Must include allowances for subsistence and transportation.

Rates for divers - Between 8:00 and 17:00, \$43<sup>20</sup>/Day for 60' dr  
plus \$24<sup>20</sup>/Day for depths to 125 ft. for Diver.

and \$30<sup>20</sup>/Day at 60' plus \$15<sup>00</sup>/Day up to 125 ft for Tender

Should allow \$200/Day per team plus 100% Insurance, etc.  
or \$400/per dive of 15 minutes.

To charter a fully manned boat for one month \$60,000.

Decompression lock \$175/Day x 30 d. 5,250

120 dives @ \$400 48,000

Total Cost \$113,250

Allow subsistence and transportation 6,750  
for 5 or 6 teams of divers 120,000

Contingency and weather insurance 24,000  
20%

total \$144,000

019851



Diving Inspection Costs

	Per Foot	BiPods
Diving	\$ 58,000	\$ 100,000
Boat	50,000	200,000
	147,000	300,000

Costs do not include examination of  
tower designs against findings.

In DoD's after informal discussion  
 with the Naval District and the  
 Marine Contracting Corp, indicates that  
 10 divers would be required to  
 conduct and complete further underwater  
 investigation. Each caisson and Dredge  
 would be removed and photographed. A  
 TV take would be made to extent  
 the various components. Estimated cost  
 of this work is \$ 100,000.

Boat and logistical support is estimated  
 to cost \$ 10,000 to \$ 13,000 per day.

It is not possible to accurately estimate  
 the number of days at sea. On basis  
 of 20 days the cost would range from  
 \$ 200,000 to \$ 260,000.

The outside total would be \$ 300,000 and  
 Eurochem release \$ 450,000 to the other figure  
 because of cost or uncertainty.

Above does not include reevaluation of tow ship

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE

AF IN : 4391 (30 Mar 64)

INCOMING

*DL*  
*M*

ACTION: OOP-2 INFO : OOP-OP-1, OCE-2, OAC-1 (7)  
NNNN

SMB A 141

ZCZCHQA257ZCBA379

MM RJEZHQ

DE RBEPG 20

ZNR

M 301552Z

FM BUDOCKS

TO RJEZHQ/PQ USAF WASHDC

INFO RBEGMC/JPWO FIRST NAVDIST

RBEPJD/US COAST GUARD WASHDC

RJEZSN/26TH AIR DIV HANCOCK FLD NY

RJWFAL/HQ ADC COLORADO SPRINGS COLO

RJEZDG/OTIS AFB MASS

NAVY GRNC

B

UNCLAS

TEXAS TOWER NR 4

A. YOUR 282117Z

1. CONSIDER FURTHER DISPOSITION TEXAS TOWER NR 4 IS AF  
RESPONSIBILITY. THIS BUREAU PLANS NO ACTION IN THIS REGARD  
EXCEPT ON YOUR REQ. ALL INFO PROVIDED BY THIS BUREAU HAS BEEN  
RELEASED ONLY THROUGH APPROPRIATE CHANNELS ON AN OFFICIAL BUSINESS  
BASIS AND WILL CONTINUE TO BE O

HANDLED

BT

30/1552Z

*3942*

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

NOTED BY BUGH KELLY

2 ✓  
M

AF IN : 3985 (30 Mar 61) PE/ns  
INFO : OCE-2, SAFS-3, OOP-2, OOP-CP-1, IIS-3, CIG-2 (14)

SMB C 072

KZCHQE687ZCWJA395

MM RJEZHQ

DE RJWFAL 8

ZNR

M 300027Z ZEX

FM COMDR ADC ENT AFB COLO

TO RJEZSN/26AD HANCOCK FLD NY

INFO RJEZHQ/COFS USAF

BT

UNCLAS ADIDCI012629.

ACTION 26AIRDIV (IDC) INFO USAF (AFOCE). AND SAFOI) REPORT OF  
UNDERWATER EXPLORATION FINDINGS AT TEXAS TOWER 4.

REFERENCE MESSAGE 26IFS-B/OVD, HQ 26 AIR DIV, 24 MAR 61.

THIS MESSAGE IN TWO PARTSJM PART I - REQUEST THE  
REFERENCED MESSAGE BE RESCINDED AND RETRANSMITTED TO  
ACCOMPLISH CONTROL OF THE SUBJECT REPORT AS INDICATED  
BUT TO PERMIT ITS USE AS FOLLOWS: THE REPORT WILL IN  
ALL INSTANCES BE CONSIDERED FOR QUOTE OFFICIAL USE  
ONLY UNQUOTE AND FURTHER WILL BE USED ONLY ON AQUOTE

3072

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

AF IN : 3985 (30 Mar 61)

Page 2 of 2 pages

PAGE TWO RJWFAL 8

NEED TO KNOW BASIS UNQUOTE. THE REPORT MAY BE FURNISHED TO THE UNITED STATES AIR FORCE OR NAVY OR CIVILIAN CONTRACTORS OF EITHER ON THE ABOVE BASIS WHEN IN CONJUNCTION WITH OFFICIAL INVESTIGATIONS OR STUDIES AUTHORIZED BY THIS HQ. CONTENTS OF THE REPORT MAY BE FURNISHED TO OTHER GOVERNMENT AGENCIES OR TO CONGRESS ON THE SAME BASIS ONLY WITHIN THE PROVISIONS OF AFR 11-30C AND AFR 11-7. IPART II - THE 26 AIR DIV WILL INSURE THAT THE CONTRACTORS NOW MAKING INVESTIGATIONS OF TEXAS TOWERS CONSIDER HIS REPORTS TO BE QUOTE PRIVILEGED INFORMATION UNQUOTE AND THAT NO PART OF IT BE REVEALED VERBALLY OR OTHERWISE TO ANY PERSON NOT SPECIFICALLY DESIGNATED IN THE CONTRACT OR OTHERWISE WITHOUT SPECIFIC PERMISSION OF THE APPROPRIATE CONTRACTING OFFICER AND THAT SIMILAR ACTION BE TAKEN WITH THE MARINE CONTRACTING CORP. FOR USAF (AFOCE): THIS CONFIRMS CONVERSATION BETWEEN COL SCHUYLER THIS HQ AND COL IMPSON 28 MARCH.

BT

30/1000Z MAR RJWFAL



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

EDWARDS REPORT

IN REPLY REFER TO

C-541/djd

30 MAR 1961

ENCLOSURE TO JAG, USAF

From: Chief, Bureau of Yards and Docks  
To: Colonel Arthur Averbuck  
Office, JAG, USAF  
Room 5C230  
The Pentagon  
Washington 25, D. C.

Subj: Texas Tower No. 4; Report of trip in connection with collapse of

1. A copy of the subject report is forwarded herewith in accordance with your request of 24 March.

W. C. G. CHURCH  
CAPTAIN, CEC, USN  
Assistant Chief for Construction

Copy to:  
Col. I. H. Imeson, AFOGS  
Lt. Col. G. E. Nichols, AFOGS  
Mr. C. W. Harris, AFOGS



010  
 CM2 EDWARDS  
 REPORT  
 C-541/wr  
 20 March 1961

## MEMORANDUM

From: C-541  
 To: C-100  
 Via: C-110  
 C-500  
 C-540

Subj: Texas Tower #4; Report of trip in connection with collapse of

Encls: 1-7--Summaries of daily conferences

1. Subject trip was made to assist Mr. Stuart French, Special Counsel Senate Preparedness Investigating Subcommittee and Mr. Paul Bauer of the House Merchant Marine and Fisheries Committee in investigating circumstances involved in the failure of Texas Tower #4.

2. Meetings were held with Mr. French and/or Mr. Bauer as follows:

Tuesday, March 7: Afternoon meeting at OPWC LND office with Capt. T.J. White and Congressional Representatives. (Encl. 1)

Wednesday, March 8: Morning meeting at OPWC LND office with Messrs. Anderson and Miskick of Anderson-Nichols A&N firm and with Mr. Alan Wreckitt and Mr. Cahill of Marine Contractors, Inc. and Cdr. W.C. Owens. (Encl. 2)

Thursday, March 9: Writer and Mr. French drove from Boston to Otis Air Force Base in Falmouth, Massachusetts. Held meeting from 1100 to 1700 with personnel of Otis Air Force Base. (Encl. 3)

Friday, March 10: In the afternoon, held conference at Woods Hole Oceanographic Institute, Woods Hole, Massachusetts with Mr. Bauer, Mr. French and Woods Hole representatives. (Encl. 4)

Saturday, March 11: In the morning, Mr. French held private meetings with crew members and master of the AIL-17, NRTS supply ship for the Texas Towers. Mr. Bauer, Mr. Edwards and Cdr. O'Shaughnessy (NRTS) discussed supply operation with Capt. Mangoni, Civil Service skipper of the AIL-17. In the afternoon met with Mr. Brewer and Mr. VanStone of Brewer Engineering Laboratories in Marion, Massachusetts. (Encl. 5)

C O O O  
C-341/esp

Monday, March 13: At 9:45, Mr. Edwards accompanied by Congressional Representatives met with Capt. George Fischer, Cdr. Martini and civilian representatives of 3rd NB. At 11:00, Congressional Representatives and Mr. Edwards met with Messrs. Steere, Pills, Row and Koch of J. Rice Steere Co. at their offices in New York.

Tuesday, March 14: Congressional Representatives and Mr. Edwards met with Messrs. Proctor, Sussner, and Rutledge at their offices in New York City. Mr. Daniel F. Callahan of Whitman, Reusner, and Coulson was also present as legal representative of the A&E firm.

Wednesday, March 15: 3rd NB arranged for car and driver to take Mr. French to Stewart Air Force Base at Westbury, New York to interview representatives of Headquarters, Boston Air Defense Sector.

The data requested by the Congressional Representatives is listed at the conclusion of each conference report (enclosures 1-7). These are being assembled by C-341 and will be submitted via the Navy's office of legislative affairs. Mr. French indicated that meaningful investigations might get underway in approximately one month.

GEORGE C. EDWARDS

Copy to:  
C-341 R.F.



T. T. 4 Conference - Tuesday, March 7, 1961

Time: 1300 - 1730  
Place: DPWD LHD Office  
Conference:

CAPT T. J. White	DPWD LHD
Mr. Stewart French	Special Counsel (Senate)
Mr. Paul Bauer	House Marine & Fisheries Committee
Mr. Gordon Edwards	Bureau of Yards and Docks

Discussion:

Questioning and discussion followed history and development of entire project from selection of A&E's to construction of TP-4 with emphasis on such items as:

1. Selection of A&E for feasibility study:

Why did we not select or at least consider engineering firms with patented off shore platform devices?  
 Why were not Gulf Coast contractors included in list of A&E's interviewed?  
 General Navy reply to these questions was that independent evaluation of all patented and non-patented ideas was desired. A&E selections generally limited to area in which work to be accomplished, if qualified firms available within the area.

2. Ted Russ - Design Engineer for Moran, Procter, Messer & Rutledge:

Discussion of his patent on foundations of TP-4.  
 Question as to when he started working for Moran, Procter, Messer and Rutledge.

3. Tower leg diameters

Discussion of why TP-4 legs only 12' - 6" diameter when TP-3, in more shallow water used 14'.

4. Navy waivers of specification requirements

Particular attention to waiver of pin connection tolerances. What other waivers, if any, were granted by GINOCY

5. Damage to structure during towing and erection.

Loss of folded X bracing struts in AB plane during up-erecting of foundation. Extent of damage in starting of legs when platform floated into position. Method of compensating for strength reduction caused by damage.

6. Ocean bottom situation TP-4.

Effect of .6 nautical mile error in position of tower.  
 Why was only one boring taken?

NOTE: Concern regarding possible inadequate ocean bottom investigation dispelled when divers reported all foundations intact and unscathed after towers

7. Additional loads on tower by Air Force.

Navy representatives said they had no knowledge of added loads being placed on tower by Air Force.

8. Fuel and water storage

Question raised regarding storage of oil in A&B legs and sea water in C leg. Would differences in the specific gravities of the two liquids have any effect? Was fuel stored in platform itself? (This answered in affirmative later at meeting with Otis AFB personnel.)

Requests:

During 7 March conference committee members requested:

1. Date LED first informed of TOSCA Tower project.
2. Copy of AFOS letter to BODGREN of 23 March 1954.
3. Copy of enclosure (2) of C-741 memo to C-100 for Mr. Bower.
4. Date Ted Kuss started working for AFOS.
5. List of waivers on UT-4 fabrication and erection specifications.
6. Copy of Operation & Maintenance Manual.
7. Copy of Leg test repair plans.
8. Copy of GACC letter to BODGREN of 23 December 1957.
9. Statement of how maintenance scaffolds was attached to base of platform.
10. Copy of LED rejection of Anderson & Nichols first submission of Feasibility Study.

U. S. - Conference - Wednesday, March 2, 1944 (A.S.)

Time: 0700 - 1200  
Place: 0700 IRL Office  
Conference:

Mr. W. C. Davis	0700 IRL
Mr. Stuart Proctor	Special Counsel (Design)
Mr. Paul Bauer	House Marine & Fisheries Committee
Mr. Anderson	Anderson-Nichols (AND)
Mr. Nichols	Anderson-Nichols (AN)
Mr. Gordon Edwards	Bureau of Yards and Docks

Discussion:

Discussion primarily covered design from derivation of criteria to opinion on probable cause of failure. Also relationship between Anderson-Nichols and Bureau, Proctor, Bauer and Nichols. Highlights were:

1. Determination of probable max wave height.

Anderson-Nichols representative said this was responsibility of Bureau, Proctor, Bauer and Nichols. Wave data based on estimates by ship observers not accurate. Also ships would avoid areas over storm conditions, therefore few estimates available for areas lower locations.

2. Reasons for failure number of legs to three.

Anderson-Nichols representative said three legs offered least protection to wave forces and triangular shaped platform was well suited functionally to the three space requirements. Three legs proposed by Bureau, Proctor, Bauer and Nichols.

3. Additional loads added to platform.

Anderson-Nichols knew of no loads added beyond original design. Firm provided loaded platform weight to Bureau, Proctor, Bauer and Nichols for use in structural design of tower. Anderson-Nichols made study for increased power supply for larger towers but nothing was done on this proposal.

4. Platform and Foundation Design.

Platform as designed by Anderson-Nichols for TT-4 and TT-1 was re-designed by East of A, B, C & D on TT-4 to provide for gate type attachment of platform to legs. Structure design including foundation, platform main girders and attachment of platform to foundation legs was responsibility of Bureau, Proctor, Bauer and Nichols.

5. Dynamic Studies.

On being questioned by Mr. Bauer on extent of dynamic study made for TT-1, Mr. Nichols stated that dynamic studies not always conclusive and often of doubtful value.

6. Added weight on tower

Mr. Minnick said that within limits increasing weight of platform would increase stability of platform. (Believe this question asked with respect to reported 200 tons of sand and gravel stacked on platform deck by Air Force. Later proved to be no more than 20 tons and inconsequential in view of 3000 ton weight of platform and contents.)

7. Cause of T-4 failure.

Mr. Minnick said authentic information not available to him but in his personal opinion it appeared that bracing difficulties not properly corrected and tower collapsed because of bracing failure.

8. Division of Responsibility Anderson-Nichols & Moran, Proctor, Keeser and Rutledge.

During Possibility Study division of responsibility for various aspects of design was by mutual agreement between the two firms arrived at thru series of conferences. On final design Anderson-Nichols (Mr. Anderson) was told verbally by L&M (CAPT reassigned) that all structural design for platform and foundations would be done by Moran, Proctor, Keeser and Rutledge. In reply to questioning Messrs Anderson and Minnick said M, P, K & R responsible for all structural design of platform and tower and for determination of weight of platform above mean low water. Weight of platform and contents computed by Anderson-Nichols and turned over to M, P, K & R.

9. Anderson-Nichols reputation damaged.

Mr. Anderson believes firm's reputation damaged as result of being connected with project yet they had no control over phases of design involved in the failure. Mr. Anderson said his firm had been particularly insulated from the design of T-4 and were concerned over rumors of damage during towing, pin connections and above water bracing. If structural design had been a joint effort Anderson-Nichols would never have gone along with some of the things done by M, P, K & R.

10. Quality control.

Mr. Deur asked who had responsibility for quality control. Mr. Edwards replied L&M and Elphinstone at S&M, Mr. Deur. When logs were sent during erection Mr. Edwards, L&M.

11. Fee distribution.

Mr. French asked amount of total fee and distribution between Anderson-Nichols and M, P, K & R. Mr. Deur said L&M will get total fee and Anderson-Nichols amount they received.

12. Continental Copper & Steel Industries, Inc.

AM&E representatives asked by Mr. Deur if they knew anything about Continental Copper & Steel. Mr. Anderson replied negative except that he thought they were formed for this job only. (This firm fabrication subcontractor to S&M-A&E.)

Requests:

During 3 March conference committee members requested:

1. Data on LRD designation of M, P, R & R responsibility for connection of platform to legs.
2. Total fee paid to joint venturer A&L contractor and fee split between the two contractors.

AFOCE-E

29 March 1961

1. How and by whom was original design criteria established?  
Was this design criteria confirmed by Navy authorities?
2. What was source of background data for development of design criteria?
3. It is understood that TT #4 was designed to withstand 125 mile per hour wind loads and breaking waves having height of 35 feet. What safety factor do these criteria provide? What other criteria governed the structural design?
4. Were there major deviations from the basic design criteria? In what respects?
5. To what extent and number of items was the criteria exceeded?
6. Was consideration given in the design criteria to the specific location of TT#4 with respect to the topography of the ocean floor which would affect ocean currents and wave action?
7. What was the basis for the selection of the A-E? What was his experience in the design of marine structures?
8. What method of design was used in consideration of basic criteria? This would include, but not be limited to, stress analysis, allowable stresses, strength of material, connection tolerances and allowable movement. Was the A-E design verified by Navy authorities?
9. Was the design confirmed by model tests under simulated water and wave conditions?
10. What type prime contract was ~~XXXXXX~~ awarded?
11. What background and experience did the prime contractor, ~~XXXX~~ fabricator and erector have in marine construction?

12. Were significant deviations made from approved design during fabrication and erection of TT #4?
13. Who checked and approved the adequacy of the ~~Kalkinattinn~~ fabricators shop drawings?
14. What measures were used to insure that fabrication complied with approved shop drawings?
15. By what means were the welds, rivets, structural and other components determined to be adequate during and after fabrication?
16. During the transportation and erection phases did any untoward incident occur which may have weakened the structure?
17. Were modifications made prior to or during erection that would tend to weaken the tower?
18. What was extent of inspection of construction during and at the completion of erection? By whom was the inspection performed?
19. What means was used to inspect repair work while being accomplished? Was repair work inspected to insure adequacy after completion of installations?

AFOCE-3

ROUTING SLIP

DATE MAR 28 1967

1. BRIG GEN KELLEY	COORDINATION	
2. COL FOWLER	INFORMATION	
3. COL HURLEBURT	ACTION	
4. MISS SCHOPPER	FILE	
5. JUNE	SIGNATURE	
APPROVAL		
AFOCE	AFOCE-1	AFOCE-2
AFOCE-C	AFOCE-E	AFOCE-H

REMARKS:



AFOCE-E/Mr. Harris/med/71215/27 Mar 61

AFOCE-E

MAR 28 1961

Texas Tower #4

AFOCE (ATTN: Colonel R. B. Allison)

1. Attached for your information is a copy of message to BuDucks, with information copies to appropriate agencies, requesting that the collapsed Texas Tower not be destroyed or repositioned without prior approval of this Headquarters.
2. Preliminary discussions have been initiated with BuDucks personnel to determine details of development of investigational plans.

H. K. KELLEY  
 Brigadier General, U. S. Air Force  
 Deputy Director for Construction  
 Directorate of Civil Engineering, DCE/C

1 Pch  
 TCM to BuDucks

cc: Mr. Golden AFCE  
 Gen Ashfield AFCEA  
 Gen Agee AFCE

AFOCE-E R/File  
 AFOCE-E Coord  
 AFOCE-E Stybok

COORD: AFOCE-E      AFOCE-3

*[Handwritten signature]*

JOINT MESSAGEFORM				SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER					
20 MAR 61 21 17z					
PRECEDENCE		TYPE MSG (CLASS)		ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION	ROUTINE	BOOK	MULTY	SINGLE	
INFO	ROUTINE			AF	X
FROM:					SPECIAL INSTRUCTIONS
Hq USAF					
TO:					
BUDOCKS, U. S. NAVY, WASHINGTON 25, DC					
INFO:					AFOCE-E Coord AFOCE-E Stybek AFOCE-E R/File cc: AFCCS (Col Allison)
1ST NAVAL DISTRICT, BOSTON, MASSACHUSETTS					
U. S. COAST GUARD 1300 E. ST., NW. WASHINGTON, DC					
26TH AIR DIVISION HANCOCK FLD, N. Y.					
Hq ADC COLORADO SPRINGS, COLORADO					
OTIS AFB MASSACHUSETTS					
97388					
UNCLAS FR AFCE-E _____					
<p>In view of public interest in the unfortunate destruction of Texas Tower #4, it is requested that no action be taken to destroy or to reposition any component of the tower without prior approval of this Hq. Pending completion of an investigation as to the cause of the failure, it is requested that replies to requests for information be released only through appropriate channels on an official business basis.</p>					
COORD: <i>[Signature]</i> AFCE-E AFCE-3					DATE
					TIME
					27
					1030
					YEAR
					MARCH
					1961
SYMBOL			SIGNATURE		
AFCE-E			<i>[Signature]</i>		
TYPED NAME AND TITLE (Signature, if required)			TYPED (in words) NAME AND TITLE		
Mr. C. M. Harris			H. E. HUBBY		
PHONE			Inspector General, U. S. Air Force		
71215			Deputy Director for Operations		
PAGE			Lieutenant Colonel, USAF		
NR. OF PAGES					
1					
SECURITY CLASSIFICATION					
UNCLASSIFIED					

DD FORM 173 MAY 58

REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED



AFOCE-2  
ROUTING SLIP

DATE 27 May 61  
INIT

2	BRIG GEN CURTIN	W	COORDINATION	
	MR GIBBENS		INFORMATION	
	COL CONE		ACTION	
1	<del>LT COL KOHL</del>	<del>WVX</del>	FILE	
	MISS LADUE		SIGNATURE	
	MRS POTVIN		APPROVAL	
AFOCE		AFOCE-1		AFOCE-3
AFOCE-M		AFOCE-R		AFOCE-P
AFOCE-2F		AFOCE-2L		

REMARKS:



DEPARTMENT OF THE AIR FORCE

F/scc

AF IN : 58342 (24 Mar 61)

UNCLASSIFIED MESSAGE

INFO : OCE-2, OOP-2, OOP-~~CPNLC~~ OBP-1, AAS-3

(10)

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M

SMB A139

KZCHQE575ZCSNA989

MM RJEZHQ

DE RJEZSN 17

ZNR

M 241616Z

FM 26TH AIR DIVISION HANCOCK FLD SYR NY

TO RJEZDG/551 AEWCONWG OTIS AFB MASS

INFO RJEZKN/BOADS STEWART AFB NY

RJEZDG/4624TH SUP SQ OTIS AFB MASS

RJWFAL/ADC ENT AFB COLO

RJEZHQ/HQ USAF WASHINGTON DC

BT

UNCLAS/FROM 26IFS-B/CVD 3-119.

ACTION: 551 AEWCONWG. INFO: BOADS, 4624 SUP SQ, ADC (ADIDC)

ADC (ADIFS), HQ USAF (AFOCE). SUBJ: REPORT OF UNDERWATER

EXPLORATION FINDINGS AT TEXAS TOWER #4. THIS MSG IN THREE

PARTS. PART I. CONFIRMING TELECON ON 22 MAR 61 BETWEEN

COL. IMPSON AND MR. HARRIS, AFOCE, HQ USAF, AND MR. DICOCO,

THIS HQ, ALL ADDRESSEES ABOVE ARE CAUTIONED AGAINST RELEASING

OR TRANSMITTING SUBJ REPORT, IN WHOLE OR IN PART, TO ANY

PRIVATE AGENCIES, PRIVATE FIRMS OR PUBLIC NEWS MEDIA OF ANY

DESCRIPTION. THIS REPORT WITH ATTACHED UNDERWATER PHOTOGRAPHS

2707

DEPARTMENT OF THE AIR FORCE  
COMMUNICATIONS SECTION  
UNCLASSIFIED MESSAGE  
INCOMING

AF IN : 58342 (24 Mar 61)

Page 2 of 3

PAGE TWO RJEZSN 17

WAS ACCOMPLISHED BY CONTRACT BETWEEN THE P&C OFFICE AT OTIS AFB AND THE MARINE CONTRACTING CO, INC, OF BOSTON AND COVERED THE PERIOD FROM 16 JAN 61 THRU 15 FEB 61. ALL PERSONS WHO ARE ASSIGNED TO OR ASSOCIATED WITH THE ABOVE AIR FORCE AGENCIES WHO ARE ACQUAINTED WITH OR WILL BECOME ACQUAINTED WITH THE CONTENTS OR INFORMATION CONTAINED IN SUBJ REPORT ARE FUTHER CAUTIONED NOT TO DIVULGE THE NATURE OF THIS INFORMATION TO AGENCIES OR PERSONS OUTSIDE THE AIR FORCE. FURTHER, THE EXCHANGE OR USE OF INFORMATION CONCERNING SUBJ REPORT BETWEEN PERSONS WITHIN THE AIR FORCE WILL BE RESTRICTED TO A "NEED-TO-KNOW" BASIS. THE IMPOSITION OF THIS CONTROL ON THE RELEASE OF SUBJ REPORT OR ITS CONTENTS WILL BE OF INDEFINITE DURATION AND WILL BE REMOVED ONLY BY AIR FORCE AUTHORITY AT A HQ LEVEL HIGHER THAN 26TH AIR DIVISION. PART II. (FOR 551 AEWCONVG) CONFIRMING TELECON ON 22 MAR 61 BETWEEN MR. MCCONNEL, OTIS AFB, AND MR. DICOCO, THIS HQ, IT IS OUR UNDERSTANDING THAT ONLY TWENTY (20) COPIES OF THIS REPORT ARE EXTANT IN OFFICIAL AIR FORCE CHANNELS. FOUR OF THESE COPIES WERE TRANSMITTED BY YOUR HQ TO HQ USAF (AFOCE-2) ON 28 MAR 61. FOUR COPIES HAVE BEEN RETAINED BY YOUR HQ AND THE REMAINING TWELVE (12) COPIES WERE

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE

INCOMING

AF IN : 58342 (24 Mar 61)

Page 3 of 3

PAGE THREE RJEZSN 17

HANDCARRIED TO THIS OFFICE ON 22 MAR 61 BY YOUR LT COL CORCORAN.  
ALL TWENTY OF THESE COPIES ARE TO BE STAMPED "FOR OFFICIAL USE  
ONLY". REQUEST YOUR HQ TAKE ACTION IN WRITING TO OBTAIN THE  
MANUSCRIPT OF SUBJ REPORT AND THE PHOTOGRAPHIC NEGATIVES FROM  
THE MARINE CONTRACTING CO, INC, AND DEPOSIT SAME IN SUITABLE  
SAFEKEEPING. PART III. COPIES OF SUBJECT REPORT WILL BE  
TRANSMITTED FROM THIS HQ TO THE 4604TH SUP SQ, BOADS, AND  
HQ ADC IN THE IMMEDIATE FUTURE.

BT

24/1832Z MAR RJEZSN

1-8  
13 20 61





DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

IN REPLY REFER TO

C-541/djd

23 MAR 1961

From: Chief, Bureau of Yards and Docks  
To: Headquarters, U. S. Air Force  
Directorate of Civil Engineering  
Engineering Division  
(AFOCE-E/Mr. C. W. Harris  
The Pentagon  
Washington 25, D. C.

Subj: Texas Towers Nos. 2 and 3 - Structural Investigations and  
Reports

Ref: (a) Department of the Air Force letter AFOCE-EA to BUDOCKS  
dated 28 Feb 1961

Encl: (1) Copy of Notice of Award Contract NBy 27417  
(2) Copy of Notice of Award Contract NBy 37424  
(3) Activity Reports No. 1-5, Texas Tower No. 2 Inspection  
(4) Activity Reports No. 1-5, Texas Tower No. 3 Inspection  
(5) Copy of DPWO LND letter to BUDOCKS dated 27 Jan 1961  
(6) Copy of BUDOCKS letter to DPWO LND dated 13 Feb 1961

1. In response to reference (a), enclosures (1) through (6) are  
forwarded herewith.

2. Additional interim reports and final reports on the investigations  
of both towers will be forwarded as received.

A handwritten signature in cursive script, reading "W. C. G. Church", is written above the typed name.

W. C. G. CHURCH  
CAPTAIN, USN  
Assistant Chief for Construction

Copy to:  
DPWO LND



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

IN REPLY REFER TO

C-541/djd

23 MAR 1961

From: Chief, Bureau of Yards and Docks  
To: Headquarters, U. S. Air Force  
Directorate of Civil Engineering  
Engineering Division  
(APOCE-E/Mr. C. W. Harris  
The Pentagon  
Washington 25, D. C.

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2. Additional interim reports and final reports on the investigations of both towers will be forwarded as received.

W. C. G. CHURCH  
CAPTAIN, CEC, USN  
Assistant Chief for Construction

Copy to:  
DPWO LND



C-310  
MH:erc  
MBY-37417

DISTRICT PUBLIC WORKS OFFICE  
FIRST NAVAL DISTRICT  
495 Summer Street, Boston 10, Mass.

C-540  
MBY-27417

27 January 1961

Moran, Proctor, Mueser & Rutledge  
415 Madison Avenue  
New York 17, New York

\$ 215,000 (Mr. Edwards)

The Government hereby awards you a contract to make an investigation and prepare a report pertaining to the structural condition of Texas Towers TT-2 and TT-3 (George's Bank and Nantucket Shoals), for a lump sum fee to be negotiated at a later date. Under the authority of this notice, you are directed to proceed with the investigation, based on but not limited to the following work, to determine the present capability of the towers to meet the requirements of the original design:

- a. Magnaflux all primary welds and spot check secondary welds.
- b. Inspect Towers at all locations for possible corrosion, damage or structural deficiency.
- c. Determine bottom scour or build-up of material around the Tower legs.
- d. Re-evaluate structural design based on possible revised information to be procured by this office from the Woods Hole Oceanographic Institute concerning increased magnitudes of wind and wave effect that might be encountered.

In performing this work you are authorized to incur expenses in an amount not to exceed \$20,000.00 without the prior written approval of the Officer in Charge.

The formal contract will be prepared on the Bureau's standard contract form for similar projects with such modification therein as the Bureau may determine proper under the particular circumstances. The contract will provide that payments will be made by the Officer in Charge, U. S. Navy Regional Accounts Office, Third Naval District, 3rd Ave. & 29th Street, Brooklyn 32, New York and the cost of the work will be chargeable to Appropriation 17XL205 MOON; Allotment 62464/99201 issued to DEWO, LND; Allotment Acct'g By 62464; BuControl No. 99201; Expenditure Account No. 98Q17; Object Class. No. 079. (Ultimately reimbursable by Std Form 1000 from AF Appropriation 5713400 Allotment Serial 179 611 Project 459.2 Object 0790 Station No. 8667400 OA Advice No. 61-134 Otis AFB).

The Bureau's standard provisions for termination, at the convenience of the Government or otherwise, shall be applicable to this notice of award.

You are urgently requested to expedite this investigation to the fullest extent.

Please acknowledge receipt and acceptance on the original of this notice and return such original to the District Public Works Officer immediately.

The above award received and accepted  
this        day of        1961

Very truly yours,

MORAN, PROCTOR, MUESER & RUTLEDGE  
(Contractor)

Civil Engineer Corps, USN  
For Chief, Bureau of Yards and Docks  
Contracting Officer

By \_\_\_\_\_  
(Name and Official Title)

Encl: Notice w/poster

Copy to:  
BuDocks(6)  
FinActgOff, Otis AFB  
CO, Otis AFB

ENCL III

C-310  
ME:erc  
NRY-37424

DISTRICT PUBLIC WORKS OFFICE  
FIRST NAVAL DISTRICT  
495 Summer Street, Boston 10, Mass.

NRY-37424  
Spec. 37424/61  
9 February 1961

Metropolitan Boiler Service, Inc.  
826 Washington Street  
Braintree, Massachusetts

The Government hereby awards you a contract in the sum of \$7,900.00 for Tank Cleaning, Texas Towers TT-2 and TT-3, in accordance with Specification No. 37424/61. You are directed to proceed immediately.

The formal contract will be prepared on the Bureau's standard contract form DD 1261 with Standard Form 32 and NavDocks 114, with such modification therein as the Bureau may determine proper under the particular circumstances. The contract will provide that payments will be made by the Officer in Charge, U. S. Navy Regional Accounts Office, Third Naval District, 3rd Avenue & 29th Street, Brooklyn 32, New York and the cost of the work will be chargeable to Appropriation 17X1205 MCON; Allotment 62464/99201 issued to DFWO, 1ND; Allotment Acct'g by 62464; BuControl 99201; Expenditure Account No. 98017; Object Class No. 079. (Ultimately reimbursable by Std Form 1080 from AF Appropriation 5713400, Allotment Serial 179-2611, Project 459.2, Object 0790, Station No. 8667400, OA Advise No. 61-134 Otis AFB).

Specification No. 37424/61 and the formal contract will be prepared on the basis of agreement reached between the Contractor and the Government at a conference held at the Chemistry Laboratory, Boston Naval Shipyard, on 7 February 1961, and will include the following provisions:

- a. That the Contractor shall furnish a performance bond in the sum of \$7,900.00
- b. That the Contractor shall have his crew, materials and equipment at the State Pier, New Bedford, Massachusetts, ready for loading on board ship at 1200 hours 10 February 1961, and that all work shall be completed on 24 February 1961.
- c. That the tanks to be cleaned shall consist of the following:
  - 2 - 58,000 gallon each diesel fuel tanks on TT-2
  - 2 - 1,500 gallon each AvGas tanks on TT-2
  - 1 - 3,000 gallon AvGas tank on TT-3
- d. That the Government will transport the Contractor's crew, materials and equipment from the State Pier, New Bedford, Massachusetts to the Towers and return, and between the Towers.
- e. That the Government will have the tanks available, and the Contractor shall accomplish the work on the tanks, according to the following schedule:

HBy-37424  
Spec. 37424/61  
9 February 1961

- (1) One 58,000 gallon diesel fuel tank upon contractors arrival on TT-2
- (2) The second 58,000 gallon diesel fuel tank on TT-2 upon contractor's completion of the first
- (3) Both AvGas tanks on TT-2 for cleaning during the period of cleaning the two diesel fuel tanks.
- (4) The AvGas tank on TT-3 upon completion of all work on TT-2

f. That the Government will pay the Contractor for men, materials and equipment on standby time occasioned by delays in transportation and Government delays in making tanks available, at the following rates per day:

- (1) \$322.00 for TT-2 Crew
- (2) \$180.00 for TT-3 Crew
- (3) \$142.00 for balance of TT-2 crew after departure of TT-3 crew

and that the contract time will be extended accordingly.

The Bureau's standard provisions for termination, at the convenience of the Government or otherwise, shall be applicable to this notice of award.

Please acknowledge receipt and acceptance on the original of this notice and return such original to the District Public Works Officer immediately.

The above award received and accepted  
this            day of            1961

Very truly yours,

METROPOLITAN BOILER SERVICE, INC.  
(Contractor)

Civil Engineer Corps, USN  
For Chief, Bureau of Yards and Docks  
Contracting Officer

By \_\_\_\_\_  
(Name and Official Title)

Encl: Notice w/poster

Copy to:  
BuDocks(6)  
FinActgOff, Otis APB  
CO, Otis APB

MORAN, PROCTOR, MUESER & RUTLEDGE  
 CONSULTING ENGINEERS  
 415 Madison Avenue  
 New York New York

TEXAS TOWER NO. 2 INSPECTION

Activity Report No. 1

Period: January 29 to February 10, 1961

Personnel Data

Jan. 29 MPM&R man (Zutraun), two NYTL men and two Steers' men on tower.  
 Feb. 1 Hinchman Corp. man on tower.  
 Feb. 7 Replacement man for NYTL arrived.

<u>Welding Inspection Progress</u>	<u>Gamma -ray</u>	<u>Magna -flux</u>
Total estimated lineal feet	2,595	4,146
Total lineal feet previous	0	0
Total lineal feet this period	241	80
Total lineal feet to date	241	80
Percent complete	9%	5%

General

Welding to date has been found generally satisfactory. Some rather serious corrosion has been found at platform connections to legs.

Staging has been completed at B and C legs for inspection of shear plates between caissons and caisson wells.

ENCL (3)

MORAN, PROCTOR, MUESER & FULLER  
 CONSULTING ENGINEERS  
 415 Madison Avenue  
 New York New York

TEXAS TOWER NO. 2 INSPECTION  
Activity Report No. 2

Period: February 10 to February 17, 1961

Personnel Data

- Feb. 11 Four-man crew of Metropolitan Boiler Company arrived at tower. Also Mr. Brown, Engineer for First Naval District, to approve tank purging.
- Feb. 14 NYTL man left tower, new Steers' man arrived.
- Feb. 16 Two NYTL men arrived.
- Feb. 17 Crew from TT-3 arrived (Caldwell of MPM&R, two NYTL men and two Steers' men).

<u>Welding Inspection Progress</u>	<u>Gamma -ray</u>	<u>Magna -flux</u>
Total estimated lineal feet (new estimate)	2,500	2,500
Total lineal feet previous	241	80
Total lineal feet this period	90	152
Total lineal feet to date	331	232
Percent complete	13%	9%

General

No important discoveries from welding inspection but additional bad corrosion conditions found on main deck.

Tank cleaning 100% complete around B leg and 50% complete around A leg.

Working staging in well around legs is 100% installed at B and C legs and about 75% complete at A leg.



MORAN, PROCTOR, MUISER & RUTLEDGE  
 CONSULTING ENGINEERS  
 415 Madison Avenue  
 New York New York

TEXAS TOWER NO. 2 INSPECTION

Activity Report No. 3

Period: February 18 through 24  
 1961

Personnel Data

Feb. 21 MPM&R man (Caldwell) came ashore --  
 replaced by Weiner; also Mr. Hickey of  
 Steers Co. came ashore

<u>Welding Inspection Progress</u>	<u>Gamma -ray</u>	<u>Magna -flux</u>
Total estimated lineal feet	2,500	2,500
Total lineal feet previous	331	232
Lineal feet this period	449	75
Total lineal feet complete	780	307
Percent complete	31%	12%

General

Tanks around A and B legs completely cleaned.

Inspection in tanks 60% complete at A leg and 80% complete  
 at B leg.

Mr. Caldwell in MPM&R office February 23.



MORAN, PROCTOR, MUESER & RUTLEDGE  
 CONSULTING ENGINEERS  
 415 Madison Avenue  
 New York New York

TEXAS TOWER NO. 2 INSPECTION

Period: February 25 through March 3, 1961  
 Activity Report No. 4

Personnel Data

Feb. 25 MPM&R man, Caldwell, arrived on tower and Zutraun went ashore. Mr. Hickey of Steers Co. returned to tower.

March 3 Caldwell of MPM&R, two N. Y. T. L. men and two Steers men left on boat for New Bedford, enroute to TT-3.

<u>Welding Inspection Progress</u>	<u>Gamma-ray</u>	<u>Magnaflux</u>
Total estimated lineal feet	2,500	2,500
Total lineal feet previous	780	307
Lineal feet this period	345	455
Total lineal feet complete	1,125	762
Percent complete	45%	30.5%

General

Mr. Zutraun in MPM&R office on March 2.

MORAN, PROCTOR, MUESER & RUTLEDGE  
CONSULTING ENGINEERS  
415 Madison Avenue  
New York New York

TEXAS TOWER NO. 2 INSPECTION

Period: March 4 through March 10, 1961  
Activity Report No. 5

Personnel Data

No change in personnel. Mr. Zutraun of MPM&R  
unable to return to Tower because of transportation  
difficulties brought about by weather conditions.

<u>Welding Inspection Progress</u>	<u>Gammaray</u>	<u>Magnaflux</u>
Total estimated lineal feet	2500	2500
Total lineal feet previous	1125	762
Lineal feet this period	25	603
Total Lineal feet complete	1150	1365
Percent complete	46%	55%

General

Crew ran out of film for gammaray work.

MORAN, PROCTOR, MUESER & RUTLEDGE  
 CONSULTING ENGINEERS  
 415 Madison Avenue  
 New York New York

TEXAS TOWER NO. 3 INSPECTION

Activity Report No. 1

Period: January 26 to February 10, 1961

Personnel Data

- Jan. 26 MPM&R man (Caldwell) and two NYTL men arrive at tower.
- Jan. 27 Two Steers' men arrive at tower.
- Feb. 8 Hinchman Corp. man on tower.

<u>Welding Inspection Progress</u>	<u>Gamma -ray</u>	<u>Magna -flux</u>
Total estimated lineal feet	735	1,104
Total lineal feet previous	0	0
Total lineal feet this period	282	0
Total lineal feet to date	282	0
Percent complete	38%	0%

General

No serious deficiencies in welds have been discovered so far. Also no serious corrosion conditions have been disclosed such as have been found on TT-2. This is generally because of less complicated details of connections of legs to platform.

PAGE 141

MORAN, PROCTOR, MUESER & RUTLEDGE  
 CONSULTING ENGINEERS  
 415 Madison Avenue  
 New York New York

TEXAS TOWER NO. 3 INSPECTION

Activity Report No. 2

Period: February 10 to February 17, 1961

Personnel Data

Feb. 16 Entire inspection crew left tower (Caldwell of MPM&R, two NYTL men and two Steers' men).

<u>Welding Inspection Progress</u>	<u>Gamma -ray</u>	<u>Magna -flux</u>
Total estimated lineal feet	735	1,104
Total lineal feet previous	282	0
Total lineal feet this period	49	357
Total lineal feet to date	331	357
Percent complete	45%	32%

General

Considerable time lost by this crew in making transfer to Tower 2. They had to pack up pending arrival of boat which could not take them on, then remained idle waiting for helicopter. Crew finally arrived at TT-2 on February 17.

No significant discoveries made from welding inspection.

MORAN, PROCTOR, MUESER & RUTLEDGE  
CONSULTING ENGINEERS  
415 Madison Avenue  
New York New York

TEXAS TOWER NO. 3 INSPECTION

Activity Report No. 3

Period: February 18 through 24  
1961

No progress, inspection crew on TT-2.

MORAN, PROCTOR, MUESER & RUTLEDGE  
CONSULTING ENGINEERS  
415 Madison Avenue  
New York New York

TEXAS TOWER NO. 3 INSPECTION

Activity Report No. 4

Period: February 25 through March 3, 1961

No progress, inspection crew on TT-2.

MORAN, PROCTOR, MUESER & RUTLEDGE  
CONSULTING ENGINEERS  
415 Madison Avenue  
New York New York

TEXAS TOWER NO. 3 INSPECTION

Activity Report No. 5

Period: March 4 through March 10, 1961

Personnel Data

March 4 Caldwell of MPM&R and two man crews of Steers and  
NY TL returned to Tower

<u>Weiding Inspection Progress</u>	<u>Gammaray</u>	<u>Magnaflux</u>
Total estimated lineal feet (new est.)	870	2100
Total lineal feet previous	331	357
Total lineal feet this period	199	280
Total lineal feet to date	530	637
Percent complete	61%	30.3%

DISTRICT PUBLIC WORKS OFFICE  
FIRST NAVAL DISTRICT  
NAVY BUILDING  
495 SUMMER ST. BOSTON 10, MASS

IN REPLY REFER TO:  
10  
TJW:rf  
4330 TT

JAN 27 1961

From: District Public Works Officer, First Naval District  
To: Chief, Bureau of Yards and Docks (Code 541)

Subj: Texas Towers #2 and #3; examination of

Ref: (a) Telcon Capt. Thompson, BuDocks and Capt. White, DPWO, IND of  
18 Jan 1961

Encl: (1) Copy of 26th Air Div msg 172100Z to DPWO, IND  
(2) Minutes of meeting on 19 Jan 1961  
(3) Cy of ltr from MPM&R dtd 20 Jan 1961 regarding examination of  
Texas Towers #2 and #3

1. By enclosure (1) the District Public Works Officer was requested to take immediate emergency action to inspect and determine the seaworthiness of Texas Towers #2 and #3. Further, a study to determine feasibility of installing instrumentation to forecast and/or indicate possible dangerous conditions in the structures was also requested. By reference (a) the DPWO was authorized to provide these services.

2. Because of the need for immediate action and because the work required was essentially a comparison between the present conditions and stresses in the towers and those contemplated by the original design, it was decided that the firm of Moran, Proctor, Mueser and Rutledge was the best qualified to manage and evaluate the results of the specialized investigations required. This firm made the original evaluations of the available information on the effect of wind and waves prior to developing the detailed design of the structures.

3. Accordingly, a meeting was arranged on January 19, 1961 of the interested parties. Those attending the meeting and the items discussed are listed in enclosure (2). At this meeting it was brought out that since the towers had been erected, there had been an opportunity to observe actual wind and wave conditions, particularly those at Tower #4 during Hurricane "Donna". Further, the Naval Hydrographic Office had periodically taken readings of wind and sea conditions at all towers subsequent to their erection. Such information at the sites was not available in 1954 and 1955 when the towers were designed. Thus, at the request of the Air Force representatives, it was decided that the Woods Hole Oceanographic Institute which had correlated the wind and wave data available in 1954 and 1955 would be asked to correlate the additional information available as to wind and sea conditions that might be expected at Texas Towers #2 and #3. Should the re-evaluation of wind and wave data based upon

ENCL (5)



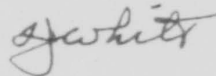
10  
TJW:rf  
4330 TT

this correlation indicate the possibility of conditions of greater severity than those assumed in the original design, Moran, Proctor, Mueser and Rutledge will reanalyze the structures and as appropriate recommend any structural revisions deemed necessary.

4. Enclosure (3) is a proposed scope of the work to be performed by the A&E. It should be noted that this scope does not include a review of the original design of the towers. It does, however, provide for a review of the known and assumed conditions upon which the original design was based versus the more comprehensive wind and wave effects information now available. Funds in the amount of \$25,000 have been made available by the Air Force for the preliminary portions of this study with the balance to be provided upon approval of the contractor's proposal by the DPWO. The contractor has been notified to proceed and as of this date has men on the towers to radiograph and magnify the structural welds.

5. A copy of this proposed scope is being furnished the cognizant Air Force officials at Otis Air Force Base for their comment and concurrence.

6. The Bureau's comments and advice regarding the proposed scope are requested as soon as possible.



T. J. WHITE

Copy to:  
CO, Otis AF Base



DEPARTMENT OF THE NAVY  
BUREAU OF YARDS AND DOCKS  
WASHINGTON 25, D. C.

IN REPLY REFER TO

C-541/djd

13 FEB 1961

From: Chief, Bureau of Yards and Docks  
To: District Public Works Officer, First Naval District

Subj: Texas Tower #2 and #3; examination of

Reff: (a) DP&O LMD ltr 10 YJWrf 4330 TT of 27 Jan to BUDOCKS

1. The scope of the investigative work outlined in reference (a) and the enclosures thereto is considered sufficiently broad to identify any weaknesses which may exist in these towers.
2. With respect to the review of observed wind and wave conditions at the sites, particular attention should be given to any observed raised elevation of the mean sea level during severe exposure.
3. The proposed studies would include re-evaluation of attempts to instrument the towers for measuring lateral displacements. It is believed that this matter should receive primary attention in an effort to install instruments of the necessary sensitivity for measuring lateral displacements. Any measured excesses above those arrived at by calculations would indicate the need for a further survey of the integrity of the structural connections, possible cracks in structural members and structural failure of other types.

W. C. G. CHURCH  
CAPTAIN, CEC, USN  
Assistant Chief for Construction

Copy to:  
OO Orls AF Base

50 A16  
OFFICE OF THE CHIEF OF STAFF, USAF

The bearer has been instructed to  
handcarry the attached papers to

*AFCE-Do [Signature]*  
EXPEDITE --- DO NOT DETACH

AFOCE-2  
ROUTING SLIP

DATE 22 Mar 41

INIT

3	BRIG GEN CURTIN		COORDINATION
2	MR GIBBENS	<i>JGS</i>	INFORMATION
4	COL CONE		ACTION
1	LT COL KOHL	<i>BYK</i>	FILE
	MISS LADUE		SIGNATURE
	MRS POTVIN		APPROVAL
AFOCE		AFOCE-1	AFOCE-3
AFOCE-M	5	AFOCE-R	AFOCE-P
AFOCE-2F		AFOCE-2L	

REMARKS:

ATT: COL NICKOLS

*Received 22 - 4/6*

*Returned to Mr. Davis  
for signature*

HEADQUARTERS UNITED STATES AIR FORCE OFFICE OF THE CHIEF OF STAFF				DATE
<b>REFERRAL SLIP</b>				
<b>TO:</b>				
SAFS	AFCRF	AFAAC	AFMTP	AFOOP
SAFDI	AFCJA	AFABF		AFOLE ✓
	AFCSG		AFPOC	AFOMO
SAFLL	AFCIM	AFODC	AFPOH	AFORQ
AFCSA	AFCIN	AFDRD	AFPCP	AFOAC
AFCVC	AFCIG		AFPEP	
AFCAV	AFCSI	AFMDC	AFPMF	AFKIC
AFCAC ✓	AFCDF	AFMMS	AFPTK	AFXPS
AFCSS		AFMPP		AFXPR
AFCAS	AFCPM	AFMSS	AFODC	AFXAC
<b>ATTENTION:</b> <i>Gen. Kelley</i>				
<b>FOR:</b>				
<input type="checkbox"/> APPROPRIATE ACTION				
<input type="checkbox"/> COMMENT AND/OR RECOMMENDATION				
<input type="checkbox"/> DIRECT REPLY WITH COPY TO AFCS				
<input type="checkbox"/> PREPARATION OF APPROPRIATE FORWARDING CORRESPONDENCE				
<input type="checkbox"/> PREPARATION OF REPLY FOR SIGNATURE C/S, USAF				
<input type="checkbox"/> PREPARATION OF REPLY FOR SIGNATURE EXEC TO C/S, USAF				
<input type="checkbox"/> PREPARATION OF REPLY FOR SIGNATURE OF				
<input type="checkbox"/> NOTE AND RETURN OF FORWARD				
<input checked="" type="checkbox"/> INFORMATION AND/OR FILE				
<input type="checkbox"/> COORDINATION				
<input type="checkbox"/> C/S HAS ORIGINAL				
<input type="checkbox"/> C/S HAS SEEN				
<input type="checkbox"/> C/S HAS NOT SEEN				
<b>COMMENTS:</b> <i>Re my memo dated 22 Mar 61</i>				
<b>FOR THE CHIEF OF STAFF</b>				
<i>RBA</i> ROYAL B. ALLIEN Colonel, USAF Assistant to C/S, USAF				

DEPARTMENT OF THE AIR FORCE  
OFFICE OF THE CHIEF OF STAFF  
UNITED STATES AIR FORCE  
WASHINGTON, D.C.



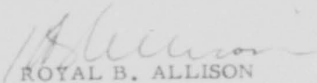
REPLY TO  
ATTN OF: AFCCS

SUBJECT: Texas Tower No. 4

22 March 1961

to General Kelley, AFOCE

1. Attached for your information is a copy of a message (Incl 1) which the President received from Mr. Harrigan, Vice President, Massachusetts State Council of Carpenters, and a draft reply (Incl 2) which this office provided to the White House. Our draft reply was coordinated with Mr. Golden, General Kuhfeld, and General Agee.
2. You will note in our draft reply that assurance is given that the Tower will not be destroyed until full underwater investigation can be completed. I am informed that message AFOOP-DE 84709, 10 Feb 61, issued instructions to that effect and that you now have the job of assuring appropriate underwater investigation.
3. I am calling this to your attention with the request that you assure that no tower destruction action is taken which would prejudice our statements to the White House or prejudice future legal actions which may ensue. Your actions must include close coordination with ADC, the Navy and the Coast Guard.

  
ROYAL B. ALLISON  
Colonel, USAF  
Executive to C/S, USAF

2 Incls  
a/s

cc: Mr. Golden  
Gen Kuhfeld  
Gen Agee

Boston, Mass -- March 12

The President  
The White House

Respectfully request appointment with you regarding recent Texas Tower disaster. All but 3 of the civilian dead were pile drivers and divers of our union. 2 of the others were operating engineers. Have unearthed appalling design and construction condition which should be brought directly to your attention. Tower should not be destroyed as menace to navigation until survivors counsel agents can make surveys and tests of ocean floor and tower structure; prior to doing anything that will change the wreck's present condition. This wire confidential and is not being released to press or any other parties or agencies. Kindest personal regards. Mike Harrigan.  
VP, Mass. State Council of Carpenters.

Transcript of Wire sent by Colonel McHugh to Mr. Harrington, relayed over phone by White House secretary 27 March 1961.

FROM: White House, Washington dated 22 March 1961

TO: Mike Harrington  
Vice President  
Massachusetts State Council of Carpenters  
546 E. Fifth Street  
South Boston, Massachusetts

The President asked me to reply further to your telegram of March 12, and to convey to you the assurance that he fully appreciates and shares your deep concern regarding the Texas tower disaster. Further, he hoped you will understand that an appointment at this time to discuss design and structural matters would be premature in as much as the complete facts regarding underwater conditions which caused the disastrous breakdown of Texas Tower No. 4, and the tragic loss of lives are not yet available. The extremely adverse weather conditions in the North Atlantic during this season preclude completion of necessary examination of the remaining tower structure. The President has been assured that this phase of the investigation will be accomplished as soon as weather conditions permit, and until this is completed, no action whatsoever will be taken to destroy the remaining vestiges of the tower. In the meantime it would be most helpful if you could present your information concerning this tragic accident to an Air Force investigator. Please let me know by return telegram if you wish to meet with this investigator, and the time and place most convenient to you.

Signed... GODFREY T. MCHUGH,  
Colonel, USAF  
Air Force Aide to the President

*This  
sent*



22 March 1961

Draft Reply to Message from Mr. Harrigan (Vice President, Massachusetts State Council of Carpenters) to the President

I fully appreciate and share your deep concern regarding Texas Tower disaster, but an appointment at this time to discuss design and structural matters would be premature. Complete facts regarding underwater conditions which caused disastrous breakdown of Texas Tower No. 4 and tragic loss of lives are not yet available. The extremely adverse weather conditions in the North Atlantic during this season preclude completion of necessary examination of remaining tower structure. This phase of the investigation will be accomplished as soon as weather conditions permit, and until this is completed no action will be taken to destroy remaining vestiges of tower. Meanwhile, it would be most helpful if you could present your information to an investigator who the Air Force would be pleased to have visit you at your convenience.

Sincerely

NOT  
SENT

See memo

AFOCE-3

ROUTING SLIP

DATE MAR 22 1961

- |                               |              |         |
|-------------------------------|--------------|---------|
| <del>1.</del> BRIG GEN KELLEY | COORDINATION |         |
| 2. COL FOWLER                 | INFORMATION  |         |
| <del>3.</del> LT COL HURLBURT | ACTION       |         |
| 4. MISS SCHOPPER              | FILE         |         |
| 5. JUNE                       | SIGNATURE    |         |
| APPROVAL                      |              |         |
| AFOCE                         | AFOCE-1      | AFOCE-2 |
| AFOCE-C                       | AFOCE-E      | AFOCE-H |

REMARKS:

*1. Lt Col Hurlburt has a copy of a report which might support our decision to withdraw all of our assets.*

*H*

TEL: MELROSE ~~XXXX~~ 5-8911  
EXT: 2840

HEADQUARTERS  
**AIR DEFENSE COMMAND**  
UNITED STATES AIR FORCE  
ENT AIR FORCE BASE, COLORADO



REPLY TO  
ATTN OF: ADIDC

SUBJECT: Texas Tower #4

21

TO: Hq USAF (AFOCE-3)

Confirming the telephone conversation between General Kelley and Col Schuyler, the attached letter from the Task Committee on Wave Forces of the American Society of Civil Engineers and related correspondence is forwarded for necessary action.

FOR THE COMMANDER

*E V N Schuyler*  
E V N SCHUYLER  
Colonel, USAF  
DCS/Civil Engineering

2 Atch  
1. Ltr 17 Feb 61 fr  
Mr Wiegel  
2. Ltr 4 Mar 61 fr  
Gen Jensen



AMERICAN SOCIETY OF CIVIL ENGINEERS

WATERWAYS AND HARBORS DIVISION

Committee on Coastal Engineering

Task Committee on Wave Forces

413B Hesse Hall, Univ. of Calif., Berkeley 4, Calif.

17 February 1961

Major General Clifford Jensen  
c/o Otis Air Force Base  
Massachusetts

Dear Sir:

This letter is in regard to the failure of Texas Tower No. 4.

The American Society of Civil Engineers has had a Task Committee on Wave Forces since December 1960. The purpose of this committee is to investigate and report on methods of determining forces exerted by water waves on structures, to set the criteria for design of structures for strength and stability, and to disseminate the information on the design criteria. The engineering and oceanographic information that your investigating group obtain on the failure of Texas Tower No. 4 will be of great value to our committee. It is requested that this information be made available to us, if possible, although it is realized that much of the information will not be ready for some time. We would like, if possible, to obtain at the present time copies of both the feasibility study and the design report on this tower.

Very truly yours,

Robert L. Wiegel  
Chairman

RLW:vb

cc: Robert Y. Hudson, Sr.  
John T. O'Brien  
Lars Skjelbreia  
Thorndike Saville, Jr.

HEADQUARTERS  
AIR DEFENSE COMMAND  
UNITED STATES AIR FORCE  
301 AIR FORCE BLDG  
COURTNEY SPRING, COLORADO

4772/61

American Society of Civil Engineers  
Waterways and Harbors Division  
Task Committee on Wave Forces  
ATTN: Robert L. Fiegel, Chairman  
4128 Bease Hall  
University of California  
Berkeley 4, California

Dear Sir:

with respect to your letter of 11 February 1961, concerning determination of forces exerted by waves on structures as may have been developed by the Board of Inquiry concerning the loss of Texas Tower #4, please be advised that the Board has forwarded your request to the Deputy Chief of Staff for Civil Engineering, Headquarters Air Defense Command, 301 Air Force Bldg, Colorado, with request that copies of the feasibility report, and Design and Construction Report on Texas Tower offshore radar platform, be furnished you, if available.

The Board of Investigation submitted its report concerning Texas Tower #4 to the Commander, Air Defense Command on 5 March 1961. It is expected that the report will reach the Chief of Staff, United States Air Force, Washington D. C., in the very near future. Since the report is considered a privileged document, not releasable to agencies outside the United States Air Force without the express approval of the Secretary of the Air Force, it is suggested that further requests for information which may be contained in the report be directed to the Chief of Staff, United States Air Force.

We trust the foregoing information will be satisfactory.

Yours truly,

JAMES C. JENSEN  
Major General, USAF  
President

attch 2

2090

ADIDC

Texas Tower #4

Hq USAF (APOCE-3)

Confirming the telephone conversation between General Kelley and Col Schuyler, the attached letter from the Task Committee on Wave Forces of the American Society of Civil Engineers and related correspondence is forwarded for necessary action.

FOR THE COMMANDER

*E V N*  
E V N SCHUYLER  
Colonel, USAF  
DCS/Civil Engineering

2 Atch  
1. Ltr 17 Feb 61 fr  
Mr Wiegel  
2. Ltr 4 Mar 61 fr  
Gen Jensen

*20 March 1961*



STAUNTON MILITARY ACADEMY  
STAUNTON, VIRGINIA

19 March 1961

Colonel Ivan H. Iapson  
Chief, Engineering Division  
Directorate of Civil Engineering  
United States Air Force

Dear Colonel Iapson:

I am looking forward to meeting you on 24 March. I decided to write you and let you know that I am coming.

I will arrive in Washington about 8:00 and will take the bus that you suggested to the Pentagon.

I thank you very much for your invitation.

Sincerely,  
*Larry Levy*  
Sergeant 3rd Class, Larry Levy  
Staunton Military Academy

27 January 1961

AFOCE-E

Texas Tower

Cadet Sergeant Larry Levy  
Staunton Military Academy  
Box 382  
Staunton, Virginia

Dear Cadet Sergeant Levy

1. Your recent letter concerning your views of Texas Tower design is sincerely appreciated.
2. Reviewing the design history of these towers may be of interest to you. The Bureau of Yards & Docks, U. S. Navy was the United States Air Force design agent in this particular instance. They, in turn, employed two competent, experienced Architect and Structural Engineer firms to do the actual design.
3. The records of previous recorded winds and wave actions were reviewed thoroughly and the design was such to withstand such natural occurrences. In addition, the engineers reviewed the design of oil drilling towers in use in the Gulf of Mexico that had withstood numerous high winds and waves.
4. The final design that resulted from these studies is quite similar to your proposal. The legs of the tower rested on the ocean bottom but in our case the leg foundations were encased in concrete because of the sand and to resist lateral movement. The chamber was floated to the site, as you have indicated, and jacked up on the legs sufficiently to provide clearance for the ocean waves.
5. What happened to this particular Texas Tower is not known and will not be known for a long time. From preliminary accounts, a structural failure must have occurred in one of the legs. No one is more sorry than I that personnel aboard lost their lives in the disaster.
6. I appreciate the interest that you have shown in the Air Force. I hope your interest continues and that you will consider the United States Air Force when you decide on a career.

Sincerely

IVAN H. IMPSON  
Colonel, United States Air Force  
Chief, Engineering Division  
Directorate of Civil Engineering, DCS/O

*Hybik APPROVE ✓*



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D.C.



REPLY TO  
AUTH OF: AFOCE-E

27 January 1961

SUBJECT: Texas Tower

TO: Cadet Sergeant Larry Levy  
Staunton Military Academy  
Box 382  
Staunton, Virginia

*Capt Conrad  
Col. H. H. Hunt  
How relays*

Dear Cadet Sergeant Levy

1. Your recent letter concerning your views of Texas Tower design is sincerely appreciated.
2. Reviewing the design history of these towers may be of interest to you. The Bureau of Yards & Docks, U. S. Navy was the United States Air Force Design Agent in this particular instance. They, in turn, employed two competent, experienced Architect and Structural Engineer firms to do the actual design.
3. The records of ~~tests~~ recorded winds and wave actions were reviewed thoroughly and ~~their design was to withstand~~ such natural occurrences. In addition, ~~they~~ reviewed the design of oil drilling towers in use in the Gulf of Mexico that had withstood numerous high winds and waves.
4. The final design that resulted from these studies is quite similar to your proposal. The legs of the tower rested on the ocean bottom but in our case the ~~leg~~ foundations were encased in concrete because of the sand and to resist lateral movement. The chamber was floated to the site, as you have indicated, and jacked up on the legs sufficiently to provide clearance for the ocean waves.
5. What happened to this particular Texas Tower is not known and will not be known for a long time. From preliminary accounts, a structural failure must have occurred in one ~~of~~ of the legs. *It was a case where I had personnel placed at the base of the tower in the distance.*
6. I appreciate the interest that you have shown in the Air Force. I hope your interest continues and that you will consider the United States Air Force when you decide on a career.

Sincerely

IVAN H. IMPSON  
Colonel, United States Air Force  
Chief, Engineering Division  
Directorate of Civil Engineering, DCS/O

*Checked out  
with HC Hunt  
OK  
Ape*

AFOCE-E

27 January 1961

Texas Tower

Cadet Sergeant Larry Levy  
Staunton Military Academy  
Box 382  
Staunton, Virginia

Dear Cadet Sergeant Levy

1. Your recent letter concerning your views of Texas Tower design is sincerely appreciated.
2. Reviewing the design history of these towers may be of interest to you. The Bureau of Yards & Docks, U. S. Navy was the United States Air Force Design Agent in this particular instance. They, in turn, employed two competent, experienced Architect and Structural Engineer firms to do the actual design.
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5. What happened to this particular Texas Tower is not known and will not be known for a long time. From preliminary accounts, a structural failure must have occurred in one or more of the legs.
6. I appreciate the interest that you have shown in the Air Force. I hope your interest continues and that you will consider the United States Air Force when you decide on a career.

Sincerely

IVAN H. IMPSON  
Colonel, United States Air Force  
Chief, Engineering Division  
Directorate of Civil Engineering, DCS/O



Staunton

Staunton, Va.

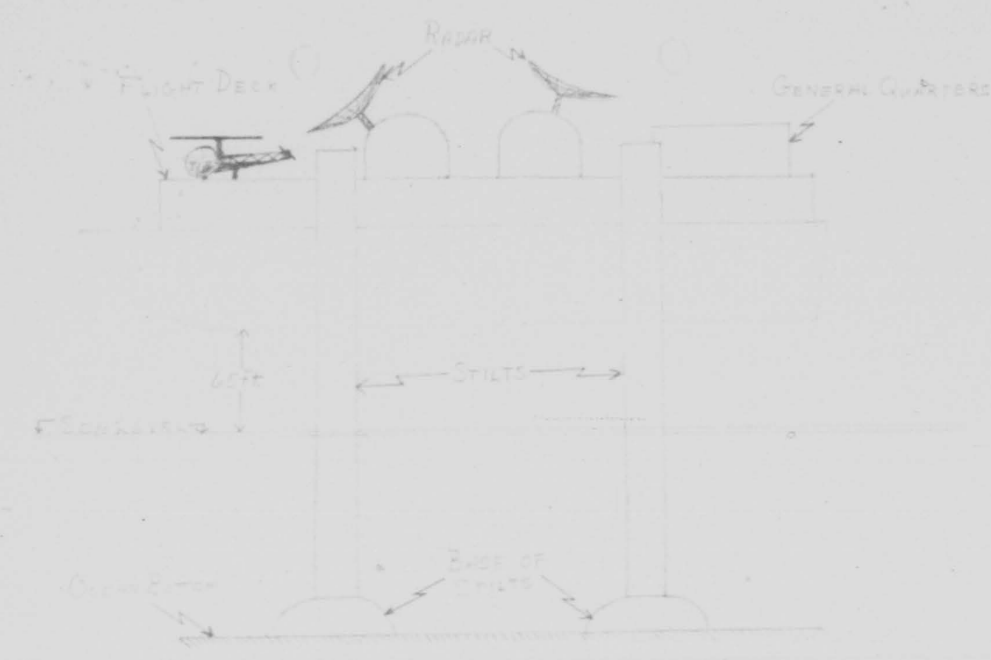
Engineering Dept.  
U.S.A.F.  
Pentagon  
Washington, D.C.

Dear Sirs:

After reading about the Texas Tower that collapsed recently, my roommate and I began to think the problem over about how to prevent such an accident from happening again. Please do not get us wrong. We are not condemning the Air Force for what happened. We have merely dreamed up an idea. We have enclosed a sketch of our idea. The reason for the boat like shape is to make the tower more mobile. If the stilts could be made to retract somehow, the tower would become mobile. The reason for its being mobile is that it could be towed into a ship yard for quick repair. Also it could be moved to another location if the occasion arises. We would appreciate any opinions you could give us on our idea. Thank you.

Yours Truly,

Larry Levy  
Cadet Sergeant  
S.M.A.



IDEA MAN: LAWRENCE LEVY  
DRAFTSMAN: ROBERT BOYD

14-00000  
No REPORT

#20 ?

Archie W. Gordon Edwards Eddy

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

*SW*  
*M*  
*VE*

AF IN : 43558 (11 Mar 61)

F/dfe

NN

ACTION: OOP-2

INFO : OOP-CP-1, OCE-2 (6)

*TT-2 on 3*  
*REPORT #21*

SMD C 014

CHQD397ZCDGA405

PP RJEZHQ

DE RJEZDG 41

ZNR

FM 551AEWCON WG OTIS AFB MASS

TO RJEZHQ/HQ USAF WASH DC

INFO RJWFAL/ADC ENT AFB COLO

RJEZSN/26ADIV HANCOCK FLD NY

RJEZKN/BSN AD SECTOR STEWART AFB NY

RBEGMC/DPWO 1ST NAV DIST BOSTON MASS

AF GRNC

BT

UNCLAS 5511DC 3-312 FOR AFOOP-DE-WC AND AFOCE;

INFO ADCCS, ADIDC, 261DC. SUBJ: TEXAS TOWER TWO AND  
THREE INSPECTION PROGRESS REPORT NUMBER TWENTY-ONE.

PROFESSORS PIERSON AND NEUMANN OF NYU COMPLETED ON-THE-

SPOT INTERROGATION OF PERSONNEL 4 MARCH. THEY WILL

CORRELATE INFORMATION AVAILABLE FROM ALL SOURCES INCLUDING

AIR FORCE, NAVY HYDROGRAPHIC OFFICE AND COAST GUARD TO

DETERMINE ACTUAL WIND AND WAVE CONDITIONS WHICH ALL TOWERS

HAVE UNDERGONE. THEY WILL PROPOSE INSTRUMENTATION REQUIRED

UPON COMPLETION OF STUDY. TWO EMPLOYEES OF HINCHMAN CORP.

*2998*

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
(UNCLASSIFIED MESSAGE)  
I N C O M I N G

AF IN : 43558 (11 Mar 61)

Page 2 of 2

PAGE TWO RJEZDG 41

OF CHICAGO REPORTED YESTERDAY TO TRANSFER TO TOWERS IN  
CONNECTION WITH ABOVE WATER CORROSION INVESTIGATION. DUE  
TO POORWEATHER TRANSPORTATION CANNOT BE EFFECTED EARLIER  
THAN 11 MAR. MAGNAFLUX AND RADIOGRAPHING OF WELDS  
PROGRESSING ON SCHEDULE.

BT

10/2211Z MAR RJEZDG





### 5. Static versus Dynamic Design

Mr. Bauer: Did you design tower on basis of static or dynamic loads?  
 Mr. Kiss: On basis of static loads. Mr. Bauer: Why don't you think Brewer  
 conclusions were successful? Dr. Rutledge: Because seven wave conditions  
 were not encountered. The maximum was 15'. Mr. Bauer: The oscillograph  
 shows 30'.  
 Notes: Review of oscillographs made by self and Mr. Bauer. Mr. Bauer: were  
 these dynamic studies made? Dr. Rutledge: No, we talked to hydraulic labs  
 at MIT and Stevens Institute but they could not simulate all forces?

### 6. Replacement of Diagonal Braces at -60'

Question raised regarding collar attachment of diagonals to A and B legs.  
 (Collar attachment rather than pin connection used because of difficulties in  
 working underwater). Mr. Kiss said the replacement diagonal braces were  
 designed to restore original integrity of members. He pointed out that in-  
 adequate darrieel bolt installation was indicative of underwater construction  
 difficulties.

### 7. Cathodic Protection

Noran, Proctor, Mueser & Rutledge said they had nothing to do with  
 cathodic protection design and that same had been done by Anderson Cor-  
 poration. Congressional representatives requested copies of Mueser's  
 reports on inspections after installation of cathodic protection.

### 8. Situation after Hurricane "Daisy"

Mr. Kiss and Dr. Rutledge stated that no repairs were required after  
 Hurricane "Daisy".

### 9. Situation after Hurricane "Dennis"

Mr. Kiss stated that after "Dennis", Noran, Proctor, Mueser & Rutledge  
 thought there was great danger of tower collapse. He said General Silver (US  
 Boston Air Defense Sector) asked him to indicate what wind and wave conditions  
 could be tolerated in the tower's weakened condition. Noran, Proctor, Mueser  
 & Rutledge would not give any wind and wave criteria for this tower condition  
 but stated verbally that it was considered to be extremely dangerous. Mr.  
 Kiss denied that anyone had been told by NORAN, Proctor, Mueser, and Rut-  
 ledge that tower was 55% effective. He said this impression may have been  
 gained erroneously thru conference discussion of ability of tower legs to  
 brace. It had been determined that the legs without concrete reinforcement  
 would only take 55% of the design tension in the existing.

### 10. Relationship of Joint Venturers

Asked whether Anderson-Nichols selected Noran, Proctor, Mueser, & Rutledge  
 as joint venturer or vice versa, Dr. Rutledge said he was not sure but thought  
 probably Cdr. Albers (NCG) had suggested Noran, Proctor, Mueser & Rutledge  
 talk to Anderson-Nichols.

11. Dangerous Condition of T1-4

Mr. Bass said that in visiting at J. Wick Steers office on 12 January 1961 with Air Force personnel present, he had advised that T1-4 was in a dangerous condition.

12. Safety Factor

Mr. Bass said tower was designed on basis of basic stress of 20,000  $\psi$ /sq. in. with yield stress of 15,000  $\psi$ /sq. in..

Recommendations:

1. Copies of inspection Reports on T1-4 Cathodic Protection.
2. Copy of study on wave forces being made by Parsons-Whitman under contract, tower, tower, tower, & Kollwage safety inspection contract.

T. T. 4 Conference - Monday, March 13, 1944

Time: 1100 - 1400  
Place: Office of J. Rich Steers, N. Y.  
Conference:

- Mr. J. Rich Steers      J. Rich Steers Co.
- Mr. Gene Pau
- Mr. Mills
- Mr. Koch
- Mr. Stuart French      Special Counsel (Senate)
- Mr. Paul Bear          House Marine & Fisheries Committee
- Mr. Gordon Edwards     Bureau of Yards and Docks

Discussion:

Primarily concerned with fabrication and erection procedures with emphasis on reinforcement and repair after towers had been turned over to Air Force. Areas of discussion were:

1. Original design changes - re-bracing.

Asked whether or not J. Rich Steers requested any design changes, replies were:

- Mr. Pau: Yes, ~~some~~ temporary bracing for erection eliminated, and pipe type bracing changed to lattice type.
- Mr. Bear: Tolerances for pipe connections and type of bracing were increased by 10% to facilitate on site connection of field bracing. Installation of buoyancy struts a design change for upgrading per spec.

2. Steers - NY relations with Continental Corp. or Steel.

Reply to questions on this subject were:

Mr. Mills: Continental Corp. or Steel Industries, Inc. are still in business but not in South Portland, Me. Continental a 100% subcontract under Steers - NY for fabrication of the tower. ~~Steers~~ Contractor had res. responsibility for quality control of fabrication by sub.

3. Bracing above water.

Asked why pipe connections were used for underwater bracing. Mr. Pau replied that this was the ~~best~~ design. ~~Some~~ bracing above water was also and A-E design. ~~Some~~ reinforcement recommended by J. Rich Steers and accepted by ~~NY~~.

Note: Questioning has emphasized fact that designer limited number of tower legs to three to stabilize, recommend to wave action, yet later added substantial above water bracing which increases pressure under storm conditions.

4. Steers vs. air and rehab. contracts.

Mr. Pau stated that contract was for installation of above water cross

bracing. This completed in August 1960. After hurricane Donna (12 Sept. 1960). Change Order to this contract covered maintenance scaffold replacement, above and below water foundation inspection and inspection of connections between platform and legs. Second contract covered installation of cable bracing on A-B plane, installation of strong-backs on legs and installation of repair sleeve on horizontal strut in A-B plane at minus 75' elevation.

5. Condition of Tower 7 Jan. 1961

J. Rich Steers representatives stated that on 7 January 1961 1 diagonal in the lower panel of A-B plane and 1 diagonal in the third panel were ineffective. Other breaks had been repaired. Mr. Steers stated this lack of bracing no greater than existed through hurricane Donna. However, with heavy weather expected in Feb and March, J. Rich Steers thought the tower should be orderly evacuated until better weather conditions would prevail.

6. Perted 8 - 15 January

Mr. Pau said that during this period Moran, Director, Mueser and Rutledge were engaged in determining tower stability with two braces missing. Mr. Kuss of A-B-E reported to have told Steers (10) on 12 Jan that tower good for 55% of design strength in existing condition. This not reduced to what wind and wave forces tower could withstand. All of this later denied by Mr. Kuss who said he could not possibly quote on design strength with bracing missing and many other factors unknown. He thought possibly a statement that calson shells at proposed point of attaching cable bracing were only good for 55% of the design tension of the cables might have been misinterpreted giving impression entire tower was within 55% of design strength.

Requests:

1. Copy of 7 Jan. findings (J. Rich Steers will supply)
2. Copy of 20 Nov. report by J. Rich Steers
3. Copies of A-B-E drawings of proposed cable bracing
4. Copies of memoranda of telephone calls from TT-4 to J. Rich Steers including Jan 15 call at 7:15 P.M. from Mr. Pau.

T. T. A Conference - Saturday, March 11, 1961

File	2000 - 1300	
Class	Special NUTS Vessel, ALL-17, New Bedford, Massachusetts	
Participants	CAPT. Sixto Mangual	ALL-17
	Mr. James J. O'Keefe	NUTS-21
	Mr. Stuart French	Special Counsel (Legal)
	Mr. Paul Bauer	Special Liaison / Fisheries Committee
	Mr. Gordon Edwards	ureau of Land and Water

Discussion

The ALL-17 is a NUTS vessel operated in fleet service - structured as a supply ship for all three Texas Trawlers. Operations of the vessel are controlled by the 44th Support Squadron for Texas Trawlers. The squadron is located at Otis Air Force Base at Palomoth, Massachusetts. Mr. French had confidential interviews with various crew members. Commander O'Keefe, Mr. Bauer, and Mr. Edwards, held a discussion with Captain Mangual. Items discussed were:

1. Load of sand and gravel on deck of T-2

Captain Mangual stated that he had brought two loads of sand and gravel from a New York port to Texas Trawler #2. This material was in 100-pound bags and had been stored on the deck preparatory to being put into the aggregate. After dumping into the aggregate, about one-third of the aggregate to provide reinforcing aggregate slugs at the various locations for attachment of seine trawling. Captain Mangual said that he had carried two loads of this aggregate to the tower, one of 100-ton and one of 150-ton. He did not know how much of the material might have been put into the aggregate bags.

2. Method of tying supply ship to T-2

Using a rough model of tower and ship, Captain Mangual indicated method of tying the vessel to the tower. This involved use of a cable around the 6 leg to which tying rings were attached. Trawl rings were attached to the tower structure to the ship. After tying the bow to the tower, the ALL-17 crew members were used to hold the stern in position. Stern anchors were not used. Captain Mangual said this was the only method of securing the ship from drifting and possibly causing tower damage.

3. Saturday, January 14

Captain Mangual said he was engaged in off-loading salvagable material from T-2 on the day before the tower collapsed. He said material removed included electronic and other gear attached to or parts that of load weight loss. During this operation, Captain Phelan, C of T-2, said that 90-10 knot winds were reported from the northeast. After salvagable material had been off-loaded, Captain Mangual asked Captain Phelan if he wanted to evacuate personnel before anticipated high wind and wave conditions would cause

evacuation... Captain... again later in the day... was asked if he wanted to evacuate and again turned down the offer of the...-17.

Captain... also reported that divers were in the water and welders and riggers were engaged in work on the lower...-17.

Monday, January 15

On Monday morning, Captain... recommended evacuation of the tower since winds and sea conditions were reaching a point where evacuation would be dangerous. He stated that... again... against evacuation. During Sunday afternoon, sea conditions worsened to the extent that...-17 had to maneuver at some distance from...-17. Captain... said that the sea conditions encountered were the worst that he experienced in his several years of supplying the Texas Towers. He said that immediately after the reported time of collision of...-4, he recalls a series of unusually high waves.

3. Captain... report

Captain... has written a detailed report of the...-17 activity before, during, and subsequent to the failure of...-4. The... (Serial...), is attempting to obtain a copy of... report.

T. I. Conference - Saturday, March 11, 1944 (10:00)

~~CONFIDENTIAL~~

154 - 104  
Brewer Laboratories, Massachusetts

Mr. J. C. Brewer	Brewer Laboratories
Mr. H. S. Vanstone	Brewer Laboratories
Mr. Stuart Frenck	Legal Counsel (Senate)
Mr. Paul Dezer	House Marine & Fisheries Committee
Mr. Gordon Howards	Bureau of Land and Woods

~~CONFIDENTIAL~~

Purpose of visit to Brewer Laboratories was to discuss a fatigue study that this firm had performed in connection with T1-2. The study was done primarily in connection with operational characteristics of the rotor base, however in making the study for this purpose, observations were also made of effectiveness of the universal joints as indicated by the study results. Highlights of the study are:

1. Possible Causes of Failure

There is a letter with several other letters regarding location of stress after failure, location of cracks in rollers, and so forth. Mr. Brewer suggested that failure may have been caused by slip rolling and that this might particularly be true in areas of high stress. It was noted that where holes had been turned for attachment of roller bearings, it was suggested that rupture of welds connecting rollers to shafts might have caused failure. It is recommended that sections of rollers be examined and analyzed. There must also be observations and analysis, such as, location of cracks, holes, and so forth.

2. Static versus Dynamic Design of Tower

Mr. Brewer assumed that tower was designed on the basis of static analysis. When asked whether or not he would have performed fatigue analysis for original design, he said that he probably would have done this. He said, however, that his rolling studies indicated that fatigue cycles per minute whereas the design frequency was a great many thousands per minute. This indicated that the overloading was intermittent under the forces applied during the test period. In view of these results, Mr. Brewer says his report recommends that a dynamic analysis be made.

3. Differences of Opinion

Mr. Moran, Frenck, Dezer, and Hall had seen the Design and Construction Report states that Brewer Laboratories findings were inconclusive. Questions regarding this statement, Mr. Brewer expressed surprise and said he thought his observations were well corroborated by better than average quality. He could not understand the Moran, Frenck, Dezer, and Hall's statement.

Platform weight

The platform was given to Mr. Brewer by Messrs. Proctor, Messer, and Gullidge for use in Brewer computations was 5000-tonne. This is indicated in a letter from Mr. Cass to Mr. Brewer dated 12 November 1946.

Remarks:

1. Mr. Brewer requested a letter copy of NEXCOS memorandum to SAC dated [redacted]
2. Mr. Gullidge and Mr. Proctor requested copies of all six parts of the Brewer Report.



T. T. 4 Conference

March 10, 1961

Time: 1300 - 1600

Place: Woods Hole Oceanographic Institute, Woods Hole, Mass.

Conference:

Dr. Iselin	Director, Woods Hole Oceanographic Institute
Mr. Vine	Woods Hole Oceanographic Institute
Mr. Stuart French	Special Counsel (Senate)
Mr. Paul Baner	House Marine & Fisheries Committee
Mr. Gordon Edwards	Bureau of Yards and Docks

Discussion:

Discussion with representatives of the Woods Hole Oceanographic Institute primarily concerned wind and wave data and scope of contracts held by Woods Hole Oceanographic Institute in determination of wave criteria and positioning of Texas Tower No. 4. Principal items were:

1. Oceanographic Institute participation in determination of design criteria

The Oceanographic Institute acted as consultant to OIGC and A&A contractors during preparation of Texas Towers' feasibility study. Oceanographic information held by the Institute with respect to the proposed location areas was made available to the designers.

2. Oceanographic Institute contracts

Dr. Iselin stated that the Institute had had contracts for sounding and coring George's Banks and Nantucket sites. They had also acted as consultant to Anderson-Nichols on salt water storage and had set location buoys for TT 2 and TT 4. Also did sounding work in connection with positioning of TT-4.

3. Waves hitting bottom of platforms

Dr. Iselin stated that there was some indication that waves higher than theoretically expected had hit the bottom of TT 2 platform. He further stated, however, that wave abnormality such as had hit the bottom of TT 2 should not be expected for the TT 4 site because of the much deeper water at this location. Dr. Iselin suggested that the maximum design wave criteria was based on a study of worse known conditions and application of the Pearson wave forecasting formula.

4. Cause of failure

Dr. Iselin said that failure was probably caused by a series of small waves with equal periods rather than by an abnormally high wave. He said that a series of such waves with equal periods coinciding with the natural period of the tower might have caused failure. He said this is the type of wave phenomenon which frequently causes towers to break in two.

... of waves to climb cylindrical surfaces

... questioned regarding water entering vents on underside of platform, Dr. Iselin discussed the phenomenon of waves' tendency to climb a cylindrical surface. He pointed out that with vents near the top, water would enter them because of the tendency to climb the cylindrical surface rather than because of any solid wave hitting the platform bottom. Dr. Iselin mentioned the possibility of a heavy wave having crashed the above water landing of the tower.

Model studies

Dr. Iselin said that he had recommended a model study of the T-4 tower prior to fabrication in a natural tidal basin on Cape Cod. He said that study had not been made because of time factor. He said that even a study in a tank would not be satisfactory since artificial waves are sinusoidal whereas natural waves are not and, therefore, have different effects on structures.

Requests

Congressional representatives made no requests for specific data at the 10 hour session.

T. T. 3 Conference - Wednesday, March 8, 1961 (P.M.)

Time: 1400 - 1700  
Place: USFWS LED Office  
Conference:

CHS W. C. Owens	USFWS LED
Mr. Stuart French	Special Counsel (Senate)
Mr. Paul Bauer	House Marine & Fisheries Committee
Mr. Alan Crockett	Marine Contractors, Inc.
Mr. Ockill	Marine Contractors, Inc.
Mr. Gordon Edwards	Bureau of Yards and Docks

Discussion:

Mr. Crockett somewhat reluctant to discuss details of his operations in connection with diving inspections of TT-4 because of possible adverse effects on his relationship with his employer the U.S.A.F. Mr. Crockett said a full report of approximately 10,000 words would be turned over to CAPT Greenfield, Air Force Procurement Officer within one week. This report to cover all work by Marine Contractors, Inc. after letterhead "Demand" (12 Sep 1960), 6 Jan 1961 and following collapse of TT-4. List of information received from Crockett covered:

1. Model photos showing proposed conditions after collapse of TT-4 in disease tower platform location 200 yards west of south free foundation caissons. Platform is substantially intact and has 115 feet of "A" leg still attached. B-C side rests on ocean bottom with "A" corner supported above ocean bottom by 115 feet of "A" leg. Platform had rotated 37° in a counter-clockwise direction.

2. Condition of caisson footings.

Mr. Crockett said all caisson footings were intact and remained embedded in the ocean bottom in their original position. There was no evidence of tilting of the footings or of sand scour around them. Portions of tower legs were bent over and in some cases torn at the point of connection with the caisson footings.

3. Diver Investigations after collapse.

Mr. Crockett states three dives made under his direction as technical adviser. Divers numbered as many as 24 and included Navy divers as well as Mr. Crockett's commercial men. All operations were conducted from the "Sea-bird", a naval vessel attached to Subbase II. Purpose of diving operations was to a. free trapped survivors if any, b. remove any bodies remaining within tower, and c. determine extent of hazard to navigation. In diving operations to date no specific effort has been made to determine cause of failure. All diving operations suspended on 14 February when Navy withdrew "Sea-bird".

b. Navy contact

CAPT Wood (USN), a Navy line officer attached to Saratoga Air Force Base in Syracuse, N. Y. has detailed reports and photographs of all of the going diver investigations.

Remarks:

One from Navy. Congressional representatives asked for copy of reports held by Crockett to be submitted by Air Force.

T. T. 4 Conference - Thursday, March 9, 1961

<u>Time:</u>	1100 - 1700	
<u>Place:</u>	Otis Air Force Base, Walcott, Mass.	
<u>Participants:</u>	COL W. J. White	Base Commander, Otis AFB
	COL F. E. Governor	Deputy Base Commander
	MAJ ... Sheppard	C.O. 400th Support Squadron
	MAJ ...	CAF Officer for 400th Support Squadron
		Acting C.O. 10 Jan '61 to 10 Feb '61
		1st C.O. of 77-4
		1st Wing C.O. Squadron
		CFO for 400th Support Squadron
		Special Counsel (Legal)
		Personnel Officer and Books
		House Marine & Fisheries Committee
	Mr. Weaver	
	Chief Warrant Party	
	Mr. Stuart French	
	Mr. Gordon Edwards	
	Mr. Paul Bower	

Discussion:

Discussion at Otis Air Force Base primarily concerned responsibilities. Otis is operated by the 1st Airborne Early Warning and Control Wing under the 24th Air Division at Hancock AFB in Syracuse, N. Y., and the Air Defense Command Headquarters at Colorado Springs, Colorado. The 400th Support Squadron, a tenant activity at Otis, is directly responsible to HQ, Boston Air Defense Sector for providing administrative, technical and logistical support for all T-28's. HQ of Boston Air Defense Sector are at Stewart AFB in Boston, N. Y. under the command of Brig. Gen. Elder. Items of technical interest in Otis AFB discussion were:

1. Condition of existing plus construction February 1961.

After Airbase Commander's report of 10 Feb 1961 Mr. York of Hord, Hord, Hord and Hord said there might not last until spring unless some repairs made. As a result above plus construction recommended and installed after Air Force contracts.

2. Meeting of 10 November 1960.

This meeting apparently covered design to cover needed by Hord and Hord. (Neg'ed) and recommendations for repair. (Attempting to get report of existing Air Force.)

3. Weather reports.

Air Force representatives said Air Defense Command in New York provided towers weather forecasts for all areas in excess of 40 knots. 14-16 knots weather conditions varied from 10 to 20 knots. Area of 17 Feb 1960 recorded winds of 17 knots.

4. Meeting of 14 January 1961.

At meeting in New York on 14 Jan '61 Hord and construction contractors recommended to Air Force representatives that 77-4 be abandoned until spring when better weather conditions make facilities tower repairs. Air Force representatives agreed and tentatively set 1 February as evacuation date in order that boilers, water pipes, etc. might be repaired before evacuation.

their reports Sunday, 15 January 1961.

On the date of TT-4 collapse CAPT Shelton, C.O. aboard the tower reported that a loud pop was heard at 10:30 A.M. Air Force representatives thought this might possibly have been fracture of another brace. In view of increasing winds on Saturday, 14 January and Sunday, 15 January, CAPT Shelton advised Otis that he would clear decks for possible evacuation by helicopter from carrier deck on Monday morning, 16 January. Clearing involved removing bags of sand and gravel stored on deck for use in bracing repairs. Air Force representatives at Otis believe all bracing except Telephone operator were clearing deck when tower collapsed.

6. Constant tension winches.

In talking to Air Force personnel I requested information regarding performance of constant tension winches which the Bureau had specified for the towers to facilitate loading or off-loading of cargo and personnel under adverse weather conditions. Air Force representatives said constant tension winches were not being used as they were too complicated for Air Force personnel to operate.

7. Position of TT-4.

Geographical position of TT-4 originally determined by "Loran" which at best is only accurate to 1/2 mile. More than two years after original determination of position the Coast and Geodetic Survey using "Regulator" (accurate to 1/2 ft) determined tower position to be 1/2 of a nautical mile to the east of the earlier designated position. I queried Air Force representatives on whether or not this position discrepancy would have any effect on radar operations from the tower. They were not sure but in any event thought that relative position in the radar set was of more importance than the actual position of the tower. Air Force representatives also thought that position used in radar calculations had been independently determined by Air Force. They said I could get the position used by the Air Force from the War Dept Air Defense Center.

8. Safety inspection of TT-4 and TT-5.

Dr. French expressed surprise when informed that a contract is currently underway covering safety inspection of TT-4 and TT-5. Air Force request that contract is being administered by the First Naval District with Smith, Roberts, Moore and Kellogg as contractor. The contract includes visual inspection above and below water, fluoroscopic of all welds connecting platform to legs, acceleration and strain gauge measurements, re-evaluation of wind and wave factors based on actual conditions experienced at the tower sites and recommendations for corrective measures if required.

9. Determination of cause of failure.

Air Force representatives said diving operations suspended after ascertaining no more personnel above and determining position of platform and foundation. Further diving operations directed at determining cause of failure suspended until better weather conditions prevail. Air Salvage of wreckage on line at capture points for metallurgical examination has been suspended. Salvage of wreckage on line and foundation has been completed as requested.

Requests:

1. Copy of scope of contract for safety inspection of TT-2 and TT-3.
2. Air Force requested to provide photos and memoranda of various meetings.

AFOCE-2,  
ROUTING SLIP

DATE 6 Mar 61

INIT

	BRIG GEN CURTIN		COORDINATION
	MR GIBBENS		INFORMATION
✓	COL CONE		ACTION
1	LT COL KOHL	✓	FILE
	MISS LADUE		SIGNATURE
	MRS POTVIN		APPROVAL
AFOCE	AFOCE-1		AFOCE-3
AFOCE-M	AFOCE-R		AFOCE-P
AFOCE-SF	AFOCE-2L		AFOCE-E 2

REMARKS:

ATTN: MR. ADDISON



DEPARTMENT OF THE AIR FORCE

STAFF MESSAGE DIVISION

UNCLASSIFIED MESSAGE

AF IN : 36458 (4 Ma 81) F/cgd  
INFO : COP-2, COP-CP-1, CCE-2, ISI-2, MM-2, IDS-1 (11)

2 ✓  
m

INCOMING

SND C 814

ZCZCHQB009ZCBJA019

Texas Tower #4

RR RJEZHQ

DE RBEPJD 058

not

ZNR

R 032138Z

FM COMDI COGARD

TO RBEGUF/CCGD THREE

INFO RBEGUF/COMEASTAREA

RBEPW/CNO

RJEZHQ/HQ COFS USAF

RBEKHC/CINCLANTFLT

RBEGUH/COMEASTSEAFRON

USCG GRNC

BT

UNCLAS

TEXAS TOWER 4

1. FOLLOWING RECEIVED FROM CNO QUOTE THE AIR FORCE IS CONCERNED ABOUT POSSIBLE COMPROMISE OF CLASSIFIED DOCUMENTS AND EQUIPMENT WHICH WERE ABOARD TEXAS TOWER NUMBER 4. REQUEST YOUR ESTABLISHED PATROLS PROVIDE SUCH SURVEILLANCE AS PRACTICABLE TO PREVENT SALVAGE ATTEMPTS BY UNAUTHORIZED PERSONS. SALVAGE OPERATIONS WILL BE RESUMED AS SOON AS WEATHER AND OTHER CONSIDERATIONS PERMIT UNQUOTE.

2. TAKE NECESSARY ACTION

BT

CFN 4 4

2654

03/2148Z

1378



DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE

AI\* IN : 36517 (4 M (01) V'ogd

INCOMING

3v  
#

ACTION: OOP-2

INFO : OOP-CP-1, OCE-2 (5)

Texas Tower #4

SMD C 837

ZCHGB021ZCDGAB888

NEW  
#

PP RJEZHQ

DE RJEZDG 57

ZNR

P 231500Z ZEX

FM 551AEWCONWG DTIS AFB MASS

TO RJEZHQ/HQ USAF WASH DC

INFO RJWFAL/ADC ENT AFB COLO

RJEZSN/26ADIV HANCOCK FLD NY

RJEZKN/BOADS STEWART AFB NY

RBEGMC/DPVO 1ST NAV DIST BOSTON MASS

AF GRNC

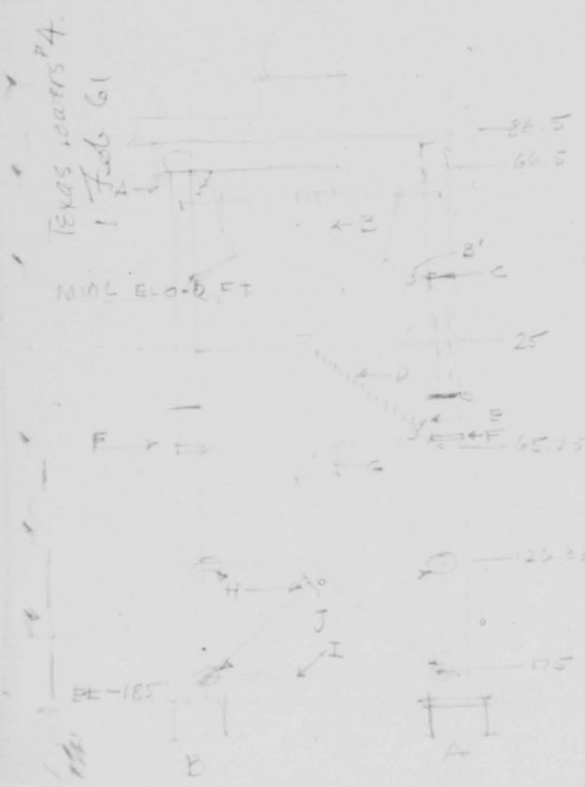
BT

UNCLAS 551IDC 5-123 ACTION HQ USAF (AFOOP-DE-WG  
AND AFOCE); INFO ADC (ADCCS AND ADIDC); 26ADIV (26IDC);  
BOADS; DPVO 1ST NAV DIST; SUBJ: TEXAS TOWER TWO AND  
THREE I NSPECTION PROGRESS REPORT NUMBER TWENTY RADIO  
GRAPING ALL FUEL TANKS ON IT TOW COMPLETED FVE.

TESTING PERSONNEL WILL RETURN FRO TT TOW TO THREE 4 MAR  
61 TO PERFORM MAGNETIC WELD INSPECTION 50 PER CENT COMPLET  
DR WILLARD PRIESON JR AND DR GERHARD NUEMANN OF NEW YORK  
UNIVERSITY ADM BOARD THIS DATE INTERROGATION PERSONEL  
REVIEWING OFFICIAL FILM PRIVATELY OWNED PICTURES AND  
OFFICAL WEATHER RECORDS IN CONNECTION WITHRUPTATION  
WIND AND WAVE STUDIES.

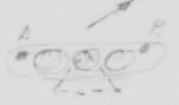
2622

BT

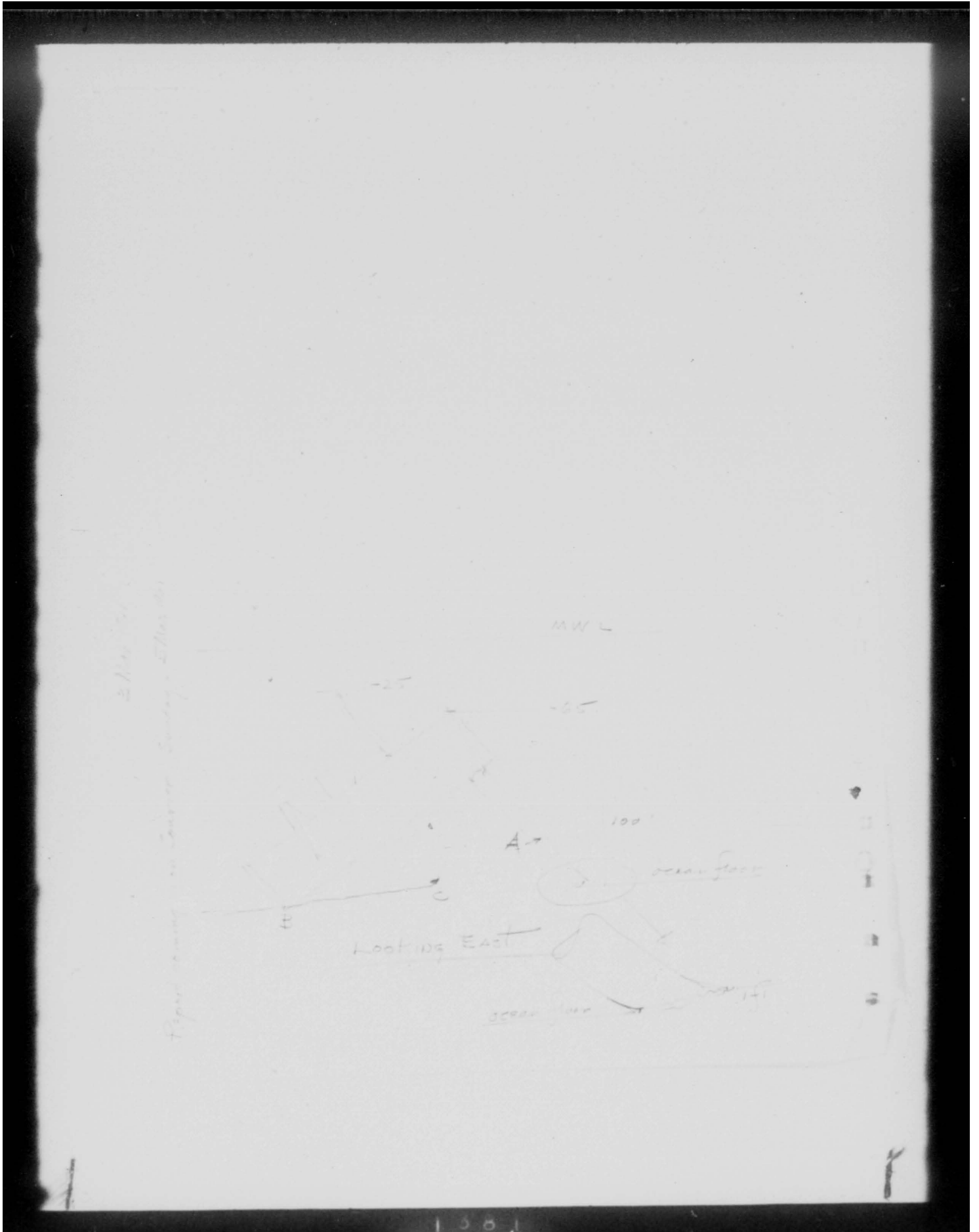


- A = Partial Fracture - 12 Dec 60
- B = Borehole completed 8 Aug 60
- B' = Partial Fracture - 12 Dec 60
- C = Minor Fractures - 12 Sept 60
- D = Diagonal Sawcut to prevent further damage
- E = Fractured 12 Sept 60
- F = Field Connections
- G = Pin & also torn case from wellhead  
12 Sept 60 - Repaired by collar conn. Glands  
Pin rotate thru to 1 1/2 turns per min.
- H = Diagonal broken - 12 Dec 60
- I = Horizontal brace never installed
- J = All pin at these points are within design tolerances

See Log Section  
Notes on Form Draw. 975-40-50-2  
Sketch 10-1



TEXAS OILCO #4



3 Mar 61

Letter from N.E. 16 Nov 60 states that  
 X bracing installation completed 8 Aug 60  
 Tower #4 was safe to resist "125 mph  
 wind - with 30' breaking wave or a  
 60' non breaking wave" (with the same wind)  
 "Due to factors of safety in design  
 and uncertainties and variations  
 in theoretical analyses the ultimate  
 wind and wave conditions which  
 the tower structure could resist  
 cannot be determined"

"There is, of course, a factor of safety  
 in the calculations and would these be  
 not used up in further workmanship  
 and deterioration of the structure, they  
 would increase the ultimate strength."

Note from Em report report - Page 11  
 Prevailing weather occurred on the SSE-SSE  
 quarter (mainly 204° to 212°) - wind sea and  
 current in the same direction produce a synergistic

effect - Cracking (delta) snapped  
 like kelp strings -  
 Page 4 Future Maintenance Considered  
 Cracking getting -  $\frac{3}{16}$ " deep - tower legs  
 Exhibit 2 - T. 22 Journals  
 19 Dec 60 - Tower rotating in excess  
 of 5' 6"  
 20 Dec 60 - Tower appears to be more  
 stable than it has been  
 22 Dec 60 - Tower oscillating more  
 than normal.

Part 4 Vol 5.  
 Construction of Cores -  
 Dep for Civil Engineering 26 15  
 Statement. Para 7 - 12 Sept 60  
 winds in excess of 100 knots will  
 breaking waves of 65' ranging to  
 as high as 75' -  
 Mr. Tress (S/E) Opinions that these  
 conditions exceed design by as much as 100%.

EXHIBIT I

Feb 2nd - Feb 3rd  
Capt Rhelan reported they were  
clearing dirt of gravel and  
gravel which was being placed  
in the legs. Any material left  
in the morning to be processed  
to make room for Helicopter

Feb 4 -  
Visited by Marine Contractor Feb  
15th. He was concerned about  
laying out of sand to depth  
of 6'

Feb 15 - 15 Mar 60  
Capt A. Fisher - 157  
District Public Works Officer  
"would look favorably on request for  
Navy to administer both engineering  
and repair contract for correction  
of the difficulties"

100

Vol 6 Appendix N

Sketch shows concrete lining on upper portion of caisson down to elevation -50 with empty caisson down to -115. (Question advisability of the added weight to the upper part SW?)

Appendix L

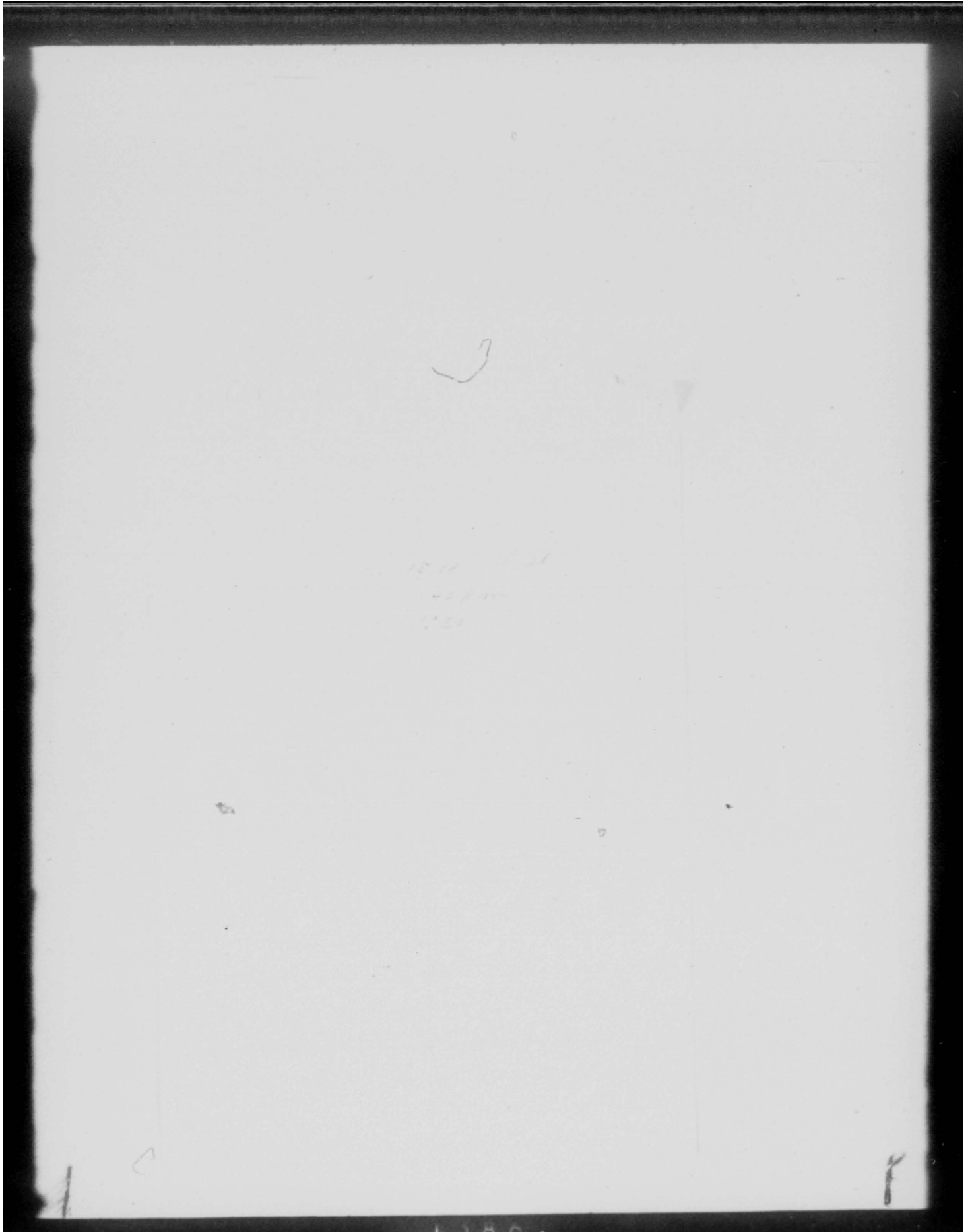
Climatology report.

13 storms producing 20' or higher waves struck T. H.

XIV - T. H. subject to 24 hours of 20-35' waves. (Early in January)

Appendix I

Carrier Trecp experienced series of unusual waves at base of tower collapsed. This deserves investigation by research into the effect of very deep bottom contours upon surface wave action in the vicinity of area in the vicinity of Hudson canyon





AFOCE-E/Col Impson/med/54622/2 Mar 61

AFOCE-E

2 March 1961

Mr. Robert L. Wiegel, Chairman  
Task Committee on Wave Forces  
412B Hearse Hall  
University of California  
Berkeley 4, California

Dear Mr. Wiegel:

Your letter of February 22, 1961, concerning Texas Tower data, has been referred to me for reply.

The design agency for the Air Force Texas Tower was the U. S. Navy, Bureau of Yards & Docks. The feasibility and design reports you request are not available to us at this time.

Our design agent is presently restudying the oceanographic effects and reanalyzing the design of the remaining towers to avoid repetition of the disaster. These studies will probably not be completed for three or four months.

I suggest that your query be made to the U. S. Navy, Bureau of Yards and Docks.

Sincerely,

WINSTON C. FOWLER  
Colonel, U. S. Air Force  
Acting Deputy Director for Construction  
Directorate of Civil Engineering, DCS/O

AFOCE-E Stybek ✓  
AFOCE-E Coord ✓  
AFOCE-E R/File

COORD: AFOCE-E AFOCE-3



AFOCE-EA/Mr Hodgdon/ald/77474  
27 Feb 61

AFOCE-EA

FEB 28 1961

Texas Towers Nos 2 and 3 - Structural Investigations  
and Reports

Chief, Bureau of Yards and Docks, Department of the Navy (Mr. Gordon Edwards)

1. This letter will confirm telecon 24 February 1961 between Mr. Gordon Edwards of your Bureau, and Messrs. C. W. Harris and Nat C. Hodgdon of this Headquarters relative to reports, etc., being furnished on the work being performed on subject facilities by BuDocks for the Air Force.

2. The information to be furnished is as follows:

- a. A copy of the Scope of Work to be performed in the investigations of Texas Towers Nos. 2 and 3.
- b. Copy of the final report of the investigations of both towers.
- c. Copy of each periodic or interim report prepared as the work progresses.

3. The above information and reports are to be sent to Headquarters USAF, Directorate of Civil Engineering, Engineering Division (AFOCE-E/Mr. C. W. Harris), The Pentagon, Washington 25, D. C.

FOR THE CHIEF OF STAFF:

1961 FEB 28  
Mr. C. W. Harris  
Engineering Division  
Directorate of Civil Engineering, DCS/O

AFOCE-EA

AFOCE-E

*N. C. Hodgdon*  
N. C. HODGDON

*[Signature]*

*[Signature]*

✓  
Coord AFOCE-EA  
Stbk AFOCE-EA  
R/File AFOCE

Notes: contents of 1004

Page 1 #11 -

Part I

- 1. T-2 tracks on fuel tank area
- 2. Weld radio graphing schedule
  - a. "B" leg 27 F.C. Comp
  - b. "A" leg 2 Max Comp
- 3. T-3 Force of snap team to return 1 Mar
- 4. Prof. Hummer and W.J. Peterson will start Mar 2.
- 5. Interrogate lower personnel
- 6. Review movies and records in order to update wind and wave data.

Part II

- 1. US Navy - Contract w/ MPMA
- 2. Complete study by Peterson and Hummer
- 3. Weather and Oceanic conditions
- 4. Determining if a series of long trips
- 5. Per II - most qualified in U.S.A. recommended by Woods Hole Oceanographic Institute.
- 6. Any other study should be held until Per II study is completed.

DEPARTMENT OF THE AIR FORCE FILE: TEXAS TOWERS  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

*MOA 9*  
*M*  
*TT-2 and 3*  
*REPORT #19*

AF IN : 29289 (25 Feb 61) G/Jhs

ACTION: OOP-2

INFO : OOP-CP-1, OCE-2 (6)

SMD C064

KZCHQE130ZCDGA316

PF RJEZHQ

DE RJEZDG 79

ZNR

P 242115Z ZEX

FM 551AEW CON WG OTIS AFB MASS

TO RJEZHQ/HQ USAF WASH DC

INFO RJWFAL/ADC ENT AFB COLO

RJEZSN/26ADIV HANCOCK FLD NY

RJEZKN/BSN AD SECTOR STEWART AFB NY

RBEGMC/DPWO 1ST NAV DIST BOSTON MASS

AF GRNC

BT

UNCLAS 551IDC 2-638 ACTION HQ USAF (AFOOP-DE-WC  
AND AFOCE); INFO ADC (ADCCS) AND (ADIDC); 36ADIV (26IDC);  
BOARDS; DPWO 1ST NAV DIST; SUBJ: TEXAS TOWER TWO AND  
THREE INSPEC ION PROGRESS REPOR NUMBER NINETEEN. MESSAGE  
IN 2 PARTS. PAR. 1: ALL INSPEC ION PERSONNEL ARE WORKING  
ON IT TO EXPEDITE WORK IN FUEL TANK AREAS. RADIO-  
GRAPHING OF WELDS IN B LEG WILL BE COMPLETED 27 FEB. A  
LEG WILL BE COMPLETED 2 MAR. INSPECTION TEAM WILL BE  
SPLIT UP AND 5 MEMBERS RETURNED TO TT THREE ON OR ABOUT  
1 MAR WEATHER PERMITTING. PROFESSORS GERHARD NEUMANN

*2331*  
*(X)*

DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

AF IN : 29289 (25 Feb 61) Page 2 of 2  
PAGE TWO RJEZDG 79

AND WILLARD J. PIERSON JR OF NEW YORK UNIVERSITY UNDER CONTRACT TO MORAN PROCTOR MUESER AND RUTLEDGE WILL ARRIVE OTIS AFB ON 2 MAR TO INTERROGATE TOWER PERSONNEL, AND REVIEW MOVIES AND RECORDS IN CONNECTION WITH UPDATING WIND AND WAVE STUDY. PART II: REFERENCE ADC (ADIDC) LTR 17 FEB TO HQ USAF (AFOOP-DE) SUBJ: TECHNICAL INVESTIGATION OF TEXAS TOWER NR4 FAILURE. UNDER THE CONTRACT WHICH THE US NAVY HAS MADE WITH MORAN PROCTOR MUESER AND RUTLEDGE A COMPLETE STUDY OF WEATHER AND OCEANIC CONDITIONS WILL BE MADE BY PROFESSORS PIERSON AND NEUMANN OF NYU TO DETERMINE IF FACTORS EXIST OR HAVE OCCURRED WHICH ARE IN EXCESS TO THE ORIGINAL DESIGN CRITERIA. UPON COMPLETION OF THE STUDY THE A-E WILL MAKE ANY NECESSARY RECOMMENDATIONS TO IMPROVE THE TOWER DESIGN IF REQUIRED. DR PIERSON HAS BEEN RECOMMENDED BY WOODS HOLE OCEANOGRAPHIC INSTITUTE AS BEING THE MOST QUALIFIED PERSON IN THE UNITED STATES FOR THIS TYPE OF INVESTIGATION. THEREFORE IT IS RECOMMENDED THAT ANY OTHER STUDY WHICH HAS BEEN PROPOSED BE HELD IN ABEYANCE UNTIL THE RESULTS OF PRESENT INVESTIGATION BY DR PIERSON ARE PUBLISHED.

BT

24/2209Z FEB RJEZDG

5-8911  
TEL. MELROSE ~~XXXX~~  
EXT. 2528

REPLY TO  
ATTN OF: ADIDC

SUBJECT: Technical Investigation of Texas Tower #4  
Failure

TO: HQ USAF (~~AFCOP-DE~~) *AFOCE-E*

INFO TO: 26 Air Div (IDC)  
Otis AFB, Mass

HEADQUARTERS  
AIR DEFENSE COMMAND  
UNITED STATES AIR FORCE  
ENT AIR FORCE BASE  
COLORADO SPRINGS, COLORADO  
DEPUTY FOR CIVIL ENGINEERING



MAILING ADDRESS: ENT AFB  
OFFICE: 527 SO. TEJON ST.

17 FEB 1961

1. This hq feels that an engineering investigation of Texas Tower No. 4 failure to determine causes is necessary for several reasons. There is a definite need for a complete study of tower design factors affected by oceanographic dynamics. Such a study should include a review of the oceanographic dynamics factors used in the tower design and a determination of the design aspects by updating the design as a result of the recent adverse weather and oceanic conditions experienced at No. 4 site. Other factors which may have added to the cause of failure should be included.

2. The following list of research units is provided when considering such a study by your hq pertaining to any technical investigations of Texas Tower No. 4 failure.

- a. Navy Research and Development Center.
- b. Consultants for research in oceanographic dynamics.
  - 1) Texas A & M Research Department (contact Dr Spencer J. Buchanan, Civ Engr Dept).
  - 2) University of California at Berkeley (contact Dr Joseph W. Johnson).

FOR THE COMMANDER

E. V. N. SCHUYLER  
Colonel, USAF  
DCS/Civil Engineering

AFOCE-EA/Mr Hodgdon/ald/77474  
27 Feb 61

AFOCE-EA

Texas Towers Nos 2 and 3 - Structural Investigations  
and Reports

Chief, Bureau of Yards and Docks, Department of the Navy (Mr. Gordon Edwards)

1. This letter will confirm telecon 24 February 1961 between Mr. Gordon Edwards of your Bureau, and Messrs. C. W. Harris and Nat C. Hodgdon of this Headquarters relative to reports, etc., being furnished on the work being performed on subject facilities by BuDocks for the Air Force.

2. The information to be furnished is as follows:

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- b. Copy of the final report of the investigations of both towers.
- c. Copy of each periodic or interim report prepared as the work progresses.

3. The above information and reports are to be sent to Headquarters USAF, Directorate of Civil Engineering, Engineering Division (AFOCE-E/Mr. C. W. Harris), The Pentagon, Washington 25, D. C. A

PVE THE CHIEF OF STAFF:

AFOCE-EA

AFOCE-E

Coord AFOCE-EA  
Stbk AFOCE-EA  
R/Files AFOCE

DEPARTMENT OF THE AIR FORCE  
STAFF HEADQUARTERS  
UNCLASSIFIED MESSAGE  
INCOMING

AF IN : 29289 (25 Feb 51) g/jhs

ACTION: OOP-2

INFO : COP-CP-1, OCB-2 (6)

TT-2 and 3  
REPORT #19

NO 0854

XZCNGE138ZC0GA316

FM RJEZHQ

DE RJEZOG 79

DNR

P 242115Z ZEX

FM 551AEW CON WG OTIS AFB MASS

TO RJEZHQ/HQ USAF WASH DC

INFO R/WFAL/ADC ENT AFB COLO

R/SECON/26ADIV HANCOCK FLD NY

R/LEKN/BSN AD SECTOR STEWART AFB NY

R/DPWO/DPWO 1ST NAV DIST BOSTON MASS

INFO 551IDC 2-638 ACTION HQ USAF (AFGOP-DE-WG

AFOPCE); INFO ADC (ADCCS) AND (ADIDC); 26ADIV (26IDC);

DPWO 1ST NAV DIST; SUBJ: TEXAS TOWER TWO AND

INSPECTION PROGRESS REPORT NUMBER NINETEEN. MESSAGE

PAR 5. PAR 1: ALL INSPECTION PERSONNEL ARE WORKING

TWO TO EXPEDITE WORK IN FUEL TANK AREAS. RADIO-

WORKING OF WEL'S IN B LEG WILL BE COMPLETED 27 FEB. A

WILL BE COMPLETED 2 MAR. INSPECTION TEAM WILL BE

UP AND 5 MEMBERS RETURNED TO TT THREE ON OR ABOUT

WEATHER PERMITTING. PROFESSORS GERHARD NEUMANN

(X)

1394



DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

AV IN : 29289 (25 Feb 61)

Page 2 of 2

PAGE TWO RJEZDG 79

AND WILLARD J. PIERSON JR OF NEW YORK UNIVERSITY UNDER CONTRACT TO MORAN PROCTOR MUESER AND RUTLEDGE WILL ARRIVE AT IS AFB ON 2 MAR TO INTERROGATE TOWER PERSONNEL, AND REVIEW MOVIES AND RECORDS IN CONNECTION WITH UPDATING WIND AND WAVE STUDY. PART II: REFERENCE ADC (ADIDC) LTR 17 FEB TO HQ USAF (AFOOP-DE) SUBJ: TECHNICAL INVESTIGATION OF TEXAS TOWER NR4 FAILURE. UNDER THE CONTRACT WHICH THE US NAVY HAS MADE WITH MORAN PROCTOR, MUESER AND RUTLEDGE A COMPLETE STUDY OF WEATHER AND OCEANIC CONDITIONS WILL BE MADE BY PROFESSORS PIERSON AND NEUMANN OF NYU TO DETERMINE IF FACTORS EXIST OR HAVE OCCURRED WHICH ARE IN EXCESS TO THE ORIGINAL DESIGN CRITERIA. UPON COMPLETION OF THE STUDY THE A-E WILL MAKE ANY NECESSARY RECOMMENDATIONS TO IMPROVE THE TOWER DESIGN IF REQUIRED. DR PIERSON HAS BEEN RECOMMENDED BY WOODS HOLE OCEANOGRAPHIC INSTITUTE AS BEING THE MOST QUALIFIED PERSON IN THE UNITED STATES FOR THIS TYPE OF INVESTIGATION. THEREFORE IT IS RECOMMENDED THAT ANY OTHER STUDY WHICH HAS BEEN PROPOSED BE HELD IN ABEYANCE UNTIL THE RESULTS OF PRESENT INVESTIGATION BY DR PIERSON ARE PUBLISHED.

BT  
P 24 2289Z FEB RJEZDG

AFOCE-EA  
(Mr. Rodgers)

AFOCE-2  
ROUTING SLIP

DATE 27 Mar 61

INIT

2	ERIC GEN GURPIN	<i>EG</i>	COORDINATION
	MR GIBBENS		INFORMATION
	COL CONE		ACTION
1	LT COL KOHL	<i>AK</i>	FILE
	MISS LADUE		SIGNATURE
	MRS POTVIN		APPROVAL
AFOCE	AFOCE-1		AFOCE-3
AFOCE-M	AFOCE-R		AFOCE-P
AFOCE-2F	AFOCE-2L		

REMARKS:

DEPARTMENT OF THE AIR FORCE  
STAFF  
UNCLASSIFIED MESSAGE

AF IN : 58754 (25 Mar 61)

INCOMING

ACTION : OOP-2

INFO : OOP-CP-1, OCE-2 (6)  
SMB C 086

2  
M

ZCZCHQA215ZCDGAG17

PP RJEZHQ

DE RJEZDG 75

ZNR

P 242114Z

FM 551AEWCONWG OTIS AFB MASS

TO RJEZHQ/HQ USAF WASH DC

INFO RJWFAL/ADC ENT AFB COLO

RJEZSN/26ADIV HANCOCK FLD NY

RJEZKN/BOADS STEWART AFB NY

RBEGMC/DPWO 1ST NAV DIST BOSTON MASS

AF GRNC

BT

UNCLAS 5511DC 3-769 FOR AFOOP-DE-WC AT AFOCE;

INFO ADCCS, ADIDC, 26IDC. SUBJ: TEXAS TOWER TWO AND  
THREE INSPECTION PROGRESS REPORT NUMBER TWENTY-THREE.

IN 3 PARTS. PART I: CONFERENCE HELD 21 MAR 61 AT DPWO  
1ST NAV DIST WITH A-E, NAVY, 4624 SUPPRON (IT) AND OTIS  
AFB PERSONNEL TO FIRM TIME SCHEDULE AND COMPLETION OF  
STRUCTURAL INVESTIGATION OF TOWERS. APPROXIMATE DATES  
ARE A/ MAGNAFLUXING AND GAMMAY INSPECTION OF WELDS--  
TWR TWO 15 APR 61; TWR THREE 8 APR 61 B/ ABOVE WATER  
CORROSION INSPECTION--TWR TWO 26 MAR 61; TWR THREE

3708

DEPARTMENT OF THE AIR FORCE  
DIVISION  
UNCLASSIFIED MESSAGE  
INCOMING

AF IN : 58754 (25 Mar 61) Pg 2 of 2

PAGE TWO RJEZDG 75

17 APR 61 C/ WIND AND WAVE STUDY--PRELIMINARY REPORT  
6 MAY 61 D/ UNDERWATER INVESTIGATION 30 MAY 61. WIND  
AND WAVE STUDY CANNOT BE COMPLETED SOONER. DATA MUST BE  
CORRELATED FROM SEVERAL SOURCES BEFORE FINAL ANALYSIS  
CAN BE MADE. THIS WORK BEING PERFORMED BY DRS NEUMANN AND  
PIERSON OF NYU AS TIME IS AVAILABLE FROM THEIR NORMAL  
DUTIES AS PROFESSORS. UPON COMPLETION OF STUDY MORAN  
PROCTOR MEUESER AND RUTLEDGE WILL MAKE NECESSARY RECOM-  
MENDATIONS AS TO WIND, WAVE, MOTION AND STRAIN INSTRUMENTS  
REQUIRED TO PROVIDE CONTINUOUS ANALYSIS OF ACTUAL  
CONDITIONS EXPERIENCED BY TOWERS. IF WIND AND WAVE STUDY  
INDICATES TOWERS HAVE UNDERGONE CONDITIONS IN EXCESS OF  
ORIGINAL DESIGN CRITERIA M.P.M. AND R WILL PERFORM  
COMPLETE STRESS/RE-ANALYSIS OF TOWERS TO DETERMINE IF  
ADDITIONAL STRENGTHENING OF MEMBERS REQUIRED. PART II:  
TO THIS DATE NO STRUCTURAL WEAKNESSES HAVE BEEN FOUND  
EITHER BY FAILURE OF WELDS OR CORROSION. PART III: TOTAL  
COST STRUCTURAL ANALYSIS INCLUDING DIVING AND INSTRUMENT-  
TATION WILL APPROACH \$300,000.

BT

24/2225Z MAR RJEZDG

AFOCE-E/Col Impson/54622/med/13 Feb 61

FEB 16 1961

Mr. Bennett H. Griffin  
Aviation Consultant  
4000 Massachusetts Ave., N.W.  
Washington 16, D. C.

Dear Mr. Griffin:

Your letter of January 31, 1961 to Secretary Zuckert has been referred to me for reply.

At this time, it is not known if a replacement tower will be necessary.

You can rest assured that if action is taken to design a replacement tower, the firm of Howard, Needles, Tammen & Bergendoff will be given every consideration.

Sincerely,

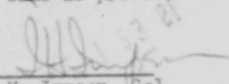
(signed)

GEORGE S. ROBINSON

Deputy Special Assistant for Installations

Ofc of Sig  
SAFS File Cy  
AFCVC  
AFOCE-E Coord  
AFOCE-E R/File  
AFOCE-E Stybck

COORD: This rewrite is substantially same as previous writing thus coordination remains valid.

  
I. H. Impson, Col.

FEB 17

1400

AFOCE-E/Col Impson/mcd/10 Feb 61/54622

Mr. Bennett H. Griffin  
Aviation Consultant  
4000 Massachusetts Ave., N. W.  
Washington 16, D. C.

Dear Mr. Griffin:

Your kind letter of January 31, 1961 to Secretary Zuckert has been referred to me for reply.

At this time it is not known if a newly constructed tower will be necessary to replace the collapsed tower.

You can rest assure that if action is taken to redesign a replacement tower, the firm of Howard, Needles, Tammen & Bergendoff will be given every consideration in our selection of the designing engineer.

Sincerely,

AFOCE-E Stybck  
AFOCE-E Coord  
AFOCE-E R/File  
AFCVC  
Ofc of Sig  
SAFS File Cy

COORD: AFOCE-E

AFOCE-3

AFOCE

SAFIS

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

1961 FEB 10 53

40411

AFOCE

HEADQUARTERS OFFICE OF THE VICE CHIEF OF STAFF REFERRAL SLIP				UNITED STATES AIR FORCE				DATE	
TO:									
AFCS5	AFCSA	AFCSB	AFCSG	AFCSJ	AFCSK	AFCSL	AFCSM	AFCSN	AFCSO
AFCS1	AFCS2	AFCS3	AFCS4	AFCS6	AFCS7	AFCS8	AFCS9	AFCS10	AFCS11
AFCS12	AFCS13	AFCS14	AFCS15	AFCS16	AFCS17	AFCS18	AFCS19	AFCS20	AFCS21
AFCS22	AFCS23	AFCS24	AFCS25	AFCS26	AFCS27	AFCS28	AFCS29	AFCS30	AFCS31
AFCS32	AFCS33	AFCS34	AFCS35	AFCS36	AFCS37	AFCS38	AFCS39	AFCS40	AFCS41
AFCS42	AFCS43	AFCS44	AFCS45	AFCS46	AFCS47	AFCS48	AFCS49	AFCS50	AFCS51
AFCS52	AFCS53	AFCS54	AFCS55	AFCS56	AFCS57	AFCS58	AFCS59	AFCS60	AFCS61
AFCS62	AFCS63	AFCS64	AFCS65	AFCS66	AFCS67	AFCS68	AFCS69	AFCS70	AFCS71
AFCS72	AFCS73	AFCS74	AFCS75	AFCS76	AFCS77	AFCS78	AFCS79	AFCS80	AFCS81
AFCS82	AFCS83	AFCS84	AFCS85	AFCS86	AFCS87	AFCS88	AFCS89	AFCS90	AFCS91
AFCS92	AFCS93	AFCS94	AFCS95	AFCS96	AFCS97	AFCS98	AFCS99	AFCS100	AFCS101
ATTENTION:									
FOR:									
<input type="checkbox"/> APPROPRIATE ACTION									
<input type="checkbox"/> DIRECT REPLY									
<input type="checkbox"/> COMMENT AND/OR RECOMMENDATION									
<input type="checkbox"/> COORDINATION									
<input type="checkbox"/> CCA, CVC AND CAV HAVE/HAS NOT SEEN									
<input checked="" type="checkbox"/> PREPARATION OF REPLY TO SAF									
<input checked="" type="checkbox"/> PREPARATION OF REPLY FOR SIGNATURE OF SA/15 <i>Mr. Robinson</i>									
<input type="checkbox"/> PREPARATION OF REPLY FOR SIGNATURE AFCS5									
<input type="checkbox"/> PREPARATION OF REPLY FOR SIGNATURE AFCS6									
<input type="checkbox"/> PREPARATION OF REPLY FOR SIGNATURE AFCS7									
<input type="checkbox"/> PREPARATION OF REPLY FOR SIGNATURE									
<input type="checkbox"/> COPY OF REPLY FOR									
<input type="checkbox"/> NOTE AND RETURN									
<input type="checkbox"/> INFORMATION AND/OR FILE									
<input type="checkbox"/> INFORMATION COPIES HAVE GONE TO									
<input type="checkbox"/> ACTION HAS GONE TO									
SUSPENSE DATE <i>20 Feb 61</i>									
COMMENTS:									
<i>BI/SA/IE-21 Feb 61</i>									
FOR THE VICE CHIEF OF STAFF									
<i>J. E. Jones, Jr.</i>									
Colonel, U.S. Air Force									
Deputy Director, The Vice									

AFHQ FORM 0-160 PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE GPO 877 485



AFOCE-E/Col Impson/med/54622/1B Feb 61

AFOCE-E

FEB 14 1961

Ltr fr Mr. Arthur Frosberg, Sr., Re: Construction of Air Force  
Off-shore Radar Towers

SAFLL

1. The following is a draft of a proposed reply to a letter from  
Mr. Arthur Frosberg, Sr. forwarded to this headquarters by Congressman  
Langen:

"I refer to your letter of January 17, 1961 in which concern  
was expressed regarding the construction of our off-shore radar  
towers.

"The design of these towers was accomplished by two competent  
and experienced Engineering firms. Many types of designs were  
studied. The records of previous recorded wind and sea conditions  
were studied and the design of the tower was such to withstand  
such recorded natural occurrences. In addition, the engineers  
reviewed the design of the oil drilling towers in use in the Gulf  
of Mexico that had withstood numerous high winds and waves.

"The final design that resulted from these studies was the  
so called Texas Towers. The platform was floated to the site  
and then jacked up on the legs to provide clearance for the  
ocean waves. A fixed and stable platform was essential to the  
operation of the precision radar equipment mounted on the platform.

"It can be ascertained from the above that the design was  
such to withstand any expected natural phenomena. The platform  
was not designed to float, once the heavy equipment was installed,  
since the foundations and legs were to resist these natural forces.

"A thorough investigation is now underway as to the failure.  
When the cause or causes are actually determined, correction will  
be made in future designs. Studies of all possible solutions to  
the problem, including your suggestion will be made if and when  
additional structures of this type are to be constructed.

"We regret the tragedy that occurred. We are very appreciative  
of the interest shown by you in the United States Air Force and  
one of its problems."

2. Action Officer is Colonel Ivan H. Impson, AFOCE-E, Extension 54622.  
Coordination outside AFOCE is not required.

DANA F. HURLBURT  
Lt Colonel, U. S. Air Force  
Executive  
Dep Dir for Construction  
Department of Civil Engineering, DCS/O

AFOCE-E Stybck  
AFOCE-E R/File  
AFOCE-E Coord

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS	
1 NAME OR TITLE APOCS Col. Grubbs	INITIALS		CIRCULATE
ORGANIZATION AND LOCATION CD AGO	DATE		COORDINATION
2 Lt. Col. Eric Linhof			FILE
3 SAFM-2 & 3 W/P			INFORMATION
		<input checked="" type="checkbox"/>	NECESSARY ACTION
			NOTE AND RETURN
			SEE ME
			SIGNATURE
REMARKS PRIORITY (Ref AGO 10-20 dated 2 Nov. 60) Forwarded for preparation of draft for proposed reply to Congressman Langan SUBJECT: 17 February 1961 ACTION OFFICER: Lt. Col. Eric Linhof, 5505			
NAME OR TITLE Colonel, USAF	DATE 10 Feb 61		
ORGANIZATION AND LOCATION Congressional Committee Division	TELEPHONE 5505		

DD FORM 1 FEB 50 95 Replaces DA AGO Form 88-1 April 48 and AFHQ Form 12, 10 Nov 47, which may be used.

ORIN LARSON  
MEMBER OF CONGRESS  
OFFICE OF THE CLERK  
HOUSE OF REPRESENTATIVES  
WASHINGTON, D. C.

FOR THE PRESIDENT OF THE UNITED STATES  
FOR THE VICE PRESIDENT OF THE UNITED STATES  
FOR THE SECRETARY OF THE HOUSE OF REPRESENTATIVES  
FOR THE CLERK OF THE HOUSE OF REPRESENTATIVES  
FOR THE CLERK OF THE SENATE  
FOR THE CLERK OF THE SUPREME COURT

**Congress of the United States**  
**House of Representatives**  
**Washington, D. C.**

January 25, 1961

Department of Defense  
Washington, D. C.

Gentlemen:

I received a letter from Mr. Arthur Foreberg, Sr.,  
Thief River Falls, Minnesota, expressing his concern and  
views regarding the construction of radar towers.

A copy of his letter is enclosed for your information  
and consideration.

Sincerely yours,  
*Orin Larson*  
ORIN LARSON  
Member of Congress



563

1405



OFFICE OF THE SECRETARY OF DEFENSE  
WASHINGTON 25, D. C.

January 26, 1961

Dear Mr. Longen:

This is to acknowledge your letter of January 15 in behalf of Mr. Arthur Gersberg, Sr., Chief Street Light, Minnesota, concerning the construction of water towers.

The matter has been referred to the appropriate officials within the Department of the Army with the request that a reply be sent directly to you.

Sincerely,

THIRD

WALTER S. PATE  
Assistant to the Secretary  
(Legislative Affairs)

Honorable Otto Longen  
House of Representatives

cc: Dept/Air Force w/basic correspondence for direct reply.

C O P Y

Jan. 17, 1961

Hon. Odin Langen  
Minn. Rep--House of Representatives  
Washington, D. C.

Dear Mr. Langen:

I am taking this opportunity of writing to you as our representative-- not that I want anything special at this time for our community-- but in viewing the news over TV and reading newspaper accounts in regards to the radar tower that was destroyed the other day with the loss of twenty-five lives and the tower worth \$20,000,000, I stopped to think about it.

It seems to me as if this could have been avoided to a great extent if it had been properly built. I believe the radar tower should have been built with air-tight compartments so that if it broke loose it would still have floated into the sea and could have been repaired.

If you think I am right in my thinking, I would ask that you hand this suggestion to some one in Washington who would be interested. If any more are built, they should be built so that they would be buoyant in case of a catastrophe such as this tower went through.

Yours, truly

s/ Arthur Froberg

Arthur Froberg, Sr

C O P Y

Col I. H. Impson/wed/54622/9 Feb 61

AFOCE-E 54622 10 FEB 1961

AFODC Appr  
AFOCCS Appr  
SAFIE Sig

Colonel Ivan H. Impson wed

Letter from Anna W. Yarum Regarding "Texas Towers"

1. Herewith is memorandum prepared for signature of Mr. McDone to the Assistant Secretary of Defense (Installations and Logistics).
2. The memorandum contains a proposed reply to Anna W. Yarum in regard to her suggestion that Texas Towers be placed on land or on piers adjacent to land.

RECOMMENDATION

3. That the attached memorandum (TAB A) be signed and dispatched by SAFIE.

W. E. DUBENS  
Colonel, U. S. Air Force  
Executive  
Directorate of Civil Engineering, DCS/O

1 Atch  
Tab A, Prep memo for sig  
of SAFIE

COORD: AFOCE-E

AFOCE-3

AFOCE

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten notes: Telephone cond w/ Col Baldwin]*

AFOCE-E Coord  
AFOCE-ESTybak  
AFOCE-E R/file  
Ofc of Sig - SAFIE  
SAFS File of  
cc: AFODC

406-61

AFODC 0491

AFOCE-E/Col Impson/9 Feb 61/med/54622  
REWRITN: AFOCE-E/Col Impson/15 Feb/med/54622

FEB 16 1961

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND LOGISTICS)

SUBJECT: Letter from Anna M. Yarum Regarding "Texas Towers"

1. The following is a draft of a proposed reply to a letter from Anna M. Yarum:

"Your kind letter of January 21, 1961 has been referred to this office by the U. S. Coast Guard.

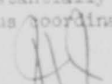
"The suggestion that the Texas Tower be located on land or on piers adjacent to the coast line was considered. The best possible radar coverage for protection of our East Coast dictated the location of the towers where no islands existed and where it was too distant from the shore to build a pier. With this operational requirement in mind, the Texas Towers were built on large columns at the required locations.

"The Department of Defense is greatly distressed by the tragedy which occurred. Particularly so when so much professional and conscientious study was made to design against such phenomena of nature. Unfortunately, such phenomena have shown that man cannot always predict the ways of nature.

"We in the Department of Defense are very appreciative of the interest that you have shown in one of the problems that face us."

Signed  
HAROLD W. HOUSTON  
Lt. Colonel, USAF  
Executive to the Special  
Assistant for Installations

M/R: This rewrite is substantially same as previous writing thus coordination remains valid.

  
Ivan H. Impson, Colonel

AFOCE-E Stybak  
AFOCE-E R/File  
AFOCE-E Coord  
Ofc of Sig  
SAFS File  
AFVCY  
AFODC



AFOCE-E/Col Impson/54622/9 Feb 61/med

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND LOGISTICS)

SUBJECT: Letter from Anna M. Yarum Regarding "Texas Towers"

1. The following is a draft of a proposed reply to a letter from Anna M. Yarum:

"Your kind letter of January 21, 1961 has been referred to this office by the U. S. Coast Guard.

"The suggestion that the Texas Tower be located on land or on piers adjacent to the coast line was considered. The reason that the towers had to be located where they were was to afford the United States the best possible radar coverage for protection of our East coast.

"Design was then initiated to meet this operational requirement. The records of previous recorded winds and sea conditions were carefully studied and the design was such to withstand natural occurrences. In addition, the design engineers reviewed the design of oil drilling towers in use in the Gulf of Mexico that had withstood numerous high winds and waves. The final design that resulted was the so called Texas Towers.

"The Department of Defense is greatly distressed by the tragedy which occurred. Particularly so when so much professional and conscientious study was made to design against such phenomena of nature. Unfortunately, such phenomena have shown that man cannot always predict the ways of nature.

"We in the Department of Defense are very appreciative of the interest that you have shown in one of the problems that face us."

2. Action Officer is Colonel Ivan H. Impson, AFOCS-E, Ext 54622. Coordination outside AFOCE is not required.

2 Incls

1. Ltr fr U. S. Coast Guard,  
31 January 1961
2. Ltr fr Anna M. Yarum,  
21 January 1961

AFOCE-E Stybck  
AFOCE-E R/File  
AFOCE-E Coord ✓  
Ofc of Sig  
SAFS File Cy  
cc: AFDC



MEMO ROUTING SLIP		FOR USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES OR SIMILAR ACTIONS	
1 NAME OR TITLE	INITIALS	<input type="checkbox"/>	CIRCULATE
ORGANIZATION AND LOCATION	DATE	<input type="checkbox"/>	COORDINATION
2		<input type="checkbox"/>	FILE
		<input type="checkbox"/>	INFORMATION
3 AFOCE		<input checked="" type="checkbox"/>	NECESSARY ACTION
		<input type="checkbox"/>	NOTE AND RETURN
4		<input type="checkbox"/>	SEE ME
		<input type="checkbox"/>	SIGNATURE
REMARKS			
<p>Please prepare reply for SAFIE signature to OASD/I&amp;L(Mr Sheridan)...</p> <p>AFODC Suspense: <u>11 February 1961.</u></p> <p style="text-align: center;"><i>[Handwritten signature]</i></p> <p style="text-align: right;">AFODC <u>441</u></p>			
FROM NAME OR TITLE	DATE		
CNS	8 Feb 61		
ORGANIZATION AND LOCATION	TELEPHONE		
Admin	76505		

DD FORM 1 FEB 50 95

HEADQUARTERS UNITED STATES AIR FORCE							DATE
OFFICE OF THE VICE CHIEF OF STAFF							8 Feb 61
REFERRAL SLIP							
TO:							
AFCSS	AFCDA	AFPOC	<input checked="" type="checkbox"/> AFODC	AFXDC	AFMDC	AFDDC	
AFCAS	SAFIS	ATPMP	AFDOP	AFXSC	AFMPP	AFDRD	
AFCIG	SAFLL	AFPTR	AFDMO	AFXWH	AFMMP	AFDOS	
AFCIN	AFAAC	AFPCP	AFDCE	AFXLR	AFMMS	AFDDP	
AFCJA	AFABF	AFPOP	AFDAC	AFXPD	AFMSS	AFDAP	
AFCRF	AFASC	AFRGS	AFDAT	AFXPR	AFMTP	AFDRQ	
AFCSD	AFAMA	AFPDW	AFDRQ	AFXAC	AFMLP	AFDFD	
AFCSA	AFAAF	AFPOH	AFOWX		AFMVE	AFDAT	
AFCOM	AFAUD						
ATTENTION:							
FOR:							
APPROPRIATE ACTION							
DIRECT REPLY							
COMMENT AND/OR RECOMMENDATION							
COORDINATION							
CCS, CFC AND CAV HAVE/HAS NOT SEEN							
PREPARATION OF REPLY TO SAF							
PREPARATION OF REPLY FOR SIGNATURE OF SAIE <i>Mr. McCon</i>							
PREPARATION OF REPLY FOR SIGNATURE AFCCS							
PREPARATION OF REPLY FOR SIGNATURE AFVCV							
PREPARATION OF REPLY FOR SIGNATURE AFCAV							
PREPARATION OF REPLY FOR SIGNATURE							
COPY OF REPLY FOR							
NOTE AND RETURN							
INFORMATION AND/OR FILE							
INFORMATION COPIES HAVE GONE TO							
ACTION HAS GONE TO							
SUSPENSE DATE <i>14 Feb 61</i>							
COMMENTS:							
<i>Please see Lt Col Houston's remarks on SAIE R/S attached re action.</i>							
<i>BIS/SAIE-15 Feb 61</i>							
						AFODC 0441	
FOR THE VICE CHIEF OF STAFF							
<i>James M. [unclear] JR.</i>							
Colonel, U.S. Air Force							
Executive Assistant To The Vice							

AFOCE-E/Col Impson/54622/med/9 Feb 61

FEB 9 1961

AFOCE-E

Ltr to Senator Paul Douglas fr Mr. Phillip Gold Re: "Texas Tower No 4"

SAFLL

1. The following is a draft of a proposed reply to a letter to Senator Paul Douglas from Mr. Phillip Gold:

"I refer to your letter of January 19, 1961 in which you expressed concern relative to the design of Texas Tower No 4.

"Each of the towers was sited to give the best possible radar coverage for protection of our east coast.

"The design agent for these towers was the Bureau of Yards & Docks, U. S. Navy. They employed two competent and experienced Architect and Structural Engineer firms to do the design.

"The records of previous recorded winds and wave actions were reviewed thoroughly. The design of the oil drilling towers in use in the Gulf of Mexico that had withstood numerous high winds and waves was also reviewed.

"Other design factors included minimum interferences to wave passage; protection to icing and corrosion; stability against wind, wave, scour and abrasion; and towing and erection procedures.

"As a result, and verified by eminently qualified consultants, the three legged Texas Tower design was chosen as the most satisfactory design which met construction and operational requirements.

"A thorough investigation is now underway as to the failure. When the causes are actually determined, correction will be made in future designs if and any additional structures of this type are to be constructed."

"We appreciate the interest that you have shown in the United States Air Force and one of its problems."

2. Action Officer is Colonel Ivan H. Impson, AFOCE-E, Ext 54622. Coordination outside AFOCE is not required.

DANA F. HURLBURT  
Lt Colonel, U. S. Air Force  
Exec  
COOR: AFOCE/E  
AFOCE-3  
Engineering, DCS/O

1 Atch  
Memo fr SAFLL, w/ltr fr  
Phillip Gold, 19 Jan 61

AFOCE-E Stybck  
AFOCE-E Coord  
AFOCE-E R/File

AFOCE-E

1 February 1961

Cadet Sergeant Larry Levy  
Staunton Military Academy  
Box 382  
Staunton, Virginia

Dear Cadet Sergeant Levy:

Your letter of 29 January 1961 indicates a vital interest in the National Defense establishment which I am appreciative.

I will be glad to talk to you during the latter part of March if you have an occasion to visit Washington. My office number is Room 5C-365, the Pentagon. Office hours are from 8:15 am to 5:00 pm.

If you arrive by train, probably the most economical way for you to reach the Pentagon is to proceed to 12th and Pennsylvania Avenue. From 12th & Penn catch an AB&W bus direct to the Pentagon. This will place you in the Concourse where an information desk is available to further direct you to the office.

In case circumstances dictate my being out of town, Mr. Harris, my Deputy Chief, or Lt Col Coffee, Executive Officer, would be very happy to talk with you.

Sincerely,

IVAN H. IMPSON  
Colonel, United States Air Force  
Chief, Engineering Division  
Directorate of Civil Engineering, DCS/O



Box 362  
Stauffton Military  
Academy  
Stauffton, Va.

*Rec'd  
27 Jan 1961*

Chief of Engineering Division  
United States Air Force

Dear Colonel Iapson;

I want to thank you very much  
for your letter concerning the Texas  
Tower. I sincerely appreciated it.

I live in Wilmington, Delaware  
and have to pass through Washington  
on my trip home for vacations. I  
would like to know if it would be  
possible to visit the Pentagon during  
such a trip. I would also like to  
meet and talk to you if it would  
not be of any inconvenience to you.  
My next vacation would start on  
March 24th. I will arrive in Washing-  
ton around seven o'clock in the  
morning.

Sir, if you do not have the  
time please do not feel it is a  
necessity to write me a reply to  
this letter. I have inconvenienced you  
enough already. Thank you.

Sincerely,

*Sam Levy*

Cadet S. Levy  
Stauffton Military  
Academy

MEMO ROUTING SLIP		FOR USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS	
1 NAME OR TITLE <i>Col. Simpson</i>	INITIALS	CIRCULATE	
ORGANIZATION AND LOCATION <i>AFCEC</i>	DATE	COORDINATION	
2		FILE	
		INFORMATION	
3		NECESSARY ACTION	
		NOTE AND RETURN	
4		SEE ME	
		SIGNATURE	
REMARKS <i>Since this involves design suggest you prepare final reply per previous letter type response of the nature</i>			
FROM NAME OR TITLE <i>W. G. Huber</i>		DATE	
ORGANIZATION AND LOCATION		TELEPHONE	

DD FORM 95 1 FEB 50 95 Replaces DA AGO Form 89, 1 Apr 48, and AFHQ Form 52, 10 Nov 47, which may be used.

AFOCE-2  
ROUTING SLIP

DATE 2 Feb 61

UNIT

3	BRIG GEN CURTIN <i>has been</i>	COORDINATION
2	MR GIBBENS <i>has been</i>	INFORMATION
	COL CONE	ACTION
1	LT COL KOHL <i>N/A</i>	FILE
	MISS LADUE	SIGNATURE
	MRS POTVIN	APPROVAL
AFOCE	AFOCE-1	AFOCE-3
AFOCE-M <i>4</i>	AFOCE-R	AFOCE-F
AFOCE-EP	AFOCE-2L	

REMARKS:

Details of message  
TT #4 as it now  
lies.

*See below*

ATT L/C NICHOLS

To: LAL

DRAFT

828  
7/28

The following is a draft of a proposed reply to a letter to Senator Paul Douglas from Mr. Phillip Gold.

I refer to your letter of January 19, 1961 in which you expressed concern relative to the design of Texas Tower No 4.

Each of the Towers <sup>was</sup> ~~is~~ sited to give the best possible radar coverage for protection of our east coast. In order to arrive at design principles for a feasibility study, four types of structures were analyzed, i. e., platforms supported by a single caisson, platforms supported by unbraced caisson legs, platforms supported on trussed legs and platforms supported by a braced structure consisting of caissons, diagonal bracing and horizontal truss. Major design factors included minimum interference to wave passage, protection against icing and corrosion, stability against combined wind and wave action, scour and abrasion, minimum erection time *and* towing and erection *problems*.

Because of the unusual problems connected with the design, many of our large engineering firms and eminently qualified consultants submitted schemes and recommended methods of analysis. <sup>construction</sup> It was determined that the tripod or three legged platformed most completely satisfied the design and operational requirements.

*The investigation now underway will include inquiry into ~~base~~ and detailed structural design and design criteria. The decision to use the tripod design at site 4 will be fully explored.*



PERSONNEL MENTIONED IN TT #4 REPORT

General Viccellio	Cmdr, 26th Air Division
Major Sheppard	Cmdr, 4604th Sup. Sq. (TT)
Colonel Banks	Acting Cmdr, BGADS (For Gen Elder on TDY)
Captain Phelan	Cmdr, TT #4
Colonel Shields	Vice CMER, 26th Air Division
Major Stark	Acting Cmdr, 4604th Sup. Sq.

CWO Wier relieved Captain Phelan 16 December to 3 January 1961

DESIGN AND CONSTRUCTION SCHEDULE

Feasibility study contract awarded to MPM&R and Anderson & Nichols on  
7 December 1954.

Lump sum contract awarded in September 1955 to J. Rich Steers, Incorporated  
and Morrison-Kundson Company.

Tower was shipyard constructed December 1956 to June 1957 at South Portland,  
Maine, by Continental Copper and Steel Industries. Platform and legs towed  
separately to site beginning 28 June 1957 and placed on site 7 July 1957.

AFOCE-E

30 January 1961

Texas Tower

Mrs. Evelyn Ostergard  
43 West Boylston Drive  
Worcester, Mass

Dear Mrs. Ostergard:

Your letter of January 16, 1961 has been carefully reviewed. Your suggestion that Texas Towers be made floatable to prevent such a disaster as occurred on January 15, 1961 and your sincere interest in problems of National Defense are appreciated.

The United States Air Force and the United States Navy who acted as design and construction agency for the Air Force, studied many designs for this important radar installation. Renowned and highly qualified civilian engineering and technical firms were also consulted and employed for design.

The records of previous recorded wind and sea conditions were carefully studied and the design of the tower was such to withstand such recorded natural occurrences. In addition, the engineers reviewed the design of oil drilling towers in use in the Gulf of Mexico that had withstood numerous high winds and waves.

The final design that resulted from these studies was the so called Texas Towers. The platforms were floated to the site and then jacked up on the legs to provide clearance for the ocean waves. Due to the precision necessary for the operation of the radar equipment, a fixed and stable platform was essential. These conditions could not be met by a floating platform that would rise, fall and twist with the action of the wind and waves.

The United States Air Force is greatly distressed by the tragedy which occurred. Particularly, when so much conscientious study was made to design against such phenomena of nature. Unfortunately, such phenomena have shown that men cannot always predict the ways of nature. No one is more sorry than I that personnel aboard lost their lives in the disaster.

We are very appreciative of the interest that you have shown in one of the problems that face us.

Sincerely,

IVAN H. IMPSON  
Colonel, United States Air Force  
Chief, Engineering Division  
Directorate of Civil Engineering, DCS/O

*AFCE-3*  
*AFCE E*  
*Skullcut Impson*

Wrtm 30 Jan 61/AFOCE-MO/Lt Col Nichols/fbg/69351

Mrs. Evelyn Ostergard  
43 West Boylston Drive  
Worcester, Mass.

Dear Mrs. Ostergard:

Your letter of January 16, 1961 has been carefully reviewed. Your suggestion that Texas Towers be made floatable to prevent such a disaster as occurred on January 15, 1961 and your sincere interest in problems of National Defense are appreciated.

The United States Air Force and the United States Navy who acted as design and construction agency for the Air Force, studied many designs for this important radar installation. Renowned and highly qualified civilian engineering and technical firms were also consulted and employed for design. Weather and sea conditions were carefully studied based upon data recorded for the previous twenty years. Due to the long range and precision of radar equipment required, a fixed and stable platform was essential. These conditions could not be met by a floating platform.

The Air Force is greatly distressed by the tragedy which occurred. A conscientious study of nature's past performance was made. Additional safety factors were also designed into the tower structure to provide for other eventualities which could reasonably be predicted. Unfortunately, other serious disasters resulting from hurricanes, tornadoes, earthquakes, etc. have shown that men cannot always predict the ways of nature.

Sincerely,

AFOCE-MO  
ES  
30 Jan 61  
AFOCE-2L  
Anderson

AFOCE  
[Signature]

DEPARTMENT OF THE AIR FORCE  
Washington

Office of the Secretary

SAFOI  
IDENT: \_\_\_\_\_

MEMORANDUM FOR AF000-21 ATTN: Mr. Anderson  
SUBJECT: Ltr to Ostergard, re Texas Towers

DATE: 25 Jan 61

1. The attached communication is forwarded for action as indicated in the box marked below.
2. The first addressee of this memorandum has action responsibility for the Air Staff, including necessary coordination with other Air Staff agencies.

- PREPARATION OF A DRAFT OF A PROPOSED REPLY
- INFORMATION UPON WHICH TO BASE A REPLY
- DIRECT REPLY TO WRITER. PLEASE PROVIDE SAFOI WITH COPY OF REPLY.
- COMMENT ON OR CONCURRENCE WITH ATTACHED \_\_\_\_\_

3. SAFOI Action Officer is Major Wellison Ext. 7007
4. Suspense date for receipt of completed action in SAFOI is \_\_\_\_\_.  
Please state name and extension of Action Officer on return memo.

Attachments: (Please return)

MEMORANDUM

Per telephone conversation with Colonel Nichols, 25 Jan 61

*Arnold Pullins*

ARNOLD PULLINS  
Lt Colonel, USAF  
Chief, Civil Branch  
Community Relations Division  
Office of Information

*awf*

Jan 16, 1961

Dear Sir -

After reading about the Texas Tower which sunk, isn't it possible to make the Tower floatable to take care of just such a disaster? Boats are made floatable, so to me, it seems with such valuable equipment in a Tower, it would make sense to make them floatable. How many lost must have been very valuable to the Navy, and other departments.

Even to making certain  
sections floatable would  
be a saving.

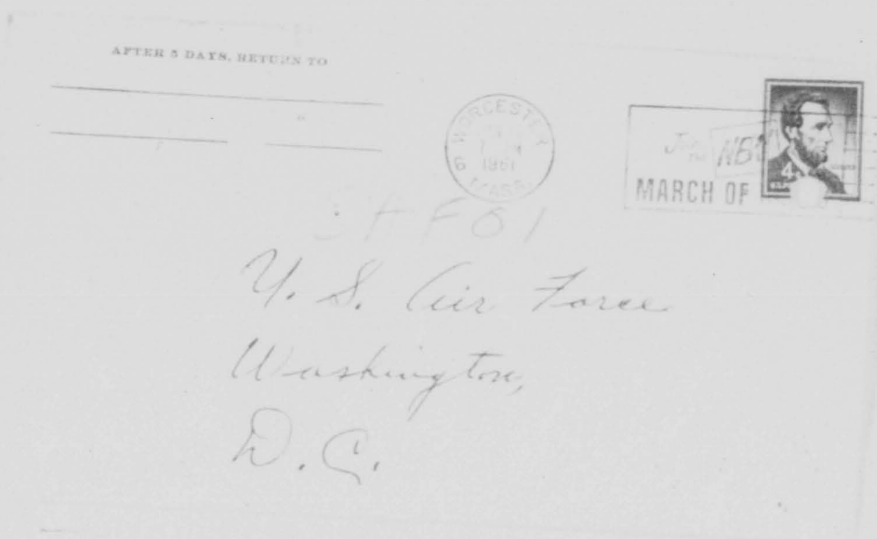
Of course, this is only  
my idea & it's very possible  
that they couldn't be made  
floatable. But why not?

Yours truly

• Mrs Evelyn Astoryard  
• 43 West Bay Street  
Dover

Worcester, Mass.

P.S. Please don't put this  
letter in the waste basket  
without giving it some thought  
first.





*The Texas Tower*

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES OR SIMILAR		PROF. ALL
1	NAME OR TITLE <b>AFOCE-C</b>	INITIALS	DATE	COORDINATOR
	ORGANIZATION AND LOCATION			FILE
2	<b>AFOCE-E</b>			INFORMATION
				NECESSARY ACTION
3	<b>AFOCE-H</b>			NOTE AND RETURN
				SEE ME
4				SIGNATURE
REMARKS				
<p>Subject: <u>Recent Texas Tower Mishap</u></p> <p>Col McCauley, Special Assistant to DCS/O, has advised that any inquiries pertaining to the recent Texas Tower mishap should be referred to the Air Force Press Desk, Extension 75131.</p> <p style="text-align: right;">75131</p>				
FROM NAME OR TITLE				DATE
				19 Jan 61
ORGANIZATION AND LOCATION				TELEPHONE
				52809

DD FORM 1 FEB 50 95 Replaces DA AGO Form 88, 1 Apr 46, and AFHQ Form 13, 30 Mar 47, which may be used.

18 Jan 61

CASE HISTORY  
TEXAS TOWER #4

6 July 1957: Tower floated in place and set in position at site. Damage was discovered on A-B side between minus 23 to minus 75 feet below sea level and required contractor to provide field type repairs (under water) to correct damage in this area.

7 November 1957: Tower #4 accepted from First Naval District, Boston Massachusetts, Construction Agency.

28 August 1958: Texas Tower #4 was subjected to Hurricane "Daisy" and was evacuated prior to arrival. First Naval District dispatched divers to conduct underwater inspection of structural members.

1 October 1958: Diver's report received from First Naval District stated Contractor field repair work in July 1957 had failed and Navy people then directed Diving Contractor to make necessary repairs by 15 November 1958.

November 1958: Contractor completed partial repairs to the field connections on Tower Legs "A" and "B" at -76 feet below sea level. before winter

December 1958: - May 1959: No work performed on under water repairs due to weather conditions.

May 1959: Original Contractor (J. Rich Steers - N.Y.) was called back by First Naval District to complete repairs to field connections at -75 feet and work completed during this month.

27 January 1960: Tower #4 Commander reported excessive movement and presence of sounds at Tower to Base Engineers.

7 February 1960: Base received report from diver (Marine Contractors Inc., Boston) engaged to investigate under water structure damage reported.

23 February 1960: Meeting held with Engineering consultants (Moran, Proctor, Meuser and Rutledge, Original design engineers) to review findings of divers and method of repairs. Statement made that repairs must be completed by August 1960, and Bell Park estimate of \$500,000 given.

1 May 1960: Contractor awarded to J. Rich Steers for installation of "X" bracing above water line on all three (3) sides of Tower.

8 August 1960: Repair work completed at cost of \$560,000 (plus or minus) and Tower was inspected by divers and magna flux testing performed. Tower was considered by Engineering consultant to be structurally sound and would withstand 125 M.P.H. winds and 35 foot breaking waves (original design criteria).

12 September 1960: Hurricane Donna destroyed revolving maintenance platform and Tropo dish antennae. Extent of underwater damage could not be determined until maintenance platform could be fabricated and re-installed.

27 September 1960: Contract change order issued to J. Rich Steers to replace maintenance platform, perform magnaflux inspection tests, perform underwater diving inspection and submit report of findings with estimated completion of 1 December 1960.

1 November 1960: Maintenance Platform reinstalled and diving started.

11 November 1960: Base Civil Engineers and 4604th Support Sqdn (TT) handcarried diving report to 26th Air Division. Civil Engineering, and concurrently briefed Commander BOADS. Recommendation made to reduce manning to minimum requirement.

16 November 1960: Texas Tower #4 reduced to 14 caretaker personnel and Contractor crew.

22, 23, 24 November 1960: Meetings held at New York City with Architectural Engineer (MPM&R) and Contractor (J. Rich Steers). Representatives of 26th Air Division (Civil Engineer), ADC (Civil Engineer), Base Civil Engineer, and 4604th Support Sqdn (TT) present. Damage reviewed and method of repair established. Contractor directed to proceed at once with fabrication of materials and on site work. Target date for completion - 1 April 1961. Estimated cost \$400,000.

12 December 1960: Tower subjected to high winds (87 knots) and high seas for 12 hour period. Minor visible damage noted at above water bracing.

7 January 1961: Contractor completed installation of collar connection repair at -77 feet. Contractor then started work to install wire rope bracing at -125 foot level and discovered new structural failure of a diagonal brace, attributed to 12 December 1960 storm. Diving inspection of 11 November 1960 showed no damage in this area.

12 January 1961: Meeting held with contractor AE Firm (MPM&R) in New York City with 26th ADiv Civil Engineer, Base Civil Engineer, and 4604th Support Sqdn (TT) present. Recommendation made by AE and Contractor to complete that portion of the work for which materials were on the Tower. Tower to be completely evacuated not later than 1 February 1961 and work to resume 1 May 1961.

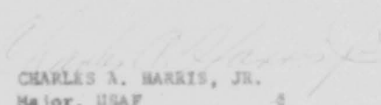
A CERTIFIED TRUE COPY:

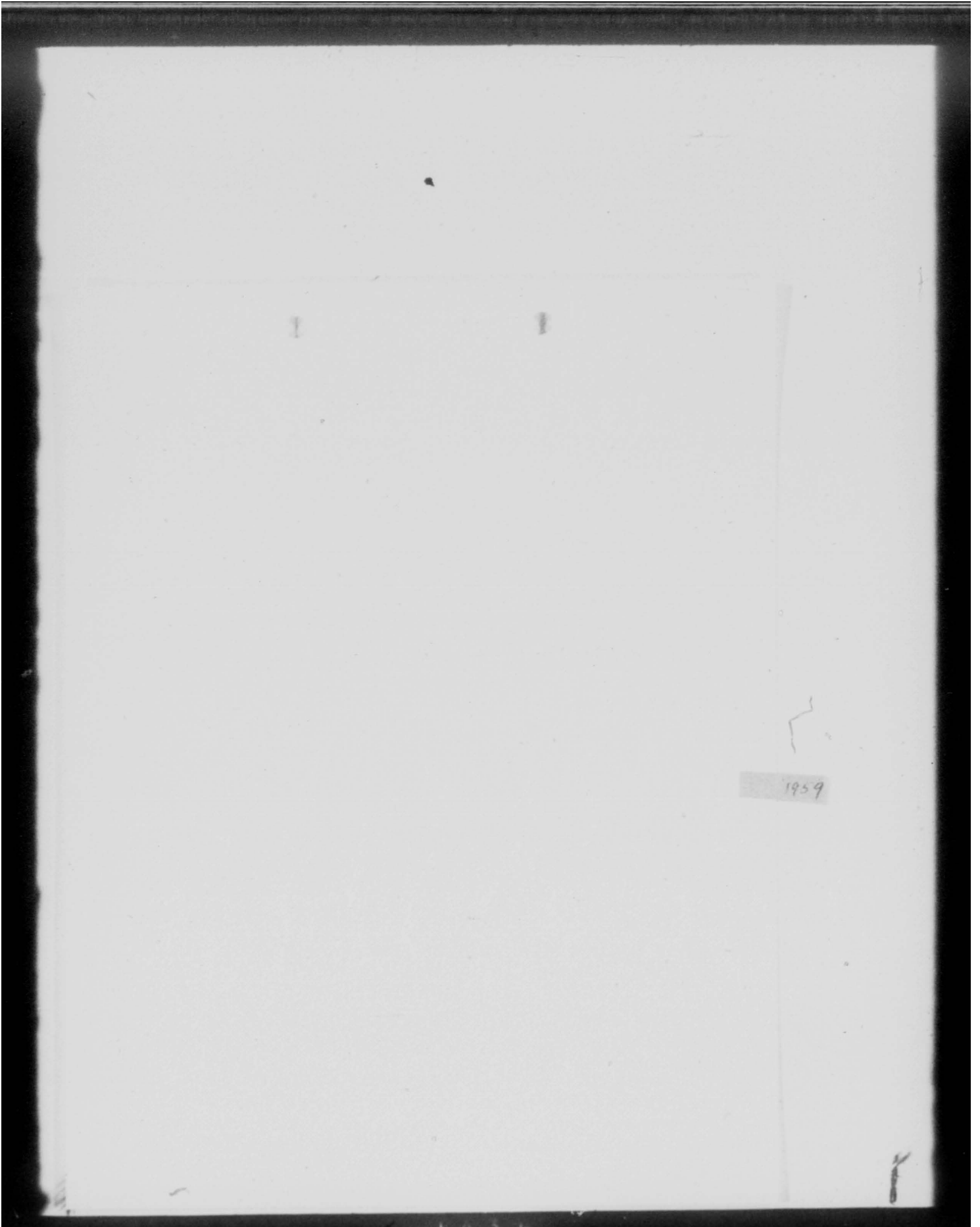
*Charles A. Harris, Jr.*  
CHARLES A HARRIS, JR.  
Major, USAF  
Administrative Officer  
551 AEW Con Wing

ROSTER OF OTIS AFB PERSONNEL  
ASSOCIATED WITH JT #4 ACCIDENT INVESTIGATION

Col. Ernest J. White	Base Commander	Ext 600
Col. Franklin W. Borton	Vice Commander	Ext 602
Mr. John H. McConnell	Asst Base Civil Engineer	Ext 2179
Lt. Phillip P. Weaver	551st IDC Proj Engr (TT)	Ext 2424
Maj. William R. Sheppard	Commander 4604 Suppron(TT)	Ext 504
Maj. Reginald J. Stark	4604 Suppron C&E Staff Off.	Ext 517
CWO Claude P. Hardy Jr.	4604 Suppron Util Engr	Ext 2675

A CERTIFIED TRUE COPY:

  
CHARLES A. HARRIS, JR.  
Major, USAF  
Administrative Officer  
551st AEW&Con Wing



FROM: Coms, Hq First Naval District (Reply Att'n of: 4280  
Summer Street - 562ND44)  
Boston 10, Mass

TO: Hq 551st AEW&C Wing (ATTN: WMIR)

DATE: 30 November 1959

SUBJECT: Close Servicing for Texas Tower Maintenance

REFERENCE:

- a. Hq 551st AEW ltr of 16 Oct 59
- b. Conference, 13 Nov 59 - Col Cipolla, Col Evans, Air Force;  
Capt White, DFWO IND.

1. Reference (a) proposed that maintenance of three Texas Towers be accomplished by the First Naval District under an official close servicing agreement for providing engineering, contract administration, and preventative maintenance service.

2. By reference (b) it was agreed that of the close servicing agreement for the District Public Works Officer, First Naval District, to provide these services on a broad and continuing basis would probably not be the most economical nor the most operational feasible method of accomplishing the work. No further discussion of services on this basis is anticipated.

3. It was agreed, however, that the DFWO could probably be of service on specific engineering and contractual problems, especially in connection with the steel super-structures, their support systems and their foundations. In pursuance of this letter agreement, it is understood that the Air Force will restudy requirements for possible discussion at a later date.

/s/ E. H. WHITEHURST  
Chief of Staff

Cy to: VuDocks

TO: W/C DR  
FROM: WMIC  
DATE: 27 May 1959

*Retinal matter  
as to follow*

SUBJECT: Responsibility for Maintenance - Texas Towers

1. Research as to responsibility for real property maintenance of the Texas Towers relative to letter received from First Naval District cutting off their past assistance in this matter discloses that there is no agreement whereby the Navy is responsible for anything but new construction or modification of the towers. On the other hand the EADF logistics plan for the Texas Towers specifically states that the towers will be handled as though buildings were on Otis.
2. Inasmuch as the Navy has helped us considerably in the past and now must cease, attached message to EADF has been prepared suggesting a close service agreement be initiated so that the First Naval District can continue their past services.

- 3 Atch
1. WMIC Message to EADF
  2. Ltr fr 1st Nav Dist
  3. Extract fr EADF Log Plan

FROM: WMIE

TO: W/C (551st)

DATE: 25 May 1959

SUBJECT: Repair and Utilities Support - Texas Towers

1. Reference letter, First Naval District, dated 6 May 1959. (This is the letter that you wanted where the Navy stated that they were getting out of Texas Tower maintenance business - WO Hardy doesn't have a copy of subject letter. It was addressed to 551st WMIE.)
2. Referenced policy action of the Texas Tower, First Naval District, Boston, Mass., terminates technical assistance to this Headquarters in support of the three Texas Towers. This action creates the following problem areas: (If you want the rest of the letter, you can call Sgt. Honeycutt at WO Hardy's number and he will give it to you.)





060909 1st Lt Ag

5 Mar 1958

Subj: TT4 sway  
 TO: Comdr 460<sup>th</sup> Ltter: Capt Philan  
 From: " 551<sup>st</sup> Ltter: Sgt Dan

1. Comdr Frazier reported to me that personnel coming from TT4 are reporting complaining of excessive sway in the tower. Request you make the following check each day for one week to allow a check.

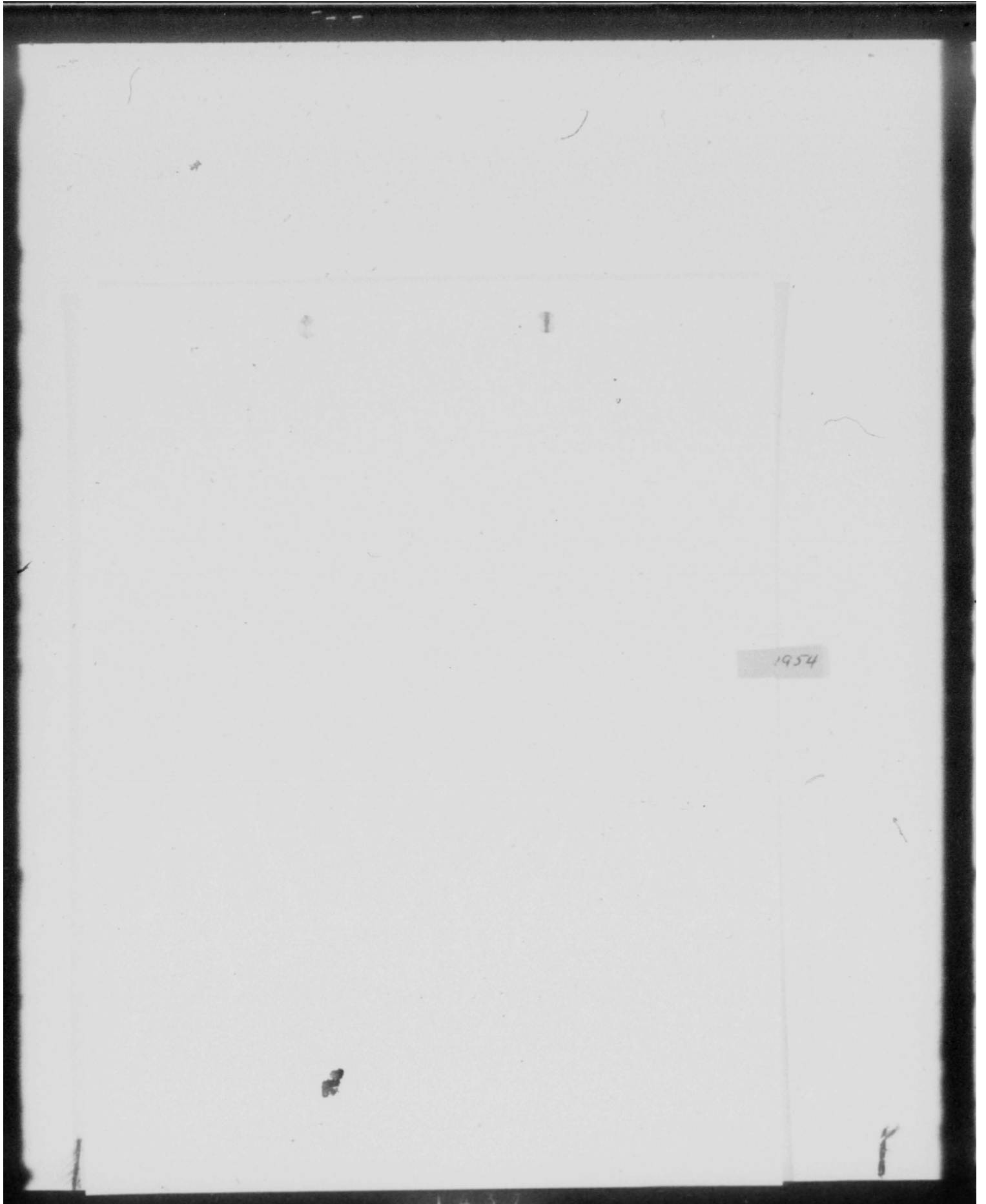
2. Sway 4 hours during each 24-hour period check.

(1) At a point mid way between A and B leg in the corridor on the main deck under the radar. Count how many oscillations tower makes in a minute.

(2) Check wind direction and velocity and type of sea running.

b. For the above requested information for one week and send information to Comdr Frazier or Mr. Riccio with information copy to this office.

Wiffred B. Skinner  
 Major USAF  
 Lieutenant



WHIV 20 Apr 54

*Not published*

(Incl) Project Temp Towers

Director of Operations, DOR/O

AFM 454

Directorate of Construction, DCB/1

AFM-03/1AColCrossey/mol/  
1  
T3975

1. Request your review and comments on the attached letter from Dept. of the Navy.
2. As this project is presently being designed by the Navy for the Air Force, it is imperative that a decision be made on whether space for material and personnel for the Navy be provided in these structures.
3. The increased cost of design because of the inclusion of this additional space should be negligible and could be covered with our presently available design funds, although the cost of the additional construction may be considerable and it is possible that the Navy will be requested to site a source of funds if their request for space is approved.
4. Many items must be considered in regard to this request such as prorating of cost of upkeep and operation, command jurisdiction of the site, etc.
5. A meeting was held at Office of First Naval District, Boston, Mass., 12 April 1954, with representatives of this Headquarters, Dept. of the Navy and ADC to resolve problems of design regarding these Temp Towers. It was decided at that time that the Navy should design for 31 AF permanent personnel and 6 AF transit personnel and that criteria to be used in the design such as water, messing, dressing, laundry, etc., would be of Navy standards.

COORDINATION

WILLIAM E. LEONARD  
Colonel, U. S. Air Force  
Chief, Directorate of Construction  
Assistant Chief of Staff, Installations

1 Incl  
1st frs Dept Navy  
20Mar54

cc: AFMAG

*Handwritten signature and initials*

COORDINATION: AFM-03

AFM-03

AFM-03

WJG 1  
WJG 2  
WJG 3

Coordination  
Approval  
Signature

*WJG*

Special Projects Branch  
Construction Division  
Directorate of Construction  
Mr. J. L. [unclear] [unclear]

22 OCT 54

TULSA TOWERS

1. Letter from Department of the Navy (Bureau of Yards & Docks) 20 October 1954, (Tab B), presents two (2) schedules of construction for the Five (5) Tulsa Towers. Schedule "A" recommended by Bureau of Yards & Docks calls for completion of all five (5) towers during a period May - August 1956. Schedule "B", submitted at the request of the Air Force, calls for completion of two (2) of the towers during June - August 1955, balance in 1956. The Navy outlines various reasons why completion of any of the towers in 1955 is not recommended.

2. By attached letter, (Tab A), the Navy is requested to adhere to Schedule "B" with periodic reexamination of all factors to determine if we should proceed as planned. Factors in this decision are as follows:

a. There is an immediate Air Force requirement for a second extension of the Air Defense Radar Net to afford coverage of strategic areas not presently covered.

b. The USAF operating program plans personnel into these facilities starting in October 1955 with full occupancy on an operating basis during July, August and September 1956.

c. Electronic equipment will be available January 1955 for installation on the towers are completed.

d. By building at least two (2) of the towers in 1955, experience will be gained which will permit improvement on the 1956 installations.

e. Two (2) sets of temporary legs, at a cost of \$1/2 million each, required in 1955 can be removed during the 1956 installations.

f. By erecting two (2) of the towers in 1955 and three (3) in 1956, the load on the Air Force in installing and testing of electronic equipment will be distributed.

g. Contingency factors outlined by Bureau of Yards & Docks could just as easily affect Schedule "A" as Schedule "B". For example, if Schedule "A" is used and bad weather prevails during the summer of 1956, the possibility of getting none of the facilities prior to calendar year 1957 is apparent.

YULAI 1948 (Continued)

RECOMMENDATIONS

3. It is recommended that Tab A be signed and dispatched.

2 Incls

- 1. Prop ltr to build Tab A
- 2. Ltr from WEDD 20 Oct 54 Tab B

COORD: AFCEB

AFCEB

OSAF

Coord by  
 Combase by  
 AFCEB-OS  
 Off of Sig OSAF  
 AFCEB  
 AFCEB

AD-11-603

SUBJECT: Schedule of Construction for Texas Towers

TO: Bureau of Earth and Ocean  
ATTN: O-PTO  
Department of the Navy  
Washington 25, D. C.

1. Reference is made to your letter dated 23 October 1954, subject "Texas Towers - Design and Construction of", and to Schedule "A" and "B" enclosures (1 and 2) thereto.

2. The problem areas outlined in your letter in referring to Schedule "B" for construction of Texas Towers are recognized as probable trouble spots. However, the Air Force has an immediate urgent requirement for construction of at least two (2) of the towers during calendar year 1955. Therefore, after careful consideration of all the factors involved, it is requested that your planning be predicated on Schedule "B" and that every effort be made to complete the towers at Houston and Longport each during calendar year 1955.

3. The progress of design, construction, outfitting and erection will be closely followed during the next few months. If at any time it appears that factors beyond your control will delay completion of the two (2) towers at Houston, the construction schedule may be modified by mutual agreement accordingly.

4. Action is being taken to secure immediate release of funds required to permit advertising and award of contracts for construction of the two (2) towers referred to above, and for completion of design on the remaining three.

FOR THE CHIEF OF STAFF:

COPIES: AFCEX

AFCS

CSAF

Copy to  
Cassock by  
AFCEX-3  
Off of SAC - AFCEX  
AFCEX  
AFCS



*Project*  
*Design + Construction*



DEPARTMENT OF THE NAVY  
BUREAU OF SHIPS AND ORDNANCE  
WASHINGTON 25, D. C.

20 Oct 54

Chief, Bureau of Ships and Ordnance  
Department of the Navy

Dear Sir:

Reference is made to the letterhead memorandum (LHM) dated 10 October 1954, captioned as above.

- (1) Schedule "A"
- (2) Schedule "B"

By reference (1) the Department of the Navy has requested that you be advised with the preparation of plans and specifications for the construction of the subject project.

A feasibility report has recently been completed and approved by the Department of the Navy. This report contains a technical review of the feasibility of the project. The Architect-Engineer (A-E) contract has been awarded. The A-E requires a schedule which follows the established design and construction procedures has been prepared providing for completion of all towers during the summer of 1955. This schedule is outlined in Exhibit 1 forwarded herewith.

2. This schedule provides for completion of the design and specifications for all towers by 1 May 1955. The construction of the towers will be initiated from selected construction sites. Major work will be made on four towers prior to 1 May 1955. The construction of the towers will be completed by 1 August 1955. This schedule allows for partial installation by the Air Force of electronic equipment during the design outfitting period, with completion to be accomplished at the sites after the towers have been completely erected and outfitted. The schedule is designed to take full advantage of tower construction from concurrent construction of identical platforms and towers at the same site outfitting and installation of electronic equipment. The schedule is considered realistic and provides optimum completion dates from the standpoint of economy, thoroughness of design and cost construction.

By reference (1) Air Force representatives requested that you be advised that would require completion of two towers during the summer of 1955, and the remaining towers to be completed in the summer of 1955.



Accordingly, enclosure 1 has been prepared to outline the various  
contingencies which would be assigned to various phases of work in  
order to permit erection of the towers prior to August 1964. An  
attempt to meet this schedule, highly accelerated, would require  
construction and lifting procedures which are not required, and  
since that they would not be of construction completed by the date  
desired. An attempt:

(a) It would be necessary to immediately alter the bid on  
fabrication and installation of the structures on the basis of the  
limited information contained in the feasibility report.

(b) The fabrication portion of the bid would be based on an  
estimated tonnage with a contract completion date.

(c) Outfitting might have to be added to the contract to allow  
work upon completion of plant and modifications.

(d) Contractors, both design and construction, would require  
a 10% contingency for overhead and profit.

(e) All steel work would be required to be completed by the  
contract completion date to allow for erection.

(f) Contractors would include best contingencies for the  
bearing for large outfitting articles after installation to allow  
complete outfitting at possible prior to erection.

(g) All electronic equipment installation by the AEC would  
have to be accomplished at the sites, rather than at shops.

(h) Thorough review and double checking of the design of  
the structure would not be possible.

(i) Any number of difficulties such as strikes, unusual weather,  
transportation problems, etc. could occur and cause delays. The  
probability of such delays is completely realistic and, even if only  
two to four weeks, would make adherence to the outlined schedule im-  
possible. This would result in the payment of premium prices for  
completion on desired dates with the benefit not being actually realized.  
That premium is estimated at 10%.

5. The Bureau accordingly considers that it would be extremely unwise  
to adopt a construction schedule similar to enclosure (1) and feels that  
it can only accept the responsibility for the full design and construction  
(1). The unusual design and construction requirements inherent in this  
operation which is completely different in scope and character from any  
previously undertaken similar marine work dictates engineering practices  
and no variation from sound practice.

Very truly  
yours



*Duplicate*

NOV 20 54

MEMORANDUM FOR ASSISTANT SECRETARY OF THE NAVY  
SPECIAL ASSISTANT FOR FACILITIES

SUBJECT: Schedule of Construction for Texas Towers

1. Reference is made to a discussion held in my office on 23 November 1954 with Admiral J. N. Perry of the Navy concerning the schedule of construction for Texas Towers.

2. By letter of 22 October 1954 on this subject, the Air Force requested, as an immediate urgent requirement, the construction of two (2) towers during CY 1955. Following a discussion of the Air Force requirement for Texas Tower type facilities during CY 1955 and anticipated design and construction difficulties, encountered by Bureau of Naval Facilities representatives, it was concluded to be in the best interest of the service and agreed by those present (subject to telephone confirmation by Department of the Navy which was received on 24 November 1954) that:

a. The Air Force accepts a design and construction schedule which will provide one (1) completed facility in CY 1955 with four (4) additional towers to be completed in CY 1956.

b. The Air Force recognizes the difficulties that may arise in maintaining this schedule in an unproven construction development field, however, the Air Force is prepared to accept the additional cost incurred in attempting to maintain this priority schedule.

3. A construction directive covering the construction of this facility will be issued prior to 3 December 1954. The Air Force will procure and install all technical and communications equipment, less generators. Generators will be procured by the Air Force and installed by the construction agency. All other construction for the facility will be provided by the construction agency.

*not pertinent*

SUBJECT: Supply Ship for Texas Towers

TO: Assistant Chief of Staff, Installations  
ATTN: AFCEB-GS  
Director of Transportation  
ATTN: AMTP-PD  
IN TURN

MEMO NO. 3

AWMLP-PL-SS/Lt Col Bradley/dm/78668

1. This office recommends that Texas Tower personnel be transported by helicopter. Further, we recommend that airlift be used for resupply of cargo other than water and diesel fuel to the first Tower (one Tower 1 Sept 1955 - 1 Sept 1956). The two H2LB's mentioned in Memo 2 can carry this cargo as well as the personnel.

2. It is understood that diesel fuel storage will be increased by 100-120,000 gallons, and that equipment for routine distillation of water is being installed. This will permit occasional resupply (of fuel, and perhaps some water) by a standard commercial tanker.

3. During the first 6-8 months of supporting the first Tower, the helicopter operation will be thoroughly tested. The operation can then be evaluated and compared with surface resupply of dry cargo in order to decide on providing a ship, or about four additional H2LB's (10 instead of 6) to continue air resupply to all five Towers.

1 Encl  
n/c

CHARLES W. HARTIN  
Colonel, USAF  
Chief, Plans Division  
Headquarters, USAF  
Washington, D.C.

2334  
2034

1440

Revised: 10/25/55

*Not pertinent*

SUBJECT: Supply Ship for Toms Towers

TO: Director of Transportation, ATTN: ARSEP-02 FAXE: MEMO NO. 4  
AFCEB-02/20 Gal Grocery/mal/71975

1. It is believed that representatives from your office and the Directorate of Logistics Plans have visited the Navy Construction Office and obtained all necessary information since your memorandum was written.
2. Fuel storage has been increased by 100-120,000 gallons, and the vertical distance between low water and the main deck is approximately eight-five (85) feet.
3. The proposed use of helicopters to logistically support these towers appears to be the most favorable and economical.

1 Incl  
N/S

GILBERT V. FERRY  
Colonel, U. S. Air Force  
Executive  
Construction Division  
Directorate of Construction, AFCEB

COORD: AFCEB-02

AFCEB-02

G. J. FERRY  
SA T-101

Coord: Gy  
Comback  
AFCEB-02  
Stayback

FEB 17 1955

AFM-10

MEMORANDUM FOR DIRECTOR OF OPERATIONS, DCS/O

ATTN: AFMOP-09  
ASSISTANT FOR LOGISTICS PLANS, DCS/M  
ATTN: AFMOP-01-02  
ASSISTANT CHIEF OF STAFF, INSTALLATIONS  
ATTN: AFMIS-0/18  
IN THE  
SUBJECT: Supply Ship for Texas Towers

SUBJECT: Supply Ship for Texas Towers

1. A review of the attached correspondence indicates that some thought is being given to the use of helicopters for transporting personnel between the Texas Towers and shore points. The SAC operations plan calls for the use of surface transportation for this job.
2. The procurement of an ocean vessel capable of lifting the correct amounts and types of cargo and personnel between the shore and the Texas Towers will be a lengthy process. If we are to have a suitable vessel ready by the time the first Tower becomes operational we must develop a specific requirement in the immediate future.
3. We would like to know whether or not the supply ship should be equipped to handle passengers. If so, then we would like to know the numbers of passengers to be carried at any one time so that adequate accommodations may be provided.
4. We would also like to know the vertical distance between low water and the main deck of each tower so that adequate liquid cargo pumping facilities may be provided aboard the supply ship.

1 Incl  
1/1 for AFMOP-09, same subd,  
and 10 Jan 55 to SAC w/let  
and 10 Feb 55, w/1 Incl

DAVID E. DARIEL  
Colonel, USAF  
Chief, Program Div. D/Transportation  
Office, DCS/O  
Dist/Postal

*not printed*

8 FEB 55

Navy Admiral S. P. A. Studis  
U S Coast and Geodetic Survey  
Department of Commerce  
Washington 25, D. C.

Dear Admiral Studis:

Reference your letter of 10 January 1955, requesting information as to the possibility of using the "Tide Gauge Theory" to obtain data on behavior of tides.

The U S Navy Hydrographic Office has also requested the use of these towers to acquire data on various oceanographic parameters. The Air Force has given approval to the Hydrographic Office indicating that sufficient space and power would be available to support their requirements. It was indicated by the Hydrographic Office that contact would be made, by that office, with various other government agencies who would be interested in this type of data. A cooperative program where the various participating agencies could combine their requirements would result in a more economical investigation.

It is suggested that your office contact Commander L. Bellrose, U S Navy Hydrographic Office, Washington 25, D. C., Suite 153, Extension 273, in order that your requirements may be included in this program.

When all the requirements are known for this program they will be submitted to the USAF Installation Representative, New England Region, 257 Commonwealth Avenue, Boston 15, Massachusetts, by the U S Navy Hydrographic Office.

Sincerely,

WALTER S. WOODRUFF

COORD: AFCEB-05

AFCEB-05

AFCEB-03

*[Handwritten signature]*

*[Handwritten signature]*

Chief of  
AFCEB-05  
Command  
Staff

U S Navy Hydrographic Off  
AFCEB-05



## DOCUMENT TO ROLL INDEX

Frame Number	Classification Number	Date Period	Vol.	Pt.	Title	Security Classification	Remarks
4	1012647	76/04-76/06	IV		Hstry, 1st TFW	S	
706	1012648	75/07-76/06			Hstry, USAF Clinic Hickam	U	
752	1012649	76/09/04			Military Aircraft Storage & Disposition Center	U	
881	1012650	76/04-76/06			Hstry, 6204th Aerospace Support Sq.	U	
931	1012651	"			Hstry, 445MAG	U/FOUO	
973	1012652	"			Hstry, 315th MAG	U	
989	1012653	75/07-75/12			Correction to TAWC hstry	U	
995	1012654	76/04-76/06			Cor. to 60 MAW Quarterly hstry	U	
1402	1012655	no date			Ltr's on Texas Towers	U	
1492	1012656	61/01-61/12			"	U	
1497	1012657	61/01-61/03			"	U	
1454					INDEX		