

1012656

27 TEXAS TOWERS
1 JAN 61 - 31 DEC 61

RETURN TO

AFSHRC

MAXWELL AFB AL 36112

INCOMING
MESSAGE

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH

UNCLASSIFIED

AF IN : 3757 (6 Jul 65) G/sah
INFO : OCE-2 (3)
SMB B009

RTTU JAW RUCIFHA0085 1871935-UUUU--

ZNR UUUUU

R 261930Z

FM 26AIRDIV STEWART AFB NY

TO RUCIEWA/551AEWCONWG OTIS AFB MASS

INFO RUWPFVA/ADC

RUEBHQV/CSAF

BT

UNCLAS 261FS-B 02521 JUL 65.

FOR 551BCE. INFO: ADC (AD1FS-BS); USAF (AFOCE-KB).

DISPOSITION OF RECORDS AND DOCUMENTARY DATA PERTAINING
TO TEXAS TOWER NR 4. THE INSTRUCTIONS CONTAINED IN PARA
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OF SUBJ RECORDS TO MAXWELL AFB, ALA, ARE RESCINDED.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/H
Tom Towers

AFSHRC MAXWELL AFB AL 36112	RETURN TO	<i>new</i> <i>it</i>
RIHCA.		

14574
1012656

INCOMING
MESSAGE

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH

UNCLASSIFIED

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INFO : OCE-2 (3)
SMB B009

RITU JAW RUCIFHA0085 1871935-0000--

RUEBHC.

ZNR 00000

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FM 26 AIRDIV STEWART AFB NY

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BT

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FOR 551BCE. INFO: ADC (AD1FS-25); USAF (APOCE-KB).

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BT

file Texas Towers.
net
W. H. Hedger

25 June 1964

AFOCE-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.

ELMO J. CECONI

Copies to:
SAF-ILI
SAF-LL
AFOCE-K **K** ←
AFOCE-FD rf
AFOCE-C
AFOCE-FDD



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1

RYAN
Prototype Aircraft
Shelter
(UNCLASSIFIED)

RYAN
Construction is
expected to be
completed by
13 May 1963

RYAN
Eglin AFB,
Florida

RYAN
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. H. G. Roehr, AFOSR-EB, X 77474)

Opening and award-
ing 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 demoli-
tion and removal. Award to be made as
soon as feasible thereafter but prior
to 10 June 1963.
(Mr. H. G. Hodgdon, AFOSR-EB, X 77474)

TITAN 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. H. P. Reid, AFOSR-EB, X 77474)

AFOCE-KB
26 February 1964

SIGNIFICANT ITEM FOR DIVISION STAFF MEETING

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. N. Schuyler, ADC, was advised of this situation by telecon 25 February 1964.

NAT C. HOLIDON

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 Lipsett Division of Luria 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 30 miles southeast 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 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 foaming, 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, Lipsett plans to float the giant structure to Kearny, N.J.

ERECTED from 1955 to 1957, the giant radar stations got their Texas Tower nickname because of their resemblance to the off-shore 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 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 105 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.

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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.

NAT C. HODGDON

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)
N.C.HODGDON/9 Sep 64

AFOCE-KB

AFJALF

AFOCE-K

M. G. HODGDON

Coord AFOCE-KB
Stbk AFOCE-KB
R/File AFOCE-K

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C.



REPLY 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 for-
warded 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 (AFJALF)

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 lose 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 3330



DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS
WASHINGTON, D. C. 20390

IN REPLY REFER TO

41.202B/JRA
24C/MS/11h

28 JUL 1964

From: Chief, Bureau of Yards and Docks
To: Directorate of Civil Engineering, DCS/O Headquarters,
United States Air Force (AFOCE-KB)
Subj: Wreckage of Texas Tower No. 4, Navigational Clearance over,
Survey of Site by Commander Service Force, U.S. Atlantic Fleet
Ref: (a) BuDocks ltr of 5 Sept. 1963 to (AFOCE-KB)
Encl: (1) Co, USS Preserver (ARS-8) ltr Ser. 58-64 of 7 February 1964 to
CONSERVIANT
(2) CONSERVIANT ltr Code 70 (H-3:Jfd) 4740 Ser. 70/1731 of 23 March
1964 to CINCLANT
(3) CINCLANTFLT ltr Ser. 2025/332C1 of 9 July 1964, to CNO

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 1520 yards at 340 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 pneumofathometers.

(c) The tower platform still remains in the same general position as indicated on earlier sketch prepared from diver reports of survey by USS Sunbird 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 84 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. 17

5. Accordingly, this Bureau recommends that the Department of Defense take no further action with regard to the tower wreck and so advise the Coast Guard and the Department of Justice.

Copy to:
CNO-Attn: OP-332-C7 w/o Encls.

J. G. Dillon

J. G. DILLON
CAPTAIN, CEC, USN
Asst Chief for
Planning and Design

USS PRESERVER (ARS-8)
c/o Fleet Post Office
New York, New York

ARS8/CFK:mgj
1760
Date: 5-6-64
7 January 1964

From: Commanding Officer, USS PRESERVER (ARS-8)
To: Commander Service Force, U. S. Atlantic Fleet

Subj: Search for and Investigation of, U. S. Air Force Texas Tower #4;
report of

Ref: (a) COMSERVRON EIGHT msg 021541Z of NOV 63
(b) COMSERVRON EIGHT msg 151924Z of JAN 64
(c) CTG 81.0 Op-Order 1-64
(d) COMSERVRON EIGHT INST 5100.1
(e) CO, USS PRESERVER (ARS-8) ltr ser 393-63 of 31 DEC 1963
(f) CO, USS PRESERVER (ARS-8) ltr ser 5-64 of 2 JAN 1964
(g) COMSERVLANT 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 COMASMPORLANT surface units, utilizing sonar and fathometer, and these units were to be assisted by aircraft employing MLD equipment. The Texas Tower, triangular shaped, measuring approximately 155 feet to the side, and supported by three tubular steel and concrete legs, each 12 feet in diameter, imbedded in the ocean floor, collapsed and sank during a severe storm in January, 1961. Previous reports indicated that one of the tower radio masts 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 COMSERVRON EIGHT directed PRESERVER to demolish the wreckage to a depth of 70 feet. CTG 81.0 promulgated the air and surface search plan in reference (c). Surface units assigned were USS CROMWELL (DE-1014) (OTC) and USS DEALEY (DE-1006).

2. Preliminary Planning:

a. Personnel. Since SCUBA dives 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)

ENCL 1 To BUDDOCKS LTR To AFOCEL-KB

c. Intelligence. It was realized that during the two years the tower lay on the bottom, many changes could have occurred, and that final plans for the tower would rest on the reports from the investigation divers. Therefore, some factors would remain stable, and upon these factors preliminary planning was done. The prints of the tower were obtained from the Bureau of Yards and Docks. The Survey Report of the U. S. Coast Guard Ships WAINWRIGHT and HILGARD 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 bracing, 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 CHIAMPPI 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. TAUSSIG (DE-1030) was obtained and a final conference on all information available, and plans was conducted on the USS CROMWELL (DE-1014) on 22 January 1964.

3. Operational Planning.

a. The surface units would locate the wreckage with sonar and fathometer, and a buoy would be dropped on datum by CROMWELL.

b. PRESERVER would employ the workboat, manned by grapneling 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 pneumofathometer 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 HMX-1 explosives in MK 133, MOD 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 primcord would be attached to the 3,000 ft. firing lead. A crew in a rubber boat would extend 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 1964 and anchored 1500 yards from wreckage area at 0100, 28 January. Sequence of events indicated by RGEO time follows:

a. 28 January

- (1) 0652 - Underway
- (2) 0733 - CROMWELL dropped marker buoy near strong contact
- (3) 0751 - Lowered workboat
- (4) 0815 - Commenced grapneling from workboat
- (5) 1000 - After 3 grapnel 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 mooring plans 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 grapnel. 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, proceeding in channel
- (3) 0810 - Danforth anchor engaged unknown obstruction
- (4) 0825 - Completed two point near over wreckage on bearing 340° from Texas Tower obstruction buoy, distance 1520 yards. Ship's head 286°. Ship's position by Loran 39°48'02"N. 72°40'04"W; Loran Coordinates LH-5 2649, LH-4 4709.
- (5) 0854 - Commenced diving operations
- (6) 0900 - Divers surfaced and reported they had identified wreckage as Texas Tower, commenced survey operations on underwater obstruction.
- (7) 1325 - Secured from diving operations, results as follows:

(a) Reported wrist depth gauge and pneumofathometer readings indicated a least depth of 70 feet beneath the surface of the highest point of the Texas Tower. (This reading was obtained by pneumofathometer, wrist gauges indicated 75 feet).

(b) The radio mast, previously reported at 25 feet beneath the surface, had toppled, and was now at 84 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) 1408 - 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. Resume 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° ; visibility - 30 ft.
- g. Sea conditions - State 1.

9. Recommendations

a. In view of increased diving commitments by SERVRON EIGHT Units, and increased diver personnel allowance, strongly recommend initiation of request for the assignment of one Submarine Medical Officer to CONSERVRON EIGHT Staff.

8. Comments

- a. The two legs of the tower which were broken off were not sighted.

b. The tower is easily located by Sonar and Fathometer, mooring 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.

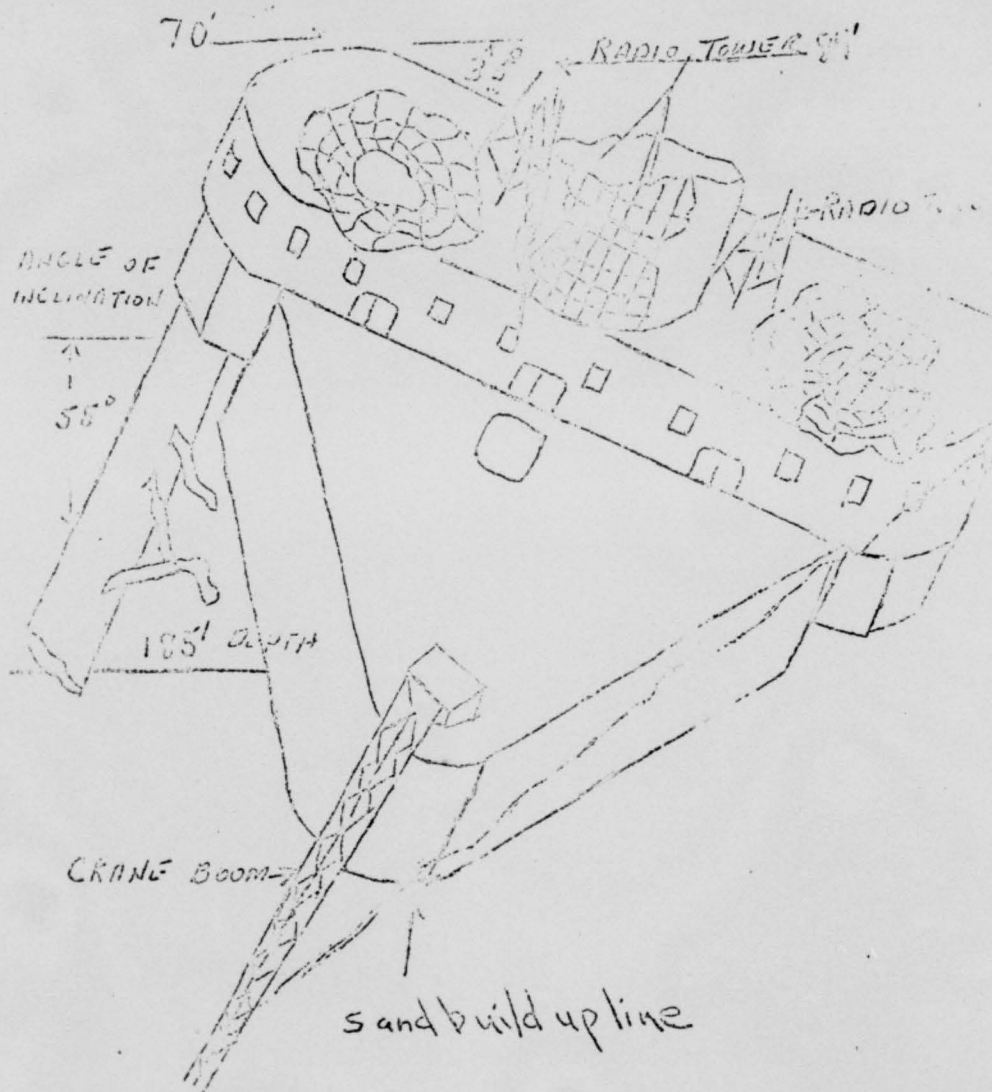
C. F. Knight
C. F. KNIGHT

Copy to:

CONSERVON TWO
CONSERVON FOUR
CONSERVON EIGHT
USS VULCAN (AR-5)
USS AMPHION (AR-13)
USS CADMUS (AR-14)
USS TUTUILA (ARG-4)
USS ESCAPE (ARS-6)
USS HOIST (ARS-40)
USS OPPORTUNE (ARS-41)
USS RECOVERY (ARS-43)
USS SALVAGER (ARSD-3)
USS WINDLASS (ARSD-4)
USS AIGWA (ATF-72)
USS SENECA (ATF-91)
USS ATAKAPA (ATF-149)
USS LUISENO (ATF-150)

USS NIPMUC (ATF-157)
USS MOGOCHELEA (ATF-158)
USS PAIUTE (ATF-159)
USS PAPAGO (ATF-160)
USS SALINAN (ATF-161)
USS SHALICORI (ATF-162)
USS UTINA (ATF-163)
YFNB-12
YFNB-17

NOT TO SCALE - ANGLES ESTIMATED



TEXAS TOWER
AS PER DIVERS' REPORT
1/31/64
U. S. S. PRESERVER ARS-

ENCLOSURE (1)

COMMANDER SERVICE FORCE
UNITED STATES ATLANTIC FLEET
NORFOLK 11, VIRGINIA

Code 70(N-3:jfd)

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.

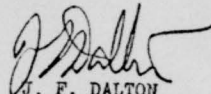
ENCL 2 TO BUDOCKS LTR TO AFOCE-KB

ENCLOSURE 2025 TO COMMANDER
SERIAL _____ OF _____

40221
0412

Code 70(N-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.


J. F. DALTON
Chief of Staff

Copy to:
COMSERVRON EIGHT

41.20213

43.510 DM 13

Ser 202; /10201
9 JUL 1964

From: Commander in Chief U. S. Atlantic Fleet
To: Chief of Naval Operations
Subj: Texas tower number 4; information concerning
Encl: (1) COMSERVLANT ltr ser 70/1751 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 AFOCE-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 for-
warded for comment and guidance as to the position of the Air
Force and the action to be taken in this matter.

C. W. HARRIS
Deputy Chief, Engineering Division
Directorate of Civil Engineering

1 Atch
Ltr, BuDocks, USN,
28 Jul 64, w/atc

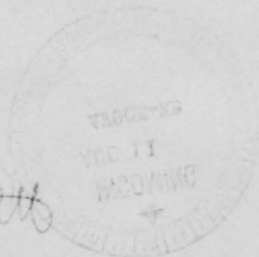
M/R: Reproduced copies of atch
in AFOCE-KB File #27 - Texas Towers

AFOCE-KB

AFOCE-K

Sonford
N. C. HODGDON *nc*
cc

✓
Coord AFOCE-KB
Stbk AFOCE-KB
R/File AFOCE



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	<i>Mr Hodgdon</i>	FILE			
		INFORMATION	①		
3		NOTE AND RETURN			
		PER CONVERSATION			
4		SEE ME			
		SIGNATURE			

REMARKS

② a. Check w/ AFCJA
b. Staff Digest item in order.

Col. Yandala. 55087 -
→ when reply is received from Col. Yandala.

FROM: C. W. HARRIS, Deputy Chief, Engineering Division, Directorate of Civil Engineering

DATE: 29 July 64

PHONE:

Miss Dem... file Texas Towers

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 Hodgdon</i>		FILE		
			INFORMATION		
3			NOTE AND RETURN		
			PER CON-VERSATION		
4	<i>8 June 1962</i>		SEE ME		
			SIGNATURE		
REMARKS					
<p>1. The attached letter from BuDocks, 28 July 1964, is in reply to a letter from this office (of 8 July 1964). 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. <i>original</i></p> <p>1 Atch Ltr, 28 Jul 1964, Wreckage of Texas Tower No. 4, Navigational Clearance over, Survey of Site by Commander Service Force, U.S. Atlantic Fleet</p>					
FROM C. W. HARRIS Deputy Chief, Engineering Division Directorate of Civil Engineering				DATE 7 Aug	
				PHONE 54622	

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 1961 O-586753

1 sep 64

TO: Editor, STAFF DIGEST, AFSS-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 BuDocks 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 anywhere 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.

BuDocks was directed not to use this wreckage for demolition training at any time in the future without prior approval of this Headquarters.

(AFQGE-EB, Mr. Hodgson, 77474)

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO AFOCEKB (MR. HODGDON) <i>new</i>	INITIALS	CIRCULATE		
		DATE	COORDINATION		
2		FILE			
		INFORMATION	XXXX		
3		NOTE AND RETURN			
		PER CONVERSATION			
4		SEE ME			
		SIGNATURE			
REMARKS					
FROM <i>F. B. Roche</i> F. B. ROCHE AFOCEFD		DATE	24 Sep 64		
		PHONE	66973		

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 1961 O-586753

FILE: TEXAS TOWERS.

Nos. 2+3.

net.

NEDRE-M

18 September 1964

Mr. Octavio Modesto
General Manager
Sea Food Producers Association
14 Commercial Street
New Bedford, Massachusetts

Dear Mr. Modesto:

At meetings in your office and the office of Mr. O'Rourke, Executive Secretary of Boston Fisheries Association, Inc. held on 27 March 1963, representatives of this office outlined the proposed method of disposal for Texas Towers Nos. 2 and 3 on Georges and Nantucket Shoals, Massachusetts.

At that time, to correct erroneous reports of the method of disposal that, if true, could have adverse effect on local fishing operations, you were informed of our plan to lower the decks of the towers for removal to shore and to drop the legs in a horizontal position on the ocean bed with a minimum use of explosives.

Then we felt, optimistically, that the failed legs would soon be buried naturally in sand and silt. In order to obviate the problems created by the legs resting above the ocean floor we agreed to place buoys at the tower sites for a maximum period of one year warning of their presence and restricting fishing operations. It was also our intention to clear the areas within that period because of the high cost of buoy maintenance. If the legs were found to be buried so as no longer to constitute a hazard to discontinue the buoys.

Tower No. 2 was removed by our contractor, except for one leg during the summer of 1963. The third leg was dropped this past June. Our contractor successfully completed the disposal of Tower No. 3 last August using the same method that was applied for the disposal of Tower No. 2. The deck of Tower No. 3 was towed to shore and the three legs were dropped in a horizontal position on the ocean floor. Approximately two weeks later Tower No. 3 was completely dismantled. A diving report revealed that the legs of Tower No. 3 were approximately 50% submerged in sand and silt. It is only

COPY

18 September 1964

... that the whole circumference of the leg will be nearly or completely buried within a short while. This office has scheduled another diving operation for 28 September 1964 for the purpose of ascertaining the latest condition of the legs on the ocean bed. If the report shows satisfactory covering of the legs it is the intention of this office to remove the buoys by 15 October 1964. The discontinuance of the buoys will result in a monthly savings of approximately \$2500.00 per trip to each buoy.

Your comments are invited, if possible, before the next scheduled diving operation.

Very Truly yours,

J. M. GREGGIAN
Chief, Real Estate Division

Copies Furnished:

Mr. Sharrett, Regional Dir, Bureau of Commercial Fisheries, Dept. of Interior, Gloucester, Mass.
Office Chief of Engineers, Attn: EX-100, Washington, D. C. (dupes)
Commandant, 1st Naval District, Boston Naval Station, Boston 29, Mass.
Headquarters, United States Air Force, Attn: AFCE-Washington, D. C.

NOTE: Identical letter to Mr. Hugh J. O'Rourke, Executive Secretary
Boston Fisheries Association, Inc.

COPY

SAF-ILI Sig

K
B

Mr. Reid OS-14 AFOCEKB 77474 saf

Transmittal, Quarterly Calendar Year Report
Architect-Engineer Contract Awards

1. Paragraph B3, Enclosure 1, DOD Directive 4105.56 - Change 1, requires the Air Force to furnish the Assistant Secretary of Defense (IAS) 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 (IAS) forwards two copies of this report.

RECOMMENDATION

3. That attached proposed memorandum (TAB 1) to the Assistant Secretary of Defense (IAS) 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 (IAS) for sig of
SAF-ILI, w/atc (TAB 1)

Copies to:
SAF-ILI, Ofc of Sig
SAF-OS
AFCVC
AFOEC

COORD: AFOCEKB
STYBK: AFOCEKB
R/FILE: AFOCEK
R/FILE: AFOCEH

6

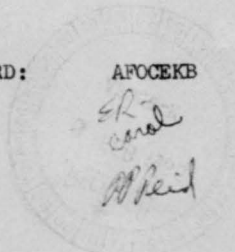
COORD:

AFOCEKB

AFOCEK

AFOCE-H

Col. Caprio



1

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 4105.56 - 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-III, Ofc of Sig (2)
SAF-OS
AFCVC
AFODC

~~COORD~~: AFOCEKB
STYBK: AFOCEKB
R/FILE: AFOCEK
R/FILE: AFOCEH

COORD: AFOCEKB

AFOCEK

APK

file : Texas Towers.
ACB

JW Hodgdon

551BCE

12 November 1964

Texas Tower Obstruction Lighted Whistle Buoy

Commander
Third Coast Guard District
U.S. Custom House
New York 4, N.Y.

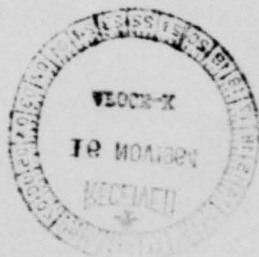
1. According to information furnished by the Navy, the navigational clearance above the wreckage of Texas Tower #4, is now approximately seventy (70) feet. This is considered, by all concerned, as more than sufficient for all forms of shipping.
2. In view of the ample clearance now existing over the 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-B)

USAF (AFOCEKB)



1

File: M/M. Whiteman AFB

JOINT MESSAGEFORM				RESERVED FOR COM	ICATION CENTER
SECURITY CLASSIFICATION				UNCLASIFIED	
TYPE MSG				BOOK	MULTI
				X	SINGLE
PRECEDENCE				ROUTINE	
INFO				DTG	

rell
K
3

SEP 16 072
OCT 16 072
H.Q. USAF
USAF COMM CENTER

FROM: CSAF

TO: AFSC

INFO: SAC

BSD NORTON AFB CALIF

UNCLAS AFCELA **79458**

AFSC FOR SCGCC; SAC FOR DEDW; 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 ^{CONTINGENT} based on approval FCP 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.

SPECIAL INSTRUCTIONS
DISTRIBUTION
AFCELA - 2

DATE	TIME
6	1040
MONTH	YEAR
OCT	1964
PAGE NO.	NO. OF PAGES

D R E L E A S E R	TYPED NAME AND TITLE	PHONE 71019	SIGNATURE <i>L B McCloud</i>
	R. A. PEREZ Lt Colonel, USAF		TYPED (or stamped) NAME AND TITLE L. B. McCLOUD Deputy Chief, Construction Division Directorate of Civil Engineering.
SECURITY CLASSIFICATION UNCLASIFIED		REGARDING INSTRUCTIONS	

JOINT MESSAGEFORM				RESERVED FOR COMMUNICATION CENTER	
SECURITY CLASSIFICATION				STF.MSG BR	
UNCLASSIFIED				OCT 18 0 9 2	
TYPE MSG	BOOK	MULTI	SINGLE	OCT 18 0 9 2	
		X		H.Q. USAF	
PRECEDENCE				DTG	
ACTION ROUTINE				USAF COMM CENTER	
INFO				SPECIAL INSTRUCTIONS	
FROM: CSAF				DISTRIBUTION	
TO: AFSC				AFOSCM - R	
INFO: SAC					
BSD NORTON AFB CALIF					
UNCLAS AFOSCELA					
79458					
AFSC FOR SCMCC; SAC FOR DEDW; BSD FOR BSCPF & 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 ^{CONTINGENT} 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	L. B. McCLOUD		
SECURITY CLASSIFICATION		REGRADING INSTRUCTIONS			
UNCLASSIFIED		Directorate of Civil Engineering.			

File - Texas Towers
net
#

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 (AFOCEKB)/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
to of the 3rd Ind 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 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
Directorate of Civil Engineering

Cy to: 2d Air Div (IDC)
551 Cst Spt Gp (SCE)

COORD: AFOCEKB
STYBK: AFOCEKB
R/FILE: AFOCEK

COORD: AFOCEKB

AFOCEK

AFOCEFD

AFJALF

Sanford
ER-
M. C. HODGDON *net*

Elmo Cocchi
by phone - 14 Oct 64
net

Sanford



CH

TEL: RAYMOND 4-2100
EXT: 6794

HEADQUARTERS
NEW YORK AIR DEFENSE SECTOR
UNITED STATES AIR FORCE
MCGUIRE AIR FORCE BASE, NEW JERSEY 08641

file - Texas Towers - 2111

H. W. Hodgdon



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 695-7 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 65/77474/REWRITE

Disposition of Texas Tower #4 Debris

5 JUN 1965

Hq ADC (ADIFS)

1. References:

a. 3rd Ind, Hq ADC (ADIFS-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

W. Hodgdon 28 May
M/R: Rewrite remains substantially the same and coord remains valid.

Coord: AFOCEKB

Stybk; AFOCEKB

R/File; AFOCEK

COORD: AFOCEKB

AFOCEK

AFJAG

[Signature]

OCE-F

Mr Black

[Signature]

AFOCEKB/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 fact~~ 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: AFOCEKB

STYBK: AFOCEKB

1 Atch R/FILE: AFOCEK

Cy ltr, BUDOCKS, 5 Mar 65,
Texas Tower #4 - Sinking

COORD: AFOCEKB AFOCEK AFJAG

cl
E. G. HODGDON *[Signature]*

[Signature]
28 May 65

[Signature]



DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS
WASHINGTON, D. C. 20390

file. Texas Tower No 4.

IN REPLY REFER TO

24C/WES/bag
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 Raywid 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. Raywid) we asked our Counsel in Boston to collect the materials there for his inspection. Since Mr. Raywid 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 DFWO, First Naval District, 495 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 4c 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 - is 11016
CW Harris made two copies - One to be sent to Col Impar as information.*

WJW

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 47112 paragraph 2.1.4: "In general, sheared plates shall be used for structure 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 ND.
Alan Raywid,
Justice.
Col. Gus Yandala,
AFJAL.

Yours very truly,

NO REPLY NEEDED

HAROLD GOLD 01
1222 W Counsel

RECEIVED

Ltr, 539 Ftr Intep Sq (539CCR), 21 October 1964, Disposition of
Texas Tower #4 Debris

9 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. JENSEN
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



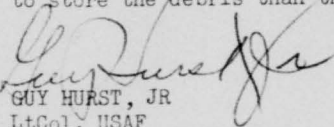
REPLY TO
ATTN OF: 539CCR

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

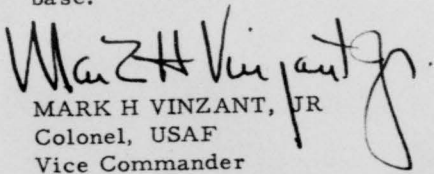
1st Ind (NYCVC)

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 K/B

Ltr, Hq USAF (AFOCE-KB), 5 Jun 65, Disposition of Texas Tower #4 Debris

2nd Ind (26IFS-B)

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.

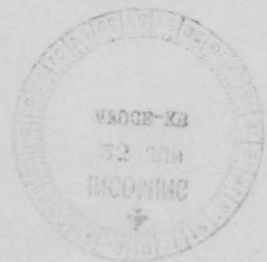
FOR THE COMMANDER

HARRY C JENSEN
Lt Colonel, USAF
Director of Facilities Spt

1 Atch n/c

Copy to:
539 FIS, McGuire AFB, NJ
1611th AT Wg, McGuire AFB, NJ
551 AEW&C Wg, Otis AFB, Mass.
ADC (ADIPS-DS)
USAF (AFOCE-KB)

COPY TO: USAF (AFOCE-KB)



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:
551AEW&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, Mueser & 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 Jan. 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 3 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 56 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 75 miles east of Portland, Me. No. 5 was slated for Brown's Bank 200 miles east of Boston in 130 ft of water.

17, 1964

FROM ENR DEC 17 64

THE JUDGE ADVOCATE GENERAL

11. ALL TEXAS TOWER NO. 4 LITIGATION CONCLUDED

On 11 January 1965, Chief Justice Sylvester J. Ryan of the U.S. District Court for the Southern District of New York signed final orders in the 28 lawsuits arising out of the collapse of Texas Tower No. 4 into the Atlantic Ocean on 15 January 1961.

The widows and families of the 14 civilians and 14 Air Force personnel who perished brought lawsuits against the U.S., two construction and repair contractors and two architect-engineer firms who designed the tower and performed some of the repairs. They sued for \$3,887,000, and the lawsuits were compromised for a total sum of \$1,700,000. The U.S. contributed \$645,000 of this amount.

Final settlement was delayed for more than a year, because the widows and their attorneys could not agree among themselves how much each of them should get from the \$1,700,000 which was given them in a lump sum. The amounts received by the claimants ranged from \$2,500 to \$120,000.

This concludes all known legal problems arising out of the collapse of Texas Tower No. 4.

(AFJAL, COL YANDALA, 53263)



DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS
WASHINGTON, D. C. 20390

FILE: TEXAS TOWERS

John
4

IN REPLY REFER TO
41.202B/JRA:ew

23 SEP 1964

From: Chief, Bureau of Yards and Docks
To: Directorate of Civil Engineering, AFOCE-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-332C7/ajc Ser 1874P3 of 17 Sep 64 to
CINCLANTFLT

Ref: (a) AFOCE-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. Dillon

J. G. DILLON
CAPTAIN, CEC, USN
Asst Chief for
Planning and Design

Copy to:
CNO (Attn: OP-332C7)



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
41.202B/JRA:cw

23 SEP 1964

From: Chief, Bureau of Yards and Docks
To: Directorate of Civil Engineering, AFOCE-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 1874P3 of 17 Sep 64 to
CINCLANTFLT

Ref: (a) AFOCE-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. DILLON
CAPTAIN, SEC. 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.

419
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) COMSERVLANT 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 ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROV. CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO AFOCE-2 Colonel Fowler	INITIALS	Mr. Hodgson		
		DATE			
2		COORDINATION			
		FILE	X		
3		INFORMATION			
		NOTE AND RETURN			
4		PER CONVERSATION			
		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		DATE	
		Deputy Chief, Engineering Division		14 Dec 61	
		Directorate of CIVIL Engineering, DCS/O		PHONE	
				71215	

DD FORM 95
1 OCT 60

Replaces DD Form 94, 1 Feb 50 and DL Form 95, 1 Feb 50 which will be used until exhausted.

☆ GPO: 1960-0-568294

MEMO ROUTING SLIP		NEW USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1	TO	<i>Col Harris</i> <i>OH</i>	INITIALS	CIRCULATE	
			DATE	COORDINATION	
2	TO	<i>Col Hitters</i> <i>OH</i>	34	INFORMATION	
			12	NOTE AND RETURN	
3	TO	<i>Miss Dennis</i>	52	PER CONVERSATION	
				SEE ME	
4	TO			SIGNATURE	
REMARKS					
FROM			DATE	1 Dec 61	
<i>Haydon</i>			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-100004

1

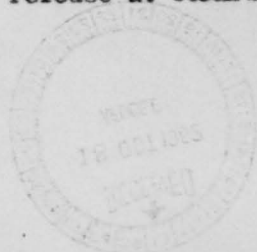
FILE: TEXAS TOWERS

2014

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
UNCLASSIFIED MESSAGE

FILE: TEXAS TOWERS
TT-2, TT-3

APR IN : 44474 (23 Dec 61) N/vvd
INFO : STP-1, OOP-CP-1, OCB-2 (5)
INCOMING

Mr. Hodge
new

SMB B 166

CZCHQB394ZCBA249

PP RJEZHQ

DE RBEGUF 061

ZNP

P 232318Z

FM COMEASTAREA

TO RJEZKN/BOADS

INFO RJEZSN/TWO SIX AD

RJWFAL/CDR ADC ENT AFB COL

RJEZHQ/COFS USAF WASH

RBKHC/CINCLANTFLT

RJEZDG/FOUR SIX ZERO FOUR SUP SQ OTIS

RBEGMH/CCGD ONE

RBEGUK/COMSTSLANTAREA

ZEN/CCGD THREE

RBEPJD/COMDT COGARD

USCG GRNC

BT

UNCLAS

TEXAS TOWER SURVEILLANCE

A. YCUR 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

2
3

8

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

AF IN : 4460 (23 Dec 61) ~~IN COMING~~

INFO : OOP-CP-1, OCE-2, STP-1, (5)

SMB B 162

ZCHQA411ZCKNA245

OO RJEZHQ

DE RJEZKN 4

ZNR

O 232135Z

FM COMDR BOADS STEWART AFB NY

TO RBEGUH/COMEASTAREA NY

INFO RJEZSN/COMDR 26TH HANCOCK FLD NY

RJWFAL/COMDR ADC ENT AFB COLO

RJEZHQ/CHIEF OF STAFF USAF WASHINGTON DC

RBEXDA/CINNLANTFLT NORFOLK VA

RJEZDG/4604TH SUPRON OTIS AFB MASS

RBEGNH/1ST COAST GUARD DISTRICT BOSTON MASS

RBEGUK/COMSLANTAREA NY

AF GRNC

BT

UNCLAS/BOCCR 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)

23/2215Z DEC RJEZKN

2
3

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

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

In the Matter

of

61 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.

3 1 1 3 3

PLEASE TAKE NOTICE, that upon the annexed affidavit of George J. Engelman, proctor for the Claimants Alfredo Abbott, et al (61 AD 858), and on all proceedings had herein, said Claimants will move this honorable Court, pursuant to Rule 32 and Rule 30(b) of the Rules of Practice in Admiralty and Maritime Cases, on the 7th day of December, 1961, at 10:00 A.M., at the Motion part of this Court, Room 906, 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. Jackson 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 O. 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, manning 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 file 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.,

GEORGE J. ENGELMAN
HARRY MISLUFF
Proctors for Claimants
Alfreda Abbott et al
(61 AD. 806)
Office & P. O. Address
44 Whitehall Street
New York 4, New York.

TO:

ROBERT M. MORGENTHAU, ESQ.,
United States Attorney,
Proctor for Petitioner,

LOUIS E. GREGG, ESQ.,
Attorney in Charge,
Admiralty & Shipping Section,
Department of Justice,
Of Counsel,
615A U.S. Courthouse,
Foley Square, New York 7, New York.

TO:

NEVINS, JARVIS & PILZ, ESQS.,
Proctors for Claimants,
J. Rich Steers, Inc. and Morrison
Knudsen Co., Inc.,
Office & P. O. Address,
115 Broadway,
New York 6, New York.

MACCLIM, SPEER, HANAN & McKERNAN, ESQS.,
Of Counsel.

TO:

WHITMAN, HANSON & COULSON, ESQS.
Proctors for Claimant
Moran, Proctor, Mueser & Rutledge,
Office & ... Address,
522 Fifth Avenue,
New York 36, New York.

TO:

KUZMIR, McKEON, SCHMITT & CARBENRY, ESQS.
Proctors for Claimants, Elizabeth Gudnik, et al
61 AD. 852.
Office & ... Address,
12 East 41st Street,
New York 17, New York.

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

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

CHQB322ZCWJD158

MM RUEAHQ

DE RUWGAL 49

ZNR

M 121820Z

FM HQ ADC ENT AFB COLO

TO RUEAHQ/CSAF

INFO RUEASN/26AIRDIV HANCOCK FLD NY

RUEAKN/BOADS STEWART AFB NY

RUEADG/551AEWCONWG OTIS AFB MASS

RUEADG/4604STPSQ OTIS AFB MASS

BT

UNCLAS ADIFS 43124.

ACTION USAF (AFOCE-E) INFO 26AIRDIV (IDC) BOADS

551 AEWCONWG (BCE) 4604SPTSQ (TT). TEXAS TOWER SURVIVAL

COMPARTMENTS - SALVAGE PLAN. THIS MESSAGE IN THREE

PARTS. PART I - 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.

M/R: Action taken by ltr to
ADC/wrtn 16 Jan 63
N.C.H.

Mr. Hodgdon

←

27193

8

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

I N C O M I N G

AF IN : 55856 (12 Dec 62)

Page 2 of 2

PAGE TWO RUWGAL 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

12/1830Z DEC RUWGAL

AF IN : 31628 (12 Dec 61)

DEPARTMENT OF THE AIR FORCE
MESSAGE BRANCH
UNCLASSIFIED MESSAGE

F/scc

INFO : OCE-2, OOP-2, OOP-dP-6 O M(6)N G

Handwritten: ~~John Hodgson~~ ^{EV}
~~REN~~

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 SURON OTIS

RJEZSF/TWO SIX AIR DIV

RBEGUH/COMEASTSEAFRON

RBEXHC/CINCLANTFLT

RJWFAL/COMDR ADC ENT AFB

RJEZYQ/COFSSUSAF

RBEGUK/COMSTSLANTAREA

RBEGMH/USKGC BARATAREA

ZEN/USK: 63-TON

USCG GRNC

BT

UNCLAS

SURVEILLANCE TEXAS TOWERS

FILE: TEXAS TOWERS

Handwritten: REN

14497

D
T OF THE AIR FORCE
MESSAGE BRANCH
CLASSIFIED MESSAGE

I N C O M I N G

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 3CGD VESSEL PROCEED TT NR 3 FOR SUJVEILLANCE 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. OBOVE 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)

F/bcc

INFO : OCE-2, OOP-2, OOP-1, ~~COM~~ N-C O M G

EV ✓
M

E/A

FILE: TEXAS TOWERS
rest
H

SMB B 171

CZCHQA069ZCSOB909

OO RJEZHQ

ZNR ZFH1

SOB847ZCBB234

OO JEZKN RJEZDG RJEZHU

DE RBEGUK 028

ZNR

O 121733Z

FM ADMINO COMSTSLANTAREA

TO RBEPYN/COMSTS

INFO RJWFAL/HU ADC

RJEZKN/BOAD

RJEZDG/4 04TH SUPP SQDRN, 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
58 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

14503

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

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

NO 122702

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

i N C O M I N G

FILE: TEXAS TOWERS

mcw
E/A
E
M

SMB C 001

ZCHQC475ZCBB420

MM PJEZHQ

DE RBEPYN 039

ZNR

M 131950Z

FM ADMINO COMSTS

TO PJEZSN/26 ABF HANCOCK FLD, SYRACUSE, NY

INFO PJEZHQ/COFS USAF

PJWFAL/ADC ENT AFB COLO

PBEGUK/COMSTSLANTAREA

PJEZKN/BOADS STEWART AFB NY

MSTS CPNC

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 STEWART AFB NY BOODC 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
\$80,000; 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 RBEPYN 039

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 \$902,550, 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

69553

E/A

E

M

AF IN : 28360 (8 Dec 61) G/doc

INFO : STP-1, OCE-2, OOP-2, OOP-CP-1

-7-

FILE: TEXAS TOWERS

~~new~~

SMB A 143

CZCHQB975ZCBA342

PP RJEZHQ

DE RBEGUK 037

ZNR

P 081943Z

FM ADMINO COMSTSLANTAREA

Commanding Officer Military Sea Transportation Service Atlantic Area

TO RJEZKN/HQ BOSTON ADS STEWART AFB NYK

Info obtained from Ernest N. Newman - OCE-M

INFO RJWFAL/ADC ENT AFB COLO SPGS COLO

13 Dec 61

RJEZDG/4604 SUPP SQDRN, OTIS AFB

RJEZHQ/HQ USAF WASHDC

RBEPYN/COMSTS

RJEZSN/26AIR DIV HANCOX FLD NY

RJEZDG/551 AEWCON WG OTIS AFB

BT

UNCLAS

TEXAS TOWERS EVACUATION CONFERENCE

A. YOUR BOODC 0838. 072015Z

B. TELCON KYLE M~~ST~~SLANT - 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 "

14456

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

i N C O M I N G

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 SQDRN,
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
UNCLASSIFIED 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 EXP^PRESSED 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>act</i> AFOCE - EA	INITIALS	CIRCULATE
		DATE	COORDINATION
2			FILE
			INFORMATION
3			NOTE AND RETURN
			PER CON-VERSATION
4			SEE ME
			SIGNATURE
REMARKS			
attached in copy of TWX which you requested for your records			
FROM		DATE	
Newman		13 Dec 61	
AFOCE - MS		PHONE	
		Y-69853	

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: 1960-0-568294

F.H.E. TEXAS TOWER 2

AFOCE-EA/Mr. Hodgdon/lhg/77474/7 Dec 61

AFOCE-EA

Request for Disposal Approval - Texas #4

8 DEC 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 ununiformed 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.

HS
C. W. HARRIS
Deputy Chief, Engineering Division
Directorate of Civil Engineering, DCS/O

Atch
Ltr fr AFOCE-RD 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

Smyford
M. G. HODGDON *Hehr*

①WA

AFOCE-RD

28 NOV 1961

Request for Disposal Approval - Texas Tower #4

AFOCE-EA

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 #4. 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 71843, 19 Oct 61

ELMO J. CECONI
Directorate of Civil Engineering, DCS/O



1

Hold. 30 Nov 61
Suggestion: Texas Towers.

How would it be to
call upon the Navy (1st Marine),
to be on call for this
service? well

FILE: TEXAS TOWER

NEW

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

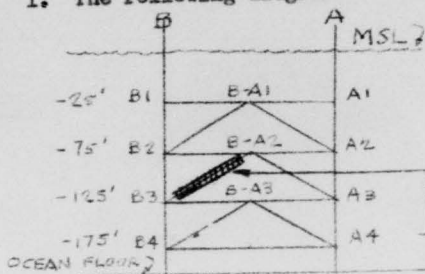
AFOCE-EA

30 November 1961

MEMORANDUM FOR RECORD

SUBJECT: Telecon with Mr. J. R. Ayers, BuDocks - 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 G. Hodgdon
NAT G. HODGDON
AFOCE-EA

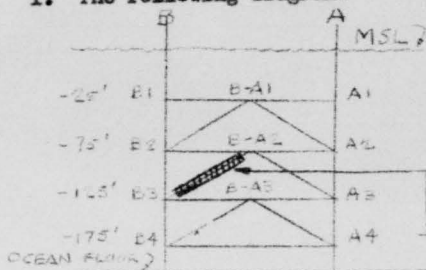
AFOCE-EA

30 November 1961

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Nat C. Hodgdon
NAT C. HODGDON
AFOCE-EA

MEMO ROUTING SLIP

NEVER USE FOR APPROVALS, CONCURRENCES, OR SIMILAR APPROVALS, ACTIONS

1	NAME OR TITLE	INITIALS	CIRCULATE
	AFOCE-EA ORGANIZATION AND LOCATION AFOCE-EE <i>R</i>	DATE	<input checked="" type="checkbox"/> COORDINATION
2	AFOCE-M <i>Col. Steinaroff</i> <i>by phone</i>		<input type="checkbox"/> FILE
3	AFOOP <i>J. C. Hanson</i> <i>by phone</i>		<input type="checkbox"/> INFORMATION
4	AFOCE-E		<input type="checkbox"/> NECESSARY ACTION
			<input type="checkbox"/> NOTE AND RETURN
			<input type="checkbox"/> SEE ME
			<input type="checkbox"/> SIGNATURE

REMARKS

Page 2 rewrtm 21 Nov. Coords again procured.

FROM NAME OR TITLE: **N. C. Hodgdon** DATE: **16 Oct 61**

ORGANIZATION AND LOCATION: **AFOCE-EA** TELEPHONE: **77474**

16 June 61

Dist Of 1st Nav Dist
to Ch Budocks.

4 points Copy to this

Concises This an
extension - to contract
for Investigation Report
and requires Hq approval

Budocks 29 June

to
Press -

Budocks - did not
agree -

Forward to Budocks
for action by ltr 7 July 61

JOINT MESSAGEFORM			SECURITY CLASSIFICATION UNCLASSIFIED			
SPACE BELOW RESERVED FOR COMMUNICATION CENTER						
22 Nov 61 22 28 H HQ USAF						
PRECEDENCE		TYPE MSG (Check)		ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	ROUTINE	BOOK	MULTI	SINGLE	ADIFS 49432 1s: AF IN: 26016 (12 Oct 61)	UNCL
INFO	ROUTINE		X			
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 AFOCE-EA 80704					✓ Coord AFOCE-EA Stbk AFOCE-EA R/File AFOCE AFOCE-M XXX AFOOP-DE (E/Col Hansen) BuDocks - Eng Div (Mr. J.R. Ayers)	
Your ADIFS 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						
SYMBOL		SIGNATURE			DATE TIME	
AFOCE-EA		C. W. HARRIS Deputy Chief, Engineering Division Directorate of Civil Engineering, DCS/O			NOV 1961	
TYPED NAME AND TITLE (Signature, if required)						
MAT C. HODGDON		RELEASER		TYPED (or stamped) NAME AND TITLE		
PHONE	PAGE NR. 1			NR. OF PAGES 2		
SECURITY CLASSIFICATION						
UNCLASSIFIED						

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

UNCLASSIFIED

HQ USAF

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.

80704

AFOCE-EA

AFOCE-EE

AFOCE-M

AFOOP-DE

AFOCE-E

Cal Winters
22 Nov 61

*gentle
Marie*

Col. N. Steinaroff
by phone
22 Nov 61
NEA

Lt Col Paul Hansen
by phone 22 Nov 61
NEA

Mc Hodgdon
N. G. HODGDON
1320-22 Nov 61

Bu Docks
Mr. J.R. Ayers - Eng Div
by phone 21 Nov 61
NEA

[Signature]

SYMBOL	PAGE NR	NR OF PAGES	SECURITY CLASSIFICATION	INITIALS
AFOCE-EA	2	2	UNCLASSIFIED	

JOINT MESSAGEFORM		SECURITY CLASSIFIC N UNCLASSIFIED	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER			
PRECEDENCE	TYPE MSG (Check)	ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION ROUTINE ROUTINE	BOOK MULTI SINGLE	AF	ADIFS 49432 1st
INFO ROUTINE ROUTINE	X		AF IN: 26016 (12 Oct 61)
FROM: HQ USAF		SPECIAL INSTRUCTIONS	
TO: ADC ENT AFB COLO			
INFO: 26 AIRDIV HANCOCK FLD NY			
BOADS STEWART AFB NY			
551 AEWGOWG OTIS AFB MASS			
UNCLAS FROM AFOCE-EA M-40-61			
Your ADIFS 49432. Subject: Texas Towers Nos. 2 and 3. BuDocks review dated 3 Oct 61 of Investigation Report TT-2 and TT-3 June 61, indicates agreement with Pierson-Nesmann, 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			
		AFOCE-EA Coord AFOCE-EA Stbk AFOCE R/File	
		DATE 21 16 MONTH NOV OCT	TIME 1130 YEAR 1961
SYMBOL AFOCE-EA		SIGNATURE <i>Revised 22 Nov 61</i>	
WRITER TYPED NAME AND TITLE (Signature, if required) NAT C. HORDON		RELEASED TYPED (or stamped) NAME AND TITLE	
PHONE 77474	PAGE NR. 1	NR. OF PAGES 2	
SECURITY CLASSIFICATION UNCLASSIFIED			

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. *Rewrtn 22 Nov*

M/R: 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 operational requirements. N.C.H./21 Nov 61

Page 2 rewrtm 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

~~UNCLASSIFIED~~

PAGE NR

2

NR OF PAGES

2

SECURITY CLASSIFICATION

UNCLASSIFIED

INITIALS

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.

Oited
Report stresses primarily the possible wave heights that could be produced by extra^{severe}tropical hurricane storms generating over deep *asw* water and converging on the towers. *asw*

*Rewritten
21 Nov*

AFOCE-EA

AFOCE-EE

AFOCE-M

AFOOP-DE

AFOCE-E

*Cal Witters
16 Oct '61*

ARTHUR G. WITTERS

Colonel, USAF
Janford

*R. G. Hodgdon
R. G. HODGDON
10/16 - 1400 hrs.*

Tellie

*Col. N. Staliaroff / Lt. Hanson
log. phone 10/16 by phone 10/16
*act act**

off

M/R: This page rewritten. Coordinators contacted for their approval of additional data.

N.C.H./21 Nov 61

SYMBOL

AFOCE-EA

PAGE NR

2

NR 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. HODGDON
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. B. Parry of Subbase 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 requirements for Texas Tower type facilities during CY 1955 and anticipated design and construction difficulties, encountered by Bureau of Yards and Docks 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 21 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 unimproved 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 provided 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
Cee Conn

AFOPP-OP

AFMME

Coord Cy
Coord Cy for AFVIC
AFMAG
AFOPP-OP
AFMME
AFVIC-OS
Constab
Styback

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 202B/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 ADG

"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 (MCMTTC) on which you have had a conversation with him previously.

1. List references of correspondence with 86 AD - letter 11 May 61
GAR 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 GAR 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.

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:

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- (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.

UNITED STATES GOVERNMENT

Memorandum

TO : 40

182 4
47511
E-202B/RA:mfj
DATE: 27 October 1961

FROM : E-202B

SUBJECT: Testing of Structural Bracing Member recovered from Space Tower
Number 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 Tests, Fellini Dropweight Tests and Tipper 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 and of the pin holes in the pin plates.
3. The type of fracture of the pin plates should be examined by a competent metallurgist to determine, visually, the type of failure suffered by the pin plates. Any evidence of initial cracks and improper fabrication methods would be sought.
4. In order to simplify the transport and handling of awkwardly large weights, it would appear to be more practicable to determine the pin sizes and to examine for type of fracture at the location of the member rather than to attempt to transport the entire end assembly to a laboratory. Likewise, the samples for testing should be marked by the metallurgist for recovery so that only the relatively small weights of the specimens will have to be shipped.
5. An approximate estimate of the cost involved for observation and testing effort would be of the order of \$3,000. Contacts with the Bureau of Standards indicate that they could perform this testing work upon request by the Bureau. The Naval Research Laboratory would also be capable of doing this testing but probably do not have personnel as easily available as the Bureau of Standards.

J. R. AYERS
J. R. AYERS



DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS
WASHINGTON 25, D. C.

IN REPLY REFER TO
E-202B/JRA:bmy

3 OCT 1961

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/JRA:ead 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 NBY-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 sea worthiness 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.

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. C. O'D. Iselin 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.

E. J. Peitler
Rear Admiral, CEC, USN
Chief of Bureau

Copy to:
DPWO 1ND
ADC, Ent AFB, Colorado Springs, Col.
551st AEWCONWG, Otis AFB, Mass.
26th Air Division, Hancock Field,
Syracuse, N. Y.

AFGIE-CS/Maj Vandegrift/mol/75407
10 Oct 55

✓ RK

12 OCT 1955

AFGIE-CS

MEMORANDUM FOR CHIEF, BUREAU YARDS & DOCK, DEPT OF NAVY
WASHINGTON 25 5 0

SUBJECT: Transfer and Acceptance of Turret Towers

1. Reference is made to telephone conversation between Captain Clark and the Director of Construction, this Headquarters, 29 October 1955.

2. It is requested that normal transfer and acceptance procedure outlined in AFM 88-9 be followed in transferring Turret Towers from Bureau, Yards and Docks to the using agency. Necessary copies of the transfer documents (NA Reg Form 290) will be made available to the construction agency by the USNAV Installations Representative Office, New England Region, 207 Commonwealth Avenue, Boston, Mass.

FOR THE CHIEF OF STAFF:

GILBERT T. PERRY
Colonel, U. S. Air Force
Military Assistant
Construction Division
Directorate of Construction, ACG/Y

COORD: AFGIE-CS

AFGIE-C

AFGIE-3

AFIR MR

Coord Cy/ CIE-CS
Comeback CIE-CS
AFGIE-CS
Stayback

LAWRENCE A. CALDWELL

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**

10 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.

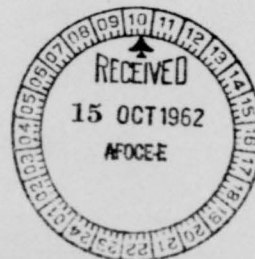
FOR THE COMMANDER

John E. Hill

1 Atch (2 sets)
Color Slides

JOHN E. HILL
Colonel, USAF
Director of Facilities Support
DGS, Civil Engineering

M/R: Atch filed in SAFE 4; Drawer 18



DEPARTMENT OF THE AIR FORCE
3100 MESSAGE CENTER
WASHINGTON, D.C.

INCOMING

Mr Dennis
E
R

AF IN : 22103 (7 Oct 61) K/cc

ACTION: OCE-2 (5)

SRB-B 190

ADDED DIST: OCE-2 (17 Oct 61)

ADDED DIST: OCE-1 (15 Nov 61)

CZCNRER92ZC#3A423

NN RJEZHC

ZNR ZDA

ALAC26

NN RJEZTO RJEZRN RJEZSN

DE 110000L 61

ZNY

R 072044Z

FM ADO INT AFB COLO

TO RJEZTO/COFS

INFO RJEZSN/26AD HANCOCK FLD NY

RJEZDG/551AEMCCMNG OTIS AFB MASS

BT

UNCLAS ADIDC 48651.

ACTION USAF (AFOCE-E) (AFOCE-M) INFO 26AERDIV (IDC)

551AEMCCMNG (BCE). TEXAS TOWERS 2 AND 3. THIS

MESSAGE IN FIVE PARTS. PART I - REFERENCES: (1)

EUDCNS REVIEW OF FINAL REPORT ON EXAMINATION TEXAS

TOWERS DTD 3 OCT 61. (2) MSG 551DEC 6-386

FROM OTIS AFB TO 1ST NAVAL DISTRICT, BOSTON, INFO TO

CHIEF OF STAFF, HQ USAF. (3) AFOCE-EA MEMO FOR

RFOCRD, SUBJ: TT2 AND TT3 19 JUL 61 REPORT OF

EUDCNS MEETING. (4) DESIGN AND CONSTRUCTION REPORT

13471

1

OFFICE OF THE AIR FORCE
OPERATIONS BRANCH
WASHINGTON, D.C.

INCIDENT

AF 20: 22103 (7 Oct 61)

Page 2 of 4

PAGE TWO RUMAL 61

ON TEXAS TO RA 04-SHORE WINDR PLATFORM, NOV 23187,
SER 59. PART II - REFERENCE (1) FURNISHED
NO ACCOUNTING OF THE APPLICATION OF NEW WIND AND WAVE
CRITERIA BASED ON THE HELLMANN AND WIERSON FINDINGS FOR
DETERMINATION OF PRESENT STRUCTURAL STABILITY OF
TOWERS 2 AND 3. REFERENCE (2) REITERATED ORIGINAL
AGREEMENT WITH NAVY TO APPLY NEW WIND AND WAVE CRITERIA
TO ORIGINAL DESIGN CALCULATIONS FOR TOWERS 2 AND 3 AND
REQUESTED SAME APPLICATION TO TOWER 4. REFERENCE (3)
IN PARA 5K STATED THAT PORTIONS OF THE A-E
CONTRACT WERE ELIMINATED FROM THE A-E STUDY AND WERE
TO BE PERFORMED BY BUDOCKS. THESE PORTIONS PERTAINED
TO ESTABLISHMENT OF NEW DESIGN CRITERIA AND APPLICATION
TO REVISED STRUCTURAL ANALYSES OF TOWERS. IT WAS
UNDERSTOOD IN THE BUDOCKS MEETING OF 19 JULY THAT
BUDOCKS PREFERRED TO MAKE THESE STRUCTURAL ANALYSES
INDEPENDENTLY OF THE ORIGINAL DESIGN A-E. REFERENCE
(4) TABLE IV AND V ACCOUNT FOR CRITERIA USED IN THE
ORIGINAL DESIGN OF TEXAS TOWERS. THIS CRITERIA IS NO
LONGER VALID, BASED ON NEW FINDINGS. PART III-THE

INCOMING

AF IN : 62103 (7 Oct 51)

page 3 of 4

PAGE THREE NINEL 51

NEUMANN-PIERSON REPORTS PROVIDED INSUFFICIENT BASIS FOR ESTABLISHMENT OF NEW WIND AND WAVE CRITERIA. IT WAS CLEARLY UNDERSTOOD THAT THIS NEW CRITERIA WOULD BE APPLIED TO TOWER 2 AND 3 DESIGNS AND ON A BASIS OF THOROUGHLY ANALYZED CALCULATIONS FOR DETERMINATION OF THEIR PRESENT DEGREE OF STRUCTURAL SAFETY. IT IS OBVIOUS THAT FORCES CALCULATED WITH THE NEW CRITERIA WILL INDICATE A LESSER FACTOR OF SAFETY WITHIN THE PRESENT DESIGN ALLOWANCES AND POSSIBLY INDICATE SERIOUS DEFICIENCIES. THE NEUMANN-PIERSON REPORTS INDICATE POSSIBLE WAVE HEIGHTS 5 FT. ABOVE BOTTOM DECKS OF TOWERS IN 90 KNOT WINDS. THE TOWERS WERE DESIGNED FOR 67 FT. CLEARANCES ABOVE MEAN SEA LEVEL. TOWER 2, HOWEVER, IS ONLY 61 FT. ABOVE MSL. THIS WOULD INDICATE POSSIBLE WAVES HEIGHTS 11 FT. ABOVE BOTTOM DECK OF TOWER 2 AND POSSIBLE WAVES ABOVE DECK BOTTOM IN LESSER WINDS. THEREFORE EACH TOWER SHOULD BE ANALYZED SEPARATELY CONSIDERING VARIOUS COMBINATIONS OF WIND AND WAVE HEIGHTS WHICH EACH TOWER IS STRUCTURALLY CAPABLE OF WITHSTANDING, ALLOWING ADEQUATE FACTORS OF

8

DEPARTMENT OF THE AIR FORCE
STATE DEFENSE SERVICE
ATTENTION: SAC

INCOMING

AF IN : 22173 (7 Oct 61)

Page 1 of 2

PAGE FROM RMPAL 61

SAFETY IN ACCORDANCE WITH AIDC CODE DATA IN ORIGINAL DESIGN. PART IV - REQUEST ENGINEERS PROVIDE STATUS OF THEIR STRUCTURAL ANALYSIS BASED ON NEW DATA TO DETERMINE: (A) DEGREE OF STABILITY AND STRUCTURAL SAFETY OF TOWER 2 AND TOWER 3 AT VARIOUS CONDITIONS CITED IN NEUMANN-PIERSON REPORT. (B) ANALYZE EXTREMES OF WIND AND WAVE HEIGHTS THAT TOWER 2 AND TOWER 3 AS THEY EXIST CAN SAFELY WITHSTAND WITHIN CODE LIMITATIONS. (C) ANALYSIS OF TOWER 2 AS INDICATED IN REFERENCE (2). PART V - PARA 5 OF REFERENCE

(1) INDICATES THAT THE NAVY PLANS TO IMPLEMENT A PROGRAM FOR INSTRUMENTATION TO OBTAIN WIND AND WAVE DATA, STRUCTURAL STRESS MEASUREMENTS AND RELATED ANALYSES. THIS HQ RECOMMENDS THAT USAF PARTICIPATE IN THIS PROGRAM ONLY AFTER THE NAVY HAS ENGINEERED AND DEVELOPED REQUIRED INSTRUMENTATION, TECHNOLOGY, AND PROCEDURES FOR THEIR USE AS DISCUSSED IN PARAGRAPHS 7.3 TO 7.6 OF A-E REPORT ON EXAMINATION OF TEXAS TOWERS 2 AND 3, NBY 37417, DTD 5 JUN 61.

BT

07/1802 OCT RMPAL

NOTE: REF NOT IDENTIFIED IN SDB

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-GS

30 September 1954

MEMORANDUM FOR AFGIB-E

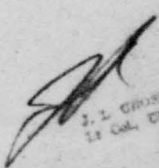
SUBJECT: Tams Towers Preliminary Plans

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 HQR, 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 1-10
Tams Towers

E. A. SWANEY
Lt Colonel, USAF
Chief, Special Projects Branch
Construction Division
Directorate of Construction, AOS/I

COORD: AFGIB-GS


J. L. GROSSBY
Lt Col, USAF

Coord Cy
Comeback
AFGIB-GS
Stayback

Lutz
Nammars
Cleary

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 helipert 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)

X

Extra ✓

L/C White/AB/R/vhf/52641
12 Jan 54

Control
AFDAI-AB/R
SUBJECT: Texas Towers (Uncl)

19 JAN 1954

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. M. SHUYLER
Colonel, USAF
Chief, Architectural & Engineering Div
Directorate of Installations, DCS/O

AFDAI-AB/R

AFDAI-AB/A

AFDAI-P

AFDAI-C

AFDAI-AB

Shuyler

Classification changed to: _____
by authority of: _____
Date: _____
Page: _____

AFGIB-GS/LtColCaldwell/mol/71975
Wrtm 7Sep55

7 SEP 1955

AFGIB-GS

MEMORANDUM FOR CHIEF, BUREAU OF YARDS & DOCKS, 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/GUE:rvh A16-1, "Texas Towers", Funds for Construction of, undated, to USAF;
- b. Air Force memorandum AFGIB-GS, TEXAS TOWERS, TT-1 and TT-3, dated 30 June 1955;
- c. Letter Bureau Yards & Docks G 270A/GUE:vpf 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 G. EROWN
Colonel, U. S. Air Force
Chief, Construction Division
Bureau of Construction, ADCS/I

COPIED: AFGIB-GS

AFGIB-G

Handwritten signature

Handwritten signature
E. L. CROCKETT

Coord
AFGIB-GS
Comeback
Stayback

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

AF IN : 49255 (8 Sep61)

F/sc

ACTION: OCE-2 (3)

SMB C 151

ZCZCHQB292ZCDGA294

RR RJEZHQ

DE RJEZDG 8

ZNR

R 081315Z

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 FND. 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		
AROCE-BA (Mr. Hodgdon) <i>next</i>		DATE	COORDINATION		
2 <i>Miss Dennis</i>		<input checked="" type="checkbox"/>	FILE		
3 <i>Pilo - Texas Towers</i>			INFORMATION		
4			NOTE AND RETURN		
			PER CONVERSATION		
			SEE ME		
			SIGNATURE		
REMARKS					
<p><i>Charlie:</i> <i>Please get me another copy of the letter setting up the Selection Board for the Texas Towers problem.</i></p> <p style="text-align: right;"><i>next</i></p>					
FROM		DATE			
C. W. PALMER		17 Aug 61			
		PHONE			
		73164			

DD FORM 95
1 OCT 60

Replaces DD Form 95, 1 Feb 50 and DD Form 95, 1 Feb 50 which will be used until exhausted.

☆ GPO: 1960-0-568294

FOR OFFICIAL USE ONLY

FILE: TEXAS TOWERS

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D.C.



MCIF
H

AFOCE-EA

Architect-Engineer Contract Evaluation, Texas Towers 2 and 3

AUG 15 1961

AFOCE (General Minton)

1. Reference is made to Dr. Joseph V. Charyk's Memorandum for the Vice Chief of Staff, USAF, dated 31 July 1961, Subject: Texas Towers Nos. 2 and 3.

2. Facilities of the Air Force are inadequate to perform the independent evaluation desired, therefore it is recommended the following Architect-Engineer Selection Board be appointed to carry an Architect-Engineer selection in accordance with established procedures:

- Col William H. Parkhill (Chairman)
- Mr. Neil G. Hodgdon (Recorder)
- Col Paul W. Stephens
- Col Gregory J. Skinner
- Col Harvey H. Latham Jr.
- Col Henry J. Stephens
- Col John E. Gill

Abbott

Paul W. Stephens
Paul W. Stephens
Major General, USAF
Director, Civil Engineering, DCS/O

1 Atch
Memo for Vice CofS,
dtd 31 Jul 61, with
related correspondence

Approved: *L. M. [Signature]*

FOR OFFICIAL USE ONLY

Texas Towers
TT-2, TT-3
next

UNCLASSIFIED

AFOCE-E/Mr. Harris/tp/71215/11 Aug 61

DEFERRED
DEFERRED

X AF X

HQ USAF

551AENCONMG 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

C. W. HARRIS
Deputy Chief, Engineering Division
Director, Civil Engineering S/D

UNCLASSIFIED

AFUGS-EA
7 August 1961

RADNOTE received by Mr. Ayers, BuDocks, D/N

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/Rwrtn: 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, DCS/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

Robert Hodgdon
3 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)

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FOR THE CHIEF OF STAFF:

*Revised
3 Aug 61*

- 2 Atch
1. DF, 12 Jun 61, subj above,
w/atc
2. 1st Ind fr ADC, 26 Jul 61

AFOCE EA

Col [Signature]
2 Aug 61

AFOCE-E

[Signature]

N. C. Hodgdon
N. C. HODGDON
Aug 61 1640

[Signature]

Coord AFOCE-EA
Stbk AFOCE-EA
R/File AFOCE

Ltr. HQ USAF (AFM) 21 May 61 Suggestion No. 4038
Personal Safety

1st Lt (AFM) [unclear]

1961

Hq ALC, Fort SPS, Colorado

TO: HQ USAF (AFM) 25 May 61

1. Adoption of the subject suggestion is not recommended.
2. Safety features of the subject suggestion parallel those included in the escape egress study which is now in progress. This study was begun as early as mid-April 1961 and was generated by Suggestion #RIN-47-61-M dated 19 January 1961.
3. As the study was begun prior to the date of this suggestion, progress had been made before this suggestion was submitted.

FOR THE COMMANDER

1 Atch

AFOCE-EA

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. COFFEE
Lt Colonel, USAF
Directorate of Civil Engineering, DCS/O

1 Atch
Disp Form, 12 Jun 61,
subj above

omit

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. Coffey
RICHARD J. COFFEY
Lt Colonel, USAF
Directorate of Civil Engineering, DCS/O

1 Atch
Disp Form, 12 Jun 61,
subj above

AFOCE-EA/Mr Hodgdon/ald/77474
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:

RICHARD J. COFFEY
Lt Colonel, USAF
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
M. G. HODGDON

MEMO ROUTING SLIP

NEVER 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

C. W. [unclear]
 Deputy Chief, [unclear] Division
 Directorate of Civil Engineering, DCS/O

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: 1960-0-568294

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

DISPOSITION FORM

SECURITY CLASSIFICATION (If any)

FILE NO. **SIGPT-1e** SUBJECT **Suggestion No. 4058, Personnel Safety**

TO **Dept of Air Force** FROM **CSigO** DATE **JUN 12 1961** COMMENT NO. **1**

~~AFCE~~ **AFCE** Mrs Sinclair/67810

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.

2. If the suggestion is not adopted, information that will permit a satisfactory explanation to the suggester is required.

FOR THE CHIEF SIGNAL OFFICER:

1 Incl
Sugg File

R. S. Parker
 R. S. PARKER
 Exec Secy, SigC IAC
 Civ Pers Br, Pers & Tng Div

AFOCE-EA/Mr Hodgdon/ald/77474
Wrtn: 25 Jul 61/Rwrn: 25 Jul 61
(Para 4 changed)

AFOCE

26 JUL 1961

Texas Towers Nos. 2 and 3
Engineering Examination

Under Secretary of the Air Force

1. In response 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 Hinchman Corporation; Welds by New York Testing Laboratories; Underwater Explorations by H. M. 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, Operations

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)

Mr. Hodgdon
26 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.

1100-32744
W. G. HODGDON

Revised 25 Jul

✓ Coord AFOCE-EA
Stbk AFOCE-EA
R/File AFOCE
AFOCE-M

AFOCE-EV

AFOCE-B

AFOCE-W

AFOCE-3

AFOCE

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	CLASSIFICATION OF REFERENCE
ACTION DEFERRED DEFERRED	BOOK	MULTI	SINGLE	ADIDC 038656 is: AF IN: 59162	UNCL
INFO		X		AF	
FROM:	HQ USAF			(20 Jul 61)	SPECIAL INSTRUCTIONS
TO:	ADC ENT AFB COLO				AFOCE-EA (6 cys)
INFO:	26 AIRDIV HANCOCK FLD SYRACUSE NY			(MAIL)	
	551 AEW&C WG OTIS AFB MASS			87904 (MAIL)	
	BUDOCKS NAVY DEPT WASH DC			(MAIL)	
	BOADS 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 feet 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					
<div style="float: right;"> <input checked="" type="checkbox"/> AFOCE-EA Coord <input type="checkbox"/> AFOCE-EA Stbk <input type="checkbox"/> AFOCE- R/File <input type="checkbox"/> AFOCE-M </div>					
				DATE	TIME
				21	1630
				MONTH	YEAR
				JUL	1961
SYMBOL			SIGNATURE		
AFOCE-EA					
TYPED NAME AND TITLE (Signature, if required)			TYPED (or stamped) NAME AND TITLE		
Mr. Nat C. Hodgdon			PAUL W. STEPHENS		
PHONE	PAGE NR.	NR. OF PAGES	Colonel, U. S. Air Force		
	1	2	Chief, Engineering Division		
SECURITY CLASSIFICATION	UNCLASSIFIED		Directorate of Civil Engineering, DCS/O		

JOINT MESSAGEFORM - COI SITUATION SHEET

SECURITY CLASSIFICATION
UNCLASSIFIED

FROM: HQ USAF

~~indicated that~~ scour and ocean action have lowered the ocean floor level by only ^{approximately} 5 feet. Therefore the penetration of compact sand has not been affected.

*rest
rest*

87904

AFOCE-EA

AFOCE-M

AFOCE-EE

AFOCE-E

Col Hunter

Copy to AFOCE-M with copy of AF IN: 59162 (20 Jul 61)
(UNCLAS ADIDC 038656)

Stephen

*rest
M. G. HODGSON
1650-2 July 61*

J. Stevens

SYMBOL AFOCE-EA	PAGE NR 2	NR OF PAGES 2	SECURITY CLASSIFICATION UNCLASSIFIED	INITIALS
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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. SUBJECT 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 REPEAT 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	AFOCE-EA Col. Witter	INITIALS	CIRCULATE
		DATE	COORDINATION
2	AFOCE-E		FILE
			INFORMATION
3	AFOCE-E 3 MR GIBBONS		NOTE AND RETURN
			PER CONVERSATION
4	L. WATSON		SEE ME
			SIGNATURE
REMARKS			
<p>For info. ✓</p> <p>AFOCE-E</p>			
FROM		DATE	
NAT C. HODGDON		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: 1960-0-568294

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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-MS, 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 F. Weaver) IDC - Otis AFB
C. P. Hardy, W. O.	Utilities Engineer, 4604 Support
	Sqdrn (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.

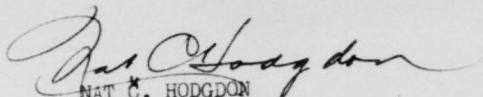
m. Fenders - Admiral Church recommended that the fenders now existing around some of the caissons and resting on the ocean bottom should be removed to protect the caissons from abrasion and damage during ocean actions.

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 Stolaroff, AFOCE-M.

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5. Those in attendance at this follow-on meeting were:

Colonel N. S. Stolaroff	AFOCE-M
Lt. Colonel Sanford	AFOCE-M
Mr. Irvine Hamburger	AFOCE-MS
Mr. C. W. Harris	AFOCE-E
Mr. Nat C. Hodgdon	AFOCE-EA
Lt. Colonel Joe Thrash	(26th Air Division
Mr. Dicocco) Otis AFB
Mr. Hugh Burnett	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

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIGNATURES	
1	NAME OR TITLE Captain H. Stevens, Jr., USN, Y&D	INITIALS	<input checked="" type="checkbox"/> CIRCULATE
	ORGANIZATION AND LOCATION Room 2055 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 & 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, X 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> <p>Copy to: Major Hartman, SAFLL</p>			
FROM NAME OR TITLE NAT C. HODGDON		DATE 17 Jul 61	
ORGANIZATION AND LOCATION AFOCE-BA The Pentagon Room 5C 440		TELEPHONE 77474	
DD FORM 1 FEB 50 95		Replaces DA AGO Form 895, 1 Apr 48, and AFHQ Form 12, 10 Nov 47, which may be used.	
		16-48487-4 GPO ★	

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIGNATURES OR ACTIONS	
1 NAME OR TITLE Captain H. Stevens, Jr., USN, Y&D	INITIALS X	<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 & 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, X 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 NAT C. HODGDON	DATE 17 Jul 61		
ORGANIZATION AND LOCATION AFOCE-BA The Pentagon Room 5C 440	TELEPHONE 77474		

DD FORM 1 FEB 50 95

Replaces DA AGO Form 895, 1 Apr 48, and AFHQ Form 12, 10 Nov 47, which may be used.

16-48887-4 GPO ☆

FILE: TEXAS TOWERS.

MCN

UNCLASSIFIED

14 July 61

ROUTINE
ROUTINE

X AF

RM 13AF

ADD ENT AFB COLG

86091

INFO: 551 AMN CGN WD CEIS AFB W220

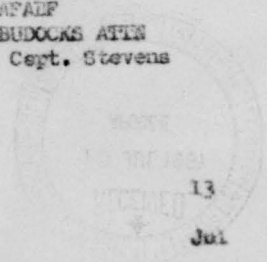
UNCLASSIFIED FROM AFOCE-MS

Reference message 85476 this headquarters, dated 13 July 1961.
Representative of AFOCE, this headquarters has obtained informal agreement from representatives of BUDOCKS, U.S. Navy, that First Naval District will accomplish work indicated in above referenced message.
Request expeditious action be taken to contact First Naval District

AFOCE-MS AFOCE M AFOCE-E
for initiation of subject work *Mr. Hodgson*
13 Jul 61
by phone

cys to:
AFOCE MS
AFOCE-M
AFOCE-E
~~AFOCE-MS~~
AFALP
BUDOCKS AFIN
Capt. Stevens

AFOCE-EA



13 1600
Jul 1961

AFOCE-MS
Mr. Lt/Col Sanford
69853

1 1

S/W Winston Lawler

f

FOR OFFICIAL USE ONLY

JOINT MESSAGE FORM	SECURITY CLASSIFICATION UNCLASSIFIED	FOR OFFICIAL USE ONLY
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SPACE BELOW RESERVED FOR COMMUNICATION CENTER

PRECEDENCE	TYPE MEG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION ROUTINE	BOOK	MULTI	SINGLE			
INFO ROUTINE		X		AF		
FROM:						SPECIAL INSTRUCTIONS

HQ USAF

TO: ADC ENT AFB COLO

INFO: 551 AEW CON HQ 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, Messer 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 & X & S 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
AFABF
BuDocks ATTN:
Captain Stevens
AFOCE-M

DATE	TIME
JULY	1961

WRITER	SYMBOL	SIGNATURE	
	TYPED NAME AND TITLE (Signature, if required)	TYPED (or stamped) NAME AND TITLE	
	PHONE	E. H. CURTIN Brigadier General, U. S. Air Force Deputy Director for Construction Civil Engineering, DCS/O	
	SECURITY CLASSIFICATION	PAGE NR. 1 NR. OF PAGES 1	

UNCLASSIFIED
FOR OFFICIAL USE ONLY

JOINT MESSAGE FORM		SECURITY CLASSIFICATION UNCLASSIFIED (FOR OFFICIAL USE ONLY)	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER			
PRECEDENCE	TYPE MSG (Check)	ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION ROUTINE	BOOK MULTI SINGLE	AP	
INFO ROUTINE	<input checked="" type="checkbox"/>		
FROM: HQ USAF			SPECIAL INSTRUCTIONS M/R: This approval is in consonance with definition of Maintenance contained in "Glossary of Terms DOD/7040.2"
TO: AIG HET AFB COLO			
INFO: 931 AMN COM WJ OTIS AFB MASS			
8547			
<p>UNCLAS AFOCE-BA</p> <p>FOR OFFICIAL USE ONLY. Reference: Report on Examination of Tense Towers TT-2 and TT-3 - June 1961 by Mason, Proctor, Hanner and Rutledge under First Naval District. Request immediate action to properly maintain foundations Tense Towers Nos. 2 and 3.</p> <p>Engineering investigation reports need for rip-rap adjacent to tower legs to correct and preclude further scouring of adjacent open bottom. This work is properly a P & I & S maintenance charge and should be undertaken consistent with funds available your command.</p> <p>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.</p>			
DATE: _____ TIME: _____			
MONTH: _____ YEAR: _____			
SYMBOL		SIGNATURE	
TYPED NAME AND TITLE (Signature, if required)		TYPED (or stamped) NAME AND TITLE	
MAJ G. BRIDGES		MAJ G. BRIDGES	
PAGE NO. _____ NR. OF PAGES _____		General, U. S. Air Force	
CLASSIFICATION UNCLASSIFIED (FOR OFFICIAL USE ONLY)		VLOCE-E VLOCE-3	
		Directorate of Civil Engineering, DCS/O	

Western Electric Company

INCORPORATED

220 CHURCH STREET NEW YORK 13, N.Y.

WORTH 4-5400

July 12, 1961

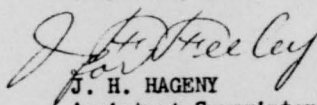
Subject: Automatic Time-Phased Downgrading and Declassification System

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, AFOCE

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

*Note:
Telcom - 14 July 61 w/ Goodwin
The notes to be advised of as
to a part of the discussion w/
Col. Vandala next week -
Delay in action on this paper
should be minimum.*

BZG

1 SAFGC Coord
 2 AFCJA Coord
 3 AFCIG Coord
 4 AFDC Appr
 5 AFCS Appr
 6 SAFIE Coord
 7 SAFS Sig

Mr. C. W. Harris

med

Texas Tower #4

- 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.
 - 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.
 - 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 overstressing 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
- 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.

COCKED: VLOCE-E VLOCE-3 VLOCE

M/R: These papers not dispatched
 XOrig and copies DESTROYED

1 Atch
 Ltr to the President
 w/2 Incls

AFCJA SAFIE
 SAFGC AFCIG

VW GUNLAP
 BWD-CEN 2811T
 X AFCEE-E Stybek
 X AFCEE-E R/File
 X AFCEE-E Coord
 X ofc of Sig
 X AFCS
 X AFDC
 X SAFS File Cy

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 possibility that some information as

AFCEE-E Stybok
AFCEE-E Coord
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AFDCG Cy
AFCCS Cy
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SAFS File Cy
AFGJA AFGIG
SAFIE SAFGC
Cy for Navy

to the cause of the tower failure could be gained, it is recommended that Mr. Serrigan be informed that such surveys will not be made.

Respectfully yours,

2 Inclosures

1. Telegram, March 12, 1961
2. Reply from the Air Force Side to the President, March 22, 1961

The President

The White House

COORD: AFOCE-E AFOCE-3 AFOCE BuDocks SAFLL AFOOP

Adm Church
by phone
14 June 61

Attorney
J. R. ...
W. C. ...

AFCIG AFCJA SAFGC SAFIE

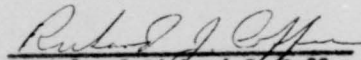
Abdul

Boston, Mass -- March 12

The President
The White House

Respectfully request appointment with you regarding recent Texas Tower disaster. All but 3 of the 70 men 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' legal 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, V. 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.

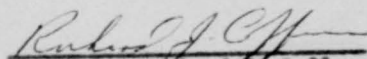
FROM: White House, Washington dated 22 March 1961

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... GODFREY 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/O

AFCJA

53260

1 SAFGC Coord
 2 AFCE Coord
 3 AFCIG Coord
 4 AFODC Appr
 5 AFCCS Appr
 6 SAFIE 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 countermanding 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.

*SAFIE *AFCE Off Sig
 *SAFOC *AFCCS AFODC
 *AFCIG *SAFS File Cy

Col Averbuck

Col Taggart

Gen Kuhfeld

X Copies DESTROYED also original

M/R: No record of dispatch

11 July 61.

Navy - Mr Gordon Edwards' 74934

Meeting to discuss A/F final report on TT-2+3.
Now scheduled for week - 24 July -
Has desired to advance this if possible -

Capt Stevens - 77274.

Talked to Mr G. Edwards ^(at 1520 hrs.) 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 A.F.
idea that it should be done now -
He will also have Capt Stevens call
Col Stephens in regard to this problem.

(over)

WA34
Mr Edwards - Burdocks - called back -
They are awaiting call from their representative
at present in the G/E's office and will call
this Hq (Col Stephens) to morrow morning
12 July 61

12 July 61
Meeting in Gen Curtin's office - Jack Gibbons
Col Stephens - Dodson - Lardis
re: Texas Guard foundations.
Cost estimates re: Reprap -

Note: Called Mr Edwards - Burdocks -
He will contact Capt Stevens before he calls
my. warden to get something from the
G/E on the cost of placing this rep-rap.

AFGIB-03/LtColCrossey/m91/71975
Wrtn 23 Jul 54

SUBJECT: (Uncl) A&W Program
TO: Director of Operations, DOD/O

29 JUL 1954

MEMO NO 7
AFGIB-03/LtColCrossey/mol/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 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. Third Phase Augmentation Radar Program

- (1) Action Taken: Design Guidance issued for twenty-five (25) third phase mobile sites as contained in the FY 55 PWP. OGE has been requested to assist AEG 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.

32

SUBJECT: (Uncl) AC&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/R 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 RAND, 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 180 ft depth of water is presenting a major engineering problem.

2. A series of Field Conferences with RAND, GATF and WAFB 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
LTOL

COORD: AFCEB-35

87/100/11/4.

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
AFCEB-3 AFCEB-3

Col Jewell changed to: _____

By Authority of: _____

Date: _____

Sgts: _____

1 2 4 2

AFOCE-E/Mr. Harris/71215/med/6 Jul 61
REWRTN: " " " " " "

AFOCE-E

Wind and Wave Conditions at Texas Tower Locations

6 JUL 1961

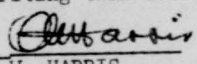
Chief, Bureau of Yards & Docks

1. Reference is made to your letter of 5 July 1961, subject as above.
2. In view of the continuing requirement for Texas Towers No. 2 and 3, this headquarters is concerned at the conclusion in paragraph 2 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: ADC
26th Air Div
BOADS
551st
AFOCF
AFCJA
AFOCE-E R/File
AFOCE-E Coord
AFOCE-E Stybck

COORD: M/R/ This rewrite is substantially same as previous writing thus coordinations remain valid.


C. W. HARRIS

AFOCE-E/Mr. Harris/6 July 1961/med/71215

AFOCE-3

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 - 28 July should be advanced as much as possible in view of the impending hurricanes 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
BCADS
551st
AFCCP
AFCJA

COORD: ADC AFOOP
Col Schyler by Col Hansen by
phone 6 Jul 61 phone 6 Jul 61

AFOCE-E R/File
AFOCE-E Coord ✓
AFOCE-E Stybck

AFCJA
[Signature]

AFOCE-E

AFOCE-3

AFOCE



DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS
WASHINGTON 25, D. C.

IN REPLY REFER TO
E-110/E-202B/JRA:bmj

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:
→ AFOCE

P. CORRADI
Rear Admiral, CEC, USN
Deputy Chief of Bureau

MEMO ROUTING SLIP		NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS		ACTION	
1 TO	<i>The Hon. Sec. of State</i>	INITIALS	CIRCULATE		
		DATE	COORDINATION		
2			FILE		
			INFORMATION		
3			NOTE AND RETURN		
			PER CONVERSATION		
4			SEE ME		
			SIGNATURE		
REMARKS					
<i>ADD necessary info</i>					
FROM		DATE			
G. W. HARRIS					
Deputy Chief, Engineering Division					
Directorate of Civil Engineering, DCS/O		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: 1960-0-568294



DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS
WASHINGTON 25, D. C.

file Texas Towers

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

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/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

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J.H. GEHRING
By direction

CE-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
Deputy Chief, Engineering Division
Directorate of Civil Engineering, DCS/O

AFOCE-EA

AFOCE-E

Hodgdon
W. C. HODGDON
1635-3 May 61

✓
Coord AFOCE-EA
Stbk AFOCE-EA
R/File AFOCE

26 April 1961

TEXAS TOWERS
(F-321 FUNDS)

	<u>BUDOCKS</u>	<u>OCE</u>	<u>TOTAL</u>
GEORGE'S SHOAL, TT-2	\$12,074,380	\$298,970	\$12,373,350
MANHATTAN SHOAL, TT-3	9,985,615	75,372	10,060,987
NEW YORK SHOAL, TT-4	10,300,616	68,550	10,369,166
TOTAL	\$32,360,611	\$442,892	\$32,803,503

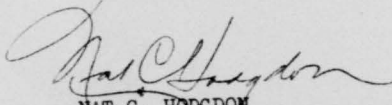
AFOCE-EA

24 April 1961

MEMORANDUM FOR RECORD

SUBJECT: Texas Tower Letter 15 March 1960 from District Public Works Office, 1st Naval District to AFRCE-NE

1. In order to determine what action was taken on subject letter a telecon with Colonel Dusenbury, AFRCE-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, AFRCE-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, ^{at AFB} 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
AFRCE-NE, 15 Mar 60

TEXAS TOWER #4

C-100
WOO:RT
4330

Lt. Colonel R. C. Stephany
U. S. Air Force
New England Civic Engineer Region
424 Trapelo Hill Road
Waltham 54, Massachusetts

13 March 1960

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.

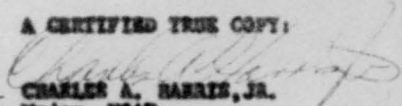
Last week I received your memo furnishing me copies of the diving contractor's data and Otis Air Force Base request for authority to engage an A&E to develop plans, specifications and cost estimate for necessary repairs to the underwater structural bracing. However, I have not as yet received any correspondence 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
551 Anderson Wing

T. J. WHITE
Capt. (CEC) USN
District Public Works Officer

MEMO ROUTING SLIPNEVER 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

In accordance with your verbal request, the following information is furnished:

a. Statement of Work, Safety Inspection of Texas Towers 2 and 3.

b. Listing of maintenance and repair contracts, Texas Tower 4. (for Col Gill)

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

DD FORM 1 FEB 50 95

Replaces DA AGO Form 895, 1 Apr 48, and AFHQ Form 12, 10 Nov 47, which may be used.

GPO 1958 O-479884

NEGOTIATED CONTRACT		DEPARTMENT NAVY	EFFECTIVE DATE 1 Feb 1961	SHEET NO 1	NO. OF SHEETS
NEGOTIATED PURSUANT TO 10 USC 2304(a)(4)		CONTRACT NO. NBy-37417			
ISSUED BY District Public Works Office First Naval District 495 Summer Street Boston, Massachusetts		NAME INVOICES TO Officer in Charge of Contract NBy-37417 District Public Works Office FIRST Naval District 495 Summer Street Boston 10, Massachusetts			
CONTRACTOR (Name and Address) Moran, Proctor, Mueser & Rutledge 415 Madison Avenue New York 17, New York		PAYMENT WILL BE MADE BY Officer in Charge U. S. Navy Regional Accounts Office THIRD Naval District 3rd Avenue & 29th Street Brooklyn 32, New York			
CONTRACT FOR Investigation and Report pertaining to Structural Condition of Texas Towers TT-2 and TT-3 (George's Bank and Nantucket Shoals)		YOUR OFFICE WILL BE RELEASED TO Officer in Charge of Contract NBy-37417 District Public Works Office FIRST Naval District 495 Summer Street Boston 10, Massachusetts			
ACCOUNTING AND APPROPRIATION DATA Appropriation 17X1205 MOON; BuControl No. 62464/01201; Expenditure Account Class. No. 98017; Object Class. No. 079; O/A No. 4-(1961). \$63,057.00. Appropriation 17X1205 MOON; Allotment No. 62464/99201 issued to DFMO, 1ND; Allot Acct'g by: 62464 Expenditure Account Class. No. 98017; Object Class. No. 079 \$29,000.00 (ultimately reimbursable by Standard Form 1089 from AF Appropriation: 5713400 Allotment Serial 179-2611. Project 459.2; obj. 079C, Station No. 8667400 OA Advice No. 61-134 Otis AFB)					
CONTRACTOR REPRESENTS					
<p>1. This is <input type="checkbox"/> IS, <input type="checkbox"/> IS NOT, a small business concern. A small business concern in 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 \$5,000,000.00 or less. (See Code of Federal Regulations, Title-13, Chapter II, part 103, 21 Fed. Reg. 9709).</p> <p>2. (a) That <input type="checkbox"/> HAS, <input type="checkbox"/> HAS NOT employed or retained any company or person (other than a full-time bona fide employee working solely for the contractor) to solicit or secure this contract, and (b) that it <input type="checkbox"/> HAS, <input type="checkbox"/> 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, percentage or brokerage fee, contingent upon 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 44, Part 150.)</p> <p>3. That it operates as <input type="checkbox"/> INDIVIDUAL <input checked="" 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. To the extent 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, MUESER & RUTLEDGE NAME OF CONTRACTOR			UNITED STATES OF AMERICA		
BY /s/ Philip C. Rutledge SIGNATURE Philip C. Rutledge TYPED NAME			BY /s/ W. R. Bryer W. R. Bryer, Capt (CSC) USN Civil Engineer Corps, USN For: Chief, Bureau of Yards and Docks Contracting Officer		
Title Partner					

DD FORM 1261
1 DEC 58

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 magnafluxing, 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, \$83,057.00 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 mandays of scaffolding crew,
- b. 30 12-hour workdays per tower of examining crew;

and, if the number of mandays 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. \$191.00 per 12-hour manday of scaffolding crew, including subsistence.
- b. \$821.00 per workday per Tower of examining crew, including subsistence.

C-310
MH:erc
NBY-37417

DISTRICT PUBLIC WORKS OFFICE
FIRST NAVAL DISTRICT
495 Summer Street, Boston 10, Mass.

NBY-27417

27 January 1961

Moran, Proctor, Mueser & 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 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 MCON; Allotment 62464/99201 issued to DPWO, LND; Allotment Acct'g By 62464; BuControl No. 99201; Expenditure Account No. 98017; Object Class. No. 079. (Ultimately reimbursable by Std Form 1080 from AF Appropriation 5713400 Allotment Serial 179 3611 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)

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)
FinActgOff, Otis AFB
CO, Otis AFB

Copy for: C-320(5)
A-500(h) 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 16485) (Dark Rm Facil, Elect Feeder fr Battery Rm, 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.

<u>PROJECT NR</u>	<u>PROJECT DESCRIPTION</u>	<u>CONTRACT AMOUNT</u>	<u>COST FOR TT #4 ONLY</u>	<u>REMARKS</u>
- 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	
TT4-401-1	Install 50-ton Chiller	35,200	35,200	459 Project
TT4-46-0	Replace Flying Bridge	100,000	100,000	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	Install Cable Bracing System	460,000(E)	460,000	Change order to JR Steers Contr (TT4-46-0). Under Construction at time of collapse. Includes A-E costs, \$15,000.
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/WG

ACTION: CIS-3

INFO : CIG-2, OOP-2, OOP-CE-1, OCE-2 (11)

SMD A 078

UZCHQC649ZCWJB474

OO RJEZHQ

DE RJWFAL 7#

O P 162037Z ZEX

EMENT AFB COLO

TO RJEZSN/2/AIRDIV HANCOCK FIELD NEW YORK

INFO RJEZHQ/COFS USAF WAFHDC

BT

KNCLAF ADCCS 001754.

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: 47320 (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 STANDBY, EVACUATION, OR EMERGENCY RESCUE SOPs. PART IV. ANY A/E OR CONSULTANT SERVICES AVAILABLE MAY BE USED. PART V. ADVISE OF ACTION TAKEN.

BT

16/2038Z JAN RJWFAL

N

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE DIVISION
UNCLASSIFIED MESSAGE

INCOMING

AF IN : 47320 (16 Jan 61)

ACTION: CIS-3

C/WG

INFO : CIS-2, OOP-2, OOP-CP-1, OCE-2 (11)

SMD A 878

UZCHOC649ZCWJB47A

OO RJEZHQ

DF RJWFAL 7#

O P 162037Z ZEX

EMENT AFB COLO

TO RJEZSN/2/AIRDIV HANCOCK FIELD NEW YORK

INFO RJEZHQ/COFS USAF WAFHDC

BT

KNCLAF ADCCS 001754.

ACTION 2/AIR DIV, INFO HQ USAF FORAFCE. TEXAF TOWERS
2 AND 3. PART I. TAKE IMMEDIATE EMERGENCY ACTION TO
CONDUCT A SAFETY INSPECTION OF TEXAF TOWERS 2 AND 3
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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: 47320 (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 STANDBY, EVACUATION, OR EMERGENCY RESCUE SOPS. PART IV. ANY A/E OR CONSULTANT SERVICES AVAILABLE MAY BE USED. PART V. ADVISE OF ACTION TAKEN.

BT

16/2038Z JAN RJWFAL

N

AF IN : 50008 (1 Jan 2)

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

FILE: TEXAS TOWERS

INFO : 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

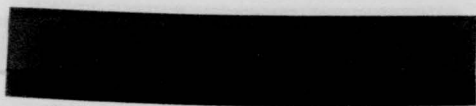
OR OTHER PRESSING COAST GUARD STATUTORY DUTIES IF REQUIRED

BT NOTE: Reference is not identified in SMB.

E/A

M
VE

15177





DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D. C.

11 December 1958

ADDRESS REPLY TO:

AF INSTALLATIONS REPRESENTATIVE
NEW ENGLAND REGION

424 TRAPELO ROAD
WALTHAM 54, MASSACHUSETTS

REFER TO FILE:

E/A
ACW FILE
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
Cndr, MAAMA (MAMNT) (1 cy)
Hqs USAF (AFOIE-E) (AFOIE-C) (3 cys ea)
Cndr, Rome AMA
 (ROPY-7) (3 cys)
 (ROZM) (2 cys)
 (RCSGES) (RCERHG) (RCERHH) (1 cy ea)
Anderson Nichols & Co. (6 cys)
DPWO, 1st Naval Dist. (6 cys)
Cndr, ADC (ADAIC) (ADAIR-R) (2 cys ea)
Cndr, 4604th Sup Sqdn (6 cys)
Cndr, Otis AFB (2 cys)

AIR FORCE INSTALLATIONS REPRESENTATIVE
 NEW ENGLAND REGION
 424 TRAPELO ROAD
 WALTHAM 54, MASSACHUSETTS

8 Dec 1958
 SJG/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 #NBy 21983. The On-Board Review for Texas Tower #4 was followed with discussions pertaining to Texas Tower #2 and #3.

2. Personnel in Attendance:

Name

Lt. Santo J. Gozzo	AFIR-NER
Captain John H. Heath	AFIR-NER
Mr. Calvin H. Smith	MAAMA(MAMNT)
Mr. Arthur I. Westrich	Hq USAF, AFOIE-E ✓
Lt Col. Richard I. Choate	Hq USAF, AFOIE-C ✓
Maj. George A. Flannery	Rome AMA ROPY-7
Mr. Irving F. Markham	" " ROZM
Mr. Ernest C. Wickinson	" " ROZM
Mr. Dana A. Benson	" " RCSCGS
Mr. Eugene J. Swistak	" " RCERHG
Mr. Patrick D. Koegler	" " 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. Rolland	" " "
Mr. T.M. Kuss	Moran Proctor Mueser & Rutledge
Cmdr. 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	4604th Sup. Sqdn (SQCMD)
Capt. Anthony L. Girillo	" " " (SQCE)
CWO William M. Reusett	" " " (SQAIO)
CWO Claude P. Hardy, Jr.	" " " "
Lt. Neil Matheson III	Otis AFB (ABIE)
Mr. J.F. Regan	Westinghouse, Boston
Mr. Frank M. Krantz	Westinghouse, Baltimore

Conference, 12 & 13 Nov 58 - Feasibility Report on Texas Tower #4

3. Problem:

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 4-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 4-sided tower was preferred to the 12-sided tower proposed by the A/E since a 4-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 4-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 "A" 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 eductors 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 4604th 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 4604th Squadron also maintain the sick bay and food service. Another reason why a few men from the 4609th 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 platforms. 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. ADC and Hq USAF would take action to defer these items to FY-60 MCP.


SANTO J. GOZZO
1st Lt., USAF
Const. Mgt. Engr.

APD/AE/B
SUBJECT: Texas Towers (Uncl)

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 inclosed 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. N. SCHUYLER
Colonel, USAF
Chief, Architectural & Engineering Div
Department of Installations, DCS/O

APD/AE/B

APD/AE/A

APD/AE-P

APD/AE-C

APD/AE

APD/AE/B

Classification marked by _____
By _____
Date _____

C O P Y

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

(12)

HEADQUARTERS
AIR DEFENSE COMMAND
UNITED STATES AIR FORCE
ENT AIR FORCE BASE, COLORADO



REF ID: A6615
REPLY TO
ATTN OF ADIFS

SUBJECT: Texas Tower Survival Compartments

18 OCT 1951

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

1 Atch (2 sets)
Color Slides

W. H. H. H.
Colonel, USAF
Department of Distribution Services
and, AFM Engineering

M/R: Atch filed in SAFE 4; Drawer 18



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.

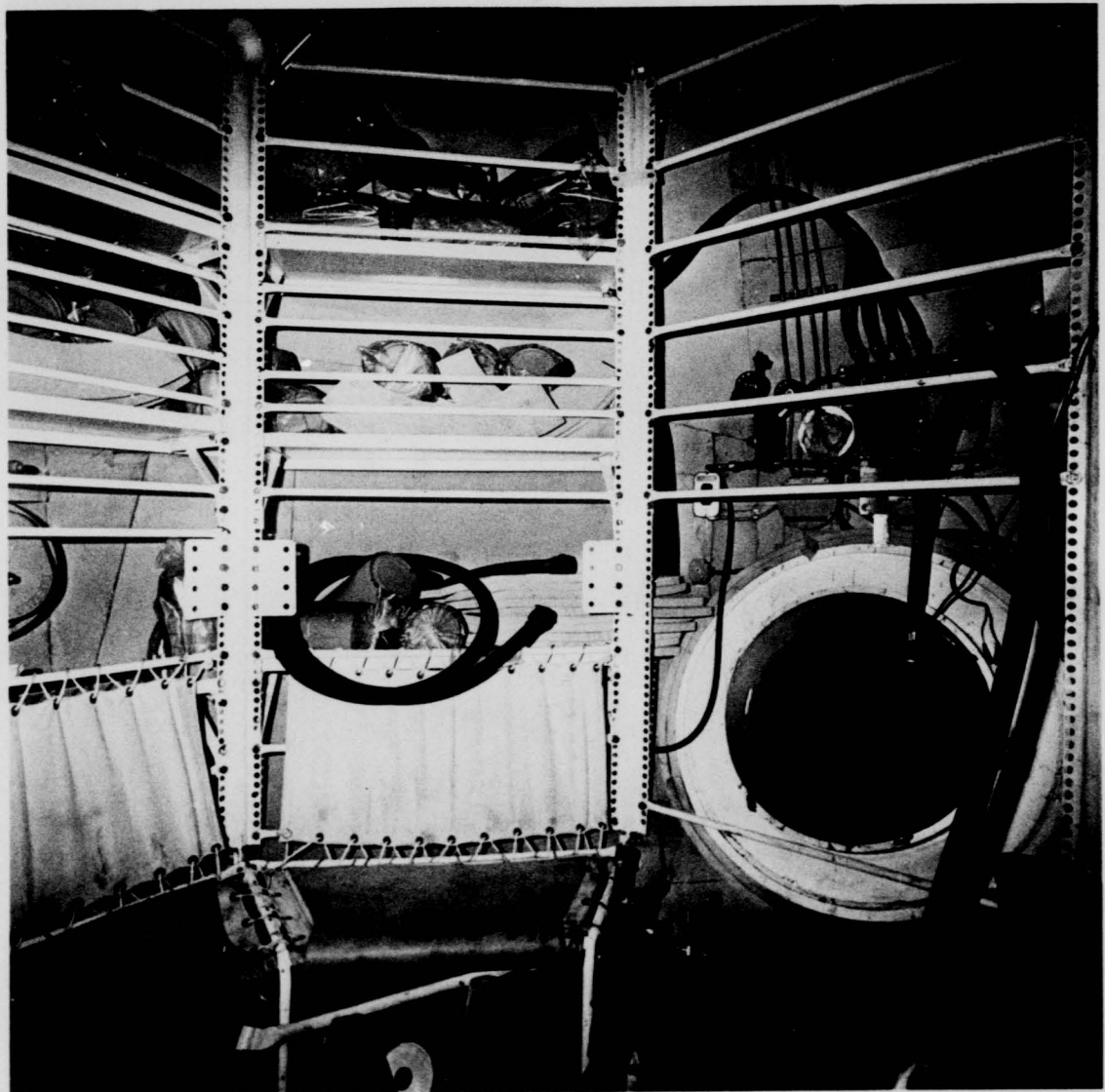
- 1 - Exterior view of TT3 compartment. Lower hatches open. Round opening in lower skirt is manhole for inspection of the center release mechanism and exterior oxygen systems. To right of manhole is one Sonar transducer. At top of foundation skirt, left side, is one padeye and ring for pelican hook tie-down 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 CO₂ (gray) lithium hydroxide filter canisters.
- 8 - Interior view showing one lower escape hatch (closed); bilge pump discharge with hose (below); one CO₂ flask (green); one compressed air flask (black); O₂ 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.

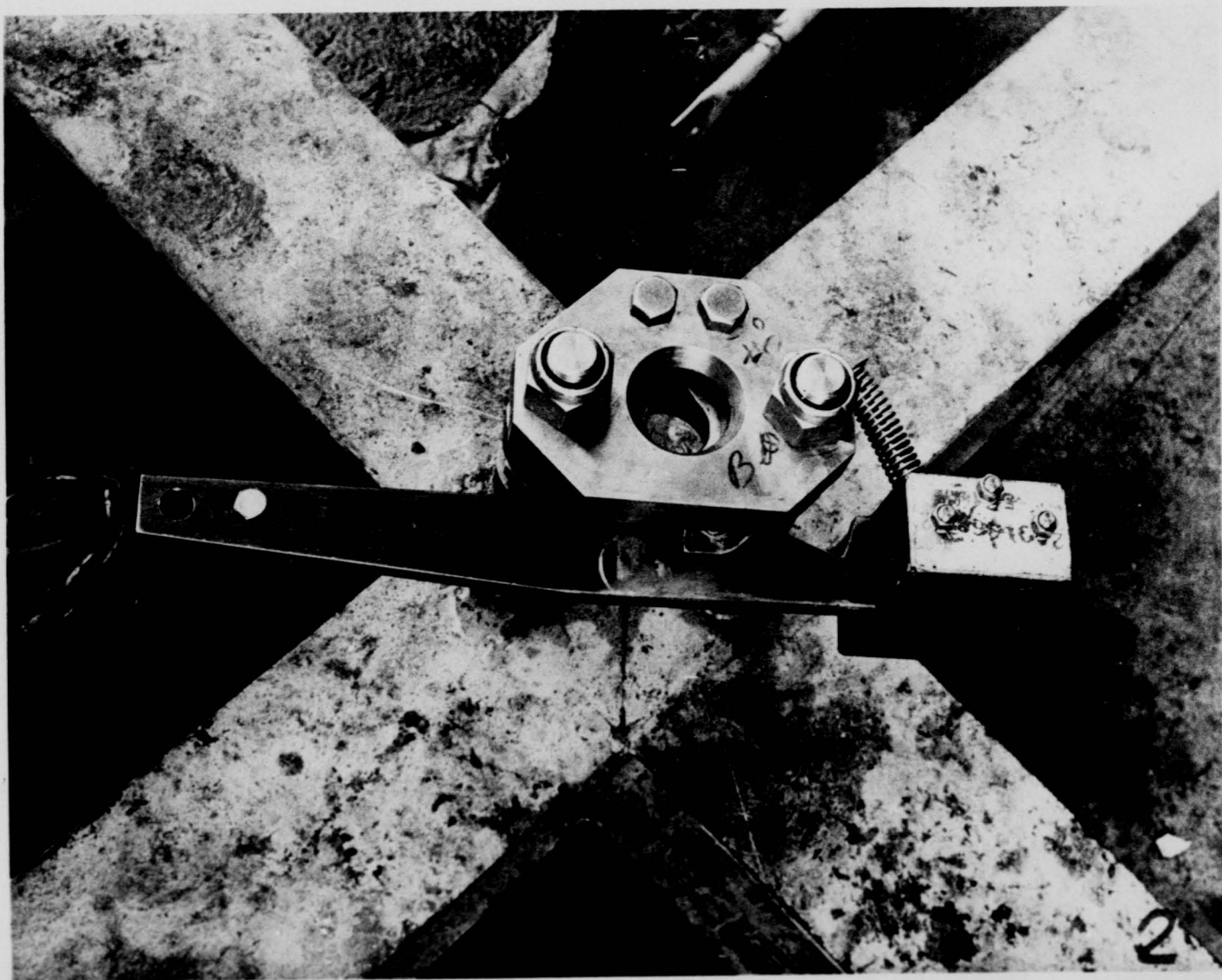
- 9 - Interior view showing seating; one lower escape hatch; one salvage valve (wheel handle); O₂ flow regulator (with red hoses attached); oxygen mask manifold with supply hoses attached; and two O₂ flasks.
- 10 - Interior view showing seating and bilge pump discharge valve and hose.
- 11 - Interior view showing seating and bilge pump with intake hose; CO₂ removal apparatus with crank.
- 12 - Interior view showing seating arrangement and O₂ flasks.
- 13 - Interior view looking up showing top hatch closed and black plastic escape trunk in folded position. Grill at left for CO₂ 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

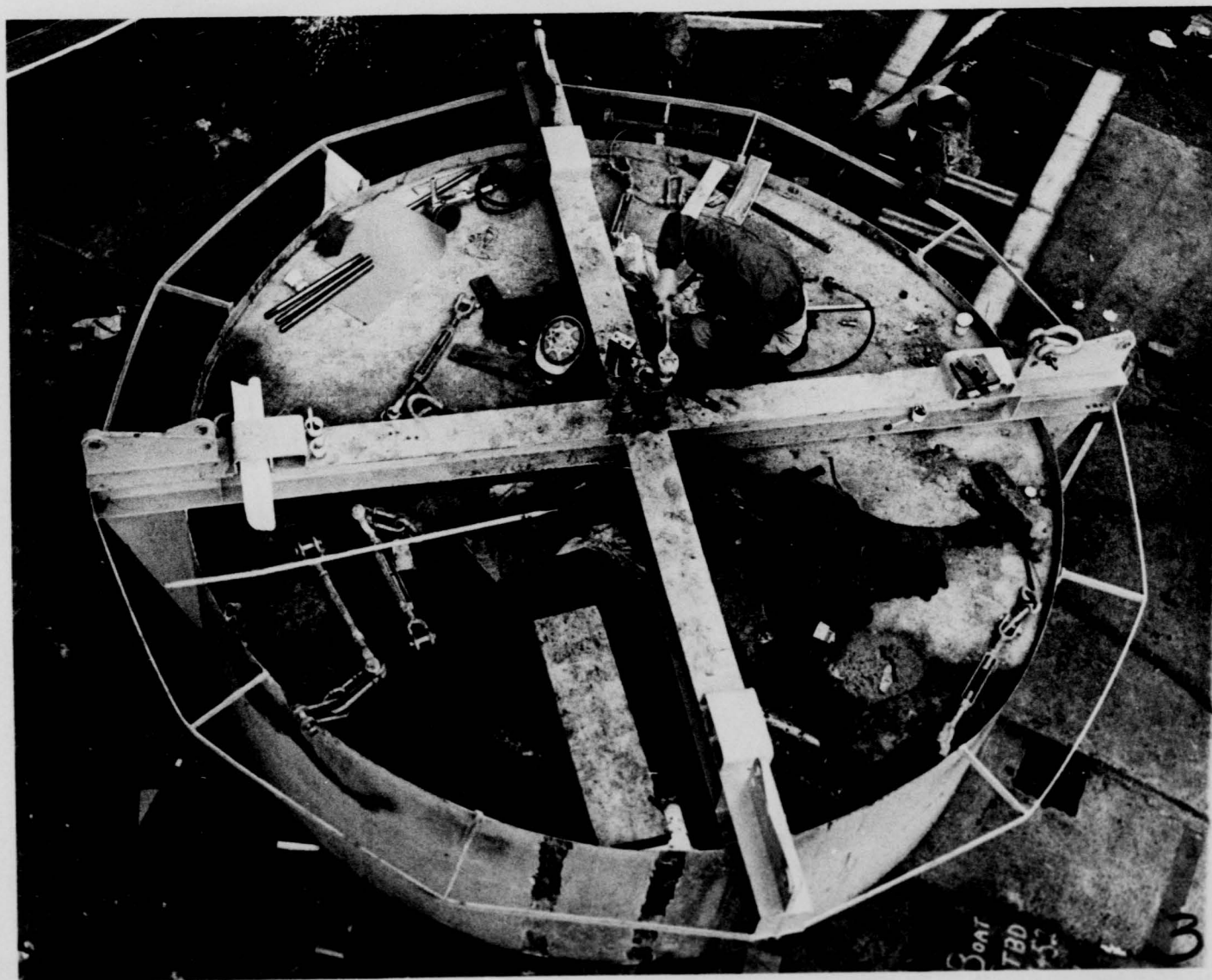
(All pictures taken during construction period - compartment equipment partially installed)

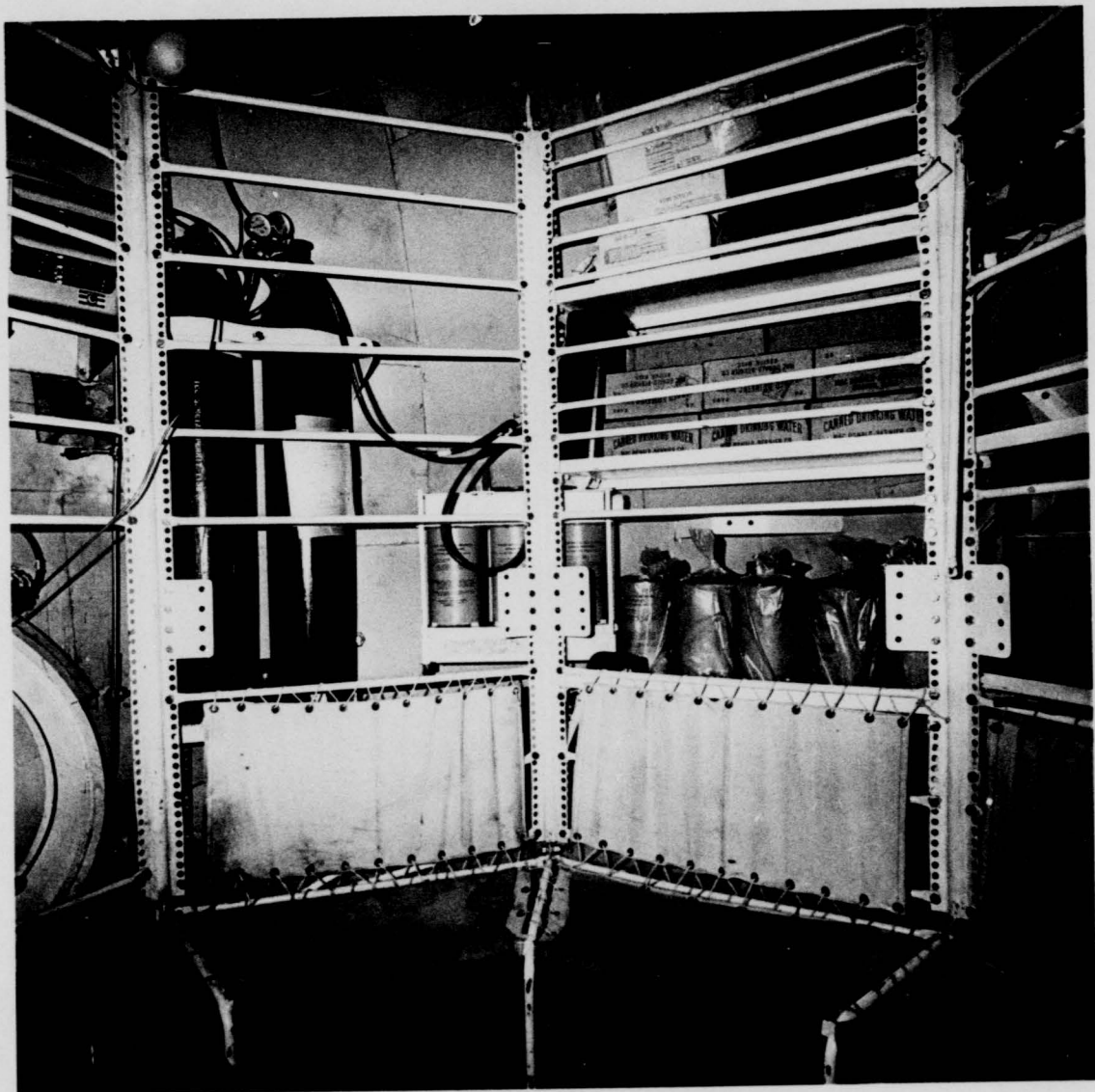
<u>Picture No.</u>	<u>Description</u>
1	Interior view showing stowage racks, seats and one escape hatch opening
2	Final release mechanism (center) mounted on test platform. Shows revised release arm with counterweight
3	Final release mechanism (center) as revised, mounted on test platform
4	Interior 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 ₂ flow indicator, O ₂ manifold and salvage valve (with wheel)
10	Interior view showing stowage compartments, seats, CO ₂ canisters, CO ₂ absorption system and two O ₂ 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





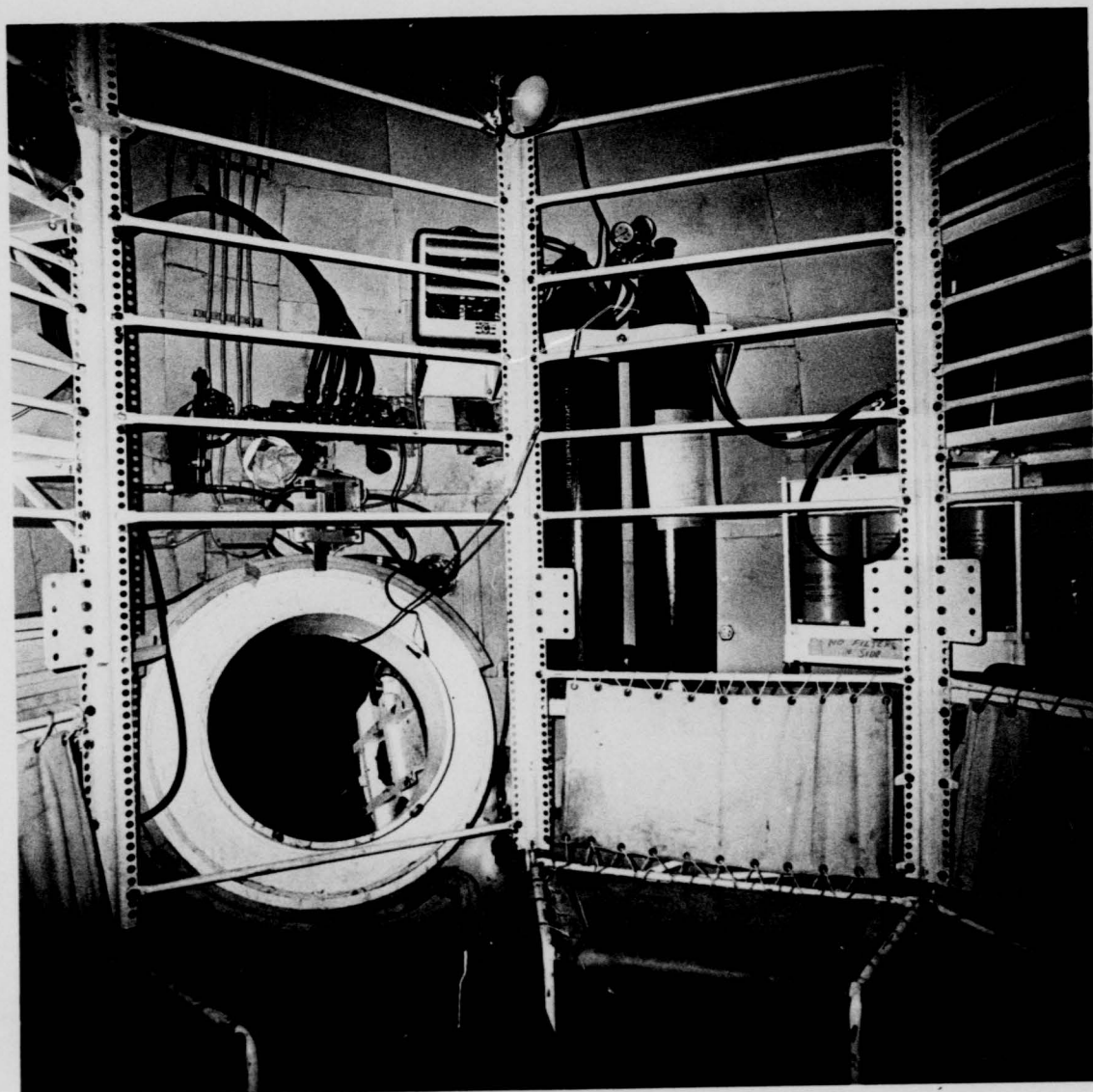
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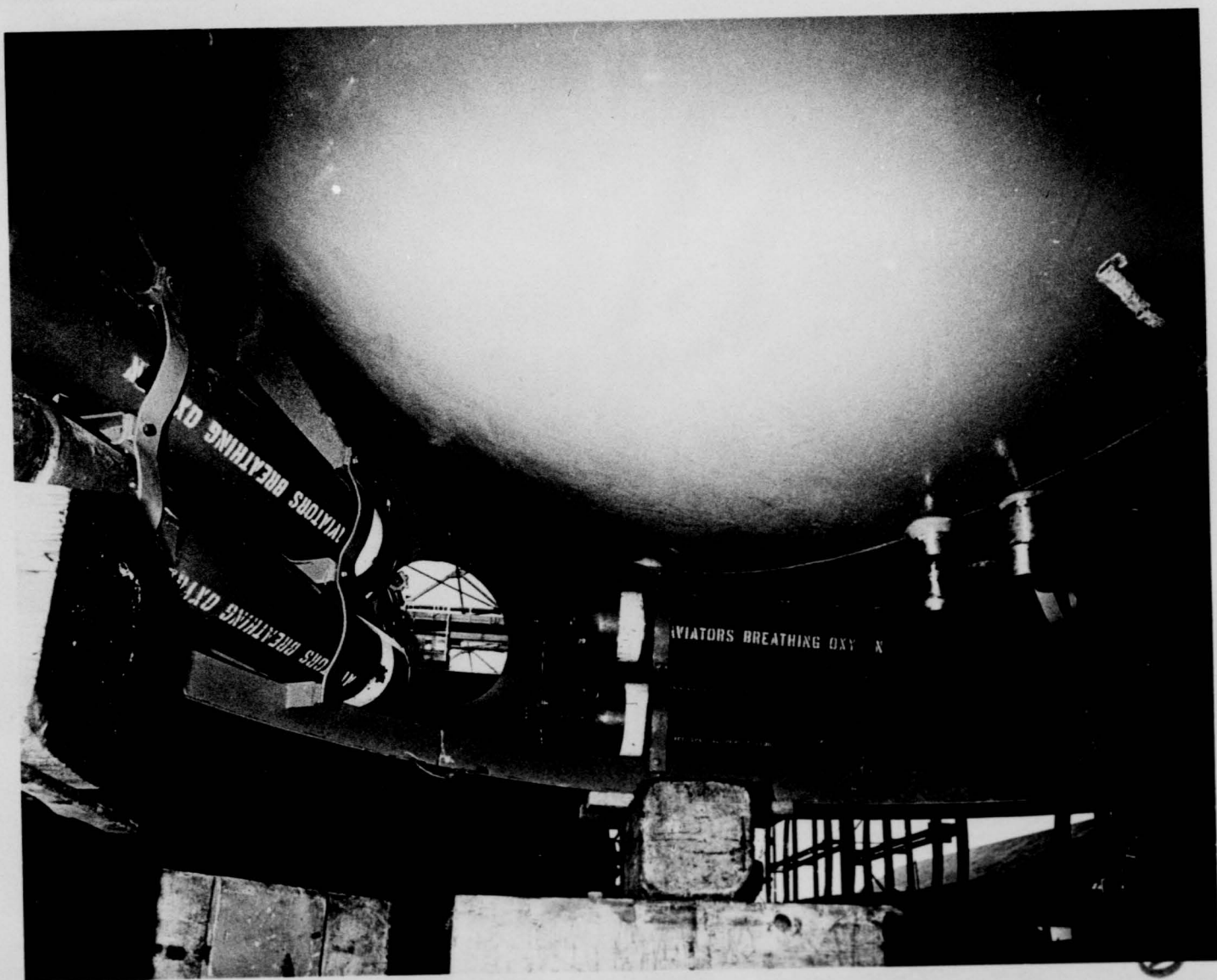
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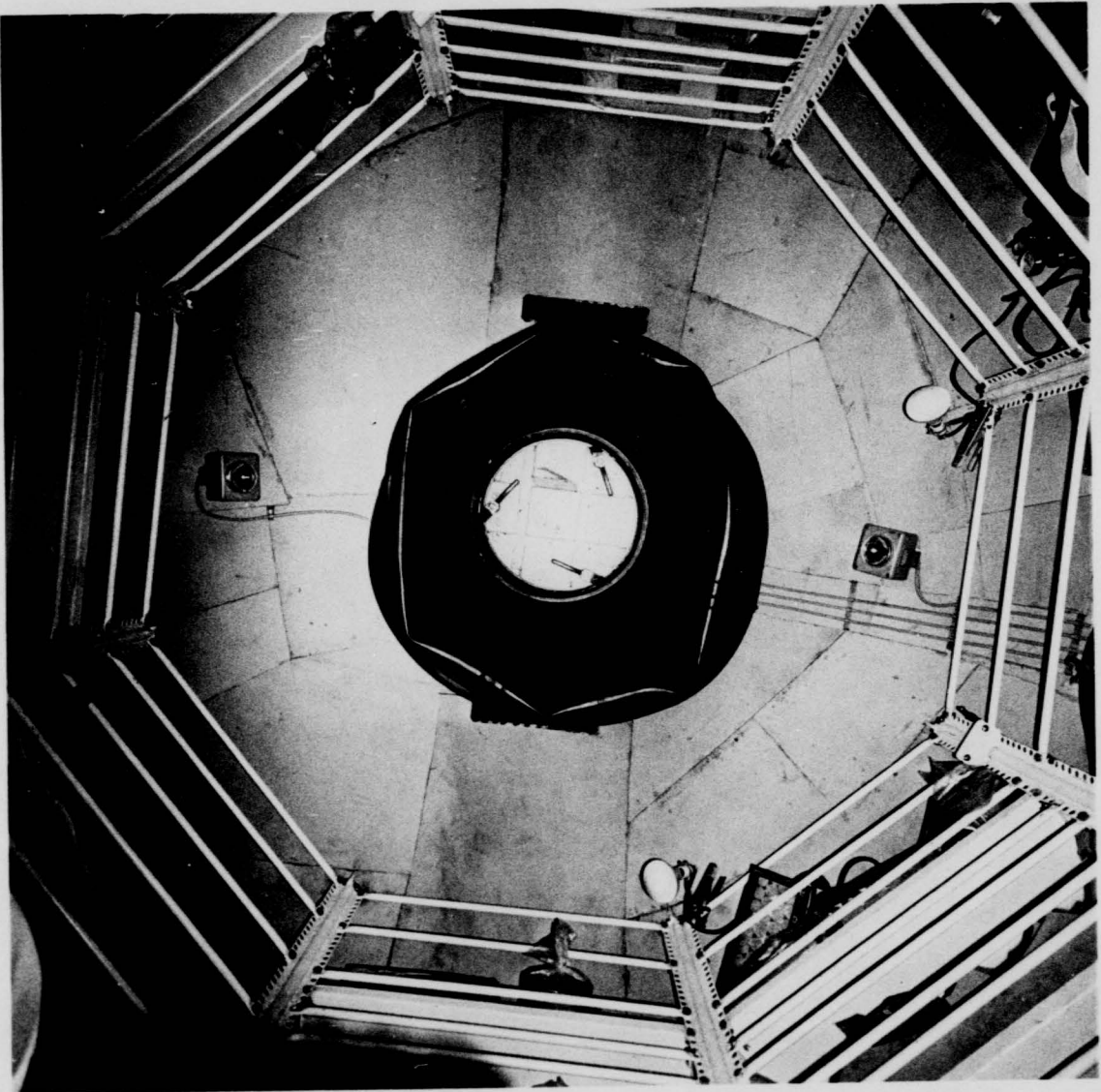
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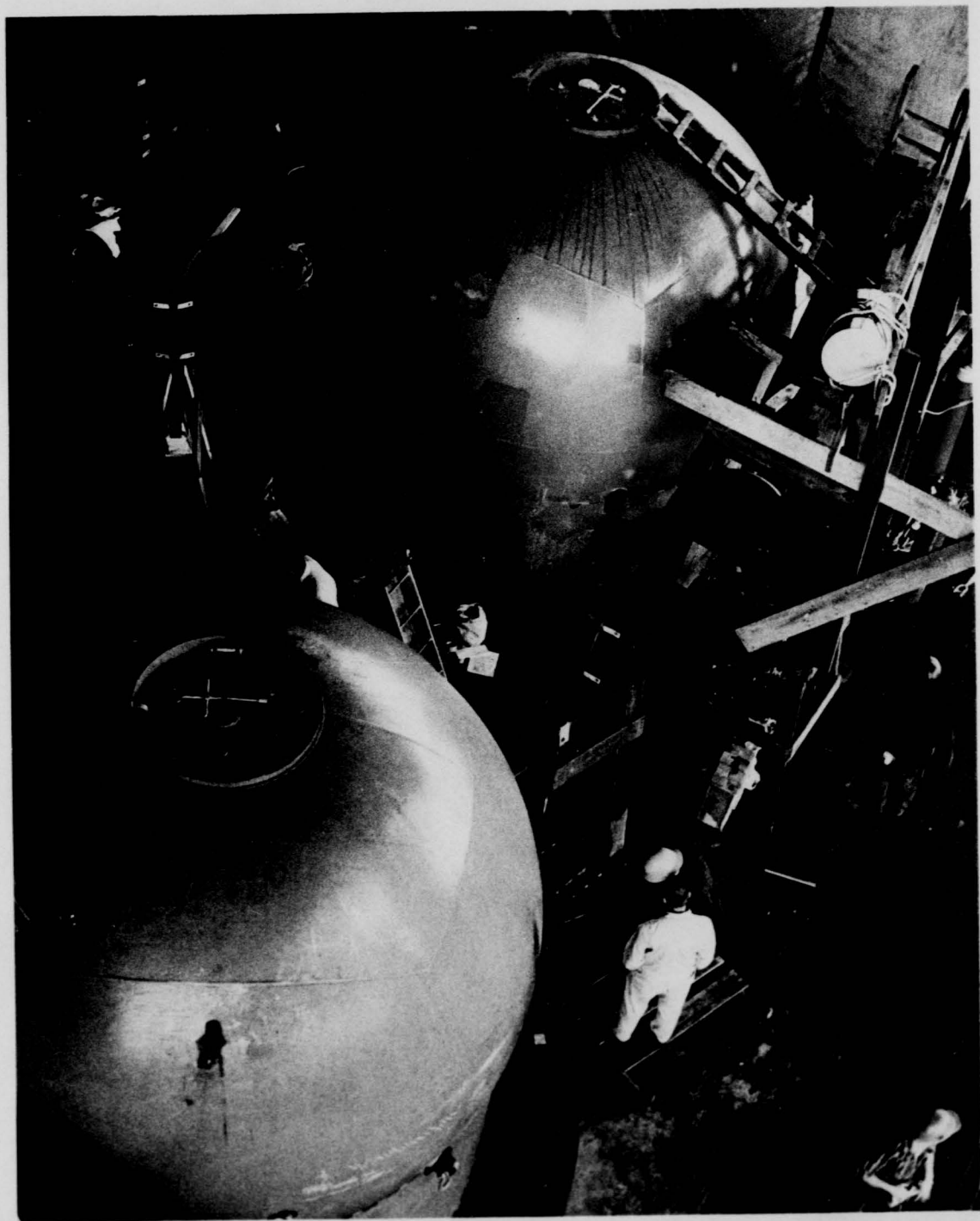


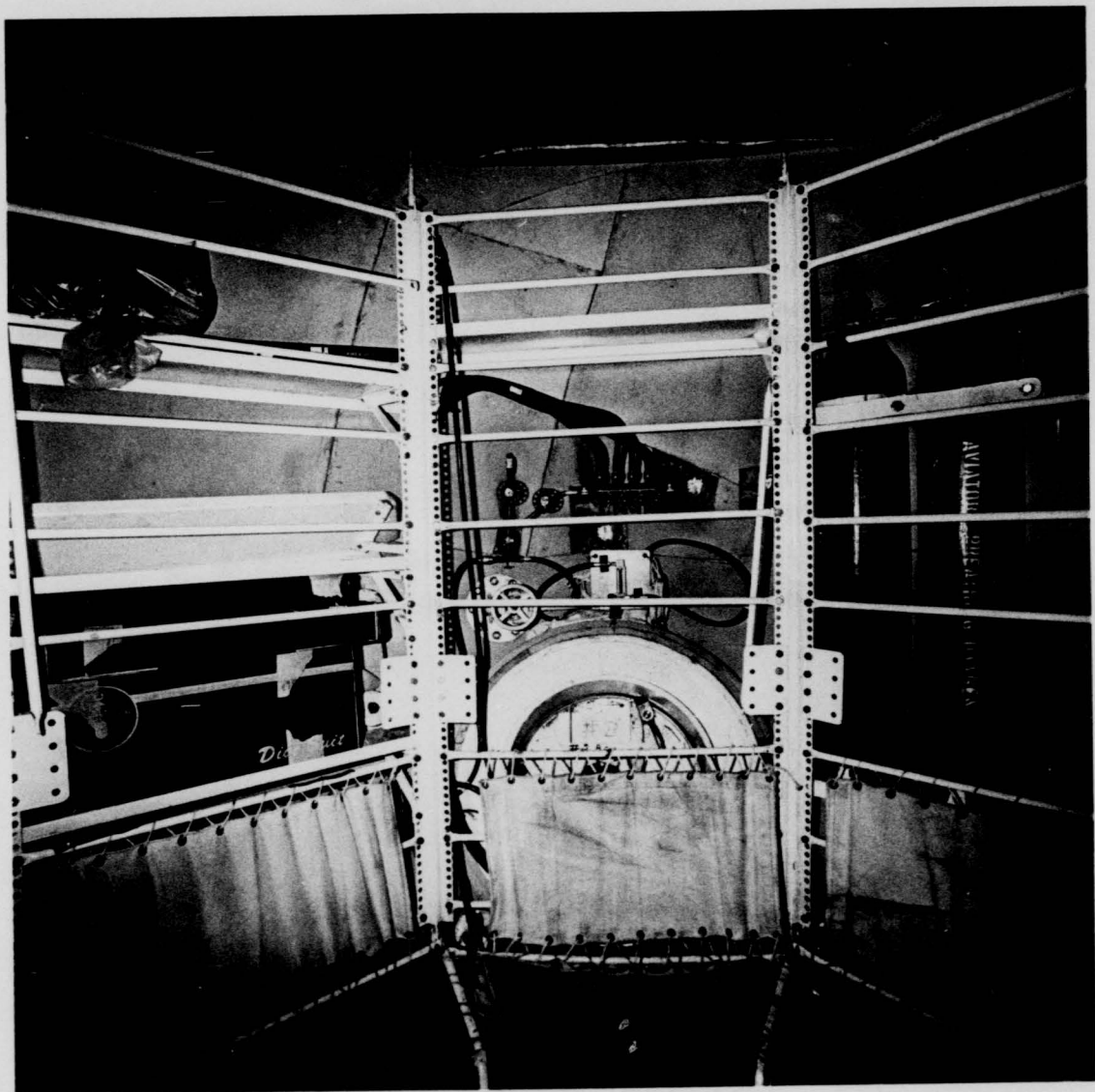
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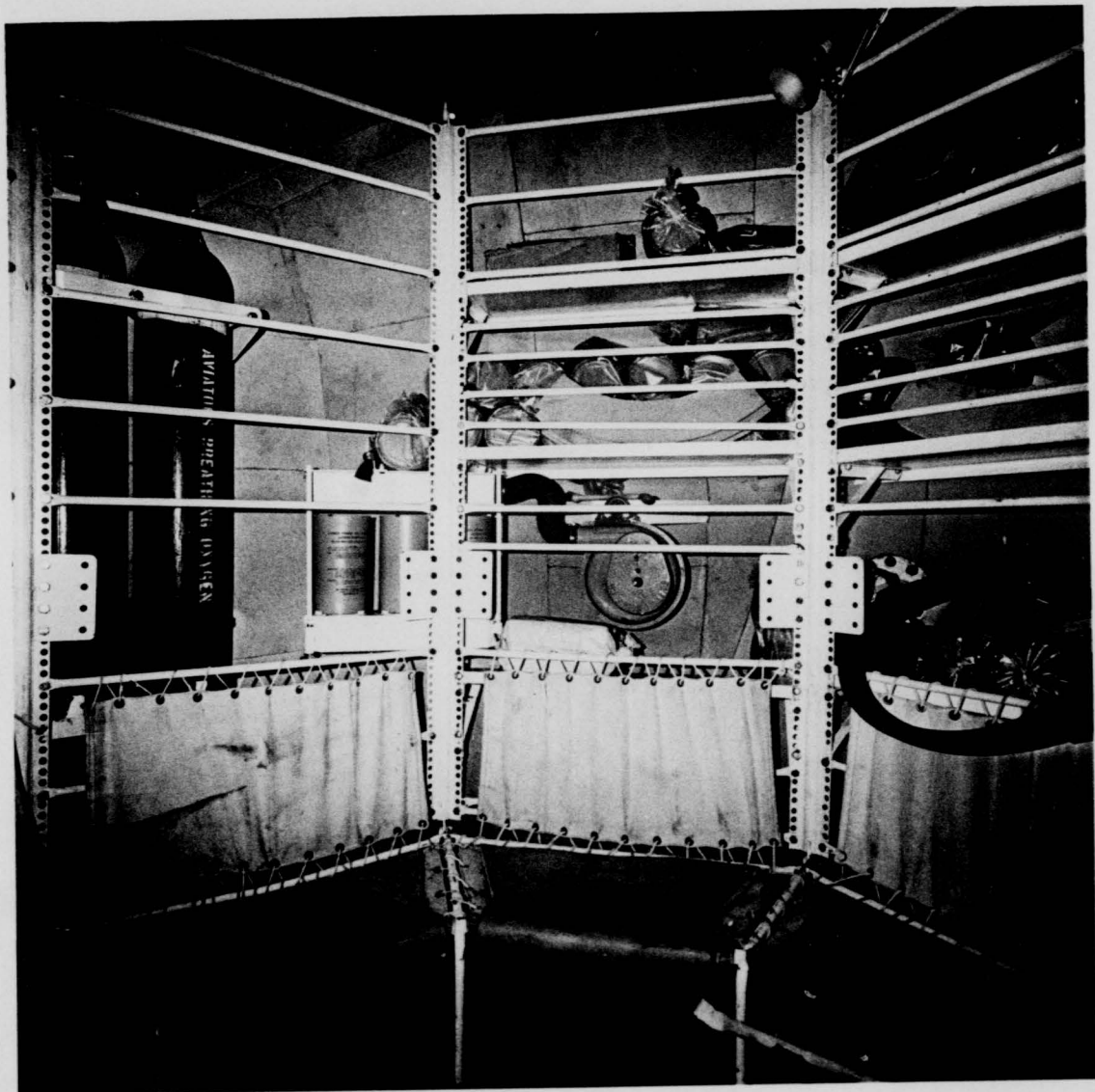




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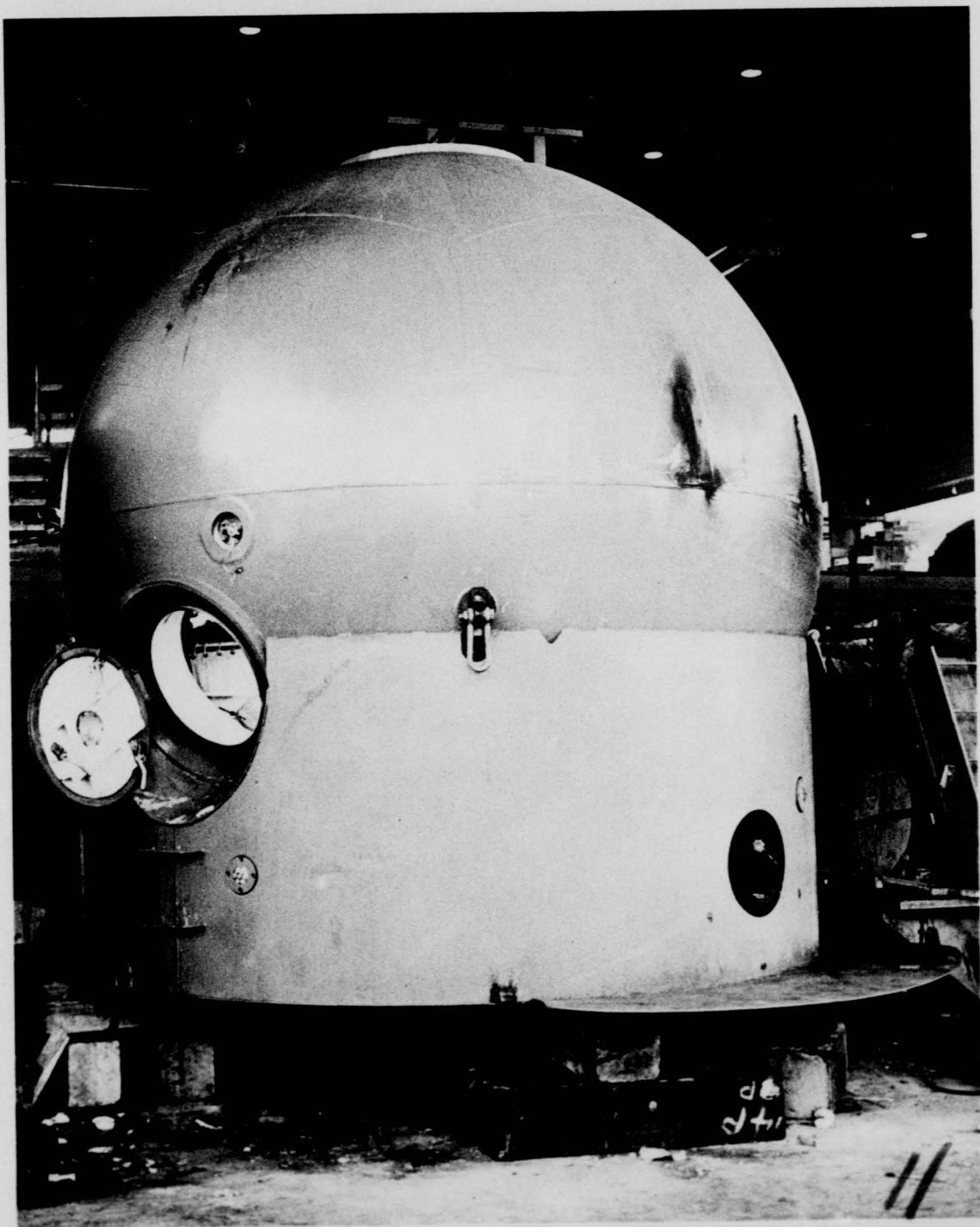


AVANTON'S GREAT KID DIVISION

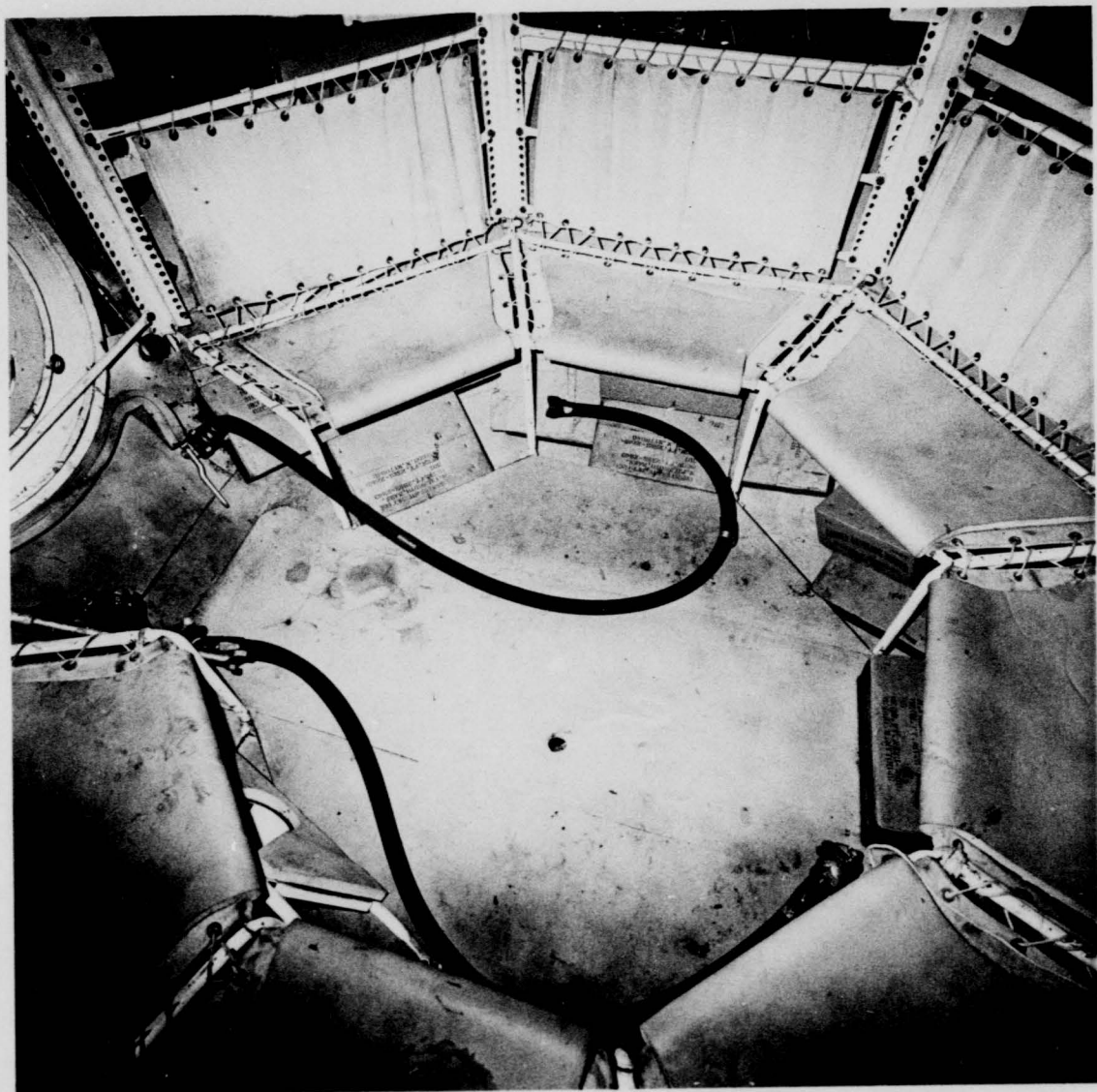
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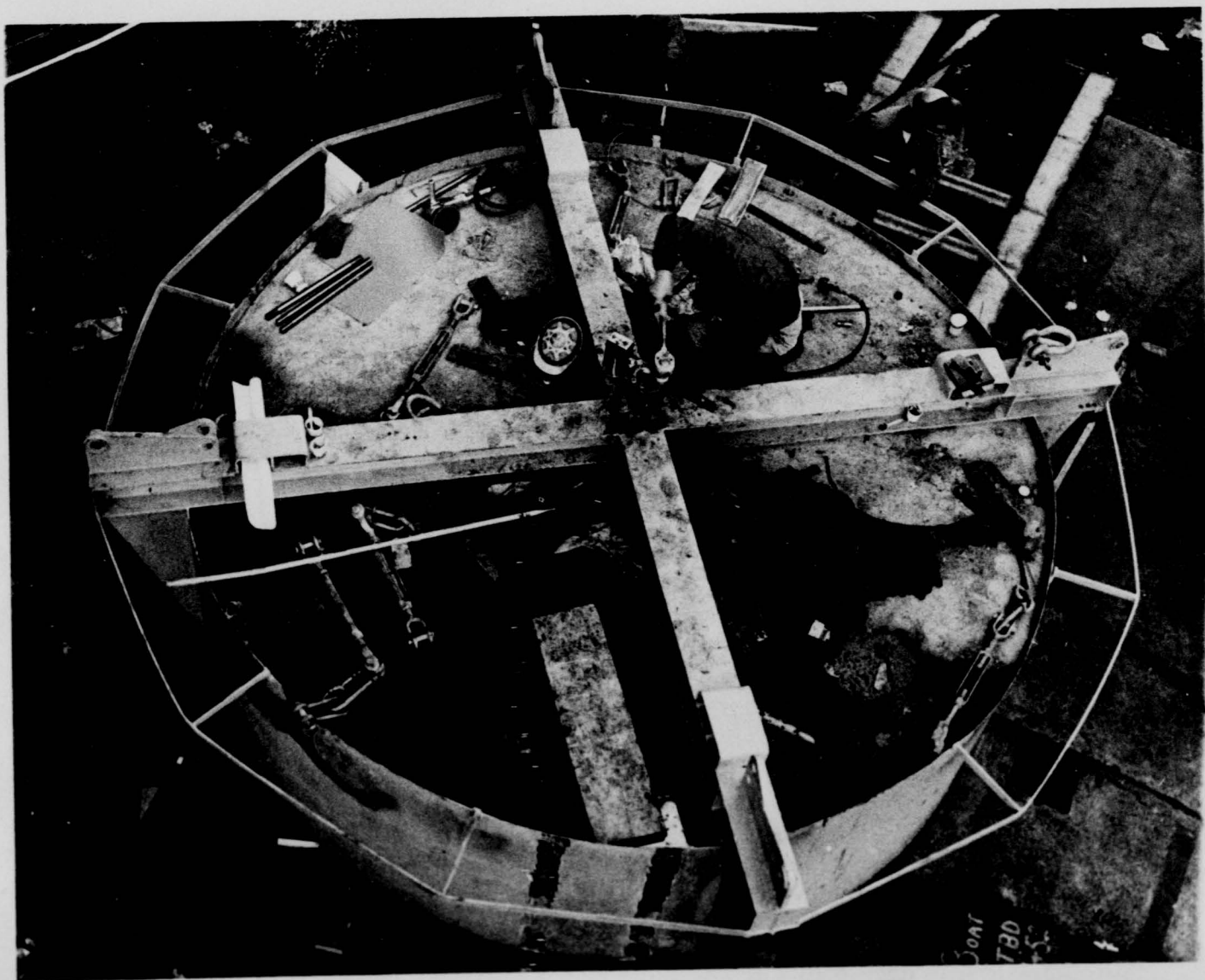
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