



DEPARTMENT OF THE NAVY  
OMEGA NAVIGATION SYSTEM PROJECT OFFICE  
(PM-9)  
WASHINGTON, D. C. 20360

67 OCT 30' AA 10:19

IN REPLY REFER TO  
7Y:GPA/mlm  
Ser PM9-541

26 OCT 1967

COM. 14TH CG DISTRICT

From: Coast Guard Liaison Officer, OMEGA Navigation System Project (PM-9)  
To: Commander, Fourteenth Coast Guard District

Subj: OMEGA Monitor Receiver Site; request for

1. The OMEGA Navigation System has been designed to provide good accuracy over the entire world. At very low radio frequencies, transmission is reliable over thousands of miles and the time of transmission of a signal is predictable with errors of only a few microseconds. The system design calls for a network of eight stations, each transmitting six time shared frequencies. Three of these frequencies are for navigational purposes. They are 10.2 Kcs, 11.333 Kcs and 13.6 Kcs. This will provide excellent fixes throughout the world. The rms navigation errors of the experimental system are approximately one mile in the daytime and two miles at night. This accuracy and the reasonable degree of redundancy provides the navigator with a choice of several lines of position.
2. This complex of phase-difference lines of position is called OMEGA. It has been developed and tested over a wide area and throughout several years by the U. S. Naval Electronics Laboratory and the U. S. Naval Research Laboratory, assisted by a number of other organizations and individuals. It has been found that the time of transmission can be predicted for any single path with an accuracy of the order of 2 to 5 microseconds, although the phase velocity is a function of several factors.
3. To accurately predict the propagation path characteristics and reduce this prediction into a workable tool for the navigator actual measured data is required from numerous and varied locations throughout the world.
4. With the presently limited transmitting station configuration monitor data must necessarily be limited to areas within and adjacent to the service area. Considerable data from the existing service area has been obtained, however, there is a continual need for additional data throughout the world. Japan is considered a prime location for a monitor station due to its relationship to the existing service area and the fact that it is under consideration as a possible location for one of the future transmitting stations.
5. The OMEGA monitoring equipment is designed to operate essentially unattended, with a periodic replacement of recorder paper, submission of a bi-weekly data form and periodic resynchronization in the event of



catastrophic loss of signals. The installation of the equipment at the monitor station would be on a "not to interfere" basis. Basically, the support requested is for space and caretaker services.

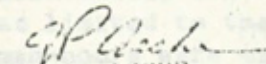
6. Accordingly, the following is specifically requested of CGLORSTA FUCHU:

a. Space for installation of a TRACOR Model 599R OMEGA receiver and associated recorder rack. Total dimensions of the equipment are approximately 19" wide by 20" deep by 20" high. Power requirement is approximately 500 watts, 115V 50/60 cycle.

b. Replacement of recorder paper and hourly recording of instantaneous receiver readings. Mailing of the above data on a bi-weekly basis. Resynchronization of equipment when signal is noted.

7. If this request is approved, it is proposed that the equipment be shipped directly from Naval Shipyard, Philadelphia, to CGLORSTA FUCHU. Upon arrival of the equipment a member of the Naval Research Laboratory accompanied by LCDR G. P. Asche, USCG, will perform the installation and present necessary training and indoctrination in the program and the equipment. Maintenance support will be provided by Naval Research Laboratory as required.

Copy to:  
COMDT (EEE)

  
G. P. ASCHE



UCL 3

(0)

10550  
8 November 1967  
Serial: 32541

From: Commander, Fourteenth Coast Guard District  
To: Coast Guard Liaison Officer, OMEGA Navigation System Project (PM-9)

Subj: OMEGA Monitor Site

Ref: (a) Your ltr 7Y:GPA/mlm Ser PM9-541 of 26 Oct 1967

1. Commander Fourteenth Coast Guard District will provide the services you desire on a "not to interfere with Loran-C operations" basis.
2. There should be adequate space and power for your equipment at Fuchu Loran Monitor Station. The Coast Guard Liaison Officer is aware of the personnel problems at Fuchu. The hourly readings requested cannot be provided unless the time of the readings is not critical. Certainly there would be no problem in obtaining readings every four hours.
3. Commander Far East Section, USCG, is the commander responsible for the operation of Fuchu Loran Monitor Station. He is being provided with copies of reference (a) and this letter. Direct liaison is authorized. Make arrangements with COMFESEC for installation, etc. Keep Commander, 14th Coast Guard District informed by copies of all correspondence and make him info adec on any messages.

W. CURWEN  
By direction

Copy to:  
COMFESEC  
COMDT (EEE)

www.loran-c.com



7Y:GPA/mlm  
Ser PM9-598

28 NOV 1967

From: Const Guard Liaison Officer, OMEGA Navigation System Project (PM-9)  
To: Commander, Far East Section

Subj: OMEGA Monitor

Ref: (a) CG Liaison ltr Ser PM9-541 of 26 October 1967  
(b) CCGD14 ltr 10550 Ser 32541 of 8 November 1967

1. The request of reference (a) to establish an OMEGA Monitor Site at the Coast Guard Loran Monitor Station, Fuchu, Tokyo, Japan, was granted by reference (b).
2. The OMEGA receiving set complete with antenna, recorder and spare parts have been shipped from NAVSEEACT, Philadelphia, via QUIK-Trans to Seattle for MAC shipment to you. TCN N65579/7325/1457-XX applies.
3. In addition one AN/USH-8 recorder set has been shipped to you from CGSC Brooklyn. Both shipments have been marked for "OMEGA Project".
4. As indicated in reference (a) I anticipate being present for the installation and indoctrination on the operation of the equipment. It is requested that no attempt be made to accomplish the installation prior to the arrival of a representative from this office and that I be advised by message when the receiving equipment has been received.
5. It is also requested that the specific latitude, longitude position of the tropo antennas located near the monitor be provided in the same message. This information is unclassified, however it is referenced in a classified message located in the WJ Loran C file.
6. The proper address for all message traffic is:

RUEDBHB/CHNAVMAT WASH, D.C.  
BT  
UNCLAS  
ATTN PM-9 CG LIAISON OFF

1. - - - -

G. P. ASCHE

Copy to:  
CCGD14 (e)

CCGD14 (e)

	INT	EXT
CHIEF OF BRANCH		
LOREN	<i>[Signature]</i>	<i>[Signature]</i>
DRIFT		
ALL		





DEPARTMENT OF THE NAVY  
NAVAL ELECTRONIC SYSTEMS COMMAND  
WASHINGTON, D.C. 20360

IN REPLY REFER TO  
7Y:GPA/jed  
Ser-317 PME-119

6 AUG 1970

From: U. S. Coast Guard Liaison Officer, Naval Electronic Systems  
Command (PME-119)  
To: Commander, Far East Section, U. S. Coast Guard  
Subj: OMEGA Monitor at IMS Fuchu

Ref: (a) CCGD14 ltr 10550 Ser 32541 of 8 Nov 1967

1. Reference (a) authorized installation of an OMEGA receiver at IMS Fuchu for the purpose of monitoring OMEGA signals from OMEGA Norway and Hawaii.
2. Satisfactory results were obtained for nearly eighteen months, however within the last nine months the monitoring effort has yielded no valuable information. The receiver was first believed to be at fault, however a complete check out of the receiver at the Naval Electronics Laboratory Center showed proper performance, consequently any possible equipment problem is believed to be in the antenna coupler. Correspondence was initiated to IMS Fuchu by NELC setting forth procedures for checking the condition of the coupler. The results of the coupler check has not yet been received.
3. With the monitoring effort at a standstill valuable data is going unused which could well improve the skywave correction prediction program for that area of the world. It is requested that a determination be made as to the problem associated with the OMEGA installation and this information be forwarded to this office so that corrective action can be taken.
4. Should it be felt that the monitoring of OMEGA presents an unbearable burden upon the monitor station personnel there is a possibility that the Japanese Maritime Safety Agency would assume the task using the existing equipment.

G. P. ASCHE

Copy to:  
Comdt EEE-4  
CCGD14 (e)  
NELC Code 2100



ENCL 1

Commander  
Coast Guard Section  
Far East  
APO San Francisco 96525

10550  
1 October 1970

From: Commander, Coast Guard Section, Far East  
To: Commander, Fourteenth Coast Guard District (eee)  
Subj: OMEGA Monitor at LORSTA Fuchu

Ref: (a) NESC (PME-119) ltr Ser-317 dtd 6 Aug 1970

1. Reference (a), a copy of which is included as enclosure (1) hereof, is an inquiry concerning the status of the OMEGA monitor at LORSTA Fuchu. This letter replies to reference (a) but is being submitted to your office for appropriate action rather than to NESC since it is felt that any decision relative to the continuation or deletion of the OMEGA monitor function is beyond the purview of this command.
2. The delay in replying to reference (a) has been caused by the recent transfer of senior electronic engineering personnel attached to this office and to pressing LORAN-C engineering and operation problems which have precluded any previous attempt to properly evaluate the OMEGA monitor status.
3. As a result of reference (a) the OMEGA receiver and antenna system were rechecked in an attempt to isolate the problem. Unfortunately, this command does not have a complete set of maintenance instructions for the equipment so that the trouble shooting was limited to the more routine procedures. Approximately seventy (70) man-hours were expended in this endeavor without success. The OMEGA receiver is not only still inoperative it was found to induce a steady carrier on the monitor station's 11 MHz communication frequency whenever it was turned on. Accordingly, the receiver has been secured indefinitely. The procedure provided by NEL for checking the antenna system (a hand drawn schematic) was employed and the antenna system appears to be operating correctly.
4. No further maintenance effort is planned by this command relative to the OMEGA receiver. Indeed, it is the understanding of staff members of this command that the OMEGA monitor function was established with the specific requirement that the Coast Guard would not provide either equipment preventative or corrective maintenance since no personnel billets were provided.
5. It is the recommendation of this command that the OMEGA monitor function at LORSTA FUCHU be disestablished. Even without the need to expend time and effort in trouble shooting the equipment, the handling and annotation of the strip chart recordings requires approximately one man-hour per



day as well as diverting the watchstander's attention from the Loran-C and Timing monitor functions. While the number of man-hours utilized for OMEGA are not overly significant in themselves they do become a consideration when coupled with Loran-C and Timing watchstanding requirements (the latter of which was not in existence when the OMEGA monitor was established.) Alternatively, in view of the Coast Guard's interest in OMEGA and should it be desired to continue the monitoring function at FUCHU it is then requested that one additional ET2 billet be assigned to accomodate the increased maintenance, administrative and watchstanding requirements imposed by the OMEGA and Timing assignments.

V. K. RANDLE JR.

Encl: (1) NESC ltr Ser-317 dtd 6nAug 70

10550/COMDT  
Serial 17684  
28 October 1970  
28 NOV 1967

From: Commander, FOURTEENTH Coast Guard District  
To: Commandant (EEE) Liaison Officer, OMEGA Navigation System Project (P-9)  
To: Commander, Far East Section  
Subj: OMEGA Monitor at LORSTA Fuchu  
Subj: OMEGA Monitor

Ref : (a) NESC (PME-119) ltr Ser 317 of 6 Aug 70  
Ref: (b) COMFESEC ltr 10550 of 1 Oct 70 6 October 1967  
(c) CCGD14 ltr 10550 Ser 32541 of 8 November 1967

1. Reference (a) requested directly from COMFESEC with a copy to CCGD14 and COMDT (EEE) a determination on the problems associated with the Omega installation at LMS FUCHU. Reference (b) describes the problems and what action was taken to eliminate them and preserve the Omega function.

2. The OMEGA receiving set complete with antenna, recorder and spare parts has been received. The man hours expended on the operation of the Omega function are excessive, considering that no additional personnel have been provided for it or the time monitor. We concur with the recommendation of reference (b) that the Omega function be disestablished unless an additional ET is assigned to LORMONSTA FUCHU for "OMEGA Project".

3. Copies of all correspondence pertaining to the Omega installation are enclosed for your information. It is requested that the Commandant make the final determination as to whether or not the Omega monitor should be retained at FUCHU. Advise from this office and that I be advised by message when the receiving equipment has been received.

It is also requested that the specific latitude, longitude position of the tropo antennas located near the J. P. STEWART be provided in the same message. This information is unclassified. By direction of the classified message located in the WJ Loran C file.

Encl: (1) OMEGA correspondence

Copy to:  
COMFESEC

RUEBIB/CRNAVAT WASH, D.C.  
BT  
UNCLAS  
ATTN PH-9 CO LIAISON OFF


G. P. ARCHER

ENCLOSURE (1)



CVD NOV 12 1970 JAN

UNITED STATES GOVERNMENT

# Memorandum

EEE-4  
3262/2

FUCHU

DATE:  
5 NOV 1970

TO : Chief, Aids to Navigation Division

FROM : Chief, Electronics Engineering Division

SUBJECT: Omega Monitor at LORSTA FUCHU

1. Enclosure (1) is forwarded to your division for action.
2. It is recommended that, unless an additional ET billet can be assigned to LORMONSTA FUCHU, the Omega monitoring function at FUCHU be disestablished and the Omega Project Office be so informed.

*R. F. Goebel*

R. F. GOEBEL

Encl: (1) CCGD14(eee) ltr 10550/COMDT dtd 28 October 1970 w/enclosure







DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

Address reply to:  
COMMANDANT OAN-3  
U.S. COAST GUARD  
WASHINGTON, D.C. 20591

From: Commandant  
To : Commander, Fourteenth Coast Guard District (dcs)

Subj: Omega Monitor at LORMONSTA FUCHU

Ref : (a) CCGD14 ltr serial 17684 dtd 28 Oct 1970

1. Discontinue all Omega Monitoring functions at LORMONSTA FUCHU as of 1 December, 1970.

PME 119  
Navy will Tell FUCHU  
TO SECURE!