

UNITED STATES COAST GUARD

Address reply to:
 COMMANDANT
 U. S. Coast Guard
 Headquarters
 Washington 25, D. C.

RECEIVED
 27 March 1951
 OPERATIONS
 AIDS TO NAVIGATION DIV.

From: Commandant
 To: CDR R. D. Dean, USCG
 Via: Commander, 12th CG District
 Subj: Report of temporary duty with MATS Pacific Division; by CDR R. D. Dean dated 5 February 1951

1. Subject report contains such a considerable amount of valuable information and recommendations that it will probably be under active consideration at Headquarters for some months. For this reason Headquarters desires to acknowledge receipt of the report and to advise you that action is being taken on these matters as rapidly as practicable. In the meantime some preliminary comments might be of interest to you in your further contacts with MATS representatives.
2. All of the following comments are preliminary in nature and subject to further review by Headquarters, and in some cases by other agencies, such as the U. S. Navy Hydrographic Office.

- (a) Headquarters notes with interest the type of equipment and antenna installations found to be in general use on MATS lines. This information is useful in predicting the probable reliable ranges which should be shown on current charts.
- (b) The confirmed ranges of around 900 miles to 1,000 miles on many of the Pacific stations indicates a need to now revise the information in the General Information Section of HO-11 (Loran Charts and Service Areas) which currently states that the groundwave coverage is up to 700 N.M. in the Pacific.
- (c) Your report of simultaneous reception of identical rates and frequencies from the Aleutians and Philippines is also noted. This is not unusual and has occurred in other areas, such as for instance the reception of Atlantic U. S. seaboard stations along the West African coast. If the Aleutian stations appear to be useful in areas where the Philippines stations are also received, or vice versa, Headquarters will consider the possible change of characteristics of one of these chains to prevent possible errors in identification.
- (d) The possible use of F layer skywaves has been under consideration for a long period of time, since the earliest days of Loran trials. However, the relatively inferior stability of F layer reflected signals and the fact that there is no positive means of identifying the F signal (it may be the first, second or third skywave pulse) has indicated it to be highly undesirable to use this signal for regular navigational pur-

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poses. No serious objection is seen to its use under controlled circumstances such as may exist in the case of certain sectors of MATS routes where the readings can be correlated with other known facts, such as approximate position. However, Headquarters does not recommend that any signals other than the groundwave and the first E layer be generally used.

- (e) Headquarters concurs fully in the desirability of adding more frequent groundwave lines in the area on either side of baseline extensions. This suggestion and the others relating to need for additional charts in certain areas will be passed to the Hydrographic Office.
- (f) Headquarters has taken particular note of your comments regarding the change in service area which will result from the establishment of the new Hawaiian chain and because of the importance of this matter will take it up immediately. Your comments about the limited range to the eastward of the Hawaiian Islands, apparently resulting from overland attenuation from Upolu Point station on the Island of Hawaii, has also been noted. It does not appear that Headquarters has previously received any definite information on this matter and it will be followed up to determine what can be done to improve this service. A new high powered transmitter is under test at Upolu Point and inauguration of high powered service with possible addition of more efficient antenna may make it possible to improve this service considerably now that the approximate factual range is known as a result of your observations and collected reports.
- (g) Headquarters notes with interest that you have now found that the Japanese chain is giving very good coverage. Headquarters is pleased to receive this report since a special engineering task force was recently dispatched from Headquarters and the District to improve the service from these stations, and it is with considerable satisfaction that Headquarters notes that the service from this chain is now apparently of a high order.
- (h) Headquarters also notes your comment about the impersonal nature of Loran service and the need for station personnel to have more information of the use made of their transmissions. Headquarters will endeavor to carry out these suggestions in the near future.

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3. Headquarters concurs fully in the indorsement of 8 February 1951 by Commander, Western Area on your basic report and it is considered that your mission will make a very considerable contribution to the Loran service in the Pacific area as well as of being of considerable assistance to MATS in its greatly expanded Pacific operations.

/s/ K. K. Cowart
K. K. COWART
By direction