LORAN STATION BIKATI

USCGC KUKUI Inspection Report
22 JAN 1948

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Note: Report is missing the enclosures

UNITED STATES COAST GUARD
CGC KUKUI (WAK-186)
c/o Comdr. 14th CG District
Box 4010, Honolulu, T. H.

ADDRESS REPLY TO
Commanding Officer

REFER TO FILE
CG-607

22 January, 1948

From: Commanding Officer, CGC KUKUI (WAK-186)
To: Commander, 14th Coast Guard District

Subj: CGLRS, Bikati, Makin Atoll, inspection, repair and maintenance of

1. This station was inspected and repairs made to station equipment during the period 7 to 14 January, 1948. The general condition of the station was good except the main Loran radiator and the quonset huts.

2. Each and every nut and bolt in the small cross braces on the radiator will require renewal within this calendar year. Replacement of the nuts and bolts could undoubtedly be accomplished either with the antenna in place or lowered section by section while using the emergency antenna. Considering that there are approximately 750 nuts and bolts to be renewed in addition to the age of the antenna, it is recommended that consideration be given to complete renewal of the antenna. Condition of the antenna is shown on inclosure 9.

3. The deterioration of the quonset huts is described in paragraph 3 of inclosure 1. Reference is also made to the "Instruction Book for Erecting Stran-Steel Arch Rib Hut." On pages 3, 4, and 5 of the instruction book detail drawings show the construction of the huts at the rust weakened members. At Makin the sills, joists and channel plate in which the ribs set and bottoms of the ribs also are weakened and deteriorated by rust to the point that the vertical dimension on all parts has decreased and in some cases collapsed. At first inspection replacement of the sill or joist with parts from the quonset huts carried aboard the KUKUI was contemplated. However, further consideration and an actual attempt to replace the joist under the entrance of one power hut showed that in jacking the structure up to insert a joist of the original dimensions, other joists and parts collapsed due to their rust weakened condition and it is believed that such raising of other quonset huts at Makin would also result in serious crusing of any sills or joists so raised. In view of this, wooden sills or joists, as applicable, with the vertical dimension of the wood equal to or a little greater (a driving fit) than the dimension of the rust weakened member was placed alongside it to take the load. This is a fairly easy method of repair and since jacking of the members is not necessary it does not damage the rust weakened sills or joists. All broken or collapsed sills or joists were so replaced by the KUKUI and the Commanding Officer, LRS Makin stated that sufficient lumber was on hand for station personnel to effect temporary repairs as necessary. Of the seven huts at LRS Makin, two (2) the galley hut, and the Loran Watchstanders hut are in need of

replacement as soon as practicable this calandar year and it is recommended that a"Quonset Hut Replacement Program" be instituted. Comparison of metal strength of the huts at Makin and the hut strenght conditions observed at Iwo Jima during the last trip shows that the strength at Makin is no better than at Iwo Jima. If the huts at Makin ever had to withstand the same wind forces as Iwo Jima the Makin huts would collapse.

4. After careful consideration, the following recommendation regarding fire fighting equipment is made in accordance with Commander 14CGD Dispatch 082300Z - January and Commander 14CGD letter 8 January, 1948 - CG-601, amending Operation Order 43-47 dated 9 December, 1947.

(a) Equipment Hut.
1. One (1) CO2 extinguisher just inside front entrance.

2. One (1) CO2 extinguisher just outside shielded room entrance so scope man can use it either in the shielded room or transmitters.

3. In those equipment huts having a rear entrance, one (1) CO2 extinguisher just inside the rear entrance.

(b) Power Hut.
1. One CO2 extinguisher at each entrance just inside the doors. This totals two (2) each for power huts.

(c) Galley and Mess Hall.
1. One (1) CO2 extinguisher just inside galley door.

2. One (1) Foamite extinguisher on mess hall side of partition between galley and mess hall.

(d) Living quarters.
1. One (1) CO2 extinguisher at one entrance and one (1) Foamite extinguisher at the other entrance.

(e) Commissary storeroom.
1. One (1) Foamite extinguisher just inside the entrance. Normally the door to this storeroom is kept locked and on first consideration the extinguisher should be outside. However, in event of fire, in the storeroom the door would have to be unlocked or broken down in any case and the extinguisher would be available. Hanging it outside would only result in its being moved or used some other place so that it would not be available when needed.

(f) The CO2 fire extinguishers in the foregoing to be of the

fifteen (15) lb. portable type and the Foamite extinguishers of the two and one-half (2½) gallon size. The foregoing recommendation is planned so that CO2 fire extinguishers only, are available in locations where electronic or electrical equipment exist which would prevent the deleterious effect Foamite would have on such equipment.

(g) In addition to the foregoing it is also recommended that each Loran station be issued one Kidde type portable CO2 unit consisting of two (2) 50 lb CO2 cylinders. Other types of large portable fire fighting apparatus such as a water cart with a gasoline pump were considered. These or parts thereof can be and usually are diverted to other purposes or are allowed to deteriorate through lack of use and preventative maintenance. The gasoline pump would make a good replacement for the fresh or sanitary water pumps. The portable CO2 cart, however, has its own presure at all times and is ready for instant use. At most stations some of the huts, usually the equipment hut is so far away from the water tanks or water system that the length of hose and/or pipe necessary would reduce the nozzle pressure to such an extent that it would be insufficient and inadequate.

(h) Sufficient CO2 extinguishers, Foamite extinguishers and Foamite charges were issued to Makin to fulfill the recommended plan. A crossover with suitable fire hose fittings was installed in the water systems so pressure may be obtained from any water tank or well. Two hundred (200) feet of 1½" fire hose was issued.

5. It has come to the attention of the KUKUI that, at Loran stations CO2 extinguishers unaccountably lose there charge. According to information available, the charge in any type CO2 extinguisher last indefinitely. However, on arrival at stations during the last and present logistic trips, CO2 extinguishers have been found empty with no record on the station of a fire. In quiry into this matter shows that the CO2 extinguishers have been used for improper purposes such as cooling beer in cans, soft drinks and water by pointing the CO2 extiguisher nozzle at the object and covering it with the "snow" that is formed. This practice accounts for the discharged state of fire extinguishers at Loran stations and considering the numerous extra extinguishers the KUKUI has to carry and have charged from time to time, it is recommended that the district issue strict orders regarding the use of CO2 extinguishers. It is further recommended that an accountability be required from the loran stations in their monthly reports stating what fires occurred and the number of CO2 fire extinguishers expended. It is felt that improper and unexplainable expenditures of CO2 extinguishers should result in disciplinary action.

6. Reference is made to paragraph 7 of inclosure 2. With the NETTLE operating on a minimum schedule of two logistic trips a month it means only two weeks at the most between such trips. It is therefore recommended that in the future when Commanding Officers of Loran stations are being relieved that at least the interval of time between successive trips of the NETTLE be used for "turning" the station over to the new Commanding Officer.

7. No change of personnel was made between the KUKUI and the station. Repairs, issues, commissary, morale, ordnance, health conditions and state of electronic and civil engineering equipment are shown on inclosures 1 through 8 inclusive.

8. It was found that living quarters of a temporary nature with a thatched roof are established at the after end of the loran equipment hut for housing the ETM's attached to the station. With the reduced complement now existing at Loran stations, it is suggested that the matter of providing permanent living quarters at the end of the equipment hut for ETM's be given consideration. With the ETM immediately available, it is felt that off air time can be held to a minimum. The practice of using the foregoing described temporary quarters is one reason for the low off air time that now exists and it is felt that the benefits to be gained by such an arrangement will outweigh any adverse factors.

9. To date, the plan for the NETTLE to supply the Loran stations in this chain with diesel oil has not been accomplished. One hundred and fifty (150) barrels of diesel oil were off-loaded at Bikati to bring the station up to a six (6) mohths supply.

10. The assignment of BERNEST, Clyde E. (227-665) EM1c (Tel) has already been a distinct aid in speeding up and improving repair methods for antennas and associated gear at the stations. It is recommended that consideration be given to assignment of comparable personnel on each logistic trip. Also having the 6x6 truck aboard has materially aided the off-loading of generators and similar cargo. The truck is placed in the LCM and the generator lowered into the truck. The LCM is beached on proper tide conditions and the truck driven directly to the station instead of hauling, pulling and prying the generator over the ground as heretofore.

11. A sea bag inspection was held and clothing issued as necessary. The inventory and audit report of Registered Publications was forwarded under seperate cover to Commander 14CGD (oc) on 24 January, 1948.

/s/ MARION AMOS

MARION AMOS

cc: CGLRS, Bikati complete with inclosures
CGLRS, Kwadack " " "

CERTIFIED TO BE A TRUE COPY:

H. A. MEYER, Commander, USCG.

Inclosures:

1. Executive Officer KUKUI report
2. Pay and Supply Officer report
3. Medical and dental report
4. ECV field report
5. Engineer Officer's report
6. Gunnery Officer's report
7. Military Morale Officer's report
8. Communication Officer EEE report
9. Photo Antenna Tower

UNITED STATES COAST GUARD

ADDRESS REPLY TO

USCG CUTTER KUKUI (WAK-186)
C/O COMDR., 14TH CG DIST.
BOX 4010, HONOLULU, T. H.

REFER TO FILE

CG-627

15 January, 1948

From: Lt. Comdr. C. G. WINSTEAD, CGC KUKUI (WAK-186)
To: Commanding Officer, CGC KUKUI (WAK-186)

Subj: Bikati Island, Makin; C & R Inspection; report on

1. The KUKUI during her length of stay 7-14 January 1948 at Bikati found that the most feasible spot for landing supplies via LCM was on the SW side of the island at a spot approximately 850 yards south of the main loran tower. This could be done, however, at high water only, which tides occur only once per day during daylight hours. Landings at night are utterly impracticable due to numerous coral heads and to prevailing winds and currents. Another small boat landing on the NE side of the island approached from the north by small boat through a staked channel seems to be the preferred landing by station personnel; but for vessels anchoring to the westward, this landing requires about 45 to 60 minutes run, inasmuch as all small craft must go well to the west and north in order to clear projecting coral reefs and coral heads with accompanying surf. It is recommended that one (1) LCM be allowed this station as regular equipment to assist the NETTLE and other supply vessels in the off loading of equipment; for, on the one high tide per day, the station and supply vessels' landing craft could operate simultaneously. In such a situation, it is recommended that the LCM carrying heavy equipment use the NE landing, and LCVP type craft from supply vessels use the SW landing transferring personnel and light stores via small boat while laying off 75 to 100 yards.

2. Roads are nothing more than paths cleared by a bulldozer; these are usually muddy and water soaked, although they can be and are being used by the one vehicle attached, a weapons carrier, which appears to be adequate for hauling light loads and personnel to and from both landings.

3. The seven (7) quonsets installed are rapidly deteriorating principally at the metal strength members, stringers, joists, and rib frames. Outside metal sheathing and the inside wood sheathing and flooring appear to be satisfactory with no evidence of marked deterioration. The foundations of these huts consist of 2 x 12 wooden timbers set on end in concrete blocks. These timbers are apparently all sound with no evidence of dry rot or termite infiltration; upon these timbers rest metal stringers running fore and aft superimposed by athwartship metal frames, upon which rest the flooring joists consisting of the same type metal framing. For a distance of ten feet from the weather ends of all quonsets, the metal stringers and flooring joists are completely rusted out. The partial renewal of these floor joists and stringers is impractical, as this would require lifting the entrie floor. Because of the general rusted condition, partial dismantling would in all probability destroy the remaining metal supporting sections. The obvious attack would be renewal of complete floor metal foundation.

Inclosure (1) of CO, CGC KUKUI, ltr dated 22 January 1948, file CG-607

CGC KUKUI (WAK-186)
File CG-627 15 January, 1948

Subj: Bikati Island, Makin; C & R inspection; report on

4. The above procedure, however, would not be practical or economical due to the great amount of labor time and material involved which could well be expended toward complete renewal of the entire hut. Many of the rib frames are now partially gone and will reguire renewal within an estimated time of 6 to 18 months. These rib frames between the outside and inside sheathing are greatly deteriorated from rust due to the fact that this type of tropical hut allows rain and moisture to enter through the air gap between the sides and roof and attack the framing.

5. Replacement of foundation metal framing, at those sections where rust deterioration is most advanced, with wooden supporting strength members is within the capacity of station personnel to last for an estimated time of one year. The Commanding Officer of the station states that these replacements will be carried out as timbers are available at the station for this work.

6. It is recommended that a construction program be instituted to completely replace a minimum of two huts every six months, the two most in need of replacement at this station being the galley hut and the Loran watchstanders hut.

7. It is recommended that one cement transmitter platform in the equipment hut, which now rests upon the wooden flooring only, be removed and replaced by a cement foundation built up from the ground. It is understood that this will be done by the construction party arriving at the station via the NETTLE 13 January 1948. Cement and necessary materials for this job were off loaded by the KUKUI prior to departure.

8. Minor carpentry repairs were carried out by the KUKUI crew throughout the station, such as renewing or repairing screening, hardware, doors, repairing and covering the bottom of the station's punt with metal sheathing, and assembling one sample wooden deck chair of the six consigned and delivered.

9. Fire security was investigated and found to be inadequate. Seven 15 lb. CO2 and two foamite fire extinguishers were issued, together with a plan of location for maximum protection. Cross over connections were made to enable the Jaeger 1½" water pump to take a suction for the fire outlet from the brackish water storage tank, in addition to that from the brackish water well in the event that the well should reach a low level. Two hundred feet of 1½" cotton fire hose was issued complete with adequate connections and nozzle. It is recommended that this station's fire security be enhanced by issueing one portable Kidde type CO2 fire extinguisher unit consisting of two bottle type containers of 150 lbs. each, and that this unit be stored in a central location. This type of unit can not be used for other purposes as pumps have in the past.

/s/ C. G. WINSTEAD
C. G. WINSTEAD

Inclosure (1) of CO, CGC KUKUI
ltr dated 22 January, 1948
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CERTIFIED TO BE A TRUE COPY
H. A. MEYER, Commander, USCG.