

1 March 1971

Dear Friends,

This will be the last newsletter that I will send to you from the Coast Guard Loran Station at Gesashi, Okinawa. By the first of April, I should be in the process of turning over the command of this station to LTJG Timothy J. CENNA, who is coming from duty aboard USCGC FIREBUSH, a buoy tender out of New York City. The purpose of these newsletters has been to try to keep you, the families and friends of men stationed here, up to date on the what, why, and how of our operations and activities.

For those of you that have joined us since the first letter in May 1970, let me repeat what we are doing. LORAN, or **L**ong **R**ange **A**ids to **N**avigation, is an electronic aid to navigation, using radio pulses between master and slave stations. Technically, LORAN provides navigational fix data in the form of hyperbolic lines-of-position determined by the time-differences between the reception of pulse signals from widely-separated shore transmitting stations. In another way of putting it, a radio pulse is sent out in all directions from the master. Upon receipt of this signal, the slave automatically puts in a time delay (simply a waiting period) and then transmits his own signal in all directions. The user (a ship at sea or a plane in the air) receives master's signal, followed by slave's signal, and measures the difference in time between receipt of the two signals. With this numerical time difference, the user goes to a chart which has been specially prepared showing lines that have been mathematically computed to show exactly where a particular time difference would occur in relation to the two stations. Using two or more of these paired stations will give the user lines of position crossing in one spot, thus fixing his position (telling him where he is). Granted, this paragraph does not give you a complete knowledge of the subject, but at least it gives you an idea of what our mission here is.

We are the largest LORAN station in the world here at Gesashi. Situated on 180 acres of land, we are slave to 4 masters - in Loran A, the earliest type, developed in 1939, to Iwo Jima, 2H6, to Miyako Jima, 2H5, and to Namaiki, Japan, 2S7. On Loran C, a revised system developed in 1958, we are slave to Iwo Jima on SS3-Y. As far as we can determine, no other station operates on 4 different rates. On these four rates, we provide precise navigational signals up to 1,200 to 1,600 nautical miles, with an accuracy as great as plus or minus 1 foot per nautical mile.

One interesting sideline of the Loran C is the extreme accuracy of time. Just as there are international standards for the foot, the pound, and the liter, there is a standard for time, called Universal Time. For coordination of many civilian and military projects spread over large areas of the world, ZULU time or Greenwich Mean Time is utilized. This is simply converting the local hour and minute to the hour and minute at Greenwich, England. As the clocks which trigger our Loran C pulses are set even to the fraction of a second with this ZULU or UT (Universal Time) standard, Loran C signals around the world are very closely synchronized. The most striking example of usage of this time synchronization has been the work with our Apollo Space Program. As you well know, times in the areas of lift-off, tracking, activities in space, and splash-down must be precise. Signals from

Loran C stations all over the world are utilized to provide this time standard. In a message from Commander, Coast Guard District Fourteen, RADM PRINS stated, "You can justly feel a part of the Apollo 14 success."

February was a relatively quiet month. Although winter is now a thing of the past, summer has still not arrived, and it is still occasionally quite chilly. Our Loran C operational performance was the best in the chain with only 28 minutes off-air, and 12 minutes of that was authorized, for greater than 99.91% usable time. This is exceptionally good, and just another proof that we are the best there is. "C.C.", our female dog mascot acquired in July, was also exceptional. She presented the station with a litter of 4 cute little pups, which indicates one of two things - either the spaying process was not complete, or else she has made medical history. Anybody want a pet of questionable parentage??

We received two new crewmembers in February and expect to lose two in March. SNEW "J" "D" GOLDEN came from the Air Station at Elizabeth City, N.C., and SNET Pete LO came from ET School in New York City. ET2 John DONLEY is being sent to the Training Center at Cape May, N.J., and EN3 Lindsey HARRIS makes his way to Group Chincoteague, Virginia. Both Mike HILLE and Quentin MUHLY were promoted from SNET to ET3.

Now that my time is short here on the station, I can look back over the many months that I have been here and conjure up many pleasant memories. I feel that my thoughts are not unlike those of many others stationed here. The frustrations have been the same - the inability to see and talk with loved ones, difficulties in expressing ideas through the mail, the inability to escape the confines of the station when minor problems arise, and personality differences cropping up from extremely close living conditions. Even with these and other stumbling blocks, the tour has been exciting and different. Although I am not particularly happy about my next duty assignment, going back to be an advisor at the Coast Guard Academy, I will leave here with mixed feelings - ecstatic happiness over leaving and sentimental attachment to all the men that have been and are stationed here and have made this station the best in the world.

My sincere thanks go to all the men who have served with me here, and I would also like to thank you people at home for bearing with me over the past year. If any of you are in the New London, Connecticut area after June, please stop in and see me. I give special discount rates on tours of the trade school/factory which turned me into a Coast Guard Officer.

In closing, let me use an often used but seldom understood Japanese phrase meaning, "We do not wish to part, but if it must be so..."

Sayonara,

David H. LYON, LT, USCG
Commanding Officer
USCG Loran Station Gesashi