

June 23rd, 1954
Wailuku, Maui
Territory of Hawaii
U. S. A.

Mr. G. R. Ellis
Ionospheric Prediction Service
Box 801 H, G.P.O.
Hobart, Tasmania, Australia

Dear Mr. Ellis:

Thank you for your very informative letter of April 29th and enclosed maps. The field station across the Derwent will be quite satisfactory for a test of the Z hole experiment. I have been giving more consideration to the subject and my present thinking is as follows.

As you know, the whole thing is quite speculative. In order to be reasonably sure of getting something for the effort expended, I expect to bring with me duplicate equipments and make simultaneous recordings at two frequencies. One frequency will be in the region 500 to 1000 kc where the Z hole phenomenon should occur. The other frequency will be in the region 2000 to 2500 kc where the ionosphere should be reasonably transparent when f^oF_2 is between 1000 and 1500 kc.

Before a lot of time and money is expended on tall poles, I wish to make some listening tests using improvised antennas on what ever poles may presently be available. This is desirable to be sure that man made electrical noises from farm lighting plants, etc do not dominate the situation. Also it will be possible to find out what frequencies are vacant in the early morning hours. The situation on this subject is very bad here in Hawaii.

If possible, please send to me some kind of a layout showing where present poles are located and their height. You mentioned a Berkner dipole. While I know Berkner, I don't recall what his dipole happens to be. Perhaps you can refresh my memory. Also please indicate where the building is located so that I may secure an idea of what kind of antennas may be installed easily.

I am applying for an export license to get my apparatus out of this country. If agreeable to you, I will address the cases to myself in your care at Hobart. I expect to ship the cases and come myself aboard the Orion of the Orient Line leaving Honolulu on October 17th and arriving in Sydney November 1st. About November 15th I should find my way to Hobart after seeing the work in progress at Sydney.

So far I haven't received any word about the f^oF_2 tabulations. Since time is getting short, there is no particular point to pressing this matter as I will not be able to do much with the data now. However I would be interested to receive a few typical night time values for May and June 1954 and a statement as to how they compare with the 1953 figures. The early morning criticals here are all somewhat lower than last year; so the solar activity cycle is still declining.

Sincerely yours,

Grote Reber