

Dennistoun, Bothwell,
Tasmania, Australia.

20th February, 1967.

Dr. Everett H. Hurlburt,
Department of Astronomy,
National Science Foundation,
WASHINGTON, D.C., 20550, U.S.A.

Dear Dr. Hurlburt,

Thank you for your informative letter of 13th February, 1967 which arrived in good time. I trust your Advisory Panel on Astronomy is not merely a group which approves programs organized and laid before it by others, and that considerable flexibility exists in the N.S.F. financing.

Optical astronomy has a wavelength range of about two to one from the red to the violet. Thus everyone must purchase rather similar equipments and carry out similar studies. Radio astronomy has a wavelength range of several thousand to one. Over this vast spectrum a wide variety of very different natural phenomena are encountered. The equipments needed at different parts of the spectrum bear little physical resemblance.

It is not possible for me to work out a detailed proposal from this distance in the time available. However I expect to perform northern hemisphere studies similar to those recently completed very successfully here at hectometer waves. The installation will be an enlarged, refined, more versatile and elegant version of my establishment here. The cost will be about 10^6 dollars. The first years work will include, clearing and draining land, making roads, adjusting fences, constructing a building and performing a survey. The cost will be about 10^5 dollars. This sum can be easily made available by a slight contraction of routine microwave work at Green Bank, and a curtailment of groups studying extravaganzas which will never come into existence.

Now is the time for N.S.F. to diversify its support of radio astronomy both in content and base. The meager region of wavelengths below one meter has received all the attention; leaving quite neglected the vast range of wavelengths to beyond one hundred meters. I must note that the discoverer of celestial radio waves, Karl G. Jansky, made his observations at fifteen meters wavelength. His unique studies have never been followed

2./...

up during the past thirty-five years. Likewise the base of U.S.F. support has been much too localized at N.R.A.O. This site is quite unsuitable for equipments and observations at the longer wavelengths. As a conscious plan, N. .A.O. should be gradually contracted in favour of scientifically more auspicious long wave programs at other places throughout the country. Thus, eventually N.S.F. will be able to get out of Green Bank in a graceful manner.

I have no information about your Advisory Panel on Astronomy. However, you must realize that I have been very disenchanted and annoyed by the unimaginative and selfish report issued by another panel three years ago. Please send to me the names, affiliations, addresses and tenures of the members of the panel. How often does the membership rotate? Please mimeograph this letter in full and send copies to the panel members for formal consideration and discussion at the meeting of 3rd and 4th April, 1967. I will be back in U.S.A. in two months to learn in person the thoughts developed by the panel. By the time the panel meets next autumn I will have selected a site and be ready to start clearing land. I hope the panel will have 10⁵ dollars on hand, ready to go.

Sincerely yours,

Grote Reber.

GR/JCA