

FCC

ET Docket No. 02-135

Chairman Powell, Director Kolodzy, and Spectrum Task Force members,

I am writing to comment on the Spectrum Policy Task Force's "tentative work plan" as described in the public notice released on June 6, 2002.

My first comment would be that the one month comment period provided does not seem nearly long enough to elicit the most complete and wide-ranging commentary from the various communities potentially affected by any changes such as the ones you will consider, which is unfortunate.

I write to you as an astronomer who feels it is important to maintain some (relatively few and narrow) bands of the radio spectrum protected for scientific studies.

Radio scientists have made important contributions over more than half a century to the development of important technologies with applications in the telecommunications, electronics, and defense industries. Often these applications have arisen as a byproduct of studies in basic science, such as radio astronomy, and there is good reason to believe that with continued innovation in radio astronomical techniques, further wider-ranging benefits for industry and society at large will accrue. These potential benefits are in general in addition and complementary to those obtained by more directed applied research in industrial laboratories. However such endeavors will be severely hampered, and eventually may cease altogether, without the availability of some protected bands for radio astronomy.

Activities in radio astronomy also have an important educational component, leading to the training of new generations of scientists and technicians who more often than not end up using their skills imaginatively in other fields. Although it is difficult to place a specific monetary value on the above activities, there is undoubtedly a significant such value associated with them. Finally, these activities have the value associated with any human endeavor that attempts to better understand the universe and our place in it.

As a recognition of the value of these scientific endeavors, there continues to be considerable investment of public funds into world-class national radio-astronomical facilities (about \$100 million were spent in the past few years in the construction of the new Green Bank Telescope in West Virginia, located in the "national radio quiet zone", and in the upgrade of the largest telescope in the world, in Arecibo, Puerto Rico). These facilities often are also used in conjunction with telescopes located in other countries in international collaborations which would be adversely affected by a deterioration of the radio-frequency environment at US telescopes. Maintaining the requisite protection of electromagnetic spectrum (sometimes limited to specific geographical areas) is necessary to protect what is already a large investment of tax-payer funds into these unique facilities.

The need for new regulations is unclear insofar as protection of radio spectrum for radio astronomical activities is concerned. It may be

that strict(er) implementation of the existing regulations is sufficient. This is in part a technical matter, but a key issue of concern is that man-made emitters are continually expanding in number, power and band used, while the astronomical sources (stars, galaxies, etc) remain by comparison extremely weak and necessarily in unchanging portions of the electromagnetic spectrum. Lastly, scientific facilities and their users have insignificant economic leverage.

The protection of this fragile resource (the availability of some particular bands of the electromagnetic spectrum for use in radio astronomical research) therefore requires the continued recognition of its importance and particular status by the community at large, including by relevant agencies such as the FCC, and cannot simply be left to market forces.

With best wishes,
Fernando Camilo