

Date: July 8, 2002
Re: Comments to the FCC Spectrum Policy Task Force
From: The International Dark-Sky Association

These comments are filed on behalf of the International Dark Sky Association (IDA) which has nearly 9000 members in 70 countries including more than 8,000 members in the U.S.A. alone. The IDA has a long history of working with industry, government, and the general public to promote the efficient use of lighting and high quality lighting and lighting design. The end result is cost savings to the consumer and reduced levels of obtrusive light for all. The IDA is actively involved in applying these same ideas to radio frequency interference issues and appreciates the opportunity to respond to the task force's questions.

1) When migrating to a more market oriented allocation of frequency space, we must be sure to protect those frequencies unique to probing our environment and the physical conditions in astronomical sources. IDA embraces the concept of establishing the equivalent of national electromagnetic parks that preserve the pristine conditions required for astronomical research in certain frequency regimes. Of particular importance is to protect frequencies associated with the emission and absorption of energy by atomic and molecular species such as atomic hydrogen, carbon monoxide, and some transitions of water and oxygen. Studies of the radio frequency spectra of these molecules are important for understanding our own atmosphere as well as the origin of stars, planets, and the universe.

2) In many instances, rule flexibility is positive both scientifically and economically, but care must be taken to ensure the protection of frequencies that can uniquely probe the Earth's atmosphere and our cosmic origins.

3) Just as the situation where nature has designated certain frequencies as being unique, certain geographical locations are also unique in their ability to provide us with a clear view of the universe. This situation is particularly true for high, dry mountaintop sites. These sites are far less effected by the deleterious effects of absorption by water vapor in the Earth's atmosphere. Such high mountain sites have a much more distant horizon than normal. Special efforts must be made, even at high frequencies (> 100 GHz), to protect them from interference from terrestrial sources.

4) Market-oriented allocations and policies of the spectrum must protect the spectrum national parks. The FCC should take on the role of "park rangers" to protect these frequencies.

5) Unlicensed operation of devices should be minimized.

6) Experimentation and innovation should be encouraged, it can lead to a better use of the spectrum, but care must be taken to ensure the protection of the passive use of radio frequencies for sensitive scientific investigations.

10) The IDA has worked hard to help reduce the effects of "wasted" light and supports similar efforts to reduce the radiated power level at radio frequencies. When high power levels are used, care must be taken to reduce the effects of spurious, out-of-band emission.

