Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
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Spectrum Policy Task Force Report	)	ET Docket No. 02- 135
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Comments of Comsearch

Comsearch, pursuant to §1.415 of the FCC rules, hereby respectfully submits the following comments in response to the Report issued by the Spectrum Policy Task Force ("Task Force") in the above captioned proceeding.

Comsearch is an independent engineering firm specializing in spectrum management of fixed point-to-point and point-to-multipoint terrestrial microwave, satellite and mobile telecommunications systems. Comsearch has spent the past 25 years working with the FCC and actively participating in various leading industry groups to develop rules, industry recommendations, and standards to promote efficient use of the radio spectrum. Our direct experience in the spectrum management process which includes expertise in system design and radio frequency engineering, coordination, regulatory support, database management, and software development makes us qualified to comment in this proceeding.

We applaud the work of the Spectrum Policy Task Force in their efforts to identify ways to improve the current spectrum management process. The Report covers many of the key areas to be considered when developing an effective spectrum policy providing a number of new concepts and novel approaches to a complex problem. The findings and recommendations of the Task Force represent a significant step forward in developing a comprehensive spectrum management policy to more adequately address current and future spectrum use and requirements. We look forward to participating in future activities that may arise out of this proceeding and offer the Commission our expertise and support.

Interference Avoidance

As the Report correctly points out, interference management has become more difficult over the years due to the increasing number of different types of users, uses and technologies. Interference avoidance is one of the cornerstone elements that must be considered when deriving a sound spectrum management policy. It cannot be overlooked or relegated to a secondary issue in the quest to provide users with more flexibility and less regulation. While technological advances such as smart antennas, software defined radios, automatic transmitter power control, and advanced coding techniques will act as mitigating factors, harmful interference will always be a concern, especially with increased levels of spectrum usage.

In the Report the Task Force recommends the adoption of a new quantitative approach to interference management based on the concept of "interference temperature." The Task Force recommends that different thresholds be set for each band after a careful review of the RF noise floor. While it is an interesting concept worthy of additional consideration, particularly for understanding ambient interference levels, the interference temperature concept appears to be oversimplified in the Report and requires clarification.

For instance, while the interference temperature is the noise level that a device is expected to tolerate, the Report seems to indicate that it is also a measure of the amount of power that an unlicensed device would be allowed to transmit. But an unlicensed device that could only transmit an ERP comparable to or slightly above the ambient noise floor would not be very useful. On the other hand, if unlicensed devices were allowed to transmit power levels high enough to establish communications over appreciable distances[1], the ERP levels would likely be well above the interference temperature, and the devices would then also be capable of causing interference to co-channel licensed devices within a certain radius. Operation of the unlicensed devices therefore would impact the incumbent licensed users in terms of reduced service area, although the impact could be judged to be minimal and in the public interest. We fail to see how an unlicensed device could determine the potential effect of its transmissions on devices of a co-channel licensed service simply by performing passive interference temperature measurements and without knowing the locations of the licensed devices. For the point-to-point microwave bands, we believe that the interference temperature is approximately

[1] See, for example, 47 C.F.R. §15.247 for presently allowable transmitter power levels.

–109 dBm/MHz due not to external interference but to the thermal noise performance of the receiver itself.

Enforcement

We agree with the Task Force's findings that sufficient enforcement of the spectrum management rules is a key component to implementing a successful spectrum management policy.[2] Regardless of the spectrum management regime, some type of enforcement is necessary to adequately meet the increasingly complex demands on spectrum use. Additional focus should be placed on the development of a comprehensive field monitoring and data collection program, including the use of independent spectrum usage audits. The data collected will provide the essential information needed by the Commission to evaluate the efficacy of existing policies and aid in the development of future policies. The Commission should consider outsourcing this data collection and measurement activity to independent commercial entities while maintaining oversight and control of its statutory forfeiture authority.

Unlicensed Usage

We concur with the Task Force recommendation that some form of frequency management should be implemented in any new unlicensed bands.[3] By most accounts, the unlicensed spectrum has proven to provide significant benefits to the public. These bands have fostered many useful devices such as cordless telephones and wireless LANs. As devices increase power and move to outdoor applications or try to go commercial,

[2] Spectrum Policy Task Force Report at page 23.

interference becomes more of a problem. One way to avoid and/or minimize interference concerns in future unlicensed spectrum is to implement an industry controlled device registration process. The registration could be performed via the internet and provide a quick and reliable assessment of the interference environment. Registrants would be granted interference protection on a first-come first-served basis. The process would also be applicable in shared bands where analysis against incumbent data and coordination would be required. The unlicensed bands are often compared to the Internet as an example of flexibility and non-regulation. However, just as the Internet requires domain names to be registered to provide some order and efficiency, so too should unlicensed systems operation be registered.

Spectrum Policy

We agree with most of the Task Force's recommendations regarding the key elements of new spectrum policy. Spectrum users should be given the maximum flexibility possible, they should be given clear spectrum rights and responsibilities, there should be incentives to encourage efficient use of the spectrum, and the Commission should establish efficient and reliable enforcement mechanisms.

We agree with the Task Force conclusion that "one size does not fit all" in spectrum management. While the Task Force primarily encourages the use of market-based allocation methods, we believe that a market oriented approach clearly does not make sense for spectrum primarily envisioned or used for point-to-point applications. A

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[3] Spectrum Policy Task Force Report at page 54.

market approach in these situations only creates an arbitrary shortage of spectrum where none truly exists. On the contrary, under the current site-by-site licensing regime found in the Part 101 microwave bands, there is virtually no barrier to spectrum access and thousands of disparate operators co-exist on an interference free basis. The Part 101 coordination and licensing regime leads to an extremely efficient use of the spectrum. While increased efficiencies could be gained through more flexible rules and greater use of industry oversight, a market oriented approach in this case goes against the overall spectrum policy goals.

Government/Commercial Coordination

In its review of the experimental licensing process, the Task Force identified delays inherent in the current frequency coordination procedure for experimental license applications in the bands used exclusively by the federal government or shared with the federal government. These applications are initially filed with the FCC for review but they must also be coordinated with NTIA for an interference assessment and undergo final review by the Interdepartmental Radio Advisory Committee (IRAC). The report states that some applications may remain in the coordination process for considerable periods of time, in some instances in excess of one year. To facilitate the expeditious resolution of potential interference issues, the Task force recommends that the FCC and NTIA consider implementing a new type of interface process between non-federal government spectrum users and IRAC members that would provide more direct interaction between the parties. In addition, the Task Force believes that it would be

helpful to have more information about the use of certain bands for experimentation – particularly government transfer bands – available to the public.

We find the Task Force's depiction of the delays inherent in the existing government/commercial shared band coordination process to be accurate based upon our own direct experience and agree with the findings that modification to the current process is warranted. The Report, however somehow fails to recognize that the problems associated with this process affect all commercial applications that require NTIA and IRAC review and are not limited solely to experimental application requests.[4] We join with the Task Force in recommending that the FCC and NTIA look to develop new coordination procedures that would not only facilitate the flow of information and subsequent resolution of interference concerns affecting experimental license applications, but would also be applicable for **all** shared band applications. We believe that significant improvements in the inter-agency coordination process can be achieved by establishing an independent private sector entity to work directly with the FCC, NTIA, and IRAC member organizations. In cooperation with all of the agencies involved, this entity would aid in the development and implementation of a consensus approach to interference assessment and mitigation. It would facilitate the process by providing both the government and private sector with a knowledgeable point of contact capable of accurately assessing the interference potential and help both parties search for workable solutions.

We agree with the Task Force recommendation that commercial access to information about government spectrum use would be extremely helpful, not only for experimentation purposes, but also for ongoing operations. We believe that with the appropriate guidelines and restrictions in place, access to the Government Master File (GMF) by a private sector entity or entities could be feasible and would provide substantial benefit for both the government and private sector. As mentioned previously, this entity would provide both sides with an additional expertise upon which to draw upon. In bands shared on a co-primary basis, it would streamline the current application process by providing the commercial sector with the ability to perform detailed interference analysis during the initial design phase. Currently, commercial systems in shared bands are engineered blindly, without having the benefit of the government data necessary to perform a complete analysis. Problems that may be identified with government systems come to light only after application submittal and a long period of government review, placing significant cost and risk burdens upon the applicant.

[4] See FCC File Number 0000416304. This 900 MHz point-to-point application was delayed in the Government coordination process for 10 months with no action.

Conclusion

We request that the Commission consider our preceding comments in this complex review of spectrum management policies.

Respectfully Submitted,

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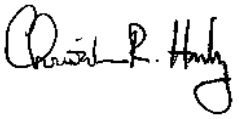

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