

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

Commission Seeks Public Comment on
Spectrum Policy Task Force Report

To: The Commission

ET Docket No. 02-135

COMMENTS OF UTAM, INC.

UTAM, Inc. (“UTAM”), the Commission’s designated frequency coordinator for the unlicensed personal communications services (“UPCS”) band,¹ hereby respectfully submits its comments in response to the Federal Communications Commission’s (“Commission” or “FCC”) Public Notice, ET Docket No. 02-135, entitled “Commission Seeks Public Comment on Spectrum Policy Task Force Report” (“Public Notice” or “Notice”).² UTAM commends the FCC on its proactive approach to spectrum policy, and concurs with the conclusion by the Spectrum Policy Task Force (the “Task Force”) that a policy framework that adequately provides for low power unlicensed devices is critical to the public interest. UTAM supports the Task Force’s specific recommendations designed to promote the development of unlicensed technologies, including: (1) the designation of additional bands for unlicensed spectrum and the utilization, where appropriate, of an “interference

¹ The voting membership of UTAM, Inc., currently consists of Alcatel Internetworking USA, ASCOM Wireless Solutions, Avaya, Cortelco, IWATSU America, Motorola, Inc., NEC America, Inc., Nortel Networks Inc., SpectraLink Corporation, ECI Telecom, Inc., Comdial, and Toshiba. UTAM also has numerous associate members.

² Commission Seeks Comment On Spectrum Policy Task Force Report, FCC Public Notice, FCC 02-322 (Sept. 6, 2002).

temperature metric”³ to examine where and how unlicensed technologies can be deployed; and (2) increased use of a “commons”⁴ approach to spectrum allocation, especially if the model can be adopted to confer some degree of interference protection on unlicensed systems. In order to fully promote the Report’s stated objectives of expanding access to spectrum and ensuring the continued development of unlicensed devices, UTAM also urges the Commission to pursue policies that create an environment conducive, rather than detrimental, to the research and development of unlicensed devices.

I. INTRODUCTION

In 1994, the Commission allocated 20 MHz of spectrum exclusively to unlicensed personal communications service (“UPCS”) operations.⁵ In the *Memorandum Opinion and Order* allocating the current UPCS spectrum, the Commission designated UTAM as the coordinating body to oversee the spectrum transition from fixed microwave operations to unlicensed PCS and to manage the transition to full-band clearing.⁶ Since 1994, UTAM and its members have witnessed firsthand the success of the agency’s decision to allocate spectrum for unlicensed use. Despite a slowing economy, demand for unlicensed products -- such as UPCS devices -- continues to grow as applications of unlicensed wireless technology penetrates all facets of business, education and health care. In an effort to promote efficient spectrum utilization and ensure the continued deployment of innovative UPCS applications that deliver valuable benefits to the American public, UTAM and its

³ As discussed more fully below, the Task Force Report recommends the Commission eventually adopt a more quantitative approach to interference management, one that utilizes “interference temperature thresholds” for managing interference at the receiver level, together with the continued use of established “acceptable” levels of interference. See Task Force Report at 27-30.

⁴ The Task Force’s proposed “commons” model of spectrum allocation allows unlimited numbers of unlicensed users to share frequencies, with usage rights that are governed by technical standards or etiquettes but with no right to be protected from interference. See *id.* at 35.

⁵ See Amendment of the Commission’s Rules to Establish New Personal Communications Services, *Memorandum Opinion and Order*, 75 RR 2d 491, 9 FCC Rcd 4957 (1994) (“1994 Order”).

⁶ See 1994 Order at ¶ 209.

UPCS industry members have expended considerable efforts and resources to develop the UPCS band, and have achieved great success in clearing incumbent microwave licensees from the band.⁷ Given these considerable efforts, and their continued commitment to the development, deployment and marketing of unlicensed products such as UPCS devices, UTAM and its members have particular interest in the recommendations posed in the Task Force Report.

II. A POLICY FRAMEWORK THAT ADEQUATELY PROVIDES FOR LOW POWER UNLICENSED DEVICES IS CRITICAL TO THE PUBLIC INTEREST

The Task Force Report recognizes that advances in the development of unlicensed low power wireless devices have significantly increased the diversity of service offerings, qualitatively improved existing services, and are providing the American public with significant technological and economic benefits in the form of low-power short-distance communications.⁸ The Report also notes that the convenience, efficiency and recognized benefits of unlicensed devices has led to a surging consumer demand for spectrum-based services and devices.⁹ As the Unlicensed Devices and Experimental Licenses Working Group observed, unlicensed devices “have improved productivity, provided consumers with new products and services and generally benefited the U.S. public, its industries, and its economy.”¹⁰

Indeed, the Commission need only look at present utilization of the UPCS band for evidence of how the lost cost, flexibility and convenience of unlicensed devices has created significant benefits for the American public. From small businesses to large businesses, from small elementary schools to college campuses, the use of these unlicensed wireless devices has improved productivity and has made communications more convenient. In many industries, the use of these devices is almost a

⁷ See In the Matter of Amendment of the Commission’s Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, January 2003 UTAM Report to the FCC (filed December 30, 2002).

⁸ See Task Force Report at 12, 40.

⁹ See *id.* at 12-13, 54.

¹⁰ Report of the Unlicensed Devices and Experimental Licenses Working Group at 11.

competitive necessity; in others, such as nuclear power plants and hospitals, these systems serve mission-critical applications because of the heightened interference protection that UPCS devices provide. In addition, the sizes of the systems being deployed continue to grow and, in many cases, are supporting hundreds of users. Just a few examples of UPCS applications include:

- Doctors and nurses in hospitals are now equipped with wireless handsets so that they can communicate directly from the patient's bedside rather than paging the doctor from the nurses' station and waiting to receive a call from the doctor. Hospitals have also equipped operating room set-up staff with wireless handsets and have reduced room preparation time significantly, allowing the hospitals to perform operations more efficiently and without the need for additional operating rooms;
- State and local governments have employed UPCS devices in providing services to their constituents. These systems provide much-needed relief to other wireless systems, such as cellular systems, which at times are overtaxed and operating at capacity;
- Over a dozen commercial nuclear power plants within the United States use a UPCS product for facility-wide communications, and rely heavily upon this system during the high-risk reactor refueling process;
- Schoolteachers now have access to a telephone in their classrooms and elsewhere on school grounds, allowing them instantly to report security problems or request medical assistance in emergency situations;
- All United States stock and commodity exchanges use a UPCS product and view the UPCS system as critical for facilitating trading, especially where the ability to act quickly is a business necessity;
- Customer service representatives in both large and small companies are able to seek assistance from more senior employees in answering customer questions and are not constrained to one location;
- Warehouse staff members use UPCS devices to communicate directly with those placing service orders without the need to locate a conventional wired telephone and therefore have seen an increase in customer satisfaction.

These uses represent only a few examples of the myriad ways in which UPCS products have benefited the American public and, in some instances, have become an critical component of conducting business.

In order to increase opportunities for such technologically innovative and economically efficient spectrum use, the Task Force Report recommends that the Commission move away from the

legacy command-and-control regulation towards allocation policies that allow for the “maximum feasible flexibility of spectrum use” by unlicensed users.¹¹ UTAM concurs with the Task Force that a new policy framework that adequately provides for increased use of low power unlicensed devices is critical to the public interest. The success that the creation of unlicensed bands has had in bringing the convenience, efficiency and recognized benefits of unlicensed devices to the American public is undisputed, and the use of unlicensed devices continues to increase the productivity and competitiveness of businesses in virtually every sector of the American economy. The adoption of a policy framework that builds upon these past successes and provides room for future innovation in unlicensed technologies and services will help ensure that the United States remains a leader in telecommunications innovation and that American businesses and consumers continue to benefit from the increased productivity, convenience and flexibility made possible by through the use of unlicensed devices. As Chairman Powell noted at the final day of the public workshops convened by the Task Force, unless “serious consideration” is given to new developments such as how to expand and exploit the values of the unlicensed bands, “we freeze ourselves in time to the detriment of the market, the technology and our citizens.”¹²

III. UTAM GENERALLY SUPPORTS THE TASK FORCE’S SPECIFIC RECOMMENDATIONS TO PROMOTE THE DEVELOPMENT OF UNLICENSED TECHNOLOGIES

The Task Force Report recognizes, however, that the phenomenal increase in demand for these innovative unlicensed services and devices is straining the Commission’s current spectrum allocation policies. Access to available spectrum is becoming more and more limited, in part due to outmoded allocation policies that do not reflect and capitalize upon the significant technological

¹¹ Task Force Report at 15.

¹² FCC Chairman Michael K. Powell Outlines Critical Elements of Future Spectrum Policy, *News Release* (rel. August 9, 2002).

advancements made in spectrum-based services and products.¹³ According to the Task Force, however, spectrum access is a more significant problem than physical scarcity of spectrum in many bands. The Task Force therefore urges the Commission to move away from the legacy command-and-control regulation that limits the ability to obtain access to spectrum and to implement alternative models of spectrum allocation, such as the “commons” model, that allow for the maximum feasible flexibility of spectrum use.¹⁴ According to the Task Force, by permitting more flexible and efficient use of the spectrum and by being more responsive to the increased technological capabilities of wireless services and products, these alternative models could help minimize the effects of the physical scarcity of the spectrum.¹⁵ UTAM supports the Task Force’s recommendation that the Commission move away from command-and-control regulation and towards regulatory approaches, such as the “commons” approach, that increase the flexibility and efficient use of the spectrum. As the Report recognizes, the “commons” approach has particular applicability in the creation of “underlay” rights for low-power, low-impact unlicensed devices across the entire range of spectrum.¹⁶

The Task Force also recognizes the success that the creation of unlicensed bands has had in allowing the rapid introduction of new technology into the marketplace. The Task Force therefore recommends that, in addition to expanded use of the “commons” model, the Commission increase the opportunities for low-power, low-impact devices by designating additional bands for unlicensed use.¹⁷ UTAM concurs with the Report’s conclusion that expansion of low-power uses should be considered and that additional spectrum is needed for unlicensed operations. Unless the spectrum shortage and anticipated congestion in the frequency bands currently allocated to unlicensed services

¹³ Task Force Report at 11-12.

¹⁴ *See id.* at 15.

¹⁵ *Id.* at 14-15.

¹⁶ *See* Task Force Report at 40.

¹⁷ *See id.* at 40, 54.

is addressed, the innovation and development of new products and services that can benefit the U.S. public, its industries, and its economy may be stifled.

In conjunction with these proposed alternative allocation models, the Task Force Report recommends the Commission also eventually adopt a more quantitative approach to interference management, one that utilizes “interference temperature thresholds” for managing interference at the receiver level, together with the continued use of established “acceptable” levels of interference.¹⁸ UTAM agrees that the interference temperature metric may be a useful mechanism for examining where and how unlicensed technologies can be deployed in the future. The recommended “interference temperature” approach is a long-term solution, however, requiring significant developments in technology before implementation.

As a final matter, UTAM notes that, under the current Part 15 allocation model, unlicensed devices do not receive any interference protection and must protect licensed spectrum users. As the market demand for unlicensed devices continues to grow, this lack of protection becomes more problematic for users that increasingly rely on products such as UPCS devices, and may ultimately stifle innovation and development in the marketplace. UTAM believes that a model providing some protection for unlicensed devices vis-à-vis other spectrum users – or increased use of “safe harbors” – would serve the public interest. Providing a limited degree of interference protection would create an environment of regulatory certainty, resulting in more competition and the continued development of innovative low-cost unlicensed devices that use the scarce spectrum resource more efficiently.

IV. THE COMMISSION MUST ENSURE THAT ITS POLICIES CREATE AN ENVIRONMENT THAT IS CONDUCTIVE TO RESEARCH AND DEVELOPMENT IN UNLICENSED TECHNOLOGIES

Regardless of the regulatory model used to achieve the Commission’s goal of optimizing and facilitating access to and use of the radio spectrum, the Commission must ensure that its policy

¹⁸ See Task Force Report at 26-30.

reforms encourage the continued research, development and deployment of new and innovative technologies, services and applications. As the Task Force recognized, advances in technology have increased the diversity of service offerings, qualitatively improved existing services and devices, have created the potential for systems to use spectrum more intensively and efficiently.¹⁹ Part and parcel of this goal is ensuring that existing allocations are not undermined, detracting from the significant innovations already achieved in bringing the benefits of wireless communications to the American public.

The development and deployment of UPCS systems in the 1910-1930 MHz band provides a good example of how the research and development of new and innovative services and applications can bring a myriad of benefits to the American public. The Commission designated the current UPCS band for unlicensed use in 1994, in an effort to “provide licensees and developers of unlicensed equipment the maximum degree of flexibility to introduce a wide variety of new and innovative telecommunications services and equipment.”²⁰ In reliance upon this decision, UTAM and its industry members invested considerable resources to manage the band and successfully clear incumbent microwave licensees from the band, as well as to develop innovative UPCS products to meet customer demand. As noted above, these products and services have come to be relied upon by hundreds of thousands of end users, and in many instances serve mission-or business-critical applications. Moreover, with the incumbent microwave licensees on the verge of being removed entirely, the enhanced ability to deploy nomadic devices will open broad new market vistas for UPCS products.

¹⁹ See Task Force Report at 3, 12-13, 32.

²⁰ Amendment of the Commission's Rules to Establish New Personal Communications Services, *Second Report and Order*, 8 FCC Rcd 7700, 7702 (1993); see also, Amendment of the Commission's Rules to Establish New Personal Communications Services, *Memorandum Opinion and Order*, 9 FCC Rcd 4957 (1994) (“1994 Order”) (establishing current UPCS allocation).

Notwithstanding the considerable efforts and resources that UTAM and its industry members have devoted to developing and deploying products and services within the UPCS band and the considerable funds end users have invested in UPCS systems, there have been several recent proposals to “reallocate” the 1910-1930 MHz spectrum for uses other than UPCS.²¹ In a series of comments and presentations, UTAM has emphasized that such reallocations would harm the public interest by: (1) upsetting the reasonable expectations of UPCS equipment manufacturers, distributors and end-users who have invested considerable efforts and resources in good-faith reliance upon—and in compliance with—the FCC’s stated intents and requirements; (2) leaving the entire market of UPCS users, who have come to rely upon UPCS services to satisfy critical service needs, without service and without adequate substitutes; and (3) threatening the rollout of a variety of new and innovative UPCS devices that otherwise would soon be feasible upon full clearing of the band.

UTAM submits that the proposals to reallocate the UPCS band represent a direction in spectrum policy that would be antithetical to the Commission’s long-stated goal of creating an environment where investment in the research and development of new and innovative unlicensed devices is encouraged. By upsetting the reasonable and legitimate expectations of industry members and end users, who have both expended considerable efforts and funds to develop a market space in unlicensed technology, such reallocation proposals create an environment where investment in new and efficient technologies and services is curtailed due to fears of future reallocation and displacement. Instead, the Commission should continue to strive to ensure that its policies create an environment that is conducive, rather than injurious, to the research and development of unlicensed

²¹ See Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, FCC 01-224 (rel. Aug. 20, 2001); In the Matter of Improving Public Safety Communication in the 800 MHz Band, Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket No. 02-55, *Notice of Proposed Rulemaking*, FCC 02-81 (rel. Mar. 15, 2002).

technologies by permitting manufacturers and end users to reap the benefits of those investments without fear of future reallocation and displacement.

V. CONCLUSION

UTAM concurs with the Task Force's conclusion that a policy framework that adequately provides for low power unlicensed devices is critical to the public interest. Further, UTAM supports the Task Force's specific recommendations designed to promote the development of unlicensed technologies, including: (1) the designation of additional bands for unlicensed spectrum and the utilization, where appropriate, of an "interference temperature metric" to examine where and how unlicensed technologies can be deployed; and (2) the adoption of the recommended "commons" approach to spectrum allocation. In order to fully promote expanded access to spectrum and ensure the continued development of unlicensed devices, however, UTAM urges the Commission to consider "commons" models that confer some degree of interference protection on unlicensed systems. Finally, the Commission must encourage the continued research, development and deployment of new and innovative technologies, services and applications by avoiding allocation policies that create an environment where research and development is curtailed due to fears of future reallocation and displacement.

Respectfully submitted,

UTAM, INC.

By: /s/ Sandy Abramson

Sandy Abramson
President
991 Route 22 - Ste. 104
Bridgewater, NJ 08807
(908) 526-3636

Dated: January 27, 2003