

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

In the Matter of)
)
Issues Related to the Commission’s) ET Docket No. 02-135
Spectrum Policies)

To: The Spectrum Policy Task Force

REPLY COMMENTS OF SPRINT CORPORATION

Sprint Corporation (“Sprint”) hereby replies to the comments filed in response to the Spectrum Policy Task Force’s Public Notice.

INTRODUCTION

The Public Notice elicited comment from a wide array of parties interested in the future of U.S. Government spectrum management policy. The comments demonstrate consensus regarding a number of the views expressed by Sprint in the initial round. Importantly, parties generally recognize that Commission licenses confer certain essential rights, and that these rights foster investment and innovation in spectrum-based services.¹ Further, parties acknowledge that a core Commission function is to protect licensees from harmful interference.²

Ultimately, as Cingular observes, a market-oriented spectrum regime demands that the Commission “ensure that its spectrum management policy promotes certainty.”³ Licensee rights and responsibilities must be defined “without ambiguity” because “markets do not do well in al-

¹ See, e.g., AT&T Wireless Ex Parte Comments at 2-3; Winstar Communications LLC Comments at 6; Cingular Comments at 9.

² See, e.g., Motorola Comments at 3; CTIA Comments at 12; Cisco Comments at 2; Satellite Broadcasting and Communications Association Comments at 4-5; Satellite Industry Association Comments at 13-14.

locating rights that may be subject to significant change by regulators in the future.”⁴ As Chairman Powell has recognized, in order to implement a market-oriented spectrum policy, it is “vital” that the Commission “clearly define spectrum interference limits and usage rights.”⁵ To preserve and encourage investment and deployment and to promote efficient spectrum use, the Commission must affirm and enforce licensee’s fundamental spectrum rights.

By way of summary, Sprint sets out the following brief synopsis of its core position:

1. *The Commission should confirm a basic set of rights possessed by licensees in non-shared spectrum, including the right to exclusivity, the right to protection from harmful interference, and the right to renewal expectancy.* These rights are necessary to create an environment conducive to investment, deployment, and innovation. And these rights are essential to maximize spectrum utilization and to foster efficient spectrum use. Further, there can be financial consequences to the government if the Commission curtails the rights of incumbent licensees who obtained their spectrum at auction.
2. *The Commission should confirm that interference protection is a core Commission responsibility and should update its approach to account for modern wireless technologies and a market-oriented spectrum policy.* As applied today, the harmful interference standard is subjective and does not take into account modern technologies and the proliferation of new devices. For example, the impact of a large number of unlicensed devices may be subtle and difficult to identify, but harmful nonetheless. In addition, the current standard does not consider the adaptive capabilities used by many modern systems, which may maintain the affected communications link but experience an overall loss of system capacity and coverage. Proponents of new services have the burden of demonstrating the absence of harmful interference to existing licensees, and the FCC must affirm and enforce this burden.
3. *Spectrum sharing can inhibit incumbent licensees from taking advantage of more spectrally efficient technologies and undermine essential innovation and continued efficiencies.* Spectrum sharing will not improve spectrum efficiency in all cases. Sharing may instead constrain incumbent licensees’ ability – and incentive – to achieve spectrum efficiency, because spectrum efficient systems are often more interference-limited. If operators must account for the possibility that some unknown new

³ Cingular Comments at 27.

⁴ *Id.* at 26.

⁵ Remarks of Chairman Michael K. Powell, “*Digital Broadband Migration*” Part II (Oct. 23, 2001).

interference level may be introduced at some time in the future, they must necessarily incorporate some unused margin in their interference budgets, which will result in sub-optimal design.

In this reply, Sprint will focus on the important concerns regarding spectrum sharing, or the overlay of new services or technologies onto spectrum already licensed to existing providers.

DISCUSSION

Sprint urges the Commission to recognize that any discussion of proposed overlay services or technologies must begin by considering incumbent licensees' right to exclusive use, with renewal expectancy; their right to protection from harmful interference; and their right to evolve service offerings as the marketplace and technology develop, based on the exclusive use grant. As Commissioner Abernathy recently noted, in any consideration of spectrum sharing "the Commission should first ask itself: what is the bundle of rights associated with the current licensee?"⁶ She continued, affirming that "[l]icensees must be granted certainty about the bundle of rights they have acquired to enable investment and innovation."⁷

By contrast, the Commission should be "skeptical" of sharing proposals involving previously licensed bands "because of the difficult technical issues involved and the degree to which they may diminish the property-like rights associated with licensed services."⁸ There is simply too much at risk for American consumers, for service providers, and for the investment community. In this context, the U.S. GPS Industry Council notes that "[c]hanges that would disenfranchise or damage these existing [services] in the name of promoting promising but untested new

⁶ Remarks of Commissioner Kathleen Q. Abernathy, *What Tomorrow May Bring – the Future of the FCC's Licensed Spectrum Policy* (July 20, 2002).

⁷ *Id.*

⁸ Remarks of Commissioner Kathleen Q. Abernathy, *Unlicensed Spectrum Success – Lessons for the Next Chapter in FCC Spectrum Management* (July 18, 2002).

services” could substantially harm the communications sector and the nation’s economy as a whole.⁹ Similarly, AT&T Wireless observes that without “a hard and fast set of interference rules for the duration of the license,” market-oriented licensing and investment in new networks will suffer.¹⁰

Spectrum Sharing and Marketplace Uncertainty. Ultra-Wideband manufacturer XtremeSpectrum asserts that the Commission should embrace “a regulatory scheme that welcomes low-power, non-interfering devices in spectrum already allocated for other purposes.”¹¹ In reality, this overlay concept does not just affect spectrum “already allocated” but spectrum *already licensed for exclusive use*. A regulatory regime that “welcomes” spectrum sharing creates uncertainty regarding existing licensees’ rights to exclusive use and interference protection. Any such policy, in turn, would distort investment-backed expectations, deter future investment, and limit the utility of licensed spectrum.

Several proponents of unlicensed technologies and spectrum sharing seek to extend and, in some cases, invert the rules of unlicensed operations and the rights of licensees. XtremeSpectrum, for example, asserts that unlicensed technologies should be “entitled to objective, predictable technical rules” and a presumption of lawfulness.¹² The intent is to ensure that “[t]hose who design and invest in unlicensed technologies [can] do so in an environment of certainty and predictability.”¹³ PART-15.ORG proposes that the Commission adopt some form of interference protection among unlicensed technologies to provide secondary users with Commission-granted

⁹ U.S. GPS Industry Council Comments at 2.

¹⁰ AT&T Wireless Ex Parte Comments at 14.

¹¹ XtremeSpectrum Comments at 5.

¹² *Id.* at 6.

rights against the threat of the “tragedy of the commons.”¹⁴ Microsoft even suggests that the Commission should provide some unlicensed users with “a degree of protection from interference from individually licensed services.”¹⁵

These comments underscore that the Commission must confirm *the rights of licensees* -- it is licensees after all, not unlicensed operations, who properly should be provided with protections and certainties. The Commission has long held that “the most basic principle of Part 15 operations is the requirement to function in a non-interference manner in the midst of licensed devices.”¹⁶ Time and again, the Commission has sought to “reinforce” that Part 15 operations “have no vested or recognizable right” to continued use of a given frequency or interference protection.¹⁷ Instead, the Commission suggests that those “businesses and consumers that cannot tolerate potential interference should consider operation under a licensed radio service.”¹⁸ While there may be some benefit to modest modification of unlicensed use policy, the Commission must soundly reject any unlicensed proposal that would in any way diminish the rights of licensees.¹⁹

¹³ *Id.* at 8.

¹⁴ *See* PART-15 Organization Comments at 7.

¹⁵ Microsoft Comments at 4.

¹⁶ *Amendment of Part 15 of the Commission’s Rules Regarding Spread Spectrum Devices*, First Report and Order, 15 FCC Rcd. 16244, 16252 (2000).

¹⁷ *Id.* at 16249; *see also* 47 C.F.R. § 15.5(b).

¹⁸ *Id.* at 16249.

¹⁹ *See* CTIA Comments at 11. XtremeSpectrum also claims that PCS licensees who acquired spectrum at auction are not entitled to a higher degree of interference protection, because they were granted licenses subject to then-existing Part 15 rules “and so can be asked to accept whatever level ... of Part 15 interference is appropriate for that service.” XtremeSpectrum Comments at 7 n.16. As an initial matter, approval of certain secondary use of the PCS band before the PCS auction does not authorize the Commission to approve additional and fundamentally different use of the band after the auction. XtremeSpectrum’s “leveraging” approach for Ultra-Wideband operations not only could undermine the original terms

XtremeSpectrum, for example, proposes a framework for future spectrum sharing scenarios aimed at granting unlicensed devices “maximum practical flexibility.”²⁰ Both Sprint and XtremeSpectrum share the view that the standard for harmful interference as applied today is too subjective, but XtremeSpectrum’s proposal would inject substantial uncertainty into the rights and expectations of existing licensees. To create a rights-laden unlicensed regime, XtremeSpectrum disregards licensees’ right to exclusive use and instead asserts that the Commission should choose how much degradation or interruption a licensed service should “reasonably be expected to tolerate.”²¹

Sprint submits that this approach – directing that licensees generally should be expected to tolerate new sources and higher levels of interference so as to open previously licensed bands to unlicensed devices – would jeopardize the reliability of existing licensed services and undermine licensee’s right to fully develop the utility of their licensed spectrum. As Motorola notes, an “environment where interference protection . . . is highly uncertain makes it very difficult to design for efficient spectrum use and will drive away investment.”²² This approach would seriously harm the public interest by limiting the principles of certainty and clarity that are fundamental to an efficient, market-oriented spectrum management policy. XtremeSpectrum ac-

of the license but also may affect the Commission’s market-oriented assignment process. As AT&T Wireless observes, “such a modification could result in a regulatory taking, violate section 316 of the Communications Act, or, in the case of a license obtained at auction, cause the government to be liable for damages for breach of contract.” AT&T Wireless Ex Parte Comments at 15 (citations omitted).

²⁰ XtremeSpectrum Comments at 2.

²¹ *Id.* at 7.

²² Motorola Comments at 3.

knowledges that this “might become a contentious process,”²³ and Sprint strongly urges the Commission to reject such an approach.

Core Spectrum Rights. Any consideration of overlay services or technologies must take into account the full scope of incumbent licensees’ rights, including exclusive use, appropriate service and technological flexibility, and interference protection.²⁴ These rights ensure that licensees may exploit their assigned spectrum fully, subject to technical limitations designed only to prevent harmful interference to other licensees with primary use designations.

In examining interference protection, an exclusive focus on the contours of current service offerings would be misguided. As Cingular observes, “it is illogical and arbitrary to base an interference determination on a technological freeze-frame instead of taking into account the dynamic state of the art.”²⁵ An interference evaluation based on “a snapshot of typical operations could well result in levels of interference that are harmful to more highly evolved services that are developed over time.”²⁶ While consideration of currently deployed services can help identify an appropriate framework for review, *e.g.*, for CMRS the standard could involve increased probability of outage,²⁷ the Commission cannot simply review the current offerings within a band and conclude that an overlay scenario would not create harmful interference. The Commission must consider incumbents’ rights and potential future uses.

Preservation of Spectrum Rights and a Return to Marketplace Certainty. To account for the panoply of licensee rights, Sprint’s initial comments proposed that any interference evalua-

²³ XtremeSpectrum Comments at 8.

²⁴ See Cingular Comments at 9, 23-24 (discussing the scope of these rights).

²⁵ *Id.* at 13.

²⁶ *Id.* at 42.

²⁷ See Sprint Comments at 15.

tion must be “based on the situation as it existed at the time the license was awarded, not at some later date after networks have been constructed.”²⁸ Under this approach, overlay scenarios would trigger interference evaluations tied to the noise level found in the band at the time an incumbent acquired its license. As AT&T Wireless observed, when licensees acquired their licenses, they “expected to have a stable interference environment going forward.”²⁹ These expectations formed the basis for the system design and engineering and, for licenses acquired at auction, the amount of money bid. By using the interference environment that existed at license acquisition, the Commission would preserve licensees’ investment-backed expectations.

Given flexible use rules and the rapid evolution in technology, the Commission cannot reliably predict what services licensees may choose to deploy in the future and thus cannot identify an additional level of interference that incumbent providers should “reasonably be expected to tolerate” on a going forward and permanent basis. In sum, the Commission must, at a minimum, recognize the core rights of licensees and ensure that any consideration of overlay scenarios does not undermine the expectations and opportunities of existing licensees.

²⁸ *Id.*

²⁹ AT&T Wireless Ex Parte Comments at 14.

CONCLUSION

For the foregoing reasons, Sprint respectfully requests that the Task Force adopt recommendations consistent with the positions discussed in Sprint's filings.

Respectfully submitted,

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