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

In the Matter of	)	
	)	
Fostering Innovation and Investment in the Wireless Communications Market	)	GN Docket No. 09-157
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	

COMMENTS OF SPRINT NEXTEL CORPORATION

Vonya B. McCann,
Senior Vice President, Government Affairs
Lawrence R. Krevor,
Vice President, Government Affairs
Trey Hanbury,
Director, Government Affairs
2001 Edmund Halley Drive
Reston, VA 20191
(703) 433-8525

September 30, 2009

Executive Summary

Adopting new wireless policies – and aggressively enforcing tried-and-true older ones – will greatly strengthen wireless innovation and investment in the United States. As a first order of business, the Commission should develop rules and procedures to assign the fifty megahertz of commercial wireless spectrum in the Commission's existing inventory. Doing so will increase competition, promote investment, and encourage wireless deployment.

For both existing and newly assigned spectrum, the Commission should continue the technology-neutral, flexible use policies that have distinguished the United States as a laboratory of wireless innovation and evolution. Flexible use policies have fostered aggressive competition on price, performance, and capacity, especially when compared to nations that have pursued less flexible, single-technology approaches. Consumers win whenever multiple technologies are allowed to compete on a level playing field.

To prepare for future spectrum needs, the Commission should identify additional spectrum resources for commercial use. With most available spectrum resources already occupied by incumbents, the Commission should quickly reinvigorate its *Emerging Technologies* relocation policies. These policies have in the past proven effective and efficient in relocating licensed incumbents and clearing repurposed spectrum to support innovative services, technologies and increased competition. More recently, however, the efficacy of the *Emerging Technologies* spectrum reallocation process has been compromised to the detriment of incumbents and new entrants alike. The Commission's future success in clearing and repurposing additional spectrum for new wireless devices,

services, and applications depends on its commitment to timely and consistent enforcement of its *Emerging Technologies* policies.

New wireless broadband technologies require low ambient noise to achieve optimum throughput and dependability. By raising ambient noise, underlays and overlays in the spectrum used for voice and data services will diminish the capacity, reliability and throughput of existing wireless communications services. In the same way, excessive out-of-band emissions contaminate finite spectrum resources and prevent others from using these resources to deploy new services. To prevent excessive noise, the Commission should refrain from adopting overlays and underlays, vigorously enforce existing interference rules, and adopt more stringent out-of-band emissions limits for unlicensed devices.

The wireless services market includes two related, but vertically distinct markets: (1) an intensely competitive downstream market of end-user devices, applications and services; and (2) an intensely uncompetitive upstream market of carrier-grade connections between the radio access networks and the Internet cloud. Downstream competition should not obscure upstream monopoly. The upstream market for backhaul is *not competitive.* The Commission should regulate the upstream market accordingly and promote competitive alternatives wherever possible.

In the environmental arena, the Commission can immediately reduce its environmental impact by completing the agency's transition to digital records. Existing Commission practices needlessly consume time, paper, and money; minor changes would not only save Commission resources, but also materially reduce the agency's carbon footprint. For the wireless industry at large, the Commission can encourage other carriers

to follow Sprint Nextel's pioneering efforts to protect the environment, decrease its carbon footprint, and reduce power consumption by offering additional incentives for companies that adopt environmentally responsible business practices.

Finally, the Commission should support and encourage innovative new business models, such as the important new infrastructure sharing arrangement that Sprint Nextel has entered with Vanu Coverage Co. The Commission can help encourage technology-neutral, multi-carrier business models in rural areas by reaffirming and streamlining its secondary markets policies and procedures. If fully realized, infrastructure sharing arrangements promise to bring the benefits of broadband – and broadband competition – to millions of unserved and underserved Americans.

Table of Contents

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

In the Matter of	)	
	)	
Fostering Innovation and Investment in the Wireless Communications Market	)	GN Docket No. 09-157
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
	)	

COMMENTS OF SPRINT NEXTEL CORPORATION

I. INTRODUCTION

Through its *Wireless Innovation Inquiry*, the Commission seeks to identify the factors that can encourage innovation and investment in mobile communications.[1] The Commission's goal is to better understand innovations throughout the full "value chain" of the mobile market and then develop "concrete steps . . . to support and encourage further innovation and investment."[2] Sprint Nextel Corporation (Sprint Nextel) welcomes the opportunity to share recent innovations related to mobile infrastructure, devices, applications, and services. In addition, Sprint Nextel recommends several new policies that could promote wireless innovation and investment, especially in the area of spectrum access and management. The Commission should:

- Expeditiously develop rules and assignments for available commercial spectrum;
- Continue promoting flexible spectrum use policies;

[1] *Fostering Innovation and Investment in the Wireless Communications Market, A National Broadband Plan For Our Future*, GN Docket Nos. 09-157 and 09-51, Notice of Inquiry, FCC 09-66 (rel. Aug. 27, 2009) (*Wireless Innovation Inquiry*).

[2] *Id.* at ¶ 1.

- Enforce existing spectrum relocation rules, including cost-sharing among all relocation beneficiaries, and adopt new procedures, such as a thirty-day shot clock for disputes, limits on rehashing well-settled issues, and additional restrictions on duplicative or unnecessary transition expenses and other abusive practices;
- Refrain from authorizing underlays or overlays in the commercial mobile radio spectrum;
- Vigorously enforce existing interference rules and adopt more stringent OOBE limits for unlicensed devices;
- Recognize that the downstream mobile market is competitive and regulate it lightly;
- Recognize that the upstream special access market is not competitive and regulate it accordingly;
- Promote competition in the upstream backhaul market;
- Encourage efforts to reduce power consumption, consistent with recent Sprint Nextel pioneering efforts; and
- Support the mobile industry developing innovative new business models, including infrastructure sharing.

II. TIMELY ENFORCEMENT OF EXISTING POLICIES AND THE ADOPTION OF NEW, PRO-COMPETITIVE SPECTRUM RULES WILL ENHANCE INNOVATION IN THE WIRELESS SECTOR.

Spectrum is a critical input in the market for mobile communications services. The Commission properly identifies making additional spectrum available for new entrants as "one of the most complex challenges for promoting innovation in the wireless sector."[3] Most frequencies capable of supporting commercial mobile services have already been allocated and assigned to a wide variety of services and uses; therefore, carriers that have sought to challenge the overwhelming market share of the two Bell-owned wireless carriers, AT&T and Verizon, have had to pay substantial sums to acquire, clear, and perfect rights to repurpose previously licensed spectrum.[4] Absent unexpected

[3] *Id.* at ¶ 25.

[4] The predecessor companies of AT&T and Verizon, of course, received 50 megahertz of cellular spectrum for free – a sunk cost to be sure, but one that has had an enduring legacy on the wireless industry and helped entrench Bell dominance.

near-term technological breakthroughs, the Commission will likely have to again reallocate and reassign additional currently licensed spectrum to provide this necessary input for future wireless innovation.

In the United States, no company has more experience in clearing spectrum than Sprint Nextel. Sprint Nextel has overseen four major spectrum relocations that, taken together, cover more than 250 megahertz of spectrum – or more than *half* of all frequencies available for licensed commercial mobile use in the United States.[5] Three of these four spectrum relocations are complete or nearly complete. And the fourth – the 800 MHz relocation, which is by far the most complex – is well underway.[6] Sprint Nextel's comments on reallocating existing licensed spectrum to support new commercial wireless innovation, therefore, reflect its substantial expertise and experience in the Commission's use of this spectrum management mechanism.

A. The Commission Should Assign Previously Allocated Spectrum and Then Make Additional Spectrum Available for New Uses.

When considering the need for additional spectrum allocations, the Commission's first order of business should be to exhaustively license the 50 MHz of unassigned spectrum that sits idle in the Commission's "spectrum warehouse." The Commission should focus on permitting businesses and entrepreneurs to fully use existing but unassigned spectrum to create jobs, enhance consumer welfare and grow the economy.

The Commission can in the near term place four spectrum bands into productive commercial use for the United States economy. They are:

---

[5] Sprint Nextel has led complex multi-party relocations in the Upper 200 Enhanced Specialized Mobile Radio (ESMR) band, 800 MHz band, the 1.9 GHz band, and the 2.5 GHz band.

[6] To date, Sprint Nextel and 800 MHz licensees have completed literally thousands of Frequency Retuning Agreements (FRAs) as have many consultants, vendors, legal representatives and other experts involved in the reconfiguration process.

- the 1.9 GHz H Block (1915-1920 MHz and 1995-2000 MHz);
- the 2.0 GHz J Block (2020-2025 MHz and 2175-2180 MHz);
- the 700 MHz D Block (758-763 MHz and 788-793 MHz); and
- the 2.1 GHz AWS-3 Block (2155-2175 MHz).

The Commission has conducted extensive rulemaking proceedings for each of these bands that have generated voluminous record evidence exhaustively addressing all aspects of band configuration, geographic license area, and interference protection. In some cases, a surprising degree of consensus exists around most major aspects of licensing and interference protection.[7]

To be sure, these proceedings are not devoid of complexity or controversy. But time has not made the issues any less complex or controversial and they remain well within the Commission's expertise and authority. Thus, while the Commission should identify and plan to release additional spectrum for future licensed, terrestrial mobile use, it should prioritize completing the pending proceedings to license spectrum immediately available to support current and near-term wireless growth and innovation.

At the same time, the Commission should allow the public ample time to prepare for any possible assignment of these valuable frequencies by competitive bidding. Without sufficient advance warning of forthcoming spectrum assignments, only the largest vertically integrated companies (such as AT&T and Verizon) may prove able to arrange their finances and alliances for competitive bidding, which will reduce auction revenue and increase concentration in spectrum holdings and market share. Whether the Commission is assigning existing or future spectrum allocations, therefore, prospective

[7] In the H Block proceeding, for instance, commenters sought to maximize the utility of the allocation, but achieved near unanimity that permitting mobile transmit operations of 23 dBm in the 1917-1920 MHz would produce unavoidable interference to B Block mobile operations. *See* Reply Comments of Cingular Wireless LLC, WT Docket Nos. 04-356 and 02-533, at 15 (filed Feb. 8, 2005); Joint Reply Comments of Sprint Corporation, Verizon Wireless, and Nextel Communications, WT Docket Nos. 04-356 and 02-533 (filed Feb. 8, 2005).

new entrants now and in the future should have sufficient time to make technology investment decisions, establish business plans, and develop bidding strategies. Particularly in the current economic environment where financial arrangements remain challenging, companies and entrepreneurs should know about upcoming competitive bidding opportunities well in advance so they can plan their business and financial strategies to take advantage of all available commercial opportunities. The more advance notice of available spectrum opportunities the Commission provides, the greater the opportunity for competitors to secure the financing and arrange the alliances necessary to compete against the two remaining incumbent Bell operators.

B. The Commission Should Affirm and Expand Policies that Encourage Incumbents to Make New Use of Their Spectrum.

The Commission, through the adoption of flexible regulations for Commercial Mobile Radio Services (CMRS) operators, has enabled vibrant and multi-faceted competition and innovation. CMRS operators have taken advantage of that flexibility to implement many new third generation (3G) mobile technologies and mobile technology enhancements as they become available and market conditions warrant.[8] For example, one year ago, Sprint Nextel became the first major U.S. mobile operator to deploy and offer fourth generation (4G) mobile services in the U.S.[9] Today, Sprint Nextel and Clearwire are offering 4G WiMAX services in 14 U.S. markets, including Baltimore,

[8] Over the past 15 years, CMRS operators have developed and deployed a variety of technologies to better meet user demands for more capacity and additional mobile capabilities, including CDMA2000 1X, CDMA EVDO, CDMA EVDO Revision A, GSM, GPRS, EDGE, WCDMA/UMTS, and HSPA wireless technologies. *See, e.g.*, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Thirteenth Report, 24 FCC Rcd 6185, 6251-53 ¶¶ 129-33 (Jan. 15, 2009).

[9] *See* Press Release, Sprint Nextel, XOHM WiMAX Broadband Service Debuts in Baltimore (Sept. 29, 2008), *available at* http://newsreleases.sprint.com/phoenix.zhtml?c= 127149&p=irol-newsArticle_newsroom&ID=1203014.

Atlanta, Las Vegas, and Portland, covering more than 10 million people.[10] In addition, on September 15, 2009, Clearwire launched a 4G WiMAX Innovation Network in Silicon Valley with a goal of harnessing the concentration of developer talent in Silicon Valley to accelerate the pace at which mobile broadband mobile services are being developed and to act as a catalyst for new and compelling Internet applications.[11] Sprint Nextel and Clearwire plan on bringing 4G WiMAX services to 80 markets covering up to 120 million people by the end of 2010.[12]

Consumers benefit from these innovative new technologies, with clearer and more reliable calls and faster data services.[13] Both wireless operators and end users also benefit from more efficient use of the spectrum as these new technologies are deployed.[14] The United States' flexible regulatory approach stands in stark contrast to the approaches in many other countries where wireless frequency bands are specifically limited to a particular technology and operators wishing to provide improvements can only do so if they purchase new spectrum. Such technology-specific approaches are highly inefficient,

---

[10] *See* Press Release, Clearwire, Clearwire Introduces CLEAR(TM) 4G WiMAX Internet Service in 10 New Markets (Sept. 1, 2009), *available at* http://newsroom.clearwire.com/phoenix.zhtml?c=214419&p=irol-newsArticle&ID=1326282.

[11] *See* Press Release, Clearwire, Clearwire Launches CLEAR 4G WiMAX Innovation Network in Silicon Valley (Sept. 15, 2009), *available at* http://newsroom.clearwire.com/phoenix.zhtml? c=214419 &p=irol-newsArticle&ID=1331811.

[12] *See* Press Release, Clearwire, Clearwire to Officially Launch CLEAR 4G Service in 10 Markets on September 1, 2009 (Aug. 3, 2009), *available at* http://newsroom.clearwire.com/phoenix.zhtml?c=214419&p=irol-newsArticle&ID=1315679.

[13] *See, e.g.*, Press Release, Sprint Nextel, Sprint Extends 4G Leadership by Announcing Additional U.S. Markets for Sprint 4G (Aug. 11, 2009), *available at* http://newsreleases.sprint.com/phoenix.zhtml?c=127149&p=irol-newsArticle_newsroom&ID =1319758&highlight=; Press Release, Sprint Nextel, J.D. Power and Associates Recognizes Sprint for 'Highest Call Quality Performance' in the West Region in a Tie (Mar. 18, 2009), *available at* http://newsreleases.sprint.com/phoenix.zhtml?c=127149&p=irol-newsArticle_newsroom& ID=1267370&highlight=.

[14] *See, e.g.*, Press Release, Sprint Nextel, Sprint Extends 4G Leadership with Nation's First 3G/4G Dual-Mode Mobile Broadband Service (Dec. 17, 2008), *available at* http://newsreleases.sprint.com/phoenix.zhtml?c=127149&p=irol-newsArticle_newsroom&ID=1237086&highlight=; WiMax.com, *What is WiMax?*, *at* http://www.wimax.com/education.

and can make it difficult and very expensive for mobile operators to deploy innovations that benefit consumers.[15] They also stifle innovation itself, because innovation is a natural by-product of robust technology competition. For instance, the WCDMA 3G technology in use today was developed from groundbreaking techniques used in CDMA 2nd generation (2G) wireless technology, even though most operators using WCDMA technology used the GSM 2G technology instead of CDMA 2G. Similarly, the LTE 4G technology that is under development throughout the world is derived from techniques used in WiMAX 4G, and WiMAX 4G was developed based on techniques used in WiFi technology. If the Commission's rules had not permitted multiple technologies to be developed and deployed in the U.S., it is unlikely that today's 4G and 3G technologies would be as advanced as they are, nor would consumers have benefited from the innovative, high speed wireless services that are available today. The Commission should be commended for – and retain – its flexible regulatory approach for mobile services.

C. Timely Enforcement of the Commission Spectrum-Relocation Policies Will Free Spectrum for Improved Services, Applications, and Devices.

Based on its considerable experience in spectrum relocation, Sprint Nextel recommends several measures essential to the successful and timely clearing of additional spectrum resources for new and innovative services.

[15] *See, e.g.*, George S. Ford et al., *Wireless Net Neutrality: From Carterfone to Cable Boxes*, 920 PLI/PAT 391, 407 (2007) (explaining that the United States has more diverse wireless network platforms and more competition among network providers than markets, such as those in Europe, where governments have taken much stronger command-and-control approaches to technical matters); *Spectrum Policy Task Force Report*, ET Docket No. 02-135, at 35, 42 (rel. Nov. 15, 2002) (noting comments that criticized the costs and inefficiencies imposed by command-and-control regulation and concluding that flexible spectrum use rules should be applied to the maximum extent possible).

1. Ensure That All Beneficiaries of the Relocation Process Pay Their Fair Share of Costs.

Under the *Emerging Technologies* policies, each new entrant to reallocated spectrum must shoulder its fair share of the cost of relocating incumbent licensees.[16] For nearly two decades, the *Emerging Technologies* policies have served the public effectively by allowing for expeditious clearing of hundreds of megahertz of commercial spectrum. Recently, however, some licensees have attempted to enrich themselves at the expense of the relocating party and to the detriment of the public interest.

Nowhere is the attempted subversion of the Commission's *Emerging Technologies* policies more evident than in cost-recovery for the 2 GHz BAS transition. The two principal beneficiaries of the BAS relocation are ICO and TerreStar. While Sprint Nextel is licensed to use 15% of the cleared spectrum, ICO and TerreStar occupy 58% of the band. And yet neither of these 2 GHz mobile satellite service (MSS) licensees has met its obligation to reimburse Sprint Nextel for any potion of the three quarters of a billion dollars that Sprint Nextel will have spent clearing tens of thousands of costly and complex pieces of BAS equipment from the 2 GHz band. Worse, the 2 GHz MSS licensees have repeatedly indicated that they have no intention of complying with the Commission orders and license conditions that require them to pay their fair share of relocation expenses.[17]

---

[16] *See Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, First Report and Order and Third Notice of Proposed Rule Making, 7 FCC Rcd 6886 (1992); Second Report and Order, 8 FCC Rcd 6495 (1993); Third Report and Order and Memorandum Opinion and Order, 8 FCC Rcd 6589 (1993); Memorandum Opinion and Order, 9 FCC Rcd 1943 (1994); Second Memorandum Opinion and Order, 9 FCC Rcd 7797 (1994); *aff'd Association of Public Safety Communications Officials-Int'l, Inc. v. FCC*, 76 F.3d 395 (D.C. Cir. 1996) (collectively, "*Emerging Technologies* proceeding").

[17] *See* Letter from TerreStar Networks Inc. to Marlene Dortch, Federal Communications Commission, WT Docket. No. 02-55, ET Docket Nos. 00-258 and 95-18, at 1, 3, 5 (filed Sept. 8, 2008) (stating that TerreStar's reimbursement obligations sunset on June 26, 2008 because the MSS licensee had not entered

To its credit, the Commission has repeatedly rejected the 2 GHz MSS operators' arguments that they are not liable for paying their share of BAS relocation expenses as contrary to both law and equity and has sought comment on how and when the 2 GHz MSS operators must pay their fair share of BAS relocation expenses.[18] But as the BAS relocation winds down to a successful conclusion, the two 2 GHz MSS operators' years-long attempt to evade their cost-sharing responsibilities has apparently only begun.[19] For example, when the Commission recently ruled, once again, that ICO and TerreStar had to shoulder their fair share of relocation costs for BAS and sought comment on how and when they should pay, both TerreStar and ICO raised a new raft of spurious claims disavowing any responsibility for the band clearing expenses.[20] TerreStar, for instance, claimed that it should not only be freed from its obligation to pay for the twenty megahertz of cleared, nationwide spectrum it received, but also in true, "through-the-looking-glass" fashion asserted that the Commission had always intended to give

---

the 2 GHz band); Letter from New ICO Satellite Services G.P to Marlene Dortch, Federal Communications Commission, WT Docket. No. 02-55, ET Docket Nos. 00-258 and 95-18, at 1, 2-3 (filed Sept. 9, 2008) (contending that MSS licensees are not responsible for reimbursement obligations after June 26, 2008); *see also Improving Public Safety Communications in the 800 MHz Band*, Report and Order and Order and Further Notice of Proposed Rulemaking, 24 FCC Rcd 7904, 7933 ¶ 73 (June 12, 2009) (*800 MHz Band Report and Order and Further Notice*).

[18] *800 MHz Band Report and Order and Further Notice* at 7934-43, ¶¶ 75-100.

[19] The BAS relocation is nearly complete. More than 144 markets are cleared covering 73 percent of the United States population, or more than 220 million Americans. Moreover, 96 percent of all BAS equipment has been delivered.

[20] Comments of TerreStar Networks Inc., WT Docket. No. 02-55, ET Docket Nos. 00-258 and 95-18, at 2, 9-17 (filed July 14, 2009) (TerreStar July 2009 Comments); *see also* Opposition to Supplemental Joint Request of New ICO Satellite Services G.P., WT Docket. No. 02-55, ET Docket Nos. 00-258 and 95-18, at 10-16 (filed Mar. 9, 2009).

TerreStar a multi-million dollar free ride.[21] ICO, meanwhile, forced its license-holding subsidiary into bankruptcy, leaving Sprint Nextel as by far its single largest creditor.[22]

To protect its shareholders and customers and to ensure payment of the 2 GHz MSS licensees' fair share of BAS relocation expenses, Sprint Nextel has had to pursue cost recovery claims against ICO and TerreStar before the Commission, the Federal District Court for the Eastern District of Virginia, the Bankruptcy Court of the Southern District of New York, and the Federal District Court for the Southern District of New York. Despite substantial litigation costs and years of regulatory and judicial delay, none of these proceedings have brought Sprint Nextel any closer to recovering a portion of the financial capital spent clearing ICO and TerreStar's spectrum that Sprint Nextel could otherwise spend enhancing wireless broadband infrastructure, services, and applications.[23]

Sprint Nextel recounts these facts to emphasize the importance of reliable and consistent Commission rules and procedures to encourage wireless innovation. As noted above, additional spectrum to support wireless communications innovation is likely to come largely from reallocating and reassigning spectrum currently allocated and assigned

[21] *See* TerreStar July 2009 Comments at 8, 11.

[22] On May 15, 2009, DBSD North America, Inc. (formerly ICO North America, Inc.), a 99.84% owned subsidiary of ICO Global Communications (Holdings) Limited, along with its subsidiaries, filed a voluntary petition for relief under Chapter 11 of Title 11 of the United States Code (the "Bankruptcy Code") in the United States Bankruptcy Court for the Southern District of New York (the "Bankruptcy Court"). On June 26, 2009, ICO filed its Plan and Disclosure Statement, which details its plan for emerging from the protection of the Bankruptcy Court and projects its financial results through December 31, 2013. *See* Disclosure Statement for the Debtors' First Amended Joint Plan of Reorganization Pursuant to Chapter 11 of the Bankruptcy Code (unapproved), dated June 26, 2009, at 1-2, 66-67, and Exhibit D, filed in the ICO bankruptcy proceeding. *In re DBSD North America, Inc.*, Case No 09-13061 (S.D.N.Y.).

[23] The Eastern District of Virginia awaits Commission action. The Southern District of New York has deferred to the Bankruptcy Court. The Bankruptcy Court is sorting through a complex skein of competing creditors' claims. And the Commission, though the record has been fully briefed, has not issued a final decision on the timing and amount of the MSS licensees' debt obligation.

to other services and users. The uncertainty and indecision injected into the Commission's *Emerging Technologies* processes have taken a toll on the public interest and threaten to inflict lasting damage on the Commission's ability to relocate incumbents from any frequency band. ICO's arguments in the bankruptcy context, in particular, severely jeopardize the future of band-clearing under the *Emerging Technologies* framework that has worked so successfully up until now. In its bankruptcy pleadings, ICO has asserted that the Bankruptcy Code preempts the Commission from requiring it to pay "prepetition debts as a condition of retaining its rights under the FCC License."[24] ICO has also claimed that the Commission and Sprint Nextel only have recourse to its bankrupt, sole-purpose license-holding subsidiary. According to ICO, the Commission and Sprint Nextel have no recourse to the ICO entity that holds its orbital slot, or the ICO entity that holds its satellite assets, or the ICO entity that conducts its satellite operations, or even the ICO entity that is entitled to collect a $700 million judgment from Boeing – a financial war chest outside of bankruptcy more than sufficient to satisfy ICO's BAS reimbursement obligation under the Commission's rules.[25]

ICO's arguments against paying its fair share of expenses do not withstand scrutiny, and Sprint Nextel remains optimistic that the Commission's jurisdiction and well-settled precedent will ultimately prevail.[26] The point here is not to rehash the

[24] Debtor's Omnibus Objection to Proofs of Claim Filed by Sprint Nextel Corporation, Case No. 09-13061 (REG) (Bankr. S.D.N.Y. filed July 22, 2009).

[25] *See, e.g.*, ICO Global Communications, *Court Enters Judgment in ICO Litigation Against Boeing; $631,067,767 Million Judgment for ICO Reported To Be Largest Jury Verdict of 2008*, Press Release (Jan. 6, 2009), *available at* http://files.shareholder.com/downloads/ICOG/0x0x262531/fc53f699-19a0-4673-90c8-4c8b38248d62/ICOG_News_2009_1_6_General.pdf.

[26] The FCC's jurisdictional reach is essential to its mission. If the duty to comply with FCC regulatory obligations did not extend to corporate affiliates and related entities, then any party could evade their regulatory responsibilities to the FCC through use of license subsidiaries. To avoid this result, the FCC has broadly construed the scope of responsibility for compliance with FCC rules and obligations. In the case of

mechanics of BAS cost-recovery, but to demonstrate that, without regulatory certainty and swift and consistent Commission enforcement, the Commission's ability to repurpose critical spectrum inputs to foster innovation can be rendered ineffective. The prospect of discharging hundreds of millions of dollars in Commission-imposed license conditions through bankruptcy, or delaying them indefinitely through lengthy regulatory processes, is perhaps simply too attractive for some new entrants to resist. Regulatory gamesmanship, however, is not the kind of "innovation" that the Commission should tolerate. Rewarding such behavior through delay or indecision saps the creative impulse, denies consumers investment in network infrastructure, and undermines the basis of future spectrum relocation proceedings.

Unless quickly and definitively remedied, potential new entrants will no longer have confidence that the beneficiaries of future spectrum relocations will pay for their fair share of relocation costs. As a result, few parties will prove willing to make the substantial investment in human and financial capital to clear encumbered spectrum. The Commission should ensure that all beneficiaries of spectrum relocations pay their fair share of relocation expenses in a timely and consistent manner by resolving outstanding rulemakings as expeditiously as possible. Moreover, to the extent the Commission decides to repurpose existing licensed spectrum in the future, it should adopt additional safeguards, such as bonding requirements or interim payment mechanisms, to ensure that

---

ICO and TerreStar, the Commission variously charged the MSS "operators," "systems," and "entrants" with a still-unfilled regulatory obligation to clear the 1990-2025 MHz band of incumbent BAS systems. *See generally, e.g.,* Supplemental Response to the Debtor's Omnibus Objection to Proofs of Claim filed by Sprint Nextel Corporation, Case No. 09-13061 (REG) (Bankr. S.D.N.Y. Sept. 8, 2009); Response to the Debtor's Omnibus Objection to Proofs of Claim filed by Sprint Nextel Corporation, Case No. 09-13061 (REG) (Bankr. S.D.N.Y. Aug. 11, 2009).

future beneficiaries of spectrum relocation projects cooperate fully and expeditiously in achieving the Commission's spectrum repurposing objectives.

2. Maintain Active and Timely Oversight of *All* Parties to the Relocation Process

The Commission must maintain active oversight of all parties to the relocation process to ensure that every participant in the relocation shares the sense of urgency that the licensee seeking access to the new spectrum resources typically will. Unfortunately in the 800 MHz relocation process, that has not been the case. By way of background, parties seeking access to reallocated spectrum simply fund the relocation of incumbents through negotiating a retuning agreement; they do not actually perform the relocation. Once a Frequency Relocation Agreement (FRA) is negotiated and signed, the new entrant can encourage the incumbents, the installers, the integrators, and other contractors to perform their responsibilities as quickly as possible, but fundamental responsibility for completing the project rests with the incumbent and its vendors because only these parties can comply with the terms of the FRA and perform the physical installation. Therefore, focusing exclusively or principally on the party responsible for funding the relocation misses most of the equation. If the Commission is to be effective and successful in efficiently freeing additional spectrum resources for mobile services, it should in the future scrutinize the performance of spectrum incumbents slated for performing the relocation as well as the party funding it.

For example, more than five years into the 800 MHz relocation process, some incumbents have sought and received consecutive extensions of time for two years or more, yet have not finished their Sprint Nextel-funded retuning planning and produced a retuning cost estimate and work plan – a necessary product to even begin negotiating and

executing an FRA. Similarly, the Commission has been reluctant to carry out its enforcement decisions even in cases where it has determined that doing so is in the public interest.[27] The point is that reluctance to enforce the 800 MHz reconfiguration decision on all incumbents has resulted in the Commission now facing yet another round of extension requests with lagging incumbents unlikely to execute FRAs this year, much less initiate physical rebanding activities.[28]

One dramatic – and simple – way to accelerate the delivery of new mobile services and applications to the public is for the Commission to maintain active oversight of relocating incumbents and quickly move against incumbents that fail to meet clearly articulated progress milestones, absent circumstances outside their reasonable control. While license revocation will always remain a viable penalty for non-compliance, many steps short of license revocation exist and the Commission should exercise them. For example, Sprint Nextel is not only required to compensate parties for their relocation, but also to pay for the negotiation and mediation process as well. Relocating incumbents, therefore, have no incentive to move quickly during negotiations since all of their costs are reimbursed. Future incumbents would have a greater incentive to reach an agreement if they were required to fund their own costs of negotiation and mediation with the new

[27] For example, in the cases of both *Kang B. Lee* and *Gemini*, two 800 MHz commercial licensees, the Commission did not take enforcement action against either incumbent despite their repeated failures to proceed with relocation activities. It did not act when these licensees ignored the Public Safety and Homeland Security Bureau's express directive requiring each licensee to retune its operations within thirty days. Finally, eighteen months after the Bureau issued its decisions, it cancelled the licenses due to the licensees' failure to renew them, *not* for their failure to timely retune.

[28] This is particularly troubling in the case of public safety incumbents, given that the Commission enacted the 800 MHz Reconfiguration to eliminate an interference risk to 800 MHz public safety agency communications from 800 MHz commercial operators and this action was unanimously requested and supported by numerous representatives of the public safety community.

entrant required only to fund the actual retuning costs to provide licensees with comparable facilities.

Vendors, too, should receive Commission scrutiny during the relocation process. In the BAS relocation, for instance, Sprint Nextel took extraordinary measures to encourage timely fulfillment of all purchase orders, up to and including pre-paying hundreds of millions of dollars in purchase orders to allow the industry of broadcast suppliers, integrators, and vendors to ramp up to the considerable additional demands placed upon the industry by the scope of the BAS relocation. Nonetheless, the task of relocating BAS licensees was not always every vendor's uppermost priority. As Tom Wagner, Vice President of Business Development at Helicopters Inc., a 2 GHz BAS vendor, explained earlier this year, the economic reality is that one-time purchasers command less favorable treatment than repeat customers. "[Sprint] Nextel takes the back seat to my day-to-day business," Wagner said. "The guy who is going to be with me until I retire is going to be more important" than a one-time purchaser for a relocation project.[29] To ensure timely incumbent relocation, the Commission should take steps to ensure that critical vendors are as invested in the relocation process as the new entrants (and retuning incumbents).[30]

Any large scale spectrum repurposing project will require the continued good will and cooperation of thousands of incumbents, manufacturers, vendors, integrators,

---

[29] *See* Supplemental Joint Request Concerning the BAS Relocation of Sprint Nextel Corporation, Association for Maximum Service Television, Inc., National Association of Broadcasters, and Society of Broadcast Engineers, WT Docket. No. 02-55, ET Docket Nos. 00-258 and 95-18, at 14 (filed Feb. 12, 2009).

[30] The Commission could, for instance, certify vendors as eligible to participate in the relocation process at the outset of a relocation project. The vendor's certification could be revoked if the vendor fails to perform in a timely manner for reasons within its control. Alternatively, the Commission could offer vendors incentives, such as accelerated processing times for equipment certification, to encourage the vendors to prioritize relocation projects.

installers and other contractors. Whether the origin of a delay rests with the incumbent, the vendor, or the party seeking access to new spectrum, the consequences are the same: delay increases costs to the new entrant and its customers and deprives the public of important new mobile services. The Commission's future success in repurposing spectrum, through reallocation and reassignment of existing spectrum, depends on its undertaking more active oversight of the progress of *all* parties in the relocation process and exercising its range of enforcement options to assure consistent progress. Not doing so will delay the timely deployment of new services to the public to the benefit of the new entrants' competitors and the detriment of innovation, competition and progress.

3. Adopt Clear Rules and Enforce Them Quickly.

Enforcement for egregious violations should not have to occur often, but it must occur. For example, in the 800 MHz relocation context, the failure of some 800 MHz incumbents to complete the planning process is, by far, the single largest cause for delay in completing the 800 MHz reconfiguration. Even now, nearly four-and–a-half years into the relocation process, more than a year beyond its original completion date, Sprint Nextel is still waiting for more than fifty non-border public safety incumbents to provide the basic cost estimates necessary to negotiate and execute their FRAs. As noted above, some of these incumbents have received planning funding from Sprint Nextel for over two years – notwithstanding the fact that hundreds of other public safety and commercial incumbents have completed their planning and cost estimates within approximately six months or less. The lesson for future spectrum repurposing: the Commission must set realistic deadlines and then enforce its rules *consistently* to assure that incumbents retune to comparable facilities efficiently and seamlessly and that dilatory incumbents cannot and do not block new entrants from expeditiously deploying new, innovative competitive

services for the public. To that end, the Commission should establish a thirty-day "shot clock" to resolve the vast majority of relocation disputes, and should develop a short-form decision process for disputes that do not raise new or complex issues.

III. OVERLAYS IN THE SPECTRUM USED FOR VOICE AND DATA SERVICES WILL DIMINISH THE CAPACITY, RELIABILITY AND THROUGHPUT OF EXISTING WIRELESS COMMUNICATIONS SERVICES.

The Commission should refrain from authorizing "overlays" or "underlays" in CMRS spectrum. The *Wireless Innovation Inquiry* seeks comment on whether underlays or overlays should be permitted in certain bands in addition to the uses already permitted.[31] Authorizing underlays or overlays in CMRS bands would discourage innovation by operators, raise the costs for the expansion of wireless broadband coverage, and deprive consumers of the higher-speed broadband services that they desire.

A critical factor that enables wireless operators to provide innovation and higher-speed broadband services is having a predictable and relatively noise-free RF environment. Many 3G and 4G technologies use adaptive modulation techniques that permit higher data rates to be transmitted when high signal-to-noise ratios (SNRs) are present. For example, WiMAX is capable of transmitting with 64 QAM, 16 QAM, and QPSK downlink modulation from the base station to the mobile station.[32] When the radio environment is good and the SNR is high, the highly efficient 64 QAM modulation permits the highest data rates to be offered to the user; however, as SNR decreases, the WiMAX downlink adapts to the less efficient 16 QAM or QPSK modulation. This

[31] *See Wireless Innovation Inquiry* at ¶ 26.

[32] *See* Section 2.5 of the WiMAX Forum's "Mobile WiMAX – Part I: A Technical Overview and Performance Evaluation," available at http://www.wimaxforum.org/sites/wimaxforum.org/files/document_library/mobile_wimax_part1_overview_and_performance.pdf.

results in lower data rates to users.[33] The SNR can be impacted by a number of factors. For example, as users move away from a base station, the signal level that they receive decreases. Also, as users operate nearer to noise sources, the level of noise can increase.

Operators have a limited ability to improve SNR levels. They can add new base stations, but there are economic and engineering limits on how much can be done in this regard.[34] As such, controlling the noise (or interference) that is present on a frequency channel is critical if high broadband data rates, and the associated innovative services, are to be ubiquitously offered to consumers.

Sprint Nextel previously addressed similar questions from the Commission on underlays and overlays in ET Docket 02-135:

> CMRS operators have traditionally designed their networks with the understanding that they have exclusive use of their licensed spectrum, and they have optimized their networks accordingly. If operators must account for the possibility that some unknown new 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 a sub-optimum design. . . . [W]ith the 'smart' radios used in state-of-the-art communications systems today, adaptive techniques make more efficient use of the spectrum. However, because it achieves its efficiency by operating at the minimum limit of acceptable performance, a spectrum-efficient network often is more susceptible to an increase in the level of interference. There is therefore a tradeoff between 'spectrum efficiency' gains achieved by overlaying other services on licensed CMRS systems, and the performance of the CMRS system itself. Licensees that choose spectrum-efficient technologies should not, in effect, be punished by the

[33] *See* IEEE Std. 802.16e-2005, Section 8.4.13.1.1, which shows that the SNR required for 64-QAM using a ½ coding rate is 5.5 dB greater than the SNR required for 16-QAM with the same coding rate. Similarly, the SNR required for 16-QAM using a ½ coding rate is 5.5 dB greater than the SNR required QPSK with a ½ coding rate. The data rates produced using 16-QAM modulation are approximately 67% of the data rates that can be achieved using 64-QAM, and QPSK provides data rates only 33% of those that can be achieved using 64-QAM. *See* Table 3 of the WiMAX Forum's "Mobile WiMAX – Part I: A Technical Overview and Performance Evaluation," *supra* note 33.

[34] Operators are using picocells and femtocells to improve signal levels, and thereby offer high data rates, in buildings and over small outdoor areas. There are practical engineering limits, however, as to how close a base station using a particular radio frequency channel can be located to another base station using that same channel without resulting in intra-system interference.

> forced introduction of new sources of interference within their licensed band.[35]

These comments are as pertinent today as they were in 2002. Furthermore, in the interim, the number of wireless subscribers in the U.S. has nearly doubled – rising from 140.8 million at the end of 2002 to 270.3 million at the end of 2008.[36] Those subscribers, who are increasingly dropping their fixed landline services, have come to rely on wireless phones as their primary communications tool. They expect and deserve reliable service. Accordingly, adding underlays or overlays to the existing mobile communications spectrum bands, or adopting other interference-permitting mechanisms such as interference credits, would only undermine those expectations by causing interference (or increasing the risk of interference) in locations where interference currently does not occur and has not occurred.

Far from encouraging innovation, authorizing underlays or overlays in the CMRS spectrum would create new impediments to achieving more reliable, higher throughput services because new interference sources would make deployment more technically challenging and more costly. Today's wireless 3G and 4G networks, which are designed to take advantage of low noise floors to provide higher data rates, would automatically respond to higher noise floors by slowing the maximum data rate to consumers. As discussed above,[37] even a small increase in noise of 1-2 dB would trigger a 33% reduction in data rates for some users and the areas where the highest data rates could be provided would be substantially reduced in size. Simply put, there is no empirical basis for the proposition that adding overlays or underlays in today's commercial mobile

[35] *See* Comments of Sprint Corporation, ET Docket No. 02-135 (filed July 8, 2002).

[36] *See* CTIA's Semi-Annual Wireless Industry Survey.

[37] *See supra* note 34 and accompanying text.

spectrum bands would result in a net gain of competitive services and more intensive use of limited spectrum resources. On the contrary, empirical experience indicates that exclusive commercial spectrum assignments are integral to achieving the high speed, ubiquitous, highly robust wireless broadband services that the Commission is charged with facilitating in its national broadband plan initiative.[38]

IV. ENFORCE EXISTING INTERFERENCE RULES AND ADOPT MORE STRINGENT OUT-OF-BAND-EMISSIONS LIMITS FOR UNLICENSED DEVICES

Devices that discharge out-of-band-emissions into other spectrum bands in excess of authorized levels are the toxic polluters of the nation's airwaves. Without timely and aggressive enforcement, these illegal devices threaten to disrupt commercial and public safety communications on which more than 290 million Americans depend.

Sprint Nextel has a long history of combating unauthorized OOBE from unlicensed devices. Sprint Nextel has had to carefully monitor the noise floor for its iDEN network because the 800 MHz frequencies in which the network operates is in close proximity to an unlicensed, Part 15 band. Traditionally, the number of OOBE interference events from unlicensed devices waxes and wanes over time. Recently, however, Sprint Nextel has noticed a marked increase in the number of interference events, perhaps due to the profusion of new, low-cost consumer devices in the marketplace. In any event, Sprint Nextel has repeatedly encountered unlicensed Part 15 devices that have caused increased noise levels in the iDEN 800 MHz and 900 MHz

[38] Sprint notes that the use of underlays or overlays in some other frequency bands may be appropriate. *See* discussion *infra*.

bands.[39] In some cases, these devices, which are often marketed by major national retailers, far exceed permissible limits under the Commission's OOBE rules.[40]

To ensure that consumers can continue to experience high-quality, uninterrupted calls and data sessions, the Commission must enforce its OOBE rules in the marketplace. Indeed, given the serious consequences of harmful interference for businesses, consumers, and public safety officials, the Commission should establish a fifteen-day "shot clock" to act in response to complaints about unauthorized OOBE. While the Commission's track record of enforcement for toxic devices is strong, a fifteen-day shot clock for resolving allegations of unauthorized OOBE greatly increases the likelihood that enforcement actions take effect *before* the non-compliant devices are deployed in quantities that generate noise sufficient to cause widespread disruption to wireless communications.

Given the importance of high signal-to-noise ratios to modern mobile communications, the Commission should commence a rulemaking proceeding to adopt more stringent OOBE requirements for transmitters, particularly unlicensed transmitters that have been found to cause interference or raise the noise floor in other bands used to provide innovative broadband services. While unlicensed devices that meet more stringent OOBE requirements would cost somewhat more, the additional incremental costs pale in comparison to the performance degradation and interruptions that occur to millions of consumers due to relatively lax OOBE regulations. The improved reliability, decreased operating costs, increased broadband speeds, and enhanced innovation that

[39] Non-compliant Part 15 devices could also cause interference on 800 MHz frequencies used by public safety communications systems.

[40] *See* FCC Citation Letter to Costco Warehouse Corporation, DA 09-1823 (Aug. 18, 2009); FCC Citation Letter to Wal-Mart Stores, Inc., DA 09-1824 (Aug. 18, 2009).

would come from somewhat more stringent OOBE requirements greatly outweigh any incremental cost associated with making the device a more benign spectrum occupant.

V. BRING THE BENEFITS OF DOWNSTREAM COMPETITION AND INNOVATION TO THE MONOPOLY UPSTREAM MARKET FOR WIRELESS NETWORK INFRASTRUCTURE

The Commission's *Wireless Innovation Inquiry* properly noted that "wireless networks are often combined with wireline networks" to efficiently distribute voice and data services to the public.[41] At a fundamental level, in fact, the wireless telecommunications market consists of two vertically related markets: (1) the innovative, intensely competitive downstream market for radio access services, and (2) the monopolistic, uncompetitive upstream market for network access or "backhaul" services from the radio access networks to the Internet cloud.

The downstream market for radio access services is comprised of a variety of large and small wireless service providers offering wireless voice and data services to hundreds of millions of consumers and business users. Spurred by the competition, competitors in the downstream radio access market have a long history of bringing new and innovative services to the public at progressively lower prices.[42] In a record of progress repeatedly documented by CTIA, service providers have teamed with handset makers to develop a wide variety of handsets with multiple new features, such that there are now hundreds of different handsets currently available to customers to enhance both business and personal productivity. Many of these phones, which are as powerful as the computers of just a few years ago, are today available to end users for as little as $100.

[41] *Wireless Innovation Inquiry* at ¶ 51.

[42] Recent innovations include digital service that improved signal quality; locator services that take advantage of the Global Positioning System devices installed in handsets to enable parents to keep track of where their children are; and smartphones that allow customers to access their corporate and personal email and to obtain information from the Internet while away from their home or office.

By comparison, the upstream market for network access or backhaul services largely consists of a single provider offering fixed-tier, point-to-point connections at prices that, by and large, bear no relation to the actual cost of provisioning service. Unlike the downstream market, this upstream market has not been characterized by competition on price, quality, service, or terms and conditions. Instead, the incumbent local exchange carriers (ILECs) that provide services in the upstream market continue to milk their over-priced special access services without improving them or offering new alternatives. To illustrate this point, a comparison of the downstream radio access market with the upstream network access market follows.

A. The Market for Downstream Wireless Services is Highly Competitive.

1. Downstream Radio Access Devices

Similar to the personal computer, wireless devices are evolving so quickly that a device can become more or less obsolete, or at least technologically challenged, within eighteen to twenty-four months. This short shelf life is driven by constant technological innovation on a number of fronts.

Device innovation is driven by network innovation. As carriers' networks have evolved from 2G to 2.5G to 3G and beyond, the devices necessarily evolve with them to take advantage of the increased capabilities of these network evolutions. Wireless networks are evolving or innovating towards faster data speeds and more sophisticated platforms that are capable of supporting video and IP-based applications. To capitalize on this investment, carriers need handset manufacturers to provide innovative devices that harness these network advances. Handset manufacturers, in turn, are able to generate greater consumer interest in their products by offering innovative new devices that use the increased capacity installed by the carrier. It is easy to see how much this self

reinforcing cycle has led the evolution of devices by comparing a voice-only 2G phone from the mid-1990s to today's 3G data-centric wireless devices that allow end users to view YouTube videos while commuting to work.

Wireless device manufacturers have also innovated to take advantage of other wireless technologies such as Bluetooth and WiFi. Indeed, Bluetooth capability is a feature embedded into most wireless devices sold by Sprint Nextel. In addition, consumers are increasingly demanding WiFi capability in their wireless devices. For example, Sprint Nextel's Palm Pre includes WiFi connectivity. Sprint Nextel recently launched a "MiFi" aircard that allows its EvDO signal to be accessed by up to five WiFi-enabled devices such as cameras, mobile phones, music players, and portable game consoles. Again, such device innovation underscores the close connection between the devices and the constantly innovating networks that they access – whether such wireless networks are licensed or unlicensed.

Like computers, wireless devices also evolve as memory and processing power in chipsets become less expensive and more powerful. Wireless devices look more and more like computers and consumers are responding to these innovative devices. Sprint Nextel has witnessed a shift in consumer demand over the last few years from "feature phones" to smartphones. While smartphones were once a business-niche device, consumers are increasingly demanding the robust features that only smartphones can provide. Sprint Nextel expects this trend to continue, especially as the retail price point for these now mass-market devices continues to decline.

Device innovation is also driven by the operating systems used in wireless devices. Indeed, the innovation and competition in the mobile operating system market is

extraordinary in its diversity, yet also in its commonality as mobile operating systems evolve toward greater "openness." Numerous mobile operating systems have been launched in recent years, including Google's Android, Nokia Symbian, PalmOS, Palm WebOS, RIM Blackberry, Windows Mobile, Qualcomm BREW, Sun Java, open source Linux, and Apple the OS for iPhone. The more "open" an operating system is, the more innovation it invites as application developers are able to access more application program interfaces (APIs). Indeed, Sprint believes this is the dawn of a new era in innovation as the most innovative devices will be the devices with the most open operating systems providing users with access to innovative and useful applications.[43]

For example, Sprint has launched two devices in recent months that each employ operating systems that invite developers to create mobile applications. First, Sprint launched the Palm Pre device with its webOS platform. Application developers can work through Palm to launch new applications; Palm has even established a web site for developers from which they can download the software development kit (SDK).[44]

Second, Sprint will soon launch the HTC Hero, which will be Sprint Nextel's first phone employing the Android platform. HTC Hero users will enjoy the ability to personalize their wireless experience by obtaining mobile applications or "apps" of their choosing. Through the Android Market, HTC Hero users have access to approximately 8,000 applications, widgets and games to download and install on their phone, such as Amazon, Pandora, ShopSavvy, Twitter, Shazam, USA Today, Flixster, CraigslistChecker, PacMan and MySpace Mobile. In addition, thousands of developers are working to

---

[43] We discuss the benefits of open mobile operating systems in the next section, "Downstream Radio Access Applications," *infra*.

[44] Palm, webOSdev Overview, http://developer.palm.com/index.php?option=com_content&view=article&id=1642.

introduce new Android applications every day. Sprint Nextel has been assisting in this effort by providing tools for developers through its Sprint Application Developer Program, which is discussed further below.

Wireless operators have also developed and deployed new technologies to increase their coverage, particularly in buildings. Sprint, for example, launched the Airave, the first commercially available femtocell, on a nationwide basis in August 2008. Femtocells are miniature base stations that provide mobile service to customers over a small area. The Airave works with any Sprint mobile device and a broadband Internet connection to provide enhanced in-home coverage. Consumers want ubiquitous coverage on their mobile phones and devices wherever they go, and the Airave provides a means for the consumers themselves to take steps to improve their coverage. In fact, PC World named the Airave one of the 25 Most Innovative Products of 2008 and it received the Best of Innovations Award at CES 2008 and the First Place Emerging Technologies Award in the Network Infrastructure Category at CTIA 2008.[45]

2. Downstream Radio Access Applications

A truly innovative network, device, or operating system is the one that allows customers to access innovative and useful mobile applications. This trend is expected to only increase over time as more apps are created and supported by an increasing array of innovative devices. The foundation of this trend is an open network.[46]

Sprint Nextel has embraced an "open" strategy where applications can be easily downloaded to Sprint Nextel handsets, thus enabling customers to get access to content

[45] *See* Press Release, Sprint Nextel, Sprint Customers Nationwide Can Soon Get Enhanced Coverage, Unlimited Calling in Homes, Offices with the Award-Winning Sprint AIRAVE™ by Samsung (July 30, 2008), *available at* http://newsreleases.sprint.com/phoenix.zhtml?c=12714 9&p=irol-newsArticle_newsroom&ID=1181288&highlight=airave.

[46] *See Wireless Innovation Inquiry* at ¶ 59.

and information on their terms. A key aspect of this strategy is to not only permit but to encourage our customers to explore emerging mobile app storefronts provided by companies like Palm, RIM, Google and Microsoft. These application store fronts are run entirely independent of Sprint Nextel. Sprint Nextel will continue to have its own app storefront (*i.e.*, Sprint's Digital Lounge) for some time as it is viewed by our customer base as a trusted partner, but Sprint Nextel's intent is not to be a walled-garden.

To ensure that a robust ecosystem of applications is available to Sprint Nextel customers, Sprint Nextel has initiated a number of programs for application developers, including Sprint Nextel's Application Development Program, Professional Development Program, and Platform Enablement Program.[47] These programs create an inviting atmosphere for application developers, thus facilitating their ability to provide innovative applications to Sprint Nextel's customers.

- Sprint Nextel's Application Developer home page is a one-stop-shop for an application developer to obtain information on developing applications for Sprint's devices, including software development tool kits.
- Sprint Nextel's Professional Development Program enables a developer to have its application tested and certified for use on Sprint devices. This process is not necessary, but some developers choose to have their device tested and certified, for a modest fee, to ensure a successful application.
- Sprint Nextel's Platform Enablement Program allows Sprint Nextel to certify third party applications that use more advanced platforms within the Sprint network. To date, many of the developer applications have focused on location-based services, and developers are able to test-drive applications by dipping into the relevant databases for a small fee.

Most recently, in June 2009, Sprint Nextel launched its Developer's Sandbox through which application developers can – for free – gain access to core enabling capabilities such as Location Based Services (LBS), messaging, presence, user

[47] Details on Sprint's Application Development Program can be found at http://developer.sprint.com/site/global/home/p_home.jsp.

management and geo-location. The Sandbox basically encourages developers to explore Sprint Nextel's APIs and to run experimental applications. Again, there is no cost to "play in the Sandbox" and a developer can register and begin using the Sandbox within minutes.[48] Through these and other initiatives, Sprint Nextel is embracing an open ecosystem that encourages application developers to use Sprint Nextel's tools and programs to develop many applications for a wide range of Sprint devices.[49]

B. The Market for Upstream Wireless Infrastructure is Not Competitive.

The innovation that characterizes the upstream market in network access is virtually absent from the market for network access or backhaul. Sprint Nextel has previously noted that the cost of "special access" used for wireless backhaul is approximately one third of the operating costs of a cell tower.[50] Sprint Nextel has also noted that special access rates are well above costs. Indeed, one party in the Commission's special access proceeding has estimated that special access charges are inflated by $8 billion per year, which means that rates are nearly double the costs.[51] When a charge that represents such a significant portion of total operating costs is that far out of line with costs, the ability of wireless carriers to innovate, invest and compete is severely reduced.

---

[48] The only restriction Sprint currently has with respect to the Sandbox is a limit of 500 "pings" or database inquiries a developer can perform per day.

[49] Interested parties can learn more about Sprint Nextel's Application Developer Programs and our exciting entrée into Android at Sprint Nextel's Ninth Annual Developer Conference scheduled for October 26-28, 2009 in Santa Clara, California.

[50] *See, e.g.*, Letter from Norina Moy, Sprint Nextel Director of Government Affairs, to Marlene Dortch, Federal Communications Commission, WC Docket No. 05-25 (filed Sept. 18, 2009) (Sprint Sept. 18, 2009 *Ex Parte*).

[51] *See* Comments of AdHoc Telecommunications Users Committee, WC Docket No. 05-25, Appendix 1 (filed August 8, 2007) (citing Economics and Technology, Inc., *Special Access Overpricing and the US Economy*, at 4, 19 (Aug. 2007)).

Sprint Nextel has already described in several proceedings before the Commission the grounds on which it believes that the special access market has failed and needs to be reformed.[52] The Commission took several steps that relaxed special access regulation in the hope and expectation that competition would be sufficient to hold the ILECs' market power over special access prices in check. This hope has proved to be an illusion, as the ILECs, especially the two ILECs who are also the largest wireless service providers, have continued their excessive special access prices. In particular, they have adopted so-called "lock-up" provisions in the terms and conditions of their special access tariffs and contracts. These provisions drastically limit the quantity of the special access services that wireless carriers can shift to alternative providers – in the limited situation where those alternative providers exist – denying those potential competitors the scale they would need to have any hope of effectively competing against the ILECs.

The current special access rates also distort competition in several ways. First, because special access rates paid by all wireless carriers are above cost, the price for wireless service is higher than it otherwise would be. All wireless carriers must reflect these above-cost special access prices in their prices to consumers, so no wireless carrier can reflect the economic cost rather than the nominal cost of special access in its prices. This leads to higher than necessary prices for wireless services.

Even more damage to competition occurs because the two largest sellers of special access (AT&T and Verizon) also own the nation's two largest wireless carriers.

---

[52] *See, e.g.*, Letter from Paul Margie, Outside Counsel to Sprint Nextel, to Marlene Dortch, Federal Communications Commission, WC Docket No. 05-25 (filed Sept. 25, 2009); Sprint Sept. 18, 2009 *Ex Parte*, *supra* note 51; Comments of Sprint Nextel Corporation, WC Docket No. 05-25 (filed Aug. 10, 2007); Comments of Sprint Nextel Corporation, GN Docket No. 09-40, at 5, 10-12 (filed Apr. 13, 2009); Letter from Sprint Nextel and T-Mobile to Marlene Dortch, Federal Communications Commission, ET Docket Nos. 04-186 and 02-380 (filed Jan. 3, 2008).

These two carriers' ability to charge above-cost special access rates limits the ability of unaffiliated wireless carriers to compete with them. By raising the costs of competing carriers, Verizon and AT&T ensure that their competitors are not able to vigorously drive down the price of wireless service to economic cost, which harms consumers of wireless service. Furthermore, because the price of special access service is an expense for all competitors – but within their ILEC territories it is only an intra-company accounting entry for these two carriers – AT&T and Verizon have a cost advantage over all other wireless carriers. Their above-cost special access rates result in all wireless carriers charging a price for wireless service that is also above cost. AT&T and Verizon reap the benefit of this pricing not only from their own customers, but also from the customers of the other wireless carriers. Thus, the above-cost special access rates of these two carriers harm consumers by raising the price of wireless service charged by all wireless carriers, and harm their competitors by artificially raising their costs and reducing their profitability, all the while increasing Verizon and AT&T's monopoly rents.

The current special access rates also discourage investment. Since the special access rates that wireless carriers pay are above economic cost, it is obvious that the wireless carriers who pay those excessive special access rates will have just that much less money to invest in their own networks and in developing new and innovative services. Moreover, AT&T and Verizon will be less likely to invest greater amounts in their own wireless networks or develop new and innovative services because they will lack the competitive spur to innovation that would occur if the unaffiliated wireless carriers were able to increase their investment.

AT&T and Verizon thus reap a massive subsidy through their excessive special access charges, with no corresponding benefit – and indeed substantial harm – to wireless consumers. The only potential rationale for the massive subsidy to these two carriers is that they will use these implicit subsidies to build additional broadband wireless infrastructure, or that the excessive profits they reap will send a signal to competitors to enter the market for the provision of special access services for wireless backhaul. Neither of these possibilities has proven to be the case.

There is no government regulation or marketplace incentive that will cause these companies to invest these overcharges in additional infrastructure. They are just as likely to spend it on providing dividends to their shareholders, or buying up other wireless carriers, such as Verizon Wireless did in buying Alltel, or AT&T did in buying Dobson or in proposing to buy Centennial. Effectively, these carriers have reduced their roaming expenses by purchasing their competitors in outlying areas rather than investing in additional infrastructure as the Commission speculated might occur when it announced its "in-market" decision.[53] The Commission has approved or is in the process of considering these acquisitions of smaller wireless carriers by these two companies, which serve only to further cement the Bells' market dominance.

Furthermore, even if allowing these carriers to retain these implicit subsidies resulted in additional build out of wireless broadband infrastructure, it would do so in a highly inefficient manner. As discussed above, it would come at the cost of skewing competition in the market for wireless services and of inflating prices for wireless

[53] *See Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 15817 (2007).

services. The Commission should never rely on such an inefficient mechanism to incent the desired behavior from the incumbents.

Finally, the hope that other companies would be attracted by the high profits earned on special access to enter the market has also failed to materialize, as can be seen from data filed with the Commission on Form 499-A.[54] This data demonstrates that the ILECs' share of special access revenues has remained essentially unchanged from 2000 to 2007, the latest year for which the data have been compiled.

Table 1
Interstate Special Access Revenue Market Share

	2000[1]	2001[2]	2002[3]	2003[4]	2004[5]	2005[6]	2006[7]	2007[8]
Sold to Other Carriers[9]								
Bells	86%	85%	89%	86%	83%	82%	81%	80%
Other ILEC	7%	8%	9%	10%	11%	11%	11%	12%
CLECs	6%	7%	1%	3%	4%	6%	4%	4%
Others	1%	1%	1%	1%	2%	2%	4%	3%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Totals may not add due to rounding

Sources:
1. Data is from 2002 Monitoring Report
2. Data is from 2003 Monitoring Report
3. Data is from 2004 Monitoring Report
4. Data is from 2005 Monitoring Report
5. Data is from 2006 Monitoring Report
6. Data is from 2007 Monitoring Report
7. Data is from 2008 Monitoring Report
8. Data is from 2007 Telecommunications Industry Revenues
9. From Table 1.5 of the relevant Monitoring Report, Table 5 of Telecommunications Industry Revenues

What limited competition is available has been limited almost exclusively to higher capacity circuits of multiple DS-3s. This fact has been confirmed both by the Department of Justice, in its review of the SBC/AT&T and Verizon/MCI mergers, and by

[54] On line 305 of Form 499-A, all carriers – ILECs, CLECs, and others – report interstate local private line and special access revenue from services sold for resale to other carriers. This table reports the share of that revenue that was reported by each type of carrier.

the Commission in its determination that the ILECs would have to offer high capacity DS-1 and DS-3 loops as unbundled network elements in most wire centers.[55]

C. The Commission Should Encourage Competition and Innovation in the Upstream Market for Wireless Infrastructure.

One of the ways in which the Commission could finally encourage a modicum of innovation in the upstream market for network access is to authorize wireless alternatives to the monopoly that AT&T and Verizon currently exercise over network access backhaul in most markets. None of the proposals to enhance the availability of backhaul alternatives will break the Bells' monopoly hold over this segment of the wireless industry. The limited availability of TV White Spaces spectrum in metropolitan markets, for instance, makes TV White Spaces of limited utility as an alternative to the Bell monopolies in these areas. Nevertheless, quickly authorizing new forms of backhaul in the TV White Spaces, or through greater flexibility in existing microwave bands, offers the promise of a facilities-based alternative to the Bells' monopoly backhaul facilities in the areas where these operations are: (1) feasible *and* (2) not precluded by predatory language in the Bells' contracts that prevents operators from using alternative facilities if they are to access other portions of the Bells' special access network.

1. Authorize Point-to-Point Services in TV White Space Areas

Allowing new *fixed, licensed* services in the TV White Spaces spectrum will help provide wireless service to rural areas, encourage the most efficient use of the spectrum, address the legitimate interference concerns that the nation's television broadcasters have

[55] *See* Declaration of W. Robert W. Majure, Civil Action Nos.: 1:05-CV-02102-EGS and 1:05-CV-02103-EGS, at 10-11 (D.D.C. Aug. 4, 2006), *available at* http://www.usdoj.gov/atr/cases/f219000/219054.htm; *Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, WCB Docket No. 04-313, CC Docket No. 01-338, Order on Remand, 20 FCC Rcd 2533, ¶¶ 174-176, 178-180 (2005).

raised, and provide accountability in the unlikely event interference does occur. Sprint Nextel, FiberTower, the Rural Telecommunications Group and COMPTEL have filed numerous pleadings in the Commission's TV White Spaces proceeding demonstrating that such a licensed, point-to-point service, which could be extremely beneficial in expanding broadband services particularly in rural areas, could be authorized without causing interference to the incumbent users in the band.[56] Where available, TV White Spaces backhaul solutions can provide an important tool to reduce the costs of backhaul by as much as 80-90% in rural areas. The favorable propagation characteristics of TV White Spaces make the bands ideal for backhauling traffic over very long distances (*e.g.*, 70 miles and longer) at low cost. For this reason, more than 300 fixed links have already been licensed and installed in the TV Bands under the existing Broadcast Auxiliary Service (BAS) rules. A single 100-mile wireless backhaul link, for example, could be constructed at a cost of $100,000 – $200,000 using two small lightweight antennas, while covering the same distance using 3.65 GHz or 6 GHz spectrum would require four relay towers and a total of 10 six-foot diameter dish antennas, at a cost of $3 million or more. This dramatic cost differential can make or break the economic feasibility of providing

[56] *See, e.g.*, Request for Expedited Consideration filed by FiberTower, RTG, COMPTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380 (filed July 14, 2009); Reply to Oppositions filed by FiberTower, RTG, COMPTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380 (filed May 18, 2009); Petition for Reconsideration filed by FiberTower, RTG, COMPTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380 (filed Mar. 19, 2009); *Ex Parte* filing by FiberTower, Sprint Nextel, RTG, and COMPTEL, ET Docket Nos. 04-186, 02-380 (filed Oct. 31, 2008); *Ex Parte* filing by FiberTower, RTG, Sprint Nextel, and COMPTEL, ET Docket Nos. 04-186, 02-380 (filed Oct. 29, 2008); *Ex Parte* filing by FiberTower, ET Docket Nos. 04-186, 02-380 (filed Oct. 28, 2008); *Ex Parte* filing by FiberTower, Sprint Nextel, RTG, and COMPTEL, ET Docket Nos. 04-186, 02-380 (filed Sept. 15, 2008); *Ex Parte* filing by FiberTower, RTG, Sprint Nextel, and COMPTEL, ET Docket Nos. 04-186, 02-380 (filed Jun. 25, 2008); "Optimizing the TV Bands White Spaces: A Licensed, Fixed-Use Model for Interference-Free Television and Increased Broadband Deployment in Rural and Urban Areas," *Ex Parte* filing by FiberTower and RTG, ET Docket Nos. 04-186, 02-380 (filed Oct. 2, 2007).

wireless broadband to remote communities, and it could be instrumental in making new rural backhaul deployment sustainable.

In addition, TV White Spaces channels are widely available in rural areas. FiberTower, RTG, COMPTEL and Sprint Nextel have calculated that 15 to 45 or more channels often lie fallow in the nation's underserved areas. Moreover, the longstanding use of these frequencies for BAS point-to-point links (some of which are 100 miles long or more) also ensures the off-the-shelf availability of point-to-point equipment well-suited for backhaul for these channels. Because such equipment is available today, the TV White Spaces channels offer a realistic, near-term option for prospective middle mile service providers and could promote lower cost backhaul options for rural broadband deployment.

2. Authorize the Use of Microwave "Dark Spaces"

To encourage innovation in the upstream market for backhaul, the Commission should extend its flexible regulatory approach so that consumers can benefit further from new, more efficient technologies. One example is contained in a Petition for Declaratory Ruling filed in 2007 by Wireless Strategies, Inc. (WSI).[57] WSI's approach would enable existing microwave point-to-point licensees to use previously licensed spectrum more efficiently by permitting multiple receive/transmit points to be part of the same network. Essentially, WSI proposes to use the microwave "dark spaces" – areas near point-to-point links where coordination rules currently prohibit new services from operating – for additional point-to-point links. Deploying services in otherwise idle microwave dark spaces would not only help overcome microwave congestion in urban areas by allowing

[57] *See* Request for Declaratory Ruling filed by Wireless Strategies, Inc., WTB Docket No. 07-121 (filed Feb. 23, 2007).

operators to provide backhaul services to multiple points of presence within a single coordination zone, but also could result in substantial cost savings since at least one end of the link could support multiple point-to-point connections. Notably, moreover, the WSI dark-spaces proposal would protect incumbent point-to-point licensees and not restrict new point-to-point operations.

A compelling record exists in the WSI dark-spaces proceeding to allow innovative, flexible and efficient use of the microwave spectrum. The Commission should act on this innovative approach as soon as possible.[58] While WSI's approach would not solve the backhaul bottleneck, it would mitigate the impact of the Bells' monopoly in some situations, resulting in reduced costs to consumers and facilitating more widespread broadband deployment by improving the economic cost model.

VI. THE COMMISSION CAN IMMEDIATELY REDUCE ITS ENVIRONMENTAL IMPACT BY COMPLETING THE AGENCY'S TRANSITION TO DIGITAL RECORDS AND SHOULD REWARD WIRELESS CARRIERS THAT PRACTICE GOOD ENVIRONMENTAL STEWARDSHIP.

In its *Wireless Innovation Inquiry*, the Commission asked whether any wireless carrier initiatives exist that further the public interest in energy-efficiency and a cleaner, healthier environment.[59] In the case of Sprint Nextel, the answer is an emphatic "yes." Recently named one of the fifteen greenest companies in America by *Newsweek*, Sprint Nextel leads the communications industry in environmental responsibility by taking measures at every stage of its business to reduce its environmental footprint and enhance

[58] WSI's initial proposal was vague and flawed and Sprint Nextel said so. During the proceeding, however, WSI has provided a number of clarifications and elaborations on its proposal to make use of "dark spaces" that existing microwave links cannot use under current rules. These explanations offer ample assurance that the proposed operations will protect existing microwave operations against harmful interference. Continued opposition to WSI's proposal appears based on a misunderstanding of WSI's actual proposal or, less charitably, a willful desire to ignore the actual proposal to protect a dominant market position in the market for broadband backhaul.

[59] *Wireless Innovation Inquiry* at ¶ 54.

the long-term sustainability of its business.[60] Below, Sprint Nextel reviews a handful of the many environmental measures it has already initiated and suggests rule- and policy changes the Commission could adopt to encourage the wireless industry to embrace measures that can help tackle the nation's many environmental challenges.

Many of the measures Sprint Nextel has taken to reduce the company's environmental impact are comparatively simple. For instance, Sprint Nextel eliminated Styrofoam cups in favor of ceramic mugs, eliminated incandescent lights and replaced them with LED lights, and shut off artificial lighting where natural light is sufficient. The most meaningful measures that Sprint Nextel has implemented, however, require both vision and commitment to sustain. For example, Sprint Nextel is the first and only U.S. telecommunications provider to publicly commit to significantly increasing phone recycling efforts by pledging to collect an amount equal to 90 percent of what it sells per year by 2017. Moreover, Sprint Nextel has committed to securing 10 percent of its total energy needs from renewable sources by 2017.[61] More immediately, Sprint Nextel has begun to take measureable, concrete steps to fulfill its goal of becoming the greenest company in America.

First, Sprint Nextel became the first carrier to launch an "eco-friendly" wireless device – the Samsung Reclaim. The handset is made from 80 percent recyclable materials. Its bio-plastic material (made from corn) makes up 40 percent of the Reclaim's outer casing and is 100 percent biodegradable. The Reclaim is free of

[60] Verizon was ranked 101. AT&T was ranked 126. *See* http://greenrankings.newsweek.com/.

[61] Sprint Nextel's commitments are as follows: collect 90 percent of phones sold for reuse/recycling by 2017 (Sprint Nextel's current rate of 35 percent is more than three times the national recycling average); reduce Greenhouse Gas emissions by 15 percent by 2017 (Sprint Nextel is the only U.S.-based wireless telecom to have a reduction goal for Greenhouse Gas emissions); increase use of renewable energy by 10 percent by 2017 (Sprint Nextel currently ranks No. 20 on the Environmental Protection Agency's Green Power Partnership Fortune 500 registry for purchasing green power).

polyvinyl chloride (PVC) and phthalates, and nearly free of brominated flame retardants (BFR). In addition, the outer packaging and the phone tray inside the box are made from 70 percent recycled materials and the images are printed using soy-based ink. The charger is Energy Star approved, consumes twelve times less power than the Energy Star standard for standby power consumption, and includes a visible notification to alert the user to unplug the handset once it is fully charged. Finally, when customers purchase the Samsung Reclaim from Sprint Nextel, $2.00 of the proceeds will benefit The Nature Conservancy's Adopt an Acre program which supports land conservation.

Second, the U.S. Department of Energy recently awarded Sprint a $7.3 million grant as part of the American Recovery and Reinvestment Act funding earmarked for fuel cell technology. Hydrogen fuel cells provide a much cleaner alternative to diesel-powered back-up generators. The grant funding will be used to expand Sprint Nextel's hydrogen fuel cell program at cell sites throughout the United States. Sprint Nextel uses the hydrogen fuel cells for providing approximately fifteen hours of back-up power before needing to refuel. As part of this grant, Sprint Nextel will work with hydrogen fuel cell manufacturers, tank providers and hydrogen suppliers, with the goal of extending the unassisted run-time to 72 hours. As part of a broader sustainability effort, Sprint Nextel has already deployed more than 250 hydrogen fuel cells in its network.

Third, Sprint Nextel has issued an "Environmental Product Design Criteria Vision Statement," which details the expectations Sprint Nextel has of its device and accessory suppliers regarding the environmental conditions under which their products are made and will operate. Notably, Sprint Nextel is developing devices in partnership with manufacturers that:

- Reduce the use of potentially hazardous materials;
- Enhance energy-efficiency;
- Include standardized audio and charging interfaces;
- Incorporate more recyclable and biodegradable components;
- Use more sustainable packaging, including standardized sizes, reduced weight, increased recyclability rate and increased recycled content.

Finally, with regard to its retail stores, Sprint Nextel has or will soon launch several environmentally friendly products, including SOLIO Solar Chargers that power phones without tapping into the electric grid and new accessories such as phone-carrying cases made out of recycled materials. In addition, new and refurbished Sprint Nextel-owned retail stores will be built with environmental sustainability in mind based on new, eco-friendly blueprints for each facility. The new design elements are consistent with LEED standards and will include energy-efficient lighting, low-water-usage plumbing fixtures, and low-VOC paint and carpet. Sprint Nextel expects these new standards to reduce the carbon footprint of each store by about 19,000 pounds of carbon-dioxide equivalents.

To encourage greater environmental responsibility, the Commission should begin by moving its license processes to a completely electronic format. While most applications, notices and correspondence must be filed electronically with the Commission, the Commission still produces paper copies of every wireless license in its database as the "official" license of record or upon renewal or major modification. The costs of continuing to produce paper licenses – both to the taxpayer and to the environment – are staggering.

Sprint Nextel alone has more than 50,000 Commission licenses. Upon license renewal, the Commission prints a copy of the official version of the license on high-quality paper stock, inserts the license (which can be as long as thirty pages or more) into

a brown, 8"x12" envelope, and mails Sprint Nextel the "official" version at the postal service bulk rate of $0.44 per letter. The Commission then repeats this process every time Sprint Nextel modifies one of its tens of thousands of site-specific license in any material way by, for instance, deleting a frequency or moving a transmitter – activities that are almost routine in the context of specialized mobile radio (SMR) licenses that are undergoing the 800 MHz transition process. Using a conservative estimate of Sprint Nextel's routine renewals and modifications, the Commission's current paper-license process annually consumes at least 20,000 envelopes, 40,000 pages of high-quality paper stock, and $8,000 worth of postage – *for Sprint Nextel alone*. While Sprint Nextel has an unusually large number of site-specific SMR licenses, the Commission oversees *hundreds of thousands of licensees* and the routine issuance of new record copies of Commission licenses undoubtedly creates a substantial – and easily avoidable – impact on the environment. Rather than continue to issue and mail paper copies of record to all Commission licensees, the Commission can save money, time and the environment by either designating the electronic version of a Commission license as the "official" version, or by simply posting a PDF version of the "official" license on its license databases.[62] The Commission should improve its environmental record by completing the transition to digital records for the wireless industry.

As for the wireless industry itself, the Commission could encourage carriers to adopt environmentally sensitive business practices by establishing incentives to implement environmental measures that can, at times, prove quite costly and time consuming. The Commission might begin by consulting with the Environmental

[62] Commission licensees that do not have ready access to a computer or the Internet could be accommodated by allowing licensees to opt-in to the new electronic-records process. Licensees would continue to receive paper copies unless they opt-in to the new electronic format.

Protection Agency to establish a set of realistic, but aggressive environmental goals for wireless carriers. For instance, the Commission might award bidding credits in future spectrum auctions to those entities that recycle the equivalent of 90 percent or more of their handsets and devices. Alternatively, the Commission could offer a discount on regulatory fees to parties that obtain a percentage of their energy needs from renewable resources. By establishing environmental goals and rewarding performance, the Commission could create additional commercial incentives for wireless carriers to exercise environmental stewardship and responsibility.

VII. THE COMMISSION SHOULD SUPPORT AND ENCOURAGE INNOVATIVE NEW BUSINESS MODELS.

The Commission's *Wireless Innovation Notice* sought comment on new business models and solutions that companies are developing to provide service to previously unserved or underserved populations.[63] Sprint Nextel has a long history of maximizing the use of its resources directly and in partnership with others to serve new populations and to attempt to mitigate the anti-competitive impact of monopoly pricing for broadband backhaul.

One recent innovation by Sprint Nextel is the definitive agreement that Sprint Nextel signed with Vanu Coverage Co. (CoverageCo) that will bring wireless voice and data service to unserved and underserved populations in rural areas of New Hampshire, Maine, Vermont, and New York. The CoverageCo arrangement represents an entirely new business model that not only introduces a third competitor to challenge the market dominance of the 850 MHz cellular duopoly in these areas, but also, through infrastructure sharing and the development of a technology-agnostic facilities platform,

[63] *Wireless Innovation Inquiry* at ¶ 61.

creates strong economic incentives for fourth, fifth, and sixth wireless entrants to enter the market in addition to Sprint Nextel. The end result is enhanced consumer choice, reduced price, improved quality, superior service, and greater innovation.

One impediment to deploying ubiquitous broadband service in rural areas is the sheer number of transmission sites necessary to provide coverage. Wireless voice and data services require considerable capital investment to cover the cost of site acquisition, radio frequency components, and networking gear. Indeed, once "special access" or "middle mile" backhaul costs, which are typically priced at exorbitant levels due to the local exchange carriers' middle mile monopolies, are figured into the equation, competitors often find it all but impossible to profitably deploy wireless broadband in areas with low population densities. The small customer base in remote and rural areas does not produce enough revenue to support the capital investment of even one wireless provider, much less the three or more competing wireless providers that are essential to increasing rural access, driving innovation, and reducing consumer prices. The result is that many rural consumers find themselves with no access to broadband, or with lower satisfaction, value, competition and innovation than their fellow citizens because few, if any, competitive wireless options are available.

Sprint Nextel's recent agreement with CoverageCo will help address these problems. CoverageCo is a new "network only" company that will own and manage a wireless network that supports multiple wireless technologies, including CDMA, GSM, GPRS/EDGE, WCDMA/UMTS, HSDPA/HSUPA and 1xEVDO Rev. A. CoverageCo's flexible architecture enables carriers to reduce capital expenses by sharing a portion of

the capital infrastructure costs necessary to provide low-population areas with mobile broadband competition.

CoverageCo acts as a technology-neutral, "carriers' carrier" that provides a common infrastructure platform to multiple competitive wireless providers. This new business model reduces the capital cost of constructing facilities by sharing those expenses among multiple competing carriers. This model also reduces recurring operational expenses by pooling those expenses among multiple new wireless providers to the market. Performing routine network operations, for example, requires constant monitoring, alarming, diagnostics, remote repair, and on-site dispatch physical repairs. Sharing the costly expenses associated with carrier-grade monitoring, diagnostic, and repair services reduces operating costs in rural, remote and underserved areas. This infrastructure-sharing model also allows carriers to use a common platform for high capacity backhaul connections to regional aggregation points.

Based on its initial network build plan for rural portions of Vermont, New Hampshire, Maine, and upstate New York, CoverageCo and Sprint Nextel have entered into a binding agreement under which CoverageCo will lease a portion of Sprint's spectrum assets in the area in exchange for allowing customers operating on Sprint Nextel's *NOW NETWORK*™ to enjoy expanded broadband access. Under the agreement, CoverageCo will construct 475 new wireless transmission facilities to extend competitive wireless voice and data services to 700,000 people. Indeed, as a result of the collaboration between Sprint Nextel and CoverageCo, approximately 120,000 of the 700,000 people in the newly covered service area will be receiving wireless service *for the very first time*.

By enhancing both broadband coverage and competition, CoverageCo's proposal promises to offer reduced consumer broadband prices, increased service, and better access to the information, goods and services that broadband competition can place within the reach of rural Americans. Rather than one or two vertically integrated local exchange carriers dominating the market for rural wireless services, the collaboration between CoverageCo and Sprint Nextel promises a technology-neutral, *multi-carrier* platform that can promote aggressive competition on price, service, and quality even in low-density rural areas.

As it evaluates its regulatory policies, the Commission should recognize that CoverageCo depends on secondary markets to access spectrum. To ensure CoverageCo's continued ability to deploy its innovative business model, the Commission should, at a minimum, take no actions that would prevent carriers from leasing spectrum to one another or to third-party innovators, such as CoverageCo. While processing times for secondary market transactions are already reasonably rapid, the Commission could also accelerate the process even further by simplifying forms and increasing the rate at which applications are processed.

VIII. CONCLUSION

Timely Commission decision-making in three key areas will encourage innovation and investment in the wireless industry. First, timely assignment and clearing of existing spectrum allocations will encourage new investment and innovation in wireless communications. Second, timely enforcement of existing Commission relocation policies and the even-handed application of incentives among all parties to the relocation process will expedite the band-clearing process, make way for new services that can benefit consumers and avoid creating disincentives to spectrum clearing that would

discourage other parties from clearing spectrum for new services. Third, the timely intervention against anti-competitive practices in the upstream market for wireless backhaul will not only reduce prices and encourage deployment, but also further enhance downstream innovation and competition among radio access networks.

The recent innovations in infrastructure, devices, applications and services – and the well-documented impediments to continued innovation such as ill-advised underlays and technological-biased assignment decisions – represent only a fraction of the opportunities and challenges facing the wireless sector. For many of the most vexing problems, however, timely decision-making and forward-looking Commission policies can quickly create the necessary commercial incentives to ensure that the wireless communications sector continues to fulfill the public interest in greater and more affordable access to information throughout the country.

Respectfully submitted,

/s/ Vonya B. McCann
Vonya B. McCann,
Senior Vice President, Government Affairs
Lawrence R. Krevor,
Vice President, Government Affairs
Trey Hanbury,
Director, Government Affairs
2001 Edmund Halley Drive
Reston, VA 20191
(703) 433-8525

September 30, 2009