

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

In the Matter of)	
)	
International Comparison and Consumer)	
Survey Requirements in the Broadband Data)	GN Docket No. 09-47
Improvement Act)	
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
Inquiry Concerning the Deployment of)	
Advanced Telecommunications Capability)	
to All Americans in a Reasonable and)	GN Docket No. 09-137
Timely Fashion, and Possible Steps to)	
Accelerate Such Deployment Pursuant to)	
Section 706 of the Telecommunications Act)	
of 1996, as Amended by the Broadband)	
Data Improvement Act)	

**REPLY COMMENTS OF SPRINT NEXTEL CORPORATION
NBP PUBLIC NOTICE # 30**

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I. Introduction and Executive Summary

At no other time in recent history has broadband competition shown so much promise – or faced greater risk – than it does today. The Commission has an immediate opportunity to adopt practical reforms to promote broadband deployment. In these Reply Comments filed in response to the Federal Communications Commission’s (“Commission’s”) Public Notice released January 13,¹ Sprint Nextel Corporation (“Sprint Nextel”) highlights five major areas where adopting pro-competitive broadband

¹ *Reply Comments Sought in Support of National Broadband Plan – NBP Public Notice #30*, GN Docket Nos. 09-47, 09-51, and 09-137, DA 10-61 (rel. Jan. 13, 2010). Except as otherwise noted, all filings cited in these Reply Comments have been submitted in GN Docket No. 09-51.

policies will accelerate broadband deployment, reduce prices, increase innovation, and create or retain jobs.

1. *Special Access.* A robust and competitive broadband market can only exist if all competitors have access to the necessary pieces of the Internet superhighway, including last-mile, second-mile, and middle-mile links, on just and reasonable terms. Broadband competition cannot survive – much less thrive – unless the Commission releases the local exchange carriers’ chokehold on competitive broadband deployment that results from their monopoly on special access connections.

2. *Universal Service.* The current universal service regime is based on carrier-to-carrier wealth transfers to fund decades-old voice technologies. The Commission’s next-generation universal service fund should focus on broadband technology and empower consumers, not carriers. Just as the consumer-directed DTV coupon program worked to move tens of millions of Americans from analog to digital television in a competitively neutral way, a consumer-directed USF coupon program could use the power of the market to move Americans from their current 2G and 3G broadband technologies to new advanced 4G broadband systems, whether wireless or wireline.

3. *Intercarrier Compensation.* The Commission cannot expect to build a broadband policy for the future so long as the intercarrier compensation system effectively subsidizes the networks of the past. The Commission can and should redirect the immense resources currently spent navigating and, at times, gaming the intercarrier compensation regime into productive investment in technologies and systems for broadband.

4. *Spectrum Access.* The Commission should immediately auction the fifty megahertz of spectrum that it has allocated for mobile broadband but not yet assigned. These near-term auctions should include the 700 MHz D Block because competition offers the best hope of ensuring that public safety finally has access to a nationwide interoperable broadband network. The Commission should also promote more efficient and intensive use of existing spectrum by initiating a rulemaking proceeding to accelerate existing broadband deployment deadlines from as late as the year 2021 to 2015 or sooner. Finally, the Commission can put an additional fifty megahertz of spectrum into immediate productive use by reclaiming twenty megahertz of spectrum from the vastly underutilized 2 GHz MSS allocation and by taking final action on the decade-long dispute between WCS and SDARS operators that has all but precluded WCS mobile broadband deployment in the thirty-megahertz WCS band. These actions can deliver additional spectrum for competitive broadband deployments in the near and mid-term while the Commission evaluates other sources of terrestrial commercial spectrum allocations for the future.

5. *Timely and Consistent Enforcement.* Accelerating broadband deployment depends upon clarifying and accelerating enforcement of the Commission's own rules and policies. From the day-to-day problems of unlicensed devices that cause harmful interference to the critical system relocation and payment delays that sap the industry's ability to innovate and deploy services, drawn-out Commission proceedings and lax enforcement efforts punish parties like Sprint Nextel that play by the Commission's rules and reward those who flaunt the Commission's directives.

Sprint Nextel urges the Commission to adopt regulatory reform in each of these areas to promote a robustly competitive broadband sector.

II. Sprint Nextel's Five Major National Broadband Plan Proposals

The Commission should update its policy framework to speed the deployment and adoption of broadband and IP applications.² End user demand for new IP-based services has grown dramatically, and as carriers deploy IP technology throughout their networks, the distinction between voice, data and video services is becoming largely irrelevant – all traffic is simply packets sent from computer-to-computer over the Internet.

Unfortunately, current universal service, intercarrier compensation, and special access policies provide the wrong incentives to carriers, impeding the transition to IP networks and the availability of affordable broadband services. Moreover, IP technology and bundled service offerings have so blurred traditional regulatory classifications (*e.g.*, basic vs. enhanced) as to render such classifications unenforceable. Therefore, the Commission should reform its policies as discussed below to promote the deployment and adoption of widespread, competitive, low-cost broadband capabilities that attract customers to IP-based applications.³

Likewise, the Commission must reform its spectrum-related policies to ensure that adequate spectrum resources are available to meet the soaring demand for new wireless broadband services and increased capacity. This includes not only unleashing spectrum for commercial mobile broadband use, but also ensuring that all spectrum

² Sprint Nextel PN #25 Comments (filed Dec. 22, 2009) at ii, 1, 6-14 (“Sprint Nextel PN #25 Comments”).

³ *See, e.g., id.* at 2-3.

suitable for broadband use is used as efficiently as possible. Finally, the Commission should timely and consistently enforce its rules and policies to promote fair competition and prevent harmful interference.

1. Adopt Special Access Reform and Facilitate Cost-Effective Backhaul

The Commission must act quickly to address the ongoing special access market failure and facilitate the availability of cost-effective backhaul solutions at just and reasonable rates, terms and conditions.⁴ Because the market has proven unable to constrain incumbent LEC special access pricing and service practices, the Commission must adopt regulatory reforms, such as: reintroducing a productivity adjustment factor in the price cap formula; bringing back under price cap regulation certain special access services that were prematurely deregulated; adopting new pricing flexibility triggers that more realistically reflect the existence of actual and viable competition; and removing onerous and anti-competitive terms and conditions.⁵

To provide and use broadband services, service providers and customers must have access to backhaul facilities at just and reasonable rates, terms and conditions. Wireless service providers, interexchange carriers, Internet access providers, large and small enterprise customers, anchor institutions, and individual end users all depend on cost-effective special access backhaul to provide and to use every broadband service

⁴ See, e.g., Sprint Nextel Wireless Competition NOI Comments, WT Docket No. 09-66 (filed Sept. 30, 2009) at 12-15 (“Sprint Nextel Wireless Competition NOI Comments”); Sprint Nextel Wireless Competition NOI Reply Comments, WT Docket No. 09-66 (filed Oct. 22, 2009) (“Sprint Nextel Wireless Competition NOI Reply Comments”); Sprint Nextel Innovation NOI Reply Comments (filed Nov. 5, 2009) at 2-15 (“Sprint Nextel Innovation NOI Reply Comments”); Sprint Nextel PN # 11 Comments (filed Nov. 4, 2009) (“Sprint Nextel PN # 11 Comments”).

⁵ See, e.g., Sprint Nextel PN #11 Comments at 26.

application, from ATM and credit card transactions to telemedicine and e-learning to completing long distance and mobile communications.

The Federal government's emphasis on last-, second-, and middle-mile projects in the Broadband Technology Opportunities Program (BTOP) appropriately reflects the importance of making backhaul facilities available on a just and reasonable basis.⁶ In addition, the BTOP's focus in the second round on middle-mile projects confirms what the record in both the National Broadband Plan⁷ and the special access⁸ proceedings show: that the interstate special access market remains overwhelmingly dominated by incumbent local exchange carriers such as AT&T and Verizon, and that captive special access service subscribers (including enterprise customers, non-RBOC-affiliated interexchange and wireless carriers, and rural ISPs) are forced to purchase special access services from AT&T, Verizon, and other incumbent price cap LECs at excessive rates and unreasonable terms and conditions.

⁶ NTIA has announced that it will award Round 2 BTOP grants totaling \$2.35 billion (out of total \$2.6 billion in Round 2 funding) to the Comprehensive Community Infrastructure (CCI) category, focusing on "middle mile [including interoffice transport, backhaul, Internet connectivity, and special access] broadband infrastructure projects that offer new or substantially upgraded connections to community anchor institutions" Notice of Funds Availability and Solicitation of Applications, 75 Fed. Reg. 3792 (Jan. 22, 2010) at 3793. Similarly, the Department of Agriculture's RUS has announced that \$2.0 billion in Round 2 grants and loans (out of a total \$2.2 billion) would be targeted at last-mile and, to a lesser extent, middle-mile projects. Notice of Funds Availability and Solicitation of Applications, 75 Fed. Reg. 3820 (Jan. 22, 2010). Both NTIA and RUS also allocated substantial BTOP funding to last- and middle-mile projects in Round 1.

⁷ See, e.g., Sprint Nextel Broadband Plan NOI Comments (filed June 8, 2009) at 8-34 ("Sprint Nextel Broadband Plan NOI Comments"); Sprint Nextel Broadband Deployment NOI Comments (filed Sept. 4, 2009) at 1-8; Sprint Nextel PN #11 Comments at 27-45; Sprint Nextel PN # 28 Comments (filed Jan. 8, 2010) at 2-3.

⁸ See, e.g., Comments of Sprint Nextel Corporation, WC Docket No. 05-25, RM-10593 (filed Jan. 19, 2010); Comments of Sprint Nextel Corporation, GN Docket No. 09-29 (filed Mar. 25, 2009) at 2-8; Sprint Nextel NCTA Petition Comments (filed Jan. 7, 2010) at 27-28 ("Sprint Nextel NCTA Petition Comments"); Sprint Nextel Wireless Competition NOI Reply Comments at 1-9.

Customers who are forced to pay excessive special access/backhaul rates to incumbent price cap LECs (which earn up to triple-digit returns on these monopoly or near-monopoly services) have billions of dollars less to invest in their own broadband networks and services,⁹ and must charge rates to their own end user customers that may well inhibit broadband adoption, particularly among low-income and rural populations. Furthermore, onerous terms and conditions which lock in customers to the incumbent provider discourage the development of competition by preventing those customers from switching to a competitive special access service provider, even where such competitive alternatives are minimally available.

The Commission can and should address this failure in the special access market expeditiously. It should finalize its various open proceedings, including completing any additional data collection activities, identifying anti-competitive terms and conditions, and implementing drastically needed reforms to the existing price cap and pricing flexibility rules as quickly as possible. Each day that reform is delayed results in further distortion of the broadband market and harm to consumers. As discussed below, it should also act quickly to authorize use of the TV White Spaces and microwave dark spaces for wireless backhaul.

⁹ Some incumbent price cap LECs may argue that they use overearnings generated by their special access services to pay for their broadband deployment projects. However, the Robin Hood rationale should be firmly rejected. The statutory imperative that rates be just and reasonable must be upheld, regardless of the worthiness of a project in which excessive earnings may otherwise have been invested.

2. Reform the Universal Service Mechanism to Promote Broadband Deployment and Adoption

Universal service support is one potential means of encouraging broadband investment and adoption, but only in those where the economics of deployment do not justify purely private investment. To achieve these goals, however, the Commission must reform the universal service mechanism, which currently stifles broadband competition.¹⁰

If universal service support is to be a tool in the Commission's arsenal for promoting broadband, it must first adopt significant reforms to make the USF mechanism sustainable, pro-competitive, and forward-looking. First, the Commission must redirect support from legacy voice services to broadband services. The USF contribution factor reached an all-time high of 14.1% in the first quarter of 2010, stark proof that the fund (or, more accurately, interstate telecommunications service customers) cannot provide both expanded support for broadband and continued support at existing levels for legacy voice services. Where facilities-based competitors are present in a given area, high-cost USF subsidies in that area should cease altogether.¹¹ Where facilities-based competitors are not present, the Commission should recognize that incumbent LECs use their local loop to provide multiple services (*e.g.*, legacy voice, broadband, and entertainment services); allocate loop costs to reflect these multiple uses; and decrease high-cost USF support for voice services accordingly.¹²

¹⁰ *See, e.g.*, Sprint Nextel Wireless Competition NOI Comments at 17-20; Sprint Nextel Broadband Plan NOI Comments at 38-40; Sprint Nextel NCTA Petition Comments at 2-22.

¹¹ Sprint Nextel NCTA Petition Comments at 5-6.

¹² *See, e.g., id.* at 7-13

Second, the Commission must ensure that its universal service mechanism makes support available on a competitively and technologically neutral basis. It must implement equitable policies and regulations that make USF support available to all eligible entities, regardless of whether they are incumbent or competitive carriers and regardless of what technology they use to provide service.¹³

Third, the Commission must shift the focus of universal service from a supply to a demand basis.¹⁴ It can do this by providing targeted USF support to end users, perhaps in the form of vouchers, rather than to carriers; end users could use these vouchers to purchase broadband services and/or devices from the provider of their choice. Targeting universal service subsidies at end users rather than at service providers is a more neutral and likely more effective means of stimulating demand and thus private investment.

3. Eliminate Switched Access Intercarrier Compensation Designed to Subsidize Old Technology

Like the universal service mechanism, the Commission's intercarrier compensation program is broken and in need of reform.¹⁵ The multitude of switched access intercarrier compensation regimes has caused massive billing disputes and encouraged uneconomic behavior and even outright abuse for decades. On the broadband front, inflated switched access rates also have impeded private investment by enriching certain carriers (primarily incumbent wireline LECs) regardless of whether they invest private capital to expand or improve their broadband service offerings. Because

¹³ See, e.g., *id.* at ii, iv, 1, 28.

¹⁴ See *id.* at 15-22.

¹⁵ Sprint Nextel PN #25 Comments at 7-10; Sprint Nextel NCTA Petition Comments at 22-27.

switched access charges for voice traffic generate such a large and highly lucrative stream of carrier-to-carrier subsidies, this type of intercarrier compensation provides little incentive to wireline LECs to recover their costs from their end user customers or to assume the risks associated with broadband investment.

To reform the intercarrier compensation regime and prevent further competition distortion, the Commission should adopt a mandatory “bill-and-keep” system and eliminate switched access subsidies for POTS (or, at a minimum, reduce such subsidies by adopting a uniform terminating rate based on forward-looking long-run incremental costs, which would apply to all switched traffic regardless of type, jurisdiction, or carrier).¹⁶ Doing so would strongly encourage wireline carriers to focus on aggressively expanding their broadband service offerings to end users, rather than on maximizing their revenues from other carriers/competitors.

Moreover, as is the case for special access, if carriers such as Sprint Nextel are no longer required to engage in switched access wealth transfers to wireline LECs (or if such wealth transfers are kept to a minimum), such carriers would have hundreds of millions of dollars more to invest in their own broadband networks and services. Finally, comprehensive switched access reform could potentially generate hundreds of millions of dollars in administrative savings across the industry – resources that are now used to track, bill, audit, dispute and litigate access bills – funds that each carrier could use to expand and improve its broadband offerings.

¹⁶ *Id.*

4. Unleash Spectrum for Commercial Mobile Broadband Use and Adopt Policies Promoting Efficient Spectrum Use

When pursuing additional spectrum for mobile broadband, the Commission should focus first on those bands that are “ripe” for an auction to push that spectrum into the marketplace as rapidly as possible, rather than delaying until it has determined the total amount of spectrum it hopes to make available for mobile broadband at some point in the future. The Commission should also adopt policies that promote the efficient and intensive use of both existing and new broadband-capable spectrum. Sprint Nextel’s specific spectrum recommendations are as follows:

Assign the 50 MHz in the Commission’s “Spectrum Warehouse” as soon as possible. A number of commenters agree with Sprint Nextel’s recommendations regarding the allocation and use of available spectrum below 3 GHz for commercial mobile broadband. As an initial matter, a host of commenters agree that the Commission should resolve expeditiously all unresolved technical and service rule issues pertaining to the 50 MHz of spectrum below 3 GHz (*i.e.*, the 1.9 GHz H Block, the 2.0 GHz J Block, the 2.1 GHz AWS-3 Block and the 700 MHz D Block) awaiting final action in the Commission’s “spectrum warehouse.” Metro PCS states that licensing this spectrum should be the Commission’s first priority¹⁷ and U.S. Cellular urges the Commission to quickly make the spectrum available.¹⁸ T-Mobile recommends that the 700 MHz D Block be auctioned immediately for commercial services.¹⁹ Sprint Nextel agrees with

¹⁷ MetroPCS PN #6 Comments (filed Oct. 23, 2009) at 8.

¹⁸ U.S. Cellular PN #6 Comments (filed Oct. 23, 2009) at 3-4.

¹⁹ T-Mobile PN #6 Comments (filed Oct. 23, 2009) at 14-15.

these parties: the Commission has already developed extensive records regarding commercial use of these bands, and should hasten the licensing process by setting deadlines for issuing final rules and scheduling auctions.²⁰ New broadband services can be deployed in the 700 MHz D Block in particular almost immediately after licenses are awarded, and the propagation characteristics and location of the 700 MHz D Block near other recently auctioned spectrum make the band extraordinarily valuable to commercial providers.

Expand technologically and competitively neutral flexible use policies, including to the 700 MHz D Block. Competition – not localized monopoly – will best ensure that public safety users have access to the network of systems, devices, applications and services that they need when disaster strikes. Together with T-Mobile, MetroPCS, Clearwire, Access Spectrum and the Rural Telecommunications Group, Sprint Nextel has called for the Commission to adopt a technology- and band-neutral approach for delivering public safety broadband services.²¹ This type of competitively neutral approach would encourage public safety to take advantage of *any* nationally deployed commercial broadband networks that meet basic interoperability performance specifications, such as Sprint Nextel’s first-in-the-nation 4G wireless broadband service in the 2.5 GHz band that covers more than thirty million Americans today as well as the

²⁰ See Sprint Nextel PN #6 Comments (filed Oct. 23, 2009) at 2-8 (“Sprint Nextel PN #6 Comments”); Sprint Nextel Innovation NOI Comments (filed Sept. 30, 2009) at 3-5 (“Sprint Nextel Innovation NOI Comments”); *id.* at 15-17.

²¹ See Sprint Nextel, T-Mobile, MetroPCS, Clearwire, the Rural Telecommunications Group, and Access Spectrum *Ex Parte* (filed Jan. 6, 2010); Sprint Nextel *Ex Parte*, PS Docket No. 06-229, WT Docket No. 06-150 (filed Nov. 10, 2009) at 1-2.

4G networks that other carriers, such as Verizon, AT&T and T-Mobile, intend to build in the future. Public safety providers will enjoy far better prices, faster innovation, better service, and more rapid and extensive 4G broadband service availability if multiple carriers are able to compete on a level playing field for the opportunity to meet public safety's broadband requirements. The FCC, therefore, should auction the 700 MHz D Block in a way that encourages public-private partnerships between commercial operators and public safety providers on a band-neutral, technology-neutral, competitively neutral basis.²²

The overwhelming majority of commenters also favor a continuation of the Commission's flexible regulatory approach toward wireless services, crediting it for the explosive competition and innovation in the industry today.²³ To enable the most efficient and intensive use of spectrum, the Commission should also continue its move away from eligibility restrictions, service limitations and other calls for narrow spectrum set-asides. Instead, the Commission should encourage the deployment of fully flexible commercial wireless networks that use common internet protocol language to offer a wide array of performance, capacity and security options for every type of business imaginable. Accordingly, requests by commenters such as the Utilities Telecom Council (which wants the 1800-1830 MHz band designated for utility-only use) should be rejected.²⁴ Fundamentally, such requests simply seek dependable, secure, ubiquitous and

²² See Sprint Nextel *Ex Parte* (filed Jan. 22, 2010) at 1.

²³ See, e.g., AT&T Innovation NOI Reply Comments at 52-58; Verizon Wireless Innovation NOI Reply Comments at 38-42; Motorola Innovation NOI Comments (filed Sept. 30, 2009) at 5.

²⁴ See Utilities Telecom Council PN #2 Comments (filed Oct. 2, 2009) at 19-22.

cost-effective communications systems, which can be achieved by today's flexible networks without reverting to inefficient service-specific allocations.

Harmonize build-out deadlines. The Commission can achieve more efficient spectrum use by reducing the amount of time that spectrum in some bands is being allowed to lie fallow before licensees are required to commence operations. Present build-out deadlines range from 2011 for BRS-EBS licensees, to 2019 for Lower 700 MHz C and D Block licensees, and to 2021 for most AWS licensees. As operators move toward a common IP platform, a decreasing number of air interface technologies and increasingly flexible operating rules, build-out deadlines that vary considerably by band serve little purpose and enable spectrum warehousing that can delay the deployment of broadband services to the public. The Commission, therefore, should use its authority, subject to the requisite notice and comment procedures, to rationalize the various substantial service deadlines by developing a common service deployment goal for all broadband-capable bands.

Reassign or reallocate at least 20 megahertz of the 2 GHz MSS spectrum. Commenters agree that the Commission could further promote broadband deployment by reallocating or resolving uncertainties in already-licensed but underutilized spectrum bands. For example, a number of commenters agree with Sprint Nextel that the Commission should consider reallocating a portion of the current 2 GHz Mobile Satellite Service ("MSS") band for flexible terrestrial use due to the lack of MSS activity at

2 GHz.²⁵ Sprint Nextel has shown in previous comments that the Commission would be justified in returning the 2 GHz MSS spectrum assignments of ICO (now known as DBSD following its latest bankruptcy) and TerreStar to no more than 10 megahertz each (if not to the eight megahertz each that they originally received).²⁶ Such action would free up 20 megahertz of additional spectrum.

Opposition to a Commission review of the current 2 GHz MSS allocation from ICO/DBSD, TerreStar and the SIA²⁷ is not surprising, given the interest of those parties in holding on to valuable spectrum. TerreStar claims to have made significant investments in its 2 GHz MSS spectrum,²⁸ but cannot point to a single subscriber, despite having received its license over nine years ago. Even worse from a spectrum utilization viewpoint, ICO/DBSD has admitted that it will not have any subscribers until 2014 at the earliest.²⁹

In view of the moribund state of 2 GHz MSS use, the documented need for additional terrestrial mobile spectrum and the strong support in the record for exploring

²⁵ See MetroPCS PN #6 Reply Comments (filed Nov. 13, 2009) at 2-8; AT&T PN #6 Reply Comments (filed Nov. 13, 2009) at 12-13 (“AT&T PN #6 Reply Comments”); CTIA PN #6 Reply Comments (filed Nov. 13, 2009) at 15-16, 28-29 (“CTIA PN #6 Reply Comments”).

²⁶ See Sprint Nextel PN #6 Comments at 9-12.

²⁷ See TerreStar PN #6 Reply Comments (filed Nov. 13, 2009) at 3-6 (“TerreStar PN #6 Reply Comments”); ICO/DBSD PN #6 Reply Comments (filed Nov. 13, 2009) at 5-8 (“ICO/DBSD PN #6 Reply Comments”); SIA PN #6 Comments (filed Nov. 13, 2009) at 6-9.

²⁸ See TerreStar PN #6 Reply Comments at 3-4.

²⁹ ICO and its subsidiaries have filed submissions to federal bankruptcy court that show no revenue from operations until at least 2014. See, e.g., *DBSD North America, Inc.*, Case No 09-13061 (S.D.N.Y.), 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 & Exhibit D (showing projected financials); 66-67 (“The Debtors have not yet ordered a spare satellite and currently do not have financing available to pay for a spare satellite. Construction of a spare satellite would likely require two to three years.”).

reallocation of a portion of the band, Sprint Nextel urges the Commission to grant long-pending petitions for reconsideration of its decision granting ICO/DBSD and TerreStar each the 20 megahertz of 2 GHz MSS spectrum that they each currently hold.³⁰ The Commission should also initiate a related proceeding to consider whether reallocation of at least 20 megahertz of the 2 GHz MSS spectrum is in the public interest.

Resolve the SDARS/WCS proceeding to unleash WCS spectrum. Commenters expressed support for Sprint Nextel's request that the Commission act quickly to remove the technical uncertainty and extremely stringent out-of-band emissions limits currently thwarting effective WCS deployments.³¹ Through these actions, the Commission can quickly unshackle 30 megahertz or more of spectrum that could support new broadband services, applications and devices or other rapid service deployments. Although Sirius XM argues that resolution of the long-standing SDARS/WCS compatibility dispute is not required to spur more intensive use of the WCS band,³² this argument is belied by the Commission's own conclusions in granting an extension until 2010 of the WCS license construction requirements: "[w]e agree with the WCS Coalition that limited deployment attempts using available equipment have been marred by technical problems or proved to be economically infeasible," and that "relatively restrictive OOB limits may have impeded the development of WCS equipment and contributed to the unique

³⁰ See Consolidated Petition for Reconsideration of Inmarsat Ventures Limited and Inmarsat Global Limited, IB Docket Nos. 05-220 and 05-221 (filed Jan. 9, 2006); Petition of Globalstar for Reconsideration, IB Docket Nos. 05-220 and 05-221 (filed Jan. 9, 2006).

³¹ See WCS Coalition PN #6 Comments (filed Oct. 23, 2009) at 2-4.

³² See Sirius XM PN #6 Reply Comments (filed Nov. 13, 2009) at 9.

circumstances of the band.”³³ Sirius XM also mischaracterizes the relevance of the Commission’s decision not to tie the term of the WCS construction build-out extension to completion of the SDARS/WCS proceeding. That decision (taken so as not to encourage delay in the development of viable WCS solutions) was in no way intended to minimize the importance of resolving the SDARS/WCS dispute and achieving the WCS band’s true potential.

Permit innovative new uses of spectrum in the TV White Spaces and microwave “dark spaces.” Separate from making more spectrum available for “last mile” mobile broadband services, the Commission should also enable the more efficient utilization of the TV White Spaces and microwave dark spaces for the provision of licensed, point-to-point services that can be used to provide broadband backhaul. While this will not break the special access monopoly of the incumbent LECs described above, it will at least provide some new backhaul alternatives in certain areas.

With regard to the White Spaces, Sprint Nextel, along with FiberTower, the Rural Telecommunications Group (“RTG”) and COMPTTEL have long urged the Commission to allow licensed, fixed use of UHF TV Channels 21-35 and 39-51 for (1) up to six vacant channels second or greater adjacent to a TV broadcast station in rural counties; and (2) any vacant White Spaces channels third or greater adjacent to a TV broadcast station in all counties.³⁴ The proposal, which has received support from a number of

³³ *In the Matter of Consolidated Request of the WCS Coalition for Limited Waiver of Construction Deadline for 132 WCS Licenses*, WT Docket No. 06-102, *Order*, 21 FCC Rcd 14134, 14139 ¶ 10 (2006).

³⁴ *See, e.g.*, Request for Expedited Consideration filed by FiberTower, RTG, COMPTTEL, and Sprint Nextel, ET Docket Nos. 04-186, 02-380 (filed July 14, 2009).

other commenters, including T-Mobile USA, Inc., the Association for Maximum Service Television, Inc., the National Association of Broadcasters and the Wireless Communications Association International, Inc.,³⁵ would also facilitate additional means for BTOP applicants to deploy more cost-effective middle-mile facilities in rural areas.

Very few commenters oppose this proposal, and those objections are based on unsupported, conjectural assertions that often flatly conflict with record evidence. Motorola and Microsoft assert that practical technical and economic considerations make the White Spaces “less than ideal” for wireless backhaul.³⁶ But they ignore how the band is already used by the Broadcast Auxiliary Service for fixed point-to-point links over long distances, and that existing off-the-shelf equipment and lightweight antennas for the UHF channels would result in lower backhaul costs compared to the microwave bands where spectrum is available.³⁷ Similarly, handwringing by Microsoft and WISPA about whether sufficient spectrum will be left for unlicensed or other proposed uses in the band is baseless. The TV White Spaces proposal is very narrowly tailored and would limit licensed fixed use to only six vacant UHF channels in rural areas (and to the rarely available third or greater adjacent UHF channels elsewhere), which represents only a fraction of the 15 to 45 or more vacant channels that exist in rural areas today.³⁸

³⁵ See, e.g., T-Mobile Innovation NOI Comments (filed Sept. 30, 2009) at 28; MSTV/NAB PN #6 Comments (filed Oct. 23, 2009) at 13-14; Wireless Communic’ns Ass’n Int’l Broadband Plan NOI Comments (filed June 8, 2009) at 45-47.

³⁶ See Motorola PN #6 Comments (filed at Oct. 23, 2009) at 18; Microsoft Innovation NOI Reply Comments (filed Nov. 5, 2009) at 11-12 (“Microsoft Innovation NOI Reply Comments”).

³⁷ FiberTower, RTG, COMPTTEL & Sprint Nextel PN #6 Reply Comments (filed Nov. 13, 2009) at 3-4.

³⁸ Microsoft Innovation NOI Reply Comments at 11-16; WISPA PN #6 Reply Comments (filed Nov. 13, 2009) at 4-6 (“WISPA PN #6 Reply Comments”). Nevertheless, WISPA admits that the

Moreover, because no channels would be “reserved” for fixed licensed use, no reduction in the availability of spectrum for other uses ever occurs unless and until a fixed link is actually licensed in a given location.

The Commission should also provide another wireless backhaul alternative by authorizing existing microwave point-to-point licensees to deploy new antenna elements that would enable multiple PTP paths, operating on a secondary basis within the idle “dark spaces” near existing PTP links (where other paths currently cannot be coordinated due to interference issues).³⁹ In addition to maximizing intensive and efficient use of the microwave spectrum, the dark spaces proposal could create significant cost savings – especially in urban environments – because at least one end of a backhaul link could support multiple connections without causing interference to other licensees.

Take into account network efficiencies and geographic factors when identifying and allocating additional spectrum for commercial mobile use. Even after the Commission has unleashed the “low-hanging” spectrum discussed above, it may still need to reallocate and reassign spectrum in other bands to provide the necessary raw material needed to meet the burgeoning demand for commercial mobile broadband services. The spectrum inventory legislation currently moving through Congress should greatly assist with the process of identifying the most suitable bands for reallocation (although the time involved in this process is yet another reason for getting readily available spectrum onto the market expeditiously). As part of this process, the

lack of affordable middle-mile service acts as a barrier to the deployment of broadband in many areas. WISPA PN #6 Reply Comments at 2.

³⁹ See Request for Declaratory Ruling filed by Wireless Strategies, Inc., WTB Docket No. 07-121 (filed Feb. 23, 2007).

Commission will need to determine how much spectrum to reallocate. Extrapolating from recent demand growth rates, some parties have suggested that as much as an additional one gigahertz of spectrum will be needed.⁴⁰ These estimates, however, may overstate the true extent of the demand. The Commission should keep in mind that continuing advances in technology can increase spectrum use efficiency, thereby moderating the need for new allocations, and that spectrum needs will not be the same in all geographic areas.

In its *Innovation NOI* reply comments, Alcatel-Lucent detailed how “the industry is currently innovating in many areas to increase capacity and efficiency.”⁴¹ Alcatel-Lucent echoed Sprint Nextel’s suggestions that carriers can realize spectrum efficiencies through femtocells or other small cells that result in higher spatial reuse of the spectrum, as well as through the use of multiple-input multiple-output (“MIMO”) antenna technology which can, according to Alcatel-Lucent, double or even triple spectral efficiency.⁴² Alcatel-Lucent also points to other technologies, including fractional frequency reuse, interference coordination, interference cancellation, and self-optimizing networks, as “but a few of the significant network innovations taking place to advance

⁴⁰ See, e.g., AT&T Innovation NOI Comments (filed Sept. 30, 2009) at 68-69 (stating that “[e]xperts recommend that the Commission allocate as much as an additional one Gigahertz of spectrum to mobile use”) (“AT&T Innovation NOI Comments”); see also CTIA Innovation NOI Comments (filed Sept. 30, 2009) at 72 (noting that it has asked the Commission and NTIA to identify at least 800 MHz of spectrum for reallocation to licensed commercial use).

⁴¹ Alcatel-Lucent Innovation NOI Reply Comments (filed Nov. 5, 2009) at 6 (“Alcatel-Lucent Innovation NOI Reply Comments”).

⁴² See Sprint Nextel PN #6 Comments at 24; Alcatel-Lucent Innovation NOI Reply Comments at 6-7, 12.

spectral efficiency in today's wireless marketplace.”⁴³ Contrary to some comments,⁴⁴ Sprint Nextel has never suggested that these technological advances would be adequate to solve the expected spectrum shortage. However, their impact on the “supply side” should not be ignored as the Commission evaluates commenters’ “demand side”-based estimates regarding the amount of additional spectrum that is needed.⁴⁵

Avoid authorizing spectrum underlays and overlays. The majority of commenters agree with Sprint Nextel that the Commission should not authorize new overlays or underlays, such as Google proposes through an interference temperature approach,⁴⁶ as this would discourage innovation by licensees, increase the cost of expanding licensed broadband services, and negatively impact the broadband data rates available to consumers.⁴⁷ Overlays and underlays would not increase the efficient or intensive use of the spectrum. Today's 3G and 4G wireless networks achieve high efficiency levels by operating at the minimum limit of acceptable performance. Permitting overlays and underlays would require operators to incorporate some unused margin in their interference budgets to account for a possible increase in the noise floor. As a result, the maximum data rate to consumers would be reduced. Even a small increase in noise of 1-

⁴³ Alcatel-Lucent Innovation NOI Reply Comments at 8.

⁴⁴ See T-Mobile PN #6 Reply Comments (filed Nov. 13, 2009) at 3-4.

⁴⁵ See Alcatel-Lucent PN #6 Reply Comments (filed Nov. 13, 2009) at 4 (“In order to quantitatively evaluate wireless network economics, like in all market evaluations, a careful look at supply and demand is in order.”).

⁴⁶ See *id.* at 22-24.

⁴⁷ See, e.g., AT&T PN #6 Reply Comments at 20-21; CTIA PN #6 Reply Comments at 8; Clearwire Innovation NOI Reply Comments (filed Nov. 5, 2009); Qualcomm Innovation NOI Reply Comments (filed Nov. 5, 2009) at 4-5; Verizon Wireless Innovation NOI Reply Comments (filed Nov. 5, 2009) at 19-20 (“Verizon Wireless Innovation NOI Reply Comments”); MSTV/NAB Innovation NOI Reply Comments (filed Nov. 5, 2009) at 2-4.

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.

Develop spectrum test beds, including in a portion of the V-Band. In addition to reallocating spectrum in the “prime” mobile bands below 4 GHz, the Commission should encourage innovation by designating a wireless broadband test bed in a particularly underutilized band, such as the V-band (36-51 GHz), which developers could access at no cost and with no regulatory fees. If applications are developed for the band, the Commission could reallocate a portion of the band for flexible use on either a licensed or unlicensed basis consistent with the most successful applications developed in the test bed phase of the program. Given the ongoing advances in high frequency technologies,⁴⁸ the V-Band could prove especially useful for short-range wireless applications, especially in light of the increasing need for femtocell and picocell deployments to increase broadband capacity.

5. Timely and Consistently Enforce Rules to Promote Competition and Prevent Harmful Interference.

A vibrant broadband marketplace can only succeed if the Commission improves the enforcement of its existing rules and policies, and strengthens rules where necessary to ensure fair competition and prevent disruption to services. Sprint Nextel recommends that the Commission take the following actions:

⁴⁸ See “Northrop Grumman drops commercial satellite plans,” Bloomberg News (Mar. 27, 2009), available at <http://www.dailyherald.com/story/print/?id=282197> (noting that, despite decision to drop plans for a V-band satellite system, “there is no doubt that commercial V-band systems and technology are now practical”).

Adopt clear spectrum relocation rules, ensuring that all beneficiaries pay their fair share of costs, and enforce the rules quickly and consistently. Any spectrum bands identified for reallocation will likely involve significant and years-long incumbent relocation efforts. Sprint Nextel, which has relocated incumbents from *roughly half* of all commercial mobile spectrum in use today, speaks with particular authority on the urgent task of timely and effective relocation. Among other things, Sprint Nextel urges the Commission to set realistic relocation deadlines and enforce its rules quickly and consistently.⁴⁹ The Commission must set and enforce its relocation rules to assure that incumbents retune to comparable facilities efficiently and seamlessly, and that dilatory incumbents cannot block new entrants from deploying innovative and competitive new services. Sprint Nextel also recommends that the Commission establish a thirty-day “shot clock” to resolve most relocation disputes, and should develop a short-form decision process for disputes that do not raise new or complex issues.

To enforce its rules effectively, the Commission must maintain active oversight of *all* parties to the relocation process to ensure that incumbents, vendors, and others share the same sense of urgency as the licensees seeking access to the new spectrum resources.⁵⁰ This degree of oversight is not always the case today,⁵¹ and it causes significant delays. The delays, in turn, increase the costs to the new entrant and its customers, and deprive the public of important new mobile services. Sprint Nextel

⁴⁹ See also Sprint Nextel Innovation NOI Comments at 16-17; Sprint Nextel Innovation NOI Reply Comments at 21-23.

⁵⁰ See Sprint Nextel Innovation NOI Comments at 13-16; Sprint Nextel Innovation NOI Reply Comments at 21-23.

⁵¹ See, e.g., Sprint Nextel Innovation NOI Comments at 13-16.

recommends that the Commission resolve incumbent delays by maintaining active oversight of relocating incumbents and quickly moving against those that fail to meet clearly articulated progress milestones. To enforce its mandate, the Commission should consider revoking incumbents' licenses or, less drastically, requiring them to fund their own costs of negotiation and mediation. AT&T agrees with this recommendation and has stated that "precluding incumbents from recovering negotiation costs related to their spectrum relocation and to allow them to recover only the actual costs of relocation may better align incentives for incumbents to more quickly negotiate and implement relocation terms."⁵²

Finally, it is vital that the rules ensure that all beneficiaries pay their fair share in the relocation process.⁵³ Currently, some beneficiaries such as ICO/DBSD and TerreStar⁵⁴ have used bankruptcy proceedings and regulatory gamesmanship to evade and delay paying millions of dollars owed under Commission-imposed license conditions.⁵⁵ Rewarding this behavior through delay or indecision saps the creative impulse, reduces investment in network infrastructure, and undermines the basis of future spectrum relocation proceedings.

Unless quickly and definitively remedied by the Commission, potential new

⁵² AT&T Innovation NOI Reply Comments (filed Nov. 5, 2009) at 33 n.82 ("AT&T Innovation NOI Reply Comments").

⁵³ *See also* Sprint Nextel Innovation NOI Comments at 8-13; Sprint Nextel Innovation NOI Reply Comments at 21-23.

⁵⁴ *See* Sprint Nextel Innovation NOI Comments at 8-13.

⁵⁵ Sprint Nextel has cleared almost 90 percent of all BAS incumbents from the 2 GHz MSS spectrum, with the remainder to be cleared this year, yet both ICO/DBSD and Terrestar refuse to reimburse Sprint Nextel for their fair share of the costs Sprint Nextel has incurred on their behalf as the "first mover" in this Commission-mandated spectrum reallocation.

entrants will no longer have confidence that the beneficiaries of future spectrum relocations will pay for their fair share of relocation costs. The Commission should ensure that all beneficiaries pay their fair share 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.

Vigorously enforce existing technical and interference rules, and strengthen OOB limits for unlicensed devices. Recently, Sprint Nextel has noticed a marked increase in the number of interference events caused by unauthorized out-of-band emissions (“OOBE”), largely from unlicensed Part 15 consumer devices, which have increased noise levels in the iDEN 800 and 900 MHz bands.⁵⁶ In some cases, these devices far exceed the permissible OOB limits under the Commission’s rules. Commenters agree with Sprint Nextel that the Commission should fully enforce its rules in the marketplace. Qualcomm, for example, states that “full interference protection should be assured” for licensees using auctioned spectrum, adding that “[n]o one is going to invest in spectrum and in a network to deploy on the spectrum without an assurance of full interference protection.”⁵⁷ AT&T concurs, noting that it is “vitally important” for the Commission to enforce its rules to prevent harmful interference to mobile services.⁵⁸

⁵⁶ See Sprint Nextel Innovation NOI Comments at 20-22; Sprint Nextel Innovation NOI Reply Comments at 23-24.

⁵⁷ QUALCOMM Innovation NOI Comments (filed Sept. 30, 2009) at 34 (also stating that “ensuring full interference protection is certainly one of the Commission’s core functions”).

⁵⁸ AT&T Innovation NOI Comments at 87; see also AT&T Innovation NOI Reply Comments at 47 n.125 (“AT&T has similar concerns and agrees with Sprint that ‘the Commission must enforce its OOB rules in the marketplace.’ . . . AT&T also agrees that the Commission should do so

And CTIA “agrees that the Commission has properly adopted rules that, if enforced, help to avoid the risk that the quality and reliability of those services ... could be degraded by permitting increased opportunities for interference.”⁵⁹

To improve enforcement of its rules, the Commission should establish a fifteen-day “shot clock” to act in response to complaints about unauthorized OOB. Such a shot clock would discourage manufacturers from marketing non-compliant devices, reduce the amount of time that licensees must suffer from “OOB pollution,” decrease the probability that non-compliant devices are deployed in large quantities, and could even help prevent costly, widespread disruption to mobile wireless services.

Given the importance of high signal-to-noise ratios to modern wireless networks and the actual harmful interference that Sprint Nextel has been experiencing, the Commission should reject Google’s calls for more lenient interference limits⁶⁰ and should instead commence a rulemaking proceeding to adopt more stringent OOB requirements for transmitters, particularly unlicensed transmitters that cause interference or raise the noise floor in other bands used to provide innovative broadband services. While unlicensed devices that meet more stringent OOB requirements might cost more, the improved reliability, decreased operating costs, increased broadband speeds, and enhanced innovation that would result greatly outweigh any incremental cost associated with making the device a more benign spectrum occupant.

promptly and ‘before the non-compliant devices are deployed in quantities that generate noise sufficient to cause widespread disruption to wireless communication.’) (citations omitted).

⁵⁹ CTIA Innovation NOI Reply Comments (filed Nov. 5, 2009) at 27.

⁶⁰ See Google Innovation NOI Comments (filed Sept. 30, 2009) at 19-24.

III. Conclusion

As the Commission develops a regulatory framework that reflects the transition from circuit-switched voice to IP-based broadband networks, the Commission must also proceed with caution and avoid burdening IP-based services with unnecessary regulations. If IP services are subjected to excessive regulatory burdens – such as inflated intercarrier compensation rates and outdated/backward-looking universal service obligations – private broadband investment and end user adoption rates will invariably suffer, hindering the Commission’s broadband goals. Although the National Broadband Plan cannot address in detail all of the issues raised in this proceeding, the Commission can spur wireless broadband deployment and innovation by focusing on increased broadband competition through adoption of the discrete reforms described above.

Respectfully submitted,

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