

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

In the Matter of)	
)	
Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands)	WT Docket No. 12-70
)	
Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz)	ET Docket No. 10-142
)	
Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands)	WT Docket No. 04-356
)	

REPLY COMMENTS OF SPRINT NEXTEL CORPORATION

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SUMMARY

Sprint Nextel joins a broad range of commenters in support of the Commission's efforts to assign additional spectrum for mobile broadband use. The record developed in this proceeding demonstrates support not only for assigning the AWS-4 Spectrum, but also for auctioning and licensing the H Block spectrum located adjacent to core Personal Communications Service ("PCS") operations. The Commission should not allow the H Block to remain underutilized by assigning it as a guard band or for low-power operations. Any H Block interference concerns raised by other commenters can be managed through reasonable power limitations and other interference-mitigation strategies. The few commenters that oppose the licensing of the H Block are not persuasive. Specifically, AT&T's claim that no power limits can protect PCS operations from interference ignore the record developed by the Commission establishing that H Block mobile services can co-exist with incumbent PCS operations. The Commission should therefore move forward to adopt service and auction rules for the PCS H Block.

As suggested by many commenters, the Commission must establish adequate interference protections for PCS and H Block licensees from future AWS-4 operations. Sprint Nextel and other commenters continue to support the Commission's proposed OOB attenuation level for mobile stations transmitting in the AWS-4 uplink band. In addition, the Commission's proposal to shift the AWS-4 uplink band up 5 MHz warrants serious consideration. Not only would the uplink shift further mitigate potential interference between H Block and PCS licensees, but it could also put the lower J Block spectrum to productive use. Far from degrading the value of the AWS-4 Spectrum, the uplink shift would likely advance the public interest by minimizing potential interference concerns to nearby operations.

The Commission must also reaffirm the reimbursement obligations of future licensees operating in the H and lower J Blocks to Sprint Nextel for its successful relocation of former Broadcast Auxiliary Service (“BAS”) incumbents to make this spectrum available for advanced wireless services. No commenter opposed Sprint Nextel’s reimbursement claim under the Commission’s longstanding *Emerging Technologies* doctrine. In fact, another commenter noted that it also has unsatisfied reimbursement claims against future licensees for its own band-clearing efforts. In order to preserve the *Emerging Technologies* cost sharing principles for future relocation proceedings, the Commission should require the beneficiaries of Sprint Nextel’s clearance efforts to reimburse Sprint Nextel for a *pro rata* share of its relocation costs.

Sprint Nextel also agrees with the majority of the commenters that the Commission should assign the AWS-4 license to the incumbent Mobile Satellite Service (“MSS”) licensee. As demonstrated by other commenters, authorizing separately controlled satellite and terrestrial operations in the same band would cause unmanageable interference issues. Consequently, the Commission should use its authority to modify the incumbent MSS licensee’s authorization to permit terrestrial operations. As part of the license modification process, the Commission should also take into account the comments of the incumbent MSS licensee and other parties proposing more measured penalties in the event that the incumbent MSS licensee fails to meet its service milestones.

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REPLY COMMENTS OF SPRINT NEXTEL CORPORATION

I. INTRODUCTION

Sprint Nextel Corporation (“Sprint Nextel”), pursuant to the Commission’s April 17, 2012 Public Notice,¹ respectfully submits its Reply Comments regarding the Notice of Proposed Rulemaking and Notice of Inquiry (“NPRM/NOI”) in the above-captioned proceedings.² Sprint Nextel endorses the strong support shown by commenters for the Commission’s efforts to free up additional spectrum for mobile broadband use in this proceeding.³ In light of the broad industry

¹ See *Wireless Telecommunications Bureau Announces Pleading Cycle for Comments and Reply Comments on Advanced Wireless Services in the 2 GHz Band*, WT Docket Nos. 12-70 and 04-356, and ET Docket No. 10-142, DA 12-603 (rel. April 17, 2012) (“Public Notice”).

² See *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands; Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz; Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands*, WT Docket Nos. 12-70 and 04-356, and ET Docket No. 10-142, Notice of Proposed Rulemaking and Notice of Inquiry, FCC 12-32 (rel. Mar. 21, 2012) (“NPRM/NOI”).

³ See, e.g., Comments of United States Cellular Corporation, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 2 (filed May 17, 2012); Comments of the Consumer Electronics Association, WT Docket Nos. 12-70

support, the Commission should move quickly to license not only the AWS-4 Spectrum, but also the additional spectrum located in the H Block adjacent to core PCS operations. To ensure the success of future allocation, assignment, and band-clearing efforts, the Commission should also affirm its commitment to its longstanding *Emerging Technologies* principles by requiring future beneficiaries of the H and lower J Block spectrum to meet their reimbursement obligations to Sprint Nextel for its efforts in relocating prior BAS incumbents and thus clearing the H and lower J Block spectrum for commercial wireless communications use. In addition, Sprint Nextel joins numerous other commenters in supporting the Commission's proposed assignment of the full 40 MHz of AWS-4 Spectrum to the incumbent MSS licensee as the most administratively efficient licensing plan.

II. THE RECORD STRONGLY SUPPORTS THE COMMISSION TAKING IMMEDIATE ACTION TO AUCTION AND LICENSE THE H BLOCK FOR MOBILE BROADBAND USE

Sprint Nextel joins with the majority of NPRM/NOI commenters in supporting the Commission's efforts to make additional spectrum available for mobile broadband use. As noted

and 04-356, ET Docket No. 10-142, at 1-2 (filed May 17, 2012) ("Comments of CEA"); Comments of Mobile Satellite Users Association, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1 (filed May 17, 2012) ("Comments of MSUA"); Comments of AT&T, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1 (filed May 17, 2012); Comments of Alcatel-Lucent, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 4 (filed May 17, 2012); Comments of CTIA - The Wireless Association®, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 2 (filed May 17, 2012) ("Comments of CTIA"); Comments of the Computer & Communications Industry Association (CCIA), WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at ii (filed May 17, 2012) ("Comments of CCIA"); Comments of Deere & Company, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1 (filed May 17, 2012); Comments of Globalstar, Inc., WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1 (filed May 17, 2012); Comments of MetroPCS Communications, Inc., WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1-2 (filed May 17, 2012) ("Comments of MetroPCS"); Comments of Motorola Mobility, Inc., WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1-2 (filed May 17, 2012); Comments of the National Rural Telecommunications Cooperative, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1-2 (filed May 17, 2012) ("Comments of NRTC"); Comments of COMPTTEL, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1 (filed May 17, 2012); Comments of Nokia Siemens Networks, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1-2 (filed May 17, 2012); Comments of New America Foundation, Public Knowledge and Consumers Union, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1 (filed May 17, 2012) ("Comments of Public Interest Organizations"); Comments of T-Mobile, USA, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 3 (filed May 17, 2012); Comments of Verizon Wireless, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1 (filed May 17, 2012); Comments of DISH Network Corporation, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1-6 (filed May 17, 2012) ("Comments of DISH").

by many parties, freeing additional spectrum for mobile broadband is critical for satisfying long-term consumer demand, and the NPRM/NOI provides the regulatory foundation to put valuable but underutilized spectrum to commercial use.⁴ In light of the substantial benefits of making additional spectrum available for mobile broadband, the Commission should take action to license the H Block and the AWS-4 Spectrum bands.

A. The Commission Should Not Allow the H Block to Remain Underutilized, Nor Convert it into a Guard Band

In 2004, the Commission allocated the 1915-1920/1995-2000 MHz H Block and the 2020-2025/2175-2180 MHz J Block for Advanced Wireless Services (“AWS”).⁵ At that time, the Commission envisioned developing service rules which would permit PCS operations in the newly allocated AWS spectrum.⁶ However, nearly eight years later, the Commission has yet to adopt service rules or license the H and J Blocks.⁷ As recognized by Sprint Nextel, United States Cellular Corporation, and other commenters, the H Block represents the last natural expansion band for PCS operations.⁸ PCS licensees can incorporate H Block frequencies into their existing

⁴ Comments of the Telecommunications Industry Association, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 1 (filed May 17, 2012) (“Comments of TIA”); Comments of Verizon Wireless, at 2; Comments of CEA, at 2; Comments of MetroPCS, at 14; Comments of CTIA, at 4.

⁵ *Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, ET Docket No. 00-258, Sixth Report and Order, Third Memorandum Opinion and Order, and Fifth Memorandum Opinion and Order, 19 FCC Rcd. 20720, ¶¶ 1-2 (2004) (“2004 AWS Order”).

⁶ *Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands; Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, WT Docket Nos. 04-356 and 02-353, Notice of Proposed Rulemaking, 19 FCC Rcd. 19263, ¶¶ 3-4, 16 (2004) (“H Block Service Rules Notice”).

⁷ *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55, ET Docket Nos. 00-258 and 95-18, Fifth Report and Order, Eleventh Report and Order, Sixth Report and Order, and Declaratory Ruling, 25 FCC Rcd. 13874, ¶ 8 (2010) (“2010 Declaratory Ruling”); *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55, ET Docket No. 00-258 and ET Docket No. 95-18, Report and Order and Further Notice of Proposed Rulemaking, 24 FCC Rcd. 7904, ¶¶ 71, 76 (2009) (“2009 Further Notice”).

⁸ See Comments of Sprint Nextel Corporation, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 3-4 (filed May 17, 2012) (“Comments of Sprint Nextel”) (stating that licensing the H Block has the potential to achieve: (1) more competition; (2) more capacity for meeting the growing demand for data; (3) expanded scale economies; and (4) enhanced broadband roaming); Comments of RCA - The Competitive Carriers Association, WT

operations to provide additional capacity and offer expanded services to their customers.⁹ Moreover, under the recently enacted Middle Class Tax Relief and Job Creation Act of 2012 (“Spectrum Act”), Congress has directed that the H Block be auctioned for commercial use unless the spectrum “cannot be used without causing harmful interference to commercial mobile service licensees in the frequencies between 1930 megahertz and 1995 megahertz [the PCS Band].”¹⁰ While the potential for interference exists whenever the Commission assigns new spectrum resources, prospective licensees can readily eliminate any potential harmful interference associated with use of the H Block through power limitations in a portion of the H Block and other routine interference-mitigation strategies.¹¹ Consequently, the Commission should reject the suggestion by a few commenters to assign the H Block spectrum as a guard band or solely for low-power operations.¹²

The Commission has developed a persuasive record confirming that mobile services in the H Block can co-exist with incumbent PCS operations.¹³ For example, prior comments in the record demonstrated how the imposition of reasonable out-of-band emission (“OOBE”) limits could ameliorate interference between PCS and H Block operations and how adopting reasonable power limitations on the upper portion of the H Block uplink could address intermodulation

Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 12-13 (filed May 17, 2012) (“Comments of RCA”); Comments of United States Cellular Corporation, at 4.

⁹ *See id.*

¹⁰ Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6101(a) (“Spectrum Act”). Sprint Nextel notes that nothing in the Spectrum Act requires that AWS-4 Spectrum licensees receive protection from harmful interference from future H Block licensees.

¹¹ *See* Comments of Sprint Nextel, at 7-10; Comments of RCA, at 12-13.

¹² *See* Comments of Greenwood Telecommunications Consultants LLC, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 20 (filed May 17, 2012); Comments of AT&T, at 7-9; Comments of Alcatel-Lucent, at 9; Comments of TIA, at 11, 16-17.

¹³ *See* Reply Comments of Sprint Nextel Corporation, WT Docket No. 04-356, at 9 (filed Aug. 11, 2008) (citing Comments of QUALCOMM Incorporated, WT Docket No. 04-356, at 7 (filed Jul. 25, 2008)) (“Sprint Nextel AWS-3 Reply Comments”); Comments of CTIA – The Wireless Association,® WT Docket No. 04-356 (filed Dec. 8, 2004).

concerns.¹⁴ As one commenter noted, recent technological advancements such as the precision power controls of the LTE air interface offer the possibility to more finely calibrate power levels to protect incumbent PCS licensees while better enabling H Block operations.¹⁵

The Spectrum Act was specifically designed, in part, to free up additional spectrum to meet growing consumer mobile broadband demand. Failing to auction the H Block for mobile service development would eliminate the competitive benefits gained from additional mobile broadband spectrum and waste valuable spectrum resources. As several commenters discussed, the Commission can support the goals of Congress and ensure that the H Block does not remain underutilized or converted into an inefficient guard band by establishing reasonable interference rules and licensing the H Block for commercial use.¹⁶

No party to this proceeding seriously contends that use of the H Block with reasonable operating parameters would create harmful interference to the PCS downlink bands located at 1930-1995 MHz.¹⁷ AT&T, for example, had until recently accepted an H Block allocation and

¹⁴ See, e.g., Joint Reply Comments of Sprint Corporation, Verizon Wireless and Nextel Communications, WT Docket Nos. 04-356 and 02-353 (filed Feb. 8, 2005); Comments of Sprint Nextel Corporation, WT Docket 04-356 (filed Jul. 25, 2008) (“Sprint Nextel AWS-3 Comments”).

¹⁵ Comments of RCA, at 12-13.

¹⁶ See Comments of United States Cellular Corporation, at 4-7; Comments of RCA, at 12-13; Comments of UTAM, Inc, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 4 (filed May 18, 2012).

¹⁷ AT&T incorrectly asserts that the hundreds of comments in the H Block service rules proceeding are “uniform” in the view that interference will result from licensing the H Block. Comments of AT&T, at 8. On the contrary, Sprint Nextel, Verizon, and other parties have consistently explained that potential interference is manageable with power limits and other reasonable mitigation techniques. See, e.g., Sprint Nextel AWS-3 Reply Comments; Sprint Nextel AWS-3 Comments; Reply Comments of Sprint Nextel Corporation, WT Docket No. 07-195 (filed Jan. 14, 2008); Comments of Sprint Nextel Corporation, WT Docket No. 07-195 (filed Dec. 14, 2007); Reply Comments of Sprint Nextel Corporation, IB Docket No. 05-221 (filed Aug. 15, 2005); Joint Reply Comments of Sprint Corporation, Verizon Wireless and Nextel Communications, WT Docket Nos. 04-356 and 02-353 (filed Feb. 8, 2005). In addition, AT&T’s claim about the supposed “uniformity” of views within the industry about harmful (as opposed to potential) interference do not actually refer to the H Block docket itself, WT Docket No. 04-356, but rather to a National Broadband Plan proceeding dedicated to optimizing the spectrum allocation where potential H Block interference issues were not directly raised and never squarely addressed. Compare, e.g., H Block Service Rules Notice, at ¶¶ 3-4, with *Spectrum Task Force Invites Technical Input on Approaches To Maximize Broadband Use of Fixed/Mobile Spectrum Allocations in the 2 GHz Range*, Public Notice, DA 11-929 (rel. May 20, 2011). The Commission should therefore disregard AT&T’s claims about supposed industry consensus on potential H Block interference. If anything, the consensus view on the H Block is that reasonable safeguards imposed on the

even proposed specific power limits of 13 dBm and an OOB limit of -66 to -61 dBm/MHz in the H Block service rules proceeding to allow H Block licensing to proceed.¹⁸ Sprint Nextel, Motorola, and other commenters opposed AT&T's service rule limitations on the H Block as overly restrictive and unnecessary.¹⁹ AT&T nonetheless asserted that its proposed operational constraints were consistent with various tests performed and "strongly urge[d] the Commission to modify its proposals . . . to implement these technical protections."²⁰ In the instant proceeding, however, AT&T suggests that no operational constraints can protect PCS operations against the potential for H Block interference.²¹ Instead, AT&T variously asks the Commission to "preserve" the H Block for a guard band or initiate a new proceeding to consider adopting low-power operations in the band.²²

Neither of AT&T's current proposals is persuasive. With respect to AT&T's proposal to idle the H Block as guard band spectrum, the Commission rejected that option nearly eight years ago when the agency recognized the importance of the H Block and allocated the spectrum for

prospective licensees can and would protect against the potential interference that inevitably accompanies any new spectrum assignment.

¹⁸ See Letter from Jeanine Poltronieri, AT&T Executive Director, External Affairs, to Marlene H. Dortch, Secretary, Federal Communications Commission, *WT Docket No. 07-195, Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band and WT Docket 04-356, Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz and 2175-2180 MHz Bands* (filed Oct. 8, 2008) ("AT&T H Block Ex Parte").

¹⁹ See Sprint Nextel AWS-3 Reply Comments, at 8-9; Comments of Motorola, Inc., WT Docket Nos. 07-195 and 04-356, at 3-4 (filed July 25, 2008); Comments of M2Z Networks, Inc., WT Docket Nos. 07-195 and 04-356, at 10-12 (filed July 25, 2008). In particular, Sprint Nextel stated "[b]ecause the threat of harmful interference is greatest from devices in the 1917-1920 MHz portion of the H Block, the Commission should adopt bifurcated mobile transmit power limits. The Commission should limit mobile and portable devices to 6 dBm EIRP in the 1917-1920 MHz portion of the band, but permit those devices to operate at up to 30 dBm EIRP in the 1915-1917 MHz portion, where interference is highly unlikely to be generated. This approach would provide adequate interference protection while still enabling efficient and flexible use of the band." Sprint Nextel AWS-3 Reply Comments, Executive Summary. See also Comments of Motorola, Inc., WT Docket Nos. 07-195 and 04-356, at 3-4 ("Motorola believes that the Commission should limit handset power on the H-Block to no more than a total of 23 dBm.")

²⁰ See Reply Comments of AT&T, Inc., WT Docket Nos. 07-195 and 04-356 (filed Aug. 11, 2008).

²¹ See Comments of AT&T, at 8.

²² See *id.* at 7-9.

wireless broadband use.²³ The Commission expressly held “[w]e cannot agree with those commenters that claim that the 1915-1920 MHz band is unsuitable for AWS for technical reasons.”²⁴ AT&T has not provided a rational basis for the Commission to countermand its long-settled precedent.

As for AT&T’s alternative proposal to idle the entire H Block by initiating a new regulatory proceeding to contemplate low-power operations, AT&T appears to ignore its own prior proposal for low-power operations in the H Block.²⁵ Low-power operations throughout the H Block were not technically warranted when AT&T first proposed them in 2008 and are not warranted now.²⁶ Furthermore, nothing requires the Commission to disregard nearly eight years of regulatory proceedings and initiate a new rulemaking to consider AT&T’s longstanding and unsupported preference for guard band or low-utility spectrum in the H Block. In sum, the consumer benefits of quickly auctioning and licensing the H Block for mobile broadband use

²³ See 2004 AWS Order, at ¶¶ 30, 38 (2004) (“Given our analysis, above, and our intent to develop technical rules that will protect existing PCS operations from interference, we cannot agree with those commenters that claim that the 1915-1920 MHz band is unsuitable for AWS for technical reasons The 1915-1920 MHz band is particularly well suited for such use because of its adjacency to and identical frequency separation with the existing Broadband PCS. Pairing 1915-1920 MHz with 1995-2000 MHz would benefit from the design of high power PCS equipment in the adjacent Broadband PCS bands, which in turn would promote the rapid design and deployment of new systems and result in economies of scale. Such a pairing would, as a practical matter, increase the deployment options available to new licensees under an AWS designation. Also, this pairing would maximize the value of the spectrum by achieving greater spectrum efficiency.”).

²⁴ *Id.* at ¶ 30. To the extent AT&T wants the Commission to reverse its 2005 decision to allocate the H Block for terrestrial wireless use, AT&T’s proposal is an untimely petition for reconsideration and can be rejected on those grounds alone. 47 C.F.R. § 1.106 (“The petition for reconsideration and any supplement thereto shall be filed within 30 days from the date of public notice of the final Commission action . . . and shall be served upon parties to the proceeding.”).

²⁵ See, e.g., AT&T H Block Ex Parte (“AT&T continues to support +13 dBm / 5 MHz in H-Block based on comprehensive testing performed on PCS devices”). AT&T might try to assert that a new proceeding to consider power levels below 13 dBm is required; however, one commenter in the H Block proceeding sought H Block mobile transmit limitations of as low as +6 dBm/5 MHz – a level arguably insufficient for even in-building broadband use. Under these circumstances, AT&T’s request for the Commission to start over and initiate a new H Block proceeding appears to be a transparent effort to delay or derail H Block licensing.

²⁶ See, e.g., Sprint Nextel AWS-3 Reply Comments; Sprint Nextel AWS-3 Comments; Reply Comments of Sprint Nextel Corporation, WT Docket No. 07-195 (filed Jan. 14, 2008); Comments of Sprint Nextel Corporation, WT Docket No. 07-195 (filed Dec. 14, 2007); Reply Comments of Sprint Nextel Corporation, IB Docket No. 05-221 (filed Aug. 15, 2005); Joint Reply Comments of Sprint Corporation, Verizon Wireless and Nextel Communications, WT Docket Nos. 04-356 and 02-353 (filed Feb. 8, 2005).

include lower prices, increased capacity, higher data speeds, and accelerated innovation.²⁷ By contrast, idling this core PCS expansion band for sub-optimal use as a guard band or for low-power operations would eliminate these consumer benefits and thereby harm the public interest. AT&T's proposals would also harm the public interest by blocking the development of wireless broadband spectrum and contravene the plain language of the Spectrum Act. The Commission should therefore preserve the continued viability of the H Block for PCS operations and auction the spectrum for commercial use.²⁸

B. The Record Supports Establishing Adequate Interference Protections for PCS and Future H Block Licensees from AWS-4 Operations

Congress has directed the Commission to auction the H Block spectrum unless the spectrum “cannot be used without causing harmful interference to commercial mobile service licensees in the frequencies between 1930 megahertz and 1995 megahertz.”²⁹ To preserve the continued viability of both the H Block and core PCS Bands for mobile broadband use, the Commission should establish reasonable interference protections from future AWS-4 operations.³⁰ A number of commenters, including the incumbent MSS licensee, have voiced support for the Commission’s proposed OOB attenuation level of $70+10*\log_{10}(P)$ dB below 1995 MHz for mobile stations transmitting in the AWS-4 uplink band.³¹ Sprint Nextel continues

²⁷ See Comments of Sprint Nextel, at 3-4.

²⁸ Comments of United States Cellular Corporation, at 3-4.

²⁹ Spectrum Act, § 6101(a).

³⁰ See Comments of CTIA, at 11 (“CTIA encourages the Commission to carefully consider the comments on the record in this and related proceedings and not take action that would place adjacent PCS operations at the risk of harmful interference from AWS-4 services.”); Comments of T-Mobile USA, Inc. at 24 (“[T]he Commission should adopt technical rules that adequately protect wireless operations in the PCS band, and continue to give due consideration to any additional information it receives concerning how flexible use in the AWS-4 band may adversely impact PCS services between 1930-1995 MHz.”).

³¹ See Comments of DISH, at 26-27; Comments of Greenwood Telecommunications Consultants LLC, at 15; Comments of UTAM, Inc., at 4. See also Comments of United States Cellular Corporation, at 4 (suggesting mobile transmitters operating in the AWS-4 uplink band attenuate emissions below 2005 MHz by $70+10*\log_{10}(P)$ db).

to support this attenuation standard, which should provide adequate interference protections and is in accordance with the recommendations of the 3rd Generation Partnership Project and existing Ancillary Terrestrial Component (“ATC”) rules.³²

The Commission should also remain mindful of the potential for uplink/downlink interference between the H Block spectrum already allocated for wireless broadband use and future AWS-4 licensees. The Commission should establish reasonable OOB limits that provide H Block operations with the same level of protection from 2 GHz MSS/ATC interference as the PCS G Block receives today. Reasonable interference protection measures for the H Block would also provide the PCS G Block an additional measure of protection by providing further space for signal rolloff. Appropriate OOB standards or other power limits would preserve the viability of the H Block for PCS while opening the AWS-4 Spectrum to terrestrial wireless broadband service.

A number of commenters have also suggested shifting the AWS-4 uplink band upward by 5 MHz, both to protect existing PCS operations and the H Block allocation as well as to enhance the utility of the incumbent MSS licensee’s spectrum assignment in light of the requisite OOB limitations necessary to protect the adjacent band.³³ In addition to further mitigating potential interference with AWS H Block and PCS licensees, the AWS-4 uplink shift proposal could also put the lower J Block spectrum to productive use.³⁴ Although certain other commenters have suggested that shifting the AWS-4 band uplink is unnecessary or would degrade the value of the AWS-4 Spectrum, shifting the AWS-4 uplink band by 5 MHz would

³² See 3rd Generation Partnership Project, Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) Radio Transmission and Reception (Release 10) (2012-03); 47 C.F.R. § 25.252(c)(2).

³³ Comments of Motorola Mobility, Inc., at 4; Comments of TIA, at 16; Comments of AT&T, at 7.

³⁴ See Comments of AT&T, at 7; Comments of Greenwood Telecommunications Consultants LLC, at 19; Comments of EIBASS, at 1-2.

likely advance the public interest by minimizing potential interference concerns to nearby operations.³⁵

If the Commission does elect to shift the AWS-4 uplink band by 5 MHz, it should establish service rules for the incumbent MSS licensee that allow for robust satellite and terrestrial operations. To the extent that the incumbent MSS licensee's predecessors in interest built their satellites to comply with the Commission's operational requirements,³⁶ the two 2 GHz MSS satellites currently in orbit should be capable of retuning to higher frequencies following the uplink band shift with no substantial degradation in performance. To the extent those satellites were not built to retune across the 1990-2025 MHz band, however, the Commission could consider modifying the incumbent MSS licensee's authorization to ensure the 2 GHz spectrum is put to commercial broadband use. For example, the Commission could authorize terrestrial operations from 2005-2025 MHz, while preserving MSS operations from 2000-2020 MHz until the end of the present satellites' useful lives. That authorization would permit the incumbent MSS licensee to retain a 20 MHz AWS-4 uplink band and also put the lower J Block to commercial use. Alternatively, the Commission could consider requiring the incumbent MSS licensee to protect adjacent-channel operations, as some commenters have proposed.³⁷ Any of these possibilities would protect the PCS H Block spectrum that Congress has directed be assigned for licensed use.³⁸

³⁵ See, e.g., Comments of Alcatel-Lucent, at 3, 13; Comments of DISH, at 28.

³⁶ See *Establishment of Policies and Service Rules for Mobile Satellite Service in the 2 GHz Band*, IB Docket No. 99-81, Report and Order, 15 FCC Rcd. 16127, ¶¶ 52-53 (2000).

³⁷ See, e.g., Comments of United States Cellular Corporation, at 6; Comments of UTAM, Inc., at 5-6.

³⁸ Sprint Nextel's comments are made in response to the Commission's request for comment on its proposal of a 5 MHz guard band, NPRM/NOI, at ¶ 42, and nothing herein is intended to support Commission action that could adversely affect the rights and obligations granted to DISH Network under its licenses in the 2000-2020 MHz spectrum. See, e.g., *In re DBSD North America, Inc., Debtor-in-Possession, et al.*, IB Docket Nos. 11-150 and 11-149, Order, DA 12-332 (rel. March 2, 2012).

III. REAFFIRMING THE REIMBURSEMENT OBLIGATIONS OF FUTURE AWS LICENSEES OPERATING IN THE H AND LOWER J BLOCKS ADVANCES THE COMMISSION’S GOALS AND IS AMPLY SUPPORTED BY THE RECORD

The Commission’s *Emerging Technologies* reimbursement doctrine is essential to securing additional spectrum for broadband use. Ensuring that the initial entrants that clear spectrum for others will be reimbursed for their efforts enables and encourages more efficient band-clearance efforts and the more rapid utilization and optimization of scarce spectrum resources. These reimbursement policies remain uncontroversial. No party filed comments conflicting with Sprint Nextel’s request that the Commission reaffirm their applicability to the remaining cleared spectrum in the H and J Blocks. Moreover, UTAM, Inc. (“UTAM”) filed comments in support of the *Emerging Technologies* doctrine with respect to its clearance efforts in the 1910-1930 MHz band, including the H Block uplink at 1915-1920 MHz.³⁹ While Sprint Nextel settled its reimbursement claim with the incumbent 2000-2020 MHz MSS licensee after substantial and extended litigation, reimbursement obligations with respect to future AWS licensees operating in the H Block and lower J Block remain outstanding.⁴⁰ Those obligations should be upheld and satisfied as a precondition to any licensee grants for the relevant spectrum.

Future H and J Block operations are the beneficiaries of a massive, multi-year band-clearing effort conducted by Sprint Nextel (the “BAS Relocation”). All told, Sprint Nextel incurred approximately \$750 million in costs associated with clearing the 1990-2025 MHz band, even though Sprint Nextel would occupy little more than fourteen percent of the cleared spectrum. Although the incumbent MSS licensee of the 2000-2020 MHz spectrum eventually reimbursed Sprint Nextel for a portion of the clearing expenses following years of litigation, the

³⁹ Comments of UTAM, Inc., at 2. Sprint Nextel has regularly supported UTAM’s reimbursement claims for its band-clearing efforts. Sprint Nextel AWS-3 Comments, at 19.

⁴⁰ See Sprint Nextel Comments, at 15. See also Comments of CTIA, at 13; Comments of UTAM, Inc., at 3.

beneficiaries of the 1995-2000 MHz and 2020-2025 MHz band segments have not. The Commission should ensure that all beneficiaries of a relocation project – including future licensees of the 1995-2000 MHz and 2020-2025 MHz band segments – pay their fair share of spectrum-clearing costs.

The Commission has not yet established service rules or issued AWS licenses in the H or J Blocks, and has explained that it “intend[s] to adopt specific cost sharing rules for AWS in the 1995-2000 MHz and 2020-2025 MHz bands when we adopt service rules which define the licensing scheme for these bands.”⁴¹ The Commission has also repeatedly recognized that “[i]n the time since the Commission adopted cost sharing procedures for Sprint Nextel, MSS, and AWS in the BAS band, many of the assumptions underlying those procedures have changed.”⁴² Because the beneficiaries of the 1995-2000 MHz and 2020-2025 MHz bands do not anticipate – and are not entitled to – cost-free occupation of the spectrum Sprint Nextel (or UTAM) cleared, the Commission should take this opportunity to ensure that any other unforeseeable delays in licensing AWS operations in the H and J Blocks, including the recent Congressional directives in the form of the Spectrum Act, will not affect Sprint Nextel’s reimbursement rights for the BAS Relocation.

No commenter has or could materially dispute Sprint Nextel’s reimbursement rights, which have been in place since 2004. Moreover, the reimbursement sunset date applicable to the MSS bands (*i.e.*, for relocating fixed microwave incumbents) does not apply to future licensees of the H and J Blocks.⁴³ Finally, clarifying the Commission’s cost-recovery rules with respect to

⁴¹ 2010 Declaratory Ruling, at ¶¶ 8; 50; *see also* 2009 Further Notice, at ¶ 88 (stating that the determination of how to apportion an AWS licensee’s *pro rata* share “will depend on future Commission action to adopt service rules for the AWS licensees in the 1995-2000 MHz and 2020-2025 MHz band”).

⁴² 2010 Declaratory Ruling, at ¶ 7; 2009 Further Notice, at ¶ 71.

⁴³ DISH argues that the relocation obligation for incumbents located at 2180-2200 MHz should be allowed to sunset in December 2013. Comments of DISH, at 33. Without addressing the merits of that comment, Sprint Nextel

H and J Block spectrum will encourage band-clearing efforts and promote the timely availability of spectrum. These same legal and public policy rationales support UTAM's claim for reimbursement for having cleared the 1910-1930 MHz spectrum block. As UTAM noted in its comments, the Commission previously conditioned Nextel's receipt of the G Block license on its reimbursement of UTAM for its prior band-clearing efforts.⁴⁴ Sprint Nextel has properly reimbursed UTAM for its efforts, and the same requirement should attach to the receipt of future AWS licenses or other spectrum rights in the H and lower J Blocks.⁴⁵ Weakening the application of the *Emerging Technologies* principles either for UTAM or Sprint Nextel would place the success of future band-clearing proceedings in jeopardy.⁴⁶ As a result, the Commission should require any AWS licensee in the H and lower J Blocks that benefits from prior band-clearing efforts to reimburse Sprint Nextel (or other clearing entity) for a *pro rata* share of its BAS Relocation costs, regardless of potential delays associated with spectrum auctions or license issuances.⁴⁷

notes that relocation proceeding concerned incumbent fixed-service microwave licensees that were located outside of the H and J Blocks and does not involve Sprint Nextel's reimbursement claim.

⁴⁴ *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order, 19 FCC Rcd. 14969, ¶ 246 (2004). See Comments of UTAM, Inc., at 3.

⁴⁵ Comments of UTAM, Inc. on Further Notice of Proposed Rulemaking, WT Docket Nos. 07-195 and 04-356, at 3 (filed July 8, 2008) ("Sprint/Nextel, in fact, has fully discharged its obligation to UTAM.").

⁴⁶ See 2010 Declaratory Ruling, ¶ 41 (stating the Commission's concern that "were we to stray from the traditional application of the *Emerging Technologies* relocation policy, future licensees might be unwilling or unable to assume the burden and cost of clearing spectrum quickly if they were unsure of the likelihood that they will be reimbursed by other new entrants").

⁴⁷ In accordance with prior proceedings, Sprint Nextel proposes that any H or J Block licensee that enters the band within ten years after the issuance of the first AWS license would incur a reimbursement obligation to Sprint Nextel. See 47 C.F.R. § 22.602(j) (concerning the 2110-2130 MHz and 2160-2180 MHz bands); 47 C.F.R. § 101.79(a)(1) (concerning the 2110-2150 MHz, 2160-2175 MHz, and 2175-2180 MHz bands). See also NPRM/NOI, at ¶ 134 (proposing ten-year reimbursement period for relocation of incumbents located at 2180-2200 MHz following the issuance of the first AWS-4 license in the band).

IV. THE COMMISSION SHOULD ASSIGN THE AWS-4 LICENSE TO THE INCUMBENT MSS LICENSEE IN THE 2 GHZ BAND

Sprint Nextel also joins numerous other commenters in supporting the Commission's proposal to assign a single AWS-4 license to the incumbent MSS licensee.⁴⁸ As recognized in the NPRM/NOI, authorizing separately controlled satellite and terrestrial operations in the same band is “‘impractical and ill-advised’ because the parties would not be able to overcome the technical hurdles to reach a workable sharing arrangement.”⁴⁹ The Commission previously found that “[s]ame band satellite and terrestrial operations have created technical problems in other bands.”⁵⁰ Commenters agree that dynamic frequency coordination between separately controlled satellite and terrestrial networks remains difficult to achieve under real-world conditions.⁵¹ While considerable advances have been made in satellite technology,⁵² it remains unlikely that separately licensed satellite and terrestrial operations could manage the highly complex coordination process necessary to share the 2 GHz Band.⁵³

DISH's engineering analysis credibly indicates that frequency sharing between separate operations could cause interference between AWS-4 and MSS equipment and transmissions.⁵⁴ Another commenter correctly noted that, in light of these technical challenges, “the Commission

⁴⁸ NPRM/NOI, at ¶ 71. See Comments of the Satellite Industry Association, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 4 (filed May 17, 2012) (“Comments of SIA”); Comments of the U.S. GPS Industry Council, WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 3 (filed May 17, 2012); Comments of MSUA, at 2; Comments of Alcatel-Lucent, at 2; Comments of CCIA, at 2, Comments of Globalstar, Inc., at 5-6; Comments of NRTA, at 2-4; Comments of COMPTTEL, at 2; Comments of Public Interest Organizations, at 2; Comments of RCA, at 3.

⁴⁹ NPRM/NOI, at ¶ 69 (citing *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L Band, and the 1.6/2.4 GHz Bands*, IB Docket Nos. 01-185, 02-364, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd. 1962, ¶ 49 (2003) (“ATC Report and Order”)).

⁵⁰ ATC Report and Order, at ¶ 54. See Comments of DISH, at 10.

⁵¹ Comments of Globalstar, Inc., at 6.

⁵² See Comments of MetroPCS, at 19-22 (stating that same-band, separate operator sharing is “technically feasible”); Comments of NRTC, at 4.

⁵³ NPRM/NOI, at ¶ 69; Comments of NRTC, at 4.

⁵⁴ See Comments of DISH, at 10-15, Exhibit 1.

has never authorized independently-operated, ubiquitously-deployed high-power terrestrial operations in any MSS band.”⁵⁵ Allowing new terrestrial licensees to enter the AWS-4 Spectrum could detrimentally impact existing satellite licensees, create unmanageable interference issues, and indefinitely delay the deployment of new mobile broadband services.⁵⁶

A. Sprint Nextel Supports DISH’s Position that the Commission Should Modify the Incumbent MSS Licensee’s Authorization Under its Section 316 Authority

Sprint Nextel agrees that the technical challenges presented by same-band, separate operator sharing provide “strong reasons” to support the Commission’s proposal to modify the incumbent MSS licensee’s authorization to permit terrestrial operations.⁵⁷ In this case, modifying that authorization should avoid future disruptions to satellite service caused by separately controlled terrestrial operations. That modification also likely represents the most efficient method of opening the AWS-4 Spectrum to terrestrial mobile broadband use.⁵⁸ Although some commenters have suggested that the 40 MHz AWS-4 Spectrum should be auctioned or divided among multiple licensees,⁵⁹ such actions could delay or preclude the deployment of terrestrial service. Modifying the incumbent MSS licensee’s authorization should ensure that the AWS-4 Spectrum does not continue to go underutilized for another decade.⁶⁰

⁵⁵ Comments of U.S. GPS Industry Council, at 4.

⁵⁶ NPRM/NOI, at ¶ 69.

⁵⁷ *Id.* at ¶ 71.

⁵⁸ Comments of Sprint Nextel, at 6.

⁵⁹ See Comments of NTCH, Inc., WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 3 (filed May 17, 2012); Comments of Council Tree Investors, Inc., WT Docket Nos. 12-70 and 04-356, ET Docket No. 10-142, at 2-3 (filed May 17, 2012); Comments of AT&T, at 10; Comments of Metro PCS, at 30; Comments of T-Mobile USA, Inc., at 17.

⁶⁰ See NPRM/NOI, at ¶ 125; Comments of Sprint Nextel, at 3; Comments of DISH, at 16; Comments of CTIA, at 17 n. 55.

B. The Commission’s Penalties for Failure to Meet AWS-4 Milestones Should Be More Measured and Commensurate with the Licensee’s Noncompliance

In the NPRM/NOI, the Commission proposed strict penalties on the incumbent MSS licensee should it fail to meet certain buildout milestones.⁶¹ Specifically, under the Commission’s proposal, failure to meet the interim milestone would result in automatic termination of all of the incumbent MSS licensee’s authorizations, while failure to meet the final milestone would result in automatic termination of each license authorization area in which the incumbent MSS licensee fails to meet the buildout requirement.⁶² Sprint Nextel and other commenters believe the proposed automatic termination penalties are unnecessarily burdensome.⁶³ Adopting a system of flexible or more measured sanctions would better serve the Commission’s “twin goals” of providing operational flexibility while ensuring that spectrum does not remain underutilized.⁶⁴

V. CONCLUSION

Sprint Nextel supports the continued development of spectrum resources for mobile broadband service, including auctioning and licensing of the H Block, as well as the development of appropriate interference protections to protect existing and future PCS operations. The Commission should also confirm Sprint Nextel’s reimbursement rights against future AWS licensees operating in the H and lower J Blocks, and assign the full 40 MHz of AWS-4 Spectrum to the incumbent MSS licensee.

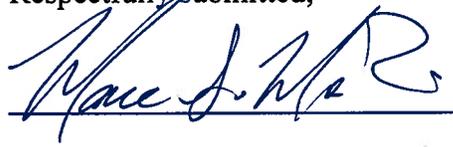
⁶¹ NPRM/NOI, at ¶¶ 94-98.

⁶² *Id.* at ¶ 94.

⁶³ *See* Comments of AT&T, at 13; Comments of Alcatel-Lucent, at 16; Comments of CTIA, at 16-17; Comments of CCIA, at 5; Comments of RCA, at 6; Comments of SIA, at 4; Comments of DISH, at 24-25.

⁶⁴ NPRM/NOI, at ¶ 125.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Marc S. Martin", is written over a horizontal line.

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