

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

In the Matter of)
)
Service Rules for Advanced Wireless Services) WT Docket No. 07-195
in the 2155-2175 MHz Band)

REPLY COMMENTS OF NEXTWAVE WIRELESS INC.

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January 14, 2008

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Executive Summary

In these Reply Comments, NextWave urges the Commission to reach two important outcomes in this AWS-3 proceeding: (1) implement the same licensing scheme and technical requirements for AWS-3 as those adopted for the 3.65 GHz band; and (2) delete from the Part 27 rules, for all Part 27 licensees, outdated and incomplete comparative renewal language.

As the Commission is aware, NextWave supports flexible, technology-neutral rules that promote spectrum access and efficiency for all spectrum allocations, including the AWS-3 band. Due to its spectral adjacency with the AWS-1 and AWS-2 bands, the AWS-3 band presents interesting challenges. The record is divided into parties supporting a “downlink only” approach and those supporting an “uplink/downlink” approach. NextWave believes, however, that there is another option that fully addresses the technical challenges associated with the AWS-3 band, while alleviating many of the concerns raised by commenters to this proceeding and maximizing flexibility, technology neutrality, spectrum access and efficiency.

Specifically, NextWave proposes that the Commission apply the technical rules and licensing scheme it adopted for the 3.65 GHz band to the AWS-3 band. Using this approach will meet the Commission’s goals of finding a balanced technological approach that minimizes the potential for interference and maximizes the band’s utility. All licensees would be granted a nationwide, non-exclusive license to use the AWS-3 band on a co-primary, technology-neutral basis. As supported in the record, the power limits adopted in the 3.65 GHz band are technically compatible for base stations in the AWS-3 band and should not pose any interference concerns. More importantly, and also supported by the record, adoption of the 3.65 GHz technical rules will ameliorate the potential for mobile-to-mobile overload and OOB interference. In order to make this licensing regime work for AWS-3, the Commission also should limit AWS-3 devices to those employing unrestricted Contention-Based Protocols. This will provide an additional layer of interference protection to mobile devices operating in the AWS-1 and AWS-2 downlink bands.

NextWave also supports the Commission’s suggestion that it should eliminate from Part 27 the possibility for third-parties to file “competing applications” for AWS-3 spectrum at renewal time. NextWave proposes that the Commission extend this policy to all licenses governed by Part 27 by deleting Sections 27.14(b)-(d) from the rules, and eliminating the prospect of filing “competing applications” against any Part 27 license renewals. The comparative licensing process is a vestige of command-and-control spectrum management, and is incompatible with the Commission’s market-oriented licensing policies. The comparative licensing process also has a long history of abusive application, which cannot be reconciled with any of the Commission’s current policy goals of fair, efficient and rapid licensing and service deployment. Further, the disparate application of the “competing application” provisions of Section 27.14 among Part 27 licensees is inconsistent with the Commission’s long-standing policy of providing regulatory parity for like services.

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NextWave Wireless Inc. (“NextWave”) hereby replies to comments made in the above-referenced proceeding, which seeks to establish service rules for the 2155-2175 MHz (“AWS-3”) band.¹ As explained below, the Federal Communications Commission (“Commission” or “FCC”) should: (1) implement the same licensing scheme and technical requirements for AWS-3 as those adopted for the 3.65 GHz band under which all licenses are granted a nationwide, non-exclusive licenses to use the band on a co-primary and technology-neutral basis; and (2) delete from the Commission’s Part 27 rules, for all Part 27 licensees, outdated and incomplete comparative renewal language.

I. THE COMMISSION SHOULD APPLY THE “LIGHTLY-LICENSED” REGIME ADOPTED FOR THE 3.65 GHZ BAND TO THE AWS-3 BAND.

There is little question that authorizing mobile two-way operations in the AWS-3 band could pose an elevated risk of overload and out-of-band emission (“OOBE”) interference to mobiles operating in the adjacent 2110-2155 MHz (“AWS-1”) and 2155-2160 MHz (“AWS-2”) downlink bands (and vice versa), due to the lack of frequency separation between the bands. The

¹ *Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band, Notice of Proposed Rulemaking*, 22 FCC Rcd 17035 (2007) (“*NPRM*”).

record appears divided, however, on the regime for addressing adjacent band interference that would make the most efficient use of the AWS-3 band. Some commenters argue that AWS-3 mobiles would need to either operate at inefficiently low output power limits in order to ameliorate the risk of overload interference to AWS-1 mobiles, or operate in a “downlink only” mode.² In contrast, proponents of Time Division Duplexing (“TDD”) technologies – in particular, WiMAX-based technologies – offer that interference concerns for AWS-3 should be addressed by applying certain technical requirements established for the Broadband Radio Service and Educational Broadband Service to AWS-3.³ These parties support the

² See, e.g., Comments of T-Mobile USA, Inc., WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at 6 (proposing to limit AWS-3 mobiles to a maximum transmit power of 17 dBm, and proposing to attenuate OOB (assuming a 17 dBm maximum output) by 87.3 dB or greater). See also, Comments of Verizon Wireless, WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at 10-13 (proposing a power level of 0 dBm (1 mW) to avoid harmful interference to AWS-1 mobile receivers – or +14, +17 and +25 dBm for uplink transmissions in the 2165-2167, 2167-2168, and 2168-2170 MHz bands). Verizon Wireless attached a technical presentation prepared by V-COMM Telecommunications Engineering to its comments which asserts that an AWS-3 OOB limit of -75 dBm/MHz RMS is needed to protect AWS-1 mobile receivers. See *id.*, Attachment A, “AWS-3 Band Interference Analysis,” Presentation of V-COMM Telecommunications Engineering to Verizon Wireless, Dec. 7, 2007, at 18. See also, Comments of Motorola, Inc., WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at 5-7 (indicating that its tests and calculations show that when the two devices are separated by only 1 meter, the AWS-3 device would need to operate with only 11 dBm of transmit power to cause a call drop to an AWS-1 receiver operating in a low signal level environment (*i.e.*, -105 dBm desired receive level), and concluding that the OOB level of the AWS-3 mobile required to cause an AWS-1 receiver to drop a call at -159.7 dBm/MHz (at a 1 meter separation distance) was -64.6 dBm/100 kHz (or -54.6 dBm/MHz). While commenters specified different power and OOB limits, NextWave notes that the technical information supplied by commenters suggests that a device EIRP of +17 dBm or less and OOB reduced to a level below at least -54.6 dBm/MHz would accommodate two way services to coexist in adjacent bands.

³ See, e.g., Comments of the Wireless Communications Association International, Inc., WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at 6-19 (supporting the “Uplink/Downlink” approach and proposing that the Commission adopt the “dual mask” requirements in Sections 27.53(1)(2) and 27.53(1)(3), as well as height benchmarking requirements based on Section 27.1221, to address potential interference concerns). See also, Comments of Sprint Nextel Corporation, WT Dkt. No. 07-195 (filed on Dec. 14, 2007). See also, Comments of Qualcomm Incorporated, WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at i-ii (urging the Commission to adopt technical rules for AWS-3 along the lines of those which govern the adjacent AWS-1 spectrum and to adopt a band plan that permits any one-way or two-way, TDD, Frequency Division Duplexing (“FDD”) or Half-Frequency Division Duplexing (“HFDD”) service to be deployed).

“uplink/downlink” approach as the approach that will enhance competition and maximize the flexibility to deploy technologies in response to market demand.

In NextWave’s view, there is a more balanced approach to addressing the technical concerns raised by commenters in this proceeding. As NextWave proposed in its recent application for the AWS-3 band, NextWave believes that the “lightly-licensed” framework adopted for the 3.65 GHz band is ideal for the AWS-3 band.⁴ Applying the 3.65 GHz approach to the AWS-3 band would assist the Commission in meeting several of its goals, including:⁵

- Making wireless spectrum available to all interested parties;
- Facilitating affordable broadband access nationwide;
- Alleviating the need for unpaired spectrum allocations below 3 GHz;
- Maximizing flexibility to enable the deployment of technologies in response to market demands;
- Providing economies of scale for multiband, multimode equipment that can operate in both the 3.65 GHz and AWS-3 bands; and
- Addressing interference concerns raised in the AWS-3 comments.

The 3.65 GHz framework effects lower power operation of both base stations and end user devices and, in turn, lower OOB than comparable licensed services. Further, the

⁴ NextWave requested that the Commission apply the 3.65 GHz framework to the AWS-3 band in March 2007. *See* NextWave Broadband, Inc., Application for License and Authority to Provide Nationwide Broadband Service in the 2155-2175 MHz Band, Dkt. No. 07-16 (filed on Mar. 2, 2007).

⁵ The hallmarks of the 3.65 GHz licensing scheme are set forth in the 3.65 GHz Order, codified at Part 90, Subpart Z of the Commission’s rules. Under such a scheme, interested users would be granted a nationwide, non-exclusive license to use the 2.1 GHz band on a non-exclusive, co-primary basis. To alleviate potential interference problems that could arise if multiple parties were authorized to use the AWS-3 band, fixed and base stations would have to be registered in a common database to be established by the Commission. In addition, all devices using the band would be required to employ a contention-based protocol that can avoid co-frequency interference with devices using all other types of contention-based protocols.

Contention Based Protocol (“CBP”) requirement, as established in the 3.65 GHz band framework, could logically be extended in its application in the AWS-3 band to include mechanisms to reduce the potential for harmful interference to nearby adjacent channel devices.⁶

A. The 3.65 GHz Power And Emissions Limits Would Eliminate Base Station-To-Adjacent Channel Mobile Interference.

At the outset, NextWave notes that TDD operation does not present any unique technical challenges in terms of base station interference to adjacent channel FDD devices. As Sprint observed, “[w]hen a TDD base station operates in downlink mode, its operations are technically indistinguishable from a downlink-only base station in the same band.”⁷ Indeed, there is no technical reason why the technical limits that apply to AWS-1 base stations should not also apply to AWS-3 base stations. Accordingly, there is no question that applying the power limit adopted for the 3.65 GHz band to base stations in the AWS-3 band would present no interference under any circumstances.⁸

B. End User Devices Operating In A 3.65 GHz-Like Framework Are Unlikely To Cause Interference To Adjacent Channel Mobile Devices.

The primary concern with permitting mobile operations in the AWS-3 band is the potential for overload and OOBE interference to mobiles operating in the adjacent AWS-1 and

⁶ NextWave proposes direct application of the technical framework established in the rules for the 3.65 GHz band – including the licensing rules, permitted operations, power limits, emissions limits, registration requirement, etc. – but modified such that only equipment meeting the “unrestricted” CBP would be authorized for the band.

⁷ Comments of Sprint Nextel Corporation, WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at 6.

⁸ Applying the framework established for the 3.65 GHz band, AWS-3 base stations would operate according to the following specifications: 25 Watt EIRP maximum power in 25 MHz bandwidth for Base Stations; 1 W/MHz EIRP maximum power spectral density for Base Stations; and attenuation of out of band emissions of $43 + 10 \log (P)$. See 47 C.F.R. § 90.1321.

AWS-2 bands.⁹ In NextWave's view, the interference potential would be largely eliminated if the AWS-3 band were subject to the same technical rules established for the 3.65 GHz band. Specifically, as explained below, it is reasonable to expect that AWS-3 mobiles in a system operating under the 3.65 GHz technical rules would effectively be limited to an EIRP in the range of 5 – 10 dBm, which should be too low to realistically cause interference problems to AWS-1 or AWS-2 mobiles.

Under a 3.65 GHz framework, AWS-3 end user devices would operate according to the following specifications:

- 800 mW EIRP maximum power in 20 MHz bandwidth for Fixed, Portable, and Mobile devices;¹⁰
- 40 mW/MHz EIRP maximum power spectral density for Portable and Mobile devices;¹¹ and
- Attenuation of out of band emissions of $43 + 10 \log (P)$.¹²

While under these rules end user devices technically would be authorized to operate at up to 800 mW, in consideration of the power limits established for base stations, it is unlikely that such transmit power levels will be necessary. As a general matter, wireless technologies operate in accordance with a balanced RF link for end-to-end connectivity.¹³ In this condition, the end user device utilizes power control to transmit at (or very near) the minimum power level required to meet a target signal-to-interference noise ratio, bit error rate, or other performance objective at

⁹ See, e.g., *NPRM*, ¶¶ 51-52.

¹⁰ *Id.* at § 90.1321(a) (the limit is specified as 25 W/25 MHz EIRP).

¹¹ *Id.* at § 90.1321(b) (the limit is specified as 1 W/25 MHz EIRP).

¹² *Id.* at § 90.1323(a).

¹³ See, e.g., *Wireless Network Performance Handbook* By Clint Smith, Curt Gervelis, Published 2003, McGraw-Hill Professional, pp. 59-60.

the base station receiver. Balanced link operation is essential for two-way wireless technologies in that it reduces the self-interference within the network and extends the useful battery life of a device. Existing and future technologies envisaged for the AWS-3 band would in all likelihood utilize the principles of balanced link operation.¹⁴

Applying the principle of balanced link operation – in the form of a representative link budget for a mobile WiMAX 16e network – and the proposed base station power limits, it is reasonable to estimate the typical power level for end user devices to be in the 5-10 dBm range, which is well below the 17 dBm limit identified by some commenters as necessary to eliminate mobile-to-mobile interference.¹⁵ Specifically, using a representative link budget for a 10 MHz mobile WiMAX 16e system,¹⁶ the base station EIRP might be 57 dBm and the corresponding

¹⁴ As an added precaution, however, end user devices could be required to utilize transmit power control. Transmit power control, alone, will provide for a significant reduction in mobile-to-mobile interference potential. The Commission has long recognized the benefits of power control. *See Revision of Parts 2 and 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) devices in the 5 GHz band*, Report and Order, 18 FCC Rcd 24484, 24499 (2003); *on recon. Memorandum Opinion and Order*, 21 FCC Rcd 7672, 7675 (rel. June 30, 2006); *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*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, 1993, 2021 n.306 (2003) [“MSS/ATC Report and Order”]; *Revisions to Broadcast Auxiliary Service Rules in Part 74 and Conforming Technical Rules for Broadcast Auxiliary Service, Cable Television Relay Service and Fixed Services in Parts 74, 78 and 101 of the Commission's Rules*, Report and Order, 17 FCC Rcd 22979, 22999 (2002); *Facilitating Opportunities For Flexible, Efficient, And Reliable Spectrum Use Employing Cognitive Radio Technologies*, Report and Order, 20 FCC Rcd 5486, 5489-90 (2005). With respect to a WiMAX system, for example, network simulations performed by NextWave indicate that a WiMAX mobile device typically will operate at 8.5 dB below (15.5 dBm EIRP) peak power 68 percent of the time and at 4.3 dB below (19.7 dBm EIRP) peak power 95 percent of the time. The transmit power distribution is simply a function of how WiMAX selects the appropriate modulation and coding scheme to transmit data and the effects of transmit power control on the mobile device.

¹⁵ See, e.g., Comments of T-Mobile USA, Inc., WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at 6; Comments of Motorola, Inc., WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at 5.

¹⁶ NextWave is basing its WiMAX balanced link budget upon the figures contained in “*Mobile WiMAX – Part I: A Technical Overview and Performance Evaluation*,” WiMAX Forum, Aug. 2006, Version 2.8 pp. 32-34 (“*WiMAX White Paper*”). While link budgets are influenced by both the air interface (e.g., SINR targets, diversity gain, etc.) as well as the network equipment parameters (antenna gain, power amplifier power, etc.) of a given wireless technology, the link budget provided in the *WiMAX White*

mobile device EIRP would be 22 dBm, providing a 35 dB difference between the EIRP of the base station and mobile device for a balanced link budget.¹⁷ Applying the same 35 dB power differential to an AWS-3 system operating under the 3.65 GHz technical rules (where the base station would operate at an EIRP of 40 dBm (10 Watts) in a 10 MHz bandwidth), the peak transmit power of an end user device for a balanced link budget would be approximately 5 dBm.¹⁸

Further, the reduced EIRP characteristics of the end user device also reduce OOB. With each 1 dB reduction in fundamental power, OOB are reduced by 2-3 dB¹⁹, which translates to OOB levels below -54.6 dBm/MHz in most practical instances. For example, assuming that: (i) for every 1 dB in fundamental power output reduction below the rated maximum power of the amplifier, the OOB fall by 2.5 dB; (ii) the power amplifier in the device is designed to meet the

Paper is consistent with those utilized in other wireless technologies. For example, see *GSM, GPRS and EDGE Performance* 2nd Ed. Edited by T. Halonen, J. Romero and J. Melero © 2003 John Wiley & Sons, Ltd ISBN: 0-470-86694-2, p. 402; and *WCDMA for UMTS*, 3rd Ed. Edited by Harri Holma and Antti Toskala 2004 John Wiley & Sons, Ltd ISBN: 0-470-87096-6, pp. 188-190.

¹⁷ There are a number of reasons for this large differential in transmit power between the downlink and uplink, principally that the base station transmit power encompasses the energy associated with the total data payload sent to multiple users in each downlink transmission (e.g., the power for all OFDMA tones used for overhead messaging and end user data), whereas the mobile transmit power is only the energy associated with the individual user data payload and multiple users may be multiplexed on the uplink creating a higher net effective power. Regardless, this measure of power differential is still appropriate for the comparison shown.

¹⁸ While technologies operating in the AWS-3 spectrum in accordance with the proposed technical rules may have different link budget parameters, it is unlikely that such differences could result in device transmit powers in excess of 17 dBm, assuming a balanced link.

¹⁹ The theoretical relationship between input signal level and out of band emissions for a nonlinear power amplifier follows a 1:3 relationship (as derived from Zhou, G. T. and Kenney, J. S., "Predicting spectral regrowth of nonlinear power amplifiers," IEEE Trans. on Communications, Vol. 50, pp. 718-722, May 2002. Measurement data available to NextWave show that the practical value is closer to 1:2.5.

43 + 10 log (P) emissions mask at the 24 dBm power level;²⁰ and (iii) the AWS-3 device operates at a transmit power of up to 7 dBm for balanced link operation;²¹ we observe a 17 dB reduction (24 dBm - 7 dBm) in transmit power below peak power for the balanced link budget. A 17 dB reduction in fundamental power results in a 42 dB reduction of OOB. Hence, the OOB of -13 dBm/MHz (i.e., 43+10 log(P)) that would occur if the device were to operate at full power would fall to -55 dBm/MHz (-13 dBm/MHz – 42 dB) for the 7 dBm transmit power level.²²

C. The “Unrestricted” Contention-Based Protocol Requirements Adopted For The 3.65 GHz Band Logically Can Be Extended To The AWS-3 Band For Interference Avoidance With Adjacent AWS Bands.

Devices operating in the 3.65 GHz band are required to employ operational and design parameters to maximize spectrum access opportunities and minimize instances in which a single device or system can “hog” the entire bandwidth. Devices operating at 3.65 GHz are required to

²⁰ As shown through the sample link budgets cited in note 16 *infra*, +24 dBm is a typical EIRP for an end user device. A survey of OET Equipment Authorizations for handsets will confirm this value. NextWave is assuming here that the OOB from the device power amplifier follows a 43+10log(P) mask. In fact, device power amplifiers typically perform modestly better than the 43+10log(P) mask.

²¹ Sample calculations shown previously demonstrated that the device EIRP could be as low as 5 dBm for a balanced link budget with a base station limited to 10 Watts EIRP. The value of 7 dBm for the device EIRP is used here to illustrate that even under less optimistic conditions, the potential impact of OOB from an AWS-3 device is still within acceptable limits.

²² The analysis shown here is in some regard a worst case assessment of the interference potential. As a practical matter, mobile-to-mobile interference whether occurring from OOB or overload is probabilistic. The combined effects of the proximity of AWS-1/2 receivers to the AWS-3 transmitter, the RF coupling loss between the transmitters and receivers, the relative motion of the transmitter and receivers, and the instantaneous output power level of the AWS-3 transmitter together or separately impact the actual probability of interference. *See, e.g.*, Comments of Sprint Nextel Corporation, WT Dkt. No. 07-195 (filed on Dec. 14, 2007) at n.13, and LCC International, Inc., *H Block MS Overload Analysis*, (Dec. 1, 2004), *available in* Comments of Nextel Communications, Inc., WT Dkt. No. 04-356 (filed on Dec. 8, 2004) (suggesting that when the variability of the real world operating conditions are considered, actual occurrences of interference are quite low).

employ an unrestricted CBP in order to operate in the entire 3650-3700 MHz band.²³ NextWave is proposing to employ the same unrestricted CBP for devices operating in the AWS-3 band. An unrestricted CBP is defined as an operating protocol “which can avoid co-frequency interference with devices using all other types of contention-based protocols.”²⁴ As the Commission recently clarified, an unrestricted CBP is intended to be “broadly compatible and function to prevent interference even with other, dissimilar contention technologies on the market.”²⁵ As with the 3.65 GHz band, use of the unrestricted CBP will facilitate sharing of the AWS-3 band among multiple co-channel users.

Moreover, application of the unrestricted CBP requirement to AWS-3 devices would provide an additional layer of protection to devices operating in the adjacent AWS-1 and AWS-2 downlink bands. The ability to sense energy from other devices and react accordingly is a necessary component of complying with the unrestricted CBP requirement. Use of this sensing capability for adjacent as well as co-channel operations should help minimize interference. For example, the AWS-3 device could perform a periodic energy detection in the adjacent channel and co-channel bands prior to each transmit burst, deduce that it has a potential to create harmful interference to a device operating in an adjacent channel if the detected signal strength exceeded some threshold level, and adjust its transmissions accordingly. This additional measure would

²³ The FCC is also authorizing equipment that meets a restricted CBP for operation in the 3650-3675 MHz band. The restricted CBP requirement is less conducive to sharing among multiple users, especially in limited spectrum. In this instance, there is only 20 MHz of AWS-3 spectrum to be shared whereas in the 3.65 GHz band, there is 50 MHz.

²⁴ 47 C.F.R. § 90.7.

²⁵ *Wireless Operations in the 3650-3700 MHz Band, Rules for Wireless Broadband Services in the 3650-3700 MHz Band and Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Memorandum Opinion and Order, 22 FCC Rcd 10421, ¶ 31 (2007). By contrast, the Commission clarified that “[a] listen-before-talk technology such as is used by Wi-Fi devices is a prime example of an unrestricted contention-based protocol.” *Id.*

enable AWS-3 licensees to maximize transmit opportunities in areas where the potential for interference to AWS-1 or AWS-2 is minimal.

II. OUTDATED AND INCOMPLETE COMPARATIVE RENEWAL PROCEDURES IN THE COMMISSION'S PART 27 RULES SHOULD BE ELIMINATED.

NextWave supports the Commission's suggestion that it should eliminate from the Part 27 rules the possibility for third-parties to file "competing applications" for AWS-3 spectrum at renewal time.²⁶ To provide sufficient service incentives for AWS-3 licensees, the Commission should, instead, rely on the funds paid by AWS-3 licensees at auction, together with the petition to deny process and the ability for third-parties to acquire cancelled AWS-3 spectrum in a subsequent re-auction.²⁷

In NextWave's view, however, the policy adopted by the Commission on this issue should not be limited to AWS-3 licensees. All licensees governed by the Part 27 rules should be entitled to the same treatment at renewal time as the Commission adopts for AWS-3 licensees in this proceeding. Specifically, the Commission should delete Sections 27.14(b)-(d) from the rules, which reference the prospect of filing "competing applications" against Part 27 license renewals.²⁸

There are several reasons for taking this action. First, as the Commission already recognized for certain Part 27 licensees, comparative licensing mechanisms are a vestige of bygone days and command-and-control spectrum management, when licenses were awarded based upon subjective determinations made by the Commission about the qualifications of

²⁶ See *NPRM*, ¶ 110.

²⁷ See *id.*

²⁸ See 47 C.F.R. § 27.14(b)-(d).

competing licensees. Such licensing mechanisms are misplaced and unnecessary within the Commission's current, market-oriented licensing framework. Today, licensing determinations for Part 27 spectrum are dictated by competitive bidding procedures, in which licenses are granted to companies that value the licenses most highly – not through subjective comparative renewal proceedings in which the Commission chooses a winner. Second, the disparate application of the “competing application” provisions of Section 27.14 among Part 27 licensees is inconsistent with the Commission's long-standing policy of providing regulatory parity for like services.

At a minimum, if the Commission determines to keep language in Section 27.14 that permits the filing of competing applications, then the rules should make clear that “competing applications” will only be allowed for Part 27 licenses in the event the Commission issues a Public Notice inviting competing applications. Consistent with Section 27.321(b), the Public Notice would set forth the Commission's determination that entertaining competing applications will serve the public interest. The Public Notice also would set forth the timing and procedures for filing competing applications and the comparative evaluation procedure that would be employed.

A. Comparative Licensing Processes Are Incompatible With The Commission's Market-Oriented Licensing Policies.

The “competing application” language contained in Section 27.14 is a carry-over of the comparative renewal framework established for the Cellular Radiotelephone Service (“Cellular”) rules.²⁹ This framework was carried over into the Part 24 PCS rules prior to being carried over

²⁹ See 47 C.F.R. §§ 22.935-40. In adopting the renewal provisions for Part 27, the Commission indicated that it was establishing a renewal expectancy similar to that afforded to Cellular and Personal Communications Services (“PCS”) licensees. *Amendment of the Commission's Rules to Establish Part*

into the Part 27 rules.³⁰ However, unlike the comprehensive framework for comparative renewal proceedings set forth in the Cellular rules – which provides filing procedures and a two-step review process for competing applications – Section 27.14 does not independently authorize the filing of competing applications.

The comparative license renewal model established for Cellular was developed within an entirely different context than, and is entirely inappropriate for, auctioned, market-based licenses governed under Part 27.³¹ Cellular licenses have predominantly been assigned through mechanisms other than competitive bidding – in particular, comparative hearings and lotteries. Moreover, when Cellular licenses were initially made available by the Commission, there was far less competition in the market than there is today for mobile wireless spectrum of any kind.³² In such an environment, reliance on the specter of competing applications to incentivize licensees to invest in their systems and roll out services was rational and, ultimately, merely an extension of the process under which they were initially awarded.

27, *the Wireless Communications Service (“WCS”)*, Report and Order, 12 FCC Rcd 10785, 10840 ¶¶ 6 & 106 (1997) (“*Part 27 Order*”).

³⁰ See 47 C.F.R. §§ 24.16. The comparative renewal provisions adopted for PCS also were based upon the Cellular Rules. See *Amendment of the Commission’s Rules to Establish New Personal Communications Services*, Second Report and Order, 8 FCC Rcd 7700, 7753 ¶ 130 (1993).

³¹ Indeed, it is not even clear whether licenses awarded via competitive bidding can lawfully be reassigned at renewal through a comparative licensing process. Section 309(j) of the Act requires that the Commission auction mutually exclusive “initial” licenses (except for certain exceptions not applicable here). 47 U.S.C. § 309(j)(1). To the extent the Commission might cancel or fail to renew a given license, that license would appear to become an “initial” license application with respect to all entities other than the original licensee – including any entity that might file a petition to deny or a “competing application.” Accordingly, it seems reasonable that any such license should be reaucted (like any other “initial” license), which is the Commission’s standard practice for all previously auctioned licenses that are returned for whatever reason to the Commission.

³² Indeed, the Cellular rules established two cellular carriers in each market (one of which was affiliated with the incumbent Local Exchange Carrier) and these were the *only* providers of mobile telephony, thus creating a “duopoly” market for this service.

The rationale for comparative licensing was eliminated, however, when Congress enacted Section 309(j) to shift licensing determinations away from subjective Commission determinations – which were inefficient and drawn out both from overtaxed Commission resources and endless litigation – to competitive bidding.³³ Specifically, unlike the licensees who were awarded Cellular licenses at no cost, licensees of auctioned licenses encounter far more significant pressures to deploy substantial services. For example, licensees acquiring their licenses at auction typically pay many millions of dollars for their licenses, and that expenditure alone creates a substantial fiscal incentive for the licensee to monetize – i.e., build out – its spectrum assets. Further, the current highly competitive nature of the wireless sector ensures that licensees will not simply deploy any minimally compliant service, but rather, drives licensees to deploy services that will be lucrative and responsive to market demand. The specter of competing applications at renewal time is not required to ensure adequate service deployment of licenses acquired via competitive bidding because fiscal and market forces already serve that function.³⁴

³³ As its legislative history confirms, the competitive bidding authorization in Section 309(j) was premised entirely upon eliminating the inefficiencies associated with the comparative licensing process. *See, e.g.*, H.R. REP. 103-111, 1993 U.S.C.C.A.N. 378, 573 (“[Section 309(j)] establishes procedures for licensing frequencies through a competitive bidding process. The Committee found that the current licensing procedures delay the delivery of services to the public and the result is stifling the growth of emerging technologies.”).

³⁴ Moreover, it is not clear what purpose the competing application process is intended to serve. The Commission describes the competing application process as a “performance incentive” to ensure a license is constructed. *See NPRM*, ¶ 110. It appears, however, that such purpose already is served by the “substantial service” requirements set forth in Section 27.14(a). 47 C.F.R. § 27.14(a). The Commission has not provided any explanation as to why this performance requirement is insufficient for renewal purposes. Indeed, under the operation of Section 27.14, no additional performance showing is required at renewal *unless* the Commission has authorized the filing of competing applications for the service in question and a competing application has been filed and accepted in accordance with such authorization. Nor is it clear, as a practical matter, how or why the substantial service standard utilized for construction performance under Section 27.14(a) is or should be differentiated from that utilized for performance at renewal. While a licensee could deploy service and file its substantial service showing for purposes of

It also must be acknowledged that one of the primary problems with permitting the filing of “competing applications” is and always has been that it establishes a mechanism for opportunistic strike and greenmail applications. Indeed, recognition of abusive competing application filings and the burdens associated with processing such applications – both for the renewal licensee as well as the Commission itself – drove the Commission’s recent decision to eliminate the filing of competing applications with respect to commercial 700 MHz license renewal applications. As the Commission stated:

[W]e also are eliminating the filing of competing applications to requests for renewal of these 700 MHz licenses. We are mindful of the potential costs and the burdens they impose on both the Commission and licensees. We agree with MetroPCS that such administrative processes “harken[] back to an old era . . . where competitors were known to file ‘strike’ applications against a renewal in the hope of getting a payoff.”³⁵

demonstrating construction performance at a time that falls well ahead of its renewal deadline, there is no reason to assume that the service represented in that showing has been discontinued or paired down by the renewal filing period or otherwise needs to be re-demonstrated – particularly in light of the substantial pressures all licensees face in the competitive wireless marketplace. In any event, the petition to deny process is more than sufficient to ensure that licensees will not let deployed systems wither on the vine. To the extent the Commission believes that some kind of showing of substantial service, independent of its performance requirements, should be required as a condition for renewal at the end of each license term, it can replace Sections 27.14(b)-(d) with a single subsection so requiring.

³⁵ *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Report And Order And Further Notice Of Proposed Rulemaking, 22 FCC Rcd 8064, ¶ 76 (2007) (*internal citations omitted*) (“700 MHz Order”). Indeed, the Commission has a long and torrid history of dealing with abuse of the renewal process by speculative applicants seeking to obtain payments from incumbent licensees. *See, e.g., Formulation of Policies and Rules Relating to Broadcast Renewal Applicants, Competing Applicants, and Other Participants to the Comparative Renewal Process and to the Prevention of Abuses of the Renewal Process*, First Report and Order, 4 FCC Rcd 4780 (1989) (addressing abuse of the broadcast comparative renewal process); *Amendment of Part 22 of the Commission’s Rules Relating to License Renewals in the Domestic Public Cellular Radio Telecommunications Service*, Report and Order, 7 FCC Rcd 719 (1992) (addressing abuse of the Cellular comparative renewal process).

The Commission further concluded that such elimination would provide “additional certainty” for licensees, and that keeping the competing application process in place “could result in additional administrative burdens on licensees that we find not to be in the public interest.”³⁶

The same rationale used by the Commission to eliminate abusive competing applications from the renewal process for 700 MHz licenses should apply to AWS-3 licenses and all other Part 27 licenses. WTB staff already has recommended the same result for PCS licenses.³⁷

B. Deletion Of Sections 27.14(b)-(d) Would Enhance Regulatory Parity Among Part 27 Services.

The Commission has sought to establish regulatory parity and competition among wireless services through spectrum management policies, allocation and licensing schemes that allow the market to dictate service deployments. A central pillar to the Commission’s approach is to regulate like services in a like manner so as not to disadvantage any one service. In adopting the Part 27 rules, for example, the Commission indicated that “any entity using WCS spectrum to provide CMRS services will be regulated in the same manner as all other CMRS providers.”³⁸ By eliminating the specter of competing applications from some licenses governed by Section 27.14, such as commercial 700 MHz licenses, but not from others, such as 2.3 GHz WCS licenses and AWS-1 licenses, the Commission has created a regulatory structure that treats similar Part 27 wireless licensees differently, with no clear justification for this disparate treatment. Even though competing applications cannot be accepted by the Commission pursuant

³⁶ *700 MHz Order*, ¶ 77.

³⁷ *See Federal Communications Commission 2002 Biennial Regulatory Review, Staff Report Of The Wireless Telecommunications Bureau*, 18 FCC Rcd 4243, 4326 (2002) (“WTB staff concludes section 24.16 in its current form may no longer be necessary in the public interest.”).

³⁸ *Part 27 Order*, 10834 ¶ 91.

to Section 27.14 unless and until the Commission has made a Section 27.321 finding that consideration of the competing applications will serve the public interest, the mere fact that some Part 27 licensees might have to endure the burden of opposing competing applications at renewal time, while others do not, creates an imbalance that cannot be justified – particularly where, as here, many different types of Part 27 licenses are owned by the same companies who intend to use the licenses in concert as part of one, seamless wireless broadband network.

C. At A Minimum, The Commission Should Make Clear That Competing Applications Cannot Be Filed Absent The Issuance Of A Public Interest Determination, An Express Authorization And Procedures.

While Sections 27.14(b)-(d) suggest the possibility that competing applications could be filed, there are no procedures specified anywhere within Part 27 governing the filing or processing of such applications or the comparative procedures that the Commission would employ. This fact alone makes clear that the competing application provisions in Section 27.14 are not self-executing, because they do not create an independent right to file a competing application. Instead, the Part 27 rules require certain preliminary actions on the part of the Commission before competing applications can be entertained. To prevent any confusion on this matter, and to prevent parties from attempting to take advantage of any perceived ambiguity in the Part 27 rules, the Commission should confirm how the Part 27 rules related to license renewal operate.

First and foremost, the Commission should confirm that it must make a determination that comparative consideration will serve the public interest *before* it can entertain a competing application, as is clearly required by Section 27.321(b) of the Commission's Rules:

An application will be entitled to comparative consideration with one or more [mutually exclusive] applications only if the Commission determines that such comparative consideration will serve the public interest.³⁹

Second, the Commission should confirm that it must establish the procedures that will govern the filing and processing of such competing applications before it can formally accept them.⁴⁰ Third, the Commission should confirm that it also must establish procedures governing the comparative renewal proceeding itself.⁴¹ Absent the preferable alternative of deleting Sections 27.14(b)-(d) altogether, the clarification requested herein would at least place all parties on notice – to the extent there is any doubt already – that there currently is no self-executing basis for filing “competing applications” against any renewal application filed in conformance with Section 27.14 of the Commission’s rules.

³⁹ 47 C.F.R. § 27.321(b) (underline added).

⁴⁰ The filing of “competing applications” for WCS licenses is not contemplated or possible under either the Commission’s Universal Licensing System (ULS) procedures or even manual (paper) procedures. Presumably, any Public Notice issued by the Commission announcing that comparative consideration would be in the public interest for a given service group governed under Section 27.14 would include instructions for filing competing applications.

⁴¹ For example, the Cellular rules specify procedures for comparative renewal proceedings, which include a two-step process by which the Administrative Law Judge conducts a threshold hearing to determine whether the renewal licensee merits a renewal expectancy and, if not, proceeds to a comparative hearing. *See* 47 C.F.R. § 22.935.

III. CONCLUSION

NextWave respectfully requests that the Commission: (1) implement the same licensing scheme and technical requirements for AWS-3 as those adopted for the 3.65 GHz band; and (2) delete Sections 27.14(b) through (d) of its rules to eliminate the possibility of filing “competing applications” against any Part 27 license renewals.

Respectfully submitted,

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January 14, 2008

CERTIFICATE OF SERVICE

I, Peter Andros, certify on this 14th day of January, 2008, a copy of the foregoing Reply Comments of NextWave Wireless Inc. has been served via electronic mail or first class mail, postage pre-paid, to the following:

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