

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

In the Matter of

Service Rules for Advanced Wireless Services in
the 1.7 GHz and 2.1 GHz Bands

WT Docket No. 02-353

REPLY COMMENTS OF MOTOROLA, INC.

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SUMMARY

The comments filed in response to the *NPRM* demonstrate a high degree of correlation with the recommendations suggested by Motorola in its initial comments. Commenters support a flexible approach that would allow fixed or mobile services in the AWS spectrum, provided that the rules do not permit base station and mobile station transmission in the same 45 MHz segment of the AWS band. The record also provides considerable support for service rules that are based upon the Part 24 regulatory framework, which would provide regulatory parity with treatment of Broadband PCS in the 1.9 GHz band. In contrast, none of the comments support the Commission's tentative proposal to apply the Part 27 regulatory framework. Motorola urges the Commission to adopt the Part 24 regulatory framework for AWS, consistent with the comments in this proceeding.

A review of the record shows that there is unanimous support for licensing symmetrical paired blocks that would enable the deployment of FDD systems. In addition, the majority of commenters support the use of licensed spectrum blocks of at least 20 MHz (*i.e.*, two paired 10 MHz segments). While commenters support several different band plans, Motorola's proposal – one 30 MHz spectrum block (2 x 15 MHz) and three 20 MHz blocks (2 x 10 MHz) – has received the most support. This plan would ensure four licenses in each service area.

The NTIA and many prospective licensees and equipment manufacturers support explicit rules to require AWS licensees to employ the conventional duplex configuration, *i.e.*, designation of the 1710-1755 MHz band for mobile station transmission and the 2110-2155 MHz band for base station transmission. NTIA's comments stress that its conclusion in the *2002 Viability Assessment* – that 90 MHz of spectrum from the 1710-1755 MHz and 2110-2170 MHz bands could be reallocated for AWS – is predicated upon service rules that allow only mobile station

AWS transmissions in the 1710-1755 MHz band, consistent with the IMT-2000 operating parameters. NTIA indicates that base station transmissions in the 1710-1755 MHz band could cause unacceptable interference to government operations in the 1755-1850 MHz band; therefore, a new assessment of potential interference to government operations would be necessary if the Commission's service rules were to allow AWS licensees to utilize the 1710-1755 MHz band for base station transmission. Numerous commenters note that requiring licensees to utilize the conventional duplex configuration would minimize potential interference issues between AWS licensees, harmonize with existing service rules in other countries, enable equipment manufacturers to achieve economies of scale, and facilitate global roaming.

Consistent with their support for the Part 24 regulatory framework, commenters advocate adoption of the Part 24 technical rules that presently govern Broadband PCS operations, with only minor modifications. In particular, commenters support adoption of the Part 24 in-band and out-of-band interference limits, as well as the TIA Telecommunications Systems Bulletin 10-F coordination guidelines that have been used successfully in clearing the PCS band. In contrast, no commenters express support for the Commission's tentative conclusion to develop numerous out-of-band emission limits for various types of communications, as it did for the Wireless Communications Service. Motorola recommends the adoption of the Broadband PCS power limits for AWS, with one modification: for emission bandwidths greater than 1 MHz, Motorola recommends the adoption of the Part 24 base station transmitter power limits, but as applied to a 1 MHz bandwidth.

Motorola supports the transition of PGM operations out of the 1710-1755 MHz band as expeditiously as possible and supports the adoption of interim coordination procedures that would limit the impact of PGM operations on AWS licensees. Motorola also supports the

industry assessment that DOD aeronautical telemetry operations must be cleared from the 1710-1755 MHz band before this spectrum can be used effectively for AWS, and it urges the Commission to commence a proceeding to consider relocation options as soon as possible.

Finally, numerous commenters agree with Motorola that relocation expenses of incumbents should be funded from the proceeds of the AWS spectrum auction. These parties support legislative efforts to establish a spectrum relocation fund for this purpose.

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REPLY COMMENTS OF MOTOROLA, INC.

Motorola, Inc. (“Motorola”) hereby submits these reply comments on service rules for Advanced Wireless Services (“AWS”) in the 1710-1755 MHz and 2110-2155 MHz bands proposed in the Notice of Proposed Rulemaking (“*NPRM*”) in the above-captioned proceeding.¹

I. INTRODUCTION

The comments filed in response to the *NPRM* demonstrate a high degree of correlation with the recommendations suggested by Motorola in its initial comments.² Commenters support a flexible approach that would allow fixed or mobile services in the AWS spectrum, provided that the rules do not permit base station and mobile station transmission in the same 45 MHz segment of the AWS band.

The record also provides considerable support for service rules that are based upon the Part 24 regulatory framework, which would provide regulatory parity with treatment of Personal Communications Services (“PCS”) in the 1.9 GHz band. In contrast, none of the comments support the Commission’s tentative proposal to apply the Part 27 regulatory framework.

¹ Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, Notice of Proposed Rulemaking, 17 FCC Rcd 24135 (2002) (“*NPRM*”).

² See Comments of Motorola, Inc., Feb. 7, 2003 (“Motorola Comments”).

Motorola therefore urges the Commission to adopt the Part 24 regulatory framework for AWS, consistent with the record.

The record shows that there is unanimous support for licensing symmetrical paired blocks that would enable the deployment of frequency division duplex (“FDD”) systems. In addition, the majority of commenters support the use of licensed spectrum blocks of at least 20 MHz (*i.e.*, two paired 10 MHz segments). While commenters support several different band plans, Motorola’s proposal – one 30 MHz spectrum block and three 20 MHz blocks – has received the most support.

The National Telecommunications and Information Administration (“NTIA”) and many prospective licensees and equipment manufacturers support explicit rules to require AWS licensees to employ the customary duplex configuration, *i.e.*, designation of the 1710-1755 MHz band for mobile station transmission and the 2110-2155 MHz band for base station transmission. NTIA’s comments stress that its conclusion in the *2002 Viability Assessment*³ – that 90 MHz of spectrum from the 1710-1755 MHz and 2110-2170 MHz bands could be reallocated for AWS – is predicated upon service rules that allow only mobile station transmissions in the 1710-1755 MHz band, consistent with the International Mobile Telecommunications-2000 (“IMT-2000”) operating parameters.⁴ NTIA indicates that base station transmissions in the 1710-1755 MHz band could cause unacceptable interference to government operations in the 1755-1850 MHz band; therefore, a new assessment of potential interference to government operations would be necessary if the Commission’s service rules were to allow AWS licensees to utilize the 1710-

³ NTIA, *An Assessment of the Viability of Accommodating Advanced Mobile Wireless (3G) Systems in the 1710-1770 MHz and 2110-2170 MHz Bands (July 22, 2002) (“2002 Viability Assessment”)*, available at <http://www.ntia.doc.gov/ntiahome/threeg/va7222002/3Gva072202web.htm>.

⁴ See Comments of the National Telecommunications and Information Administration, Feb. 7, 2003, at 3 (“NTIA Comments”).

1755 MHz band for base station transmission.⁵ Numerous commenters state that requiring licensees to utilize the conventional duplex configuration would minimize potential interference issues between AWS licensees, harmonize with existing service rules in other countries, enable equipment manufacturers to achieve economies of scale, and facilitate global roaming.

Consistent with their support for the Part 24 regulatory framework, commenters advocate adoption of the Part 24 technical rules that presently govern PCS operations, with only minor modifications. In particular, commenters support adoption of the Part 24 in-band and out-of-band interference limits, as well as the TIA Telecommunications Systems Bulletin 10-F (“TIA 10-F”) coordination guidelines that have been used successfully in clearing the PCS band. In contrast, no commenters express support for the Commission’s tentative conclusion to develop numerous out-of-band emission (“OOBE”) limits for various types of communications, as it did for the Wireless Communications Service (“WCS”).

Finally, numerous commenters agree with Motorola that relocation expenses of incumbents should be funded from the proceeds of the AWS spectrum auction. These parties support legislative efforts to establish a spectrum relocation fund for this purpose.

II. THE RECORD SUPPORTS SERVICE RULES THAT PERMIT FLEXIBLE USE OF THE AWS SPECTRUM, PROVIDED THAT THE COMMISSION ADOPTS THE CONVENTIONAL DUPLEX ORIENTATION

Motorola’s initial comments expressed support for the Commission’s tentative conclusion to promote innovative services and encourage flexible and efficient use of the AWS bands by permitting licensees to use these bands for fixed or mobile services, or any combination of the two, with the caveat that the Commission should designate the 1710-1755 MHz band for

⁵ See *id.* at 3-4.

mobile station transmission and the 2110-2155 MHz band for base station transmission.⁶ The record reflects support for allowing flexible use of the AWS spectrum consistent with Motorola's recommendation. The Cellular Telecommunications and Internet Association ("CTIA") notes that allowing such flexibility "fosters the development of innovative, state-of-the-art service offerings."⁷ Another commenter notes that permitting licensees the flexibility to offer both fixed and mobile services is consistent with the Commission's authority under Section 303(y)(2) of the Communications Act.⁸

Many commenters, however, agree with Motorola that some limitation on flexibility is necessary. Lucent Technologies, for example, notes that unlimited flexibility "could result in opposite directions of transmission in adjacent frequency blocks," which "creates the potential for interference problems" and would likely lead to designation of guard bands, resulting in loss of useable spectrum.⁹ AT&T Wireless expresses concern that allowing time division duplex ("TDD") and FDD operations in adjacent bands would lead to severe interference unless large guard bands and stringent power limits are adopted.¹⁰ Other commenters echo these views.¹¹ Many commenters therefore oppose allowing licensees unrestricted flexibility that could lead to base and mobile transmitters operating in the same segment of the AWS band. Instead, the majority of commenters support service rules that would designate one segment of the AWS

⁶ See Motorola Comments at 2-3.

⁷ Comments of the Cellular Telecommunications and Internet Association, Feb. 7, 2003, at 3 ("CTIA Comments").

⁸ See Comments of PetroCom License Corporation, Feb. 7, 2003, at 6-7 ("PetroCom Comments").

⁹ Comments of Lucent Technologies, Inc., Feb. 7, 2003, at 3 ("Lucent Comments").

¹⁰ See Comments of AT&T Wireless Services, Inc., Feb. 7, 2003, at 8 ("AT&T Wireless Comments").

¹¹ See CTIA Comments at 14; Comments of Ericsson, Inc., Feb. 7, 2003, at 5 ("Ericsson Comments"); Comments of Nokia, Inc., Feb. 7, 2003, at 1 ("Nokia Comments"); Comments of Verizon Wireless, Feb. 7, 2003, at 5-6 ("Verizon Wireless Comments").

band for base station transmission and the other for mobile station transmission. Furthermore, as will be discussed further below, the record shows that commenters overwhelmingly support adoption of the conventional duplex orientation, with the lower 1710-1755 MHz band designated for mobile station transmission and the 2110-2155 MHz band designated for base station transmission.¹² Motorola therefore urges the Commission to permit flexible use of the AWS spectrum, subject to this caveat.

III. THE RECORD SUPPORTS APPLICATION OF THE PART 24 REGULATORY FRAMEWORK TO AWS

The record reflects widespread agreement that the Commission's existing Part 24 rules provide the most appropriate regulatory framework for AWS. Every commenter that has expressed a position on which Part of the Commission's rules should apply to AWS supports application of the Part 24 rules that currently apply to Broadband PCS, with minor modifications.¹³ In contrast, not one commenter urges the Commission to adopt its tentative conclusion that Part 27 rules should apply to AWS.¹⁴

As Motorola noted in its initial comments, application of existing Part 24 rules for AWS would provide regulatory parity for licensees that provide service in the PCS and AWS spectrum. AT&T Wireless observes that “[s]ince current CMRS carriers will almost certainly be the primary initial licensees in the AWS bands, and since the AWS spectrum will most likely be

¹² See *infra* pp. 7-9; AT&T Wireless Comments at 9; CTIA Comments at 14; Ericsson Comments at 4; Lucent Comments at 3; Nokia Comments at 1; NTIA Comments at 3; Verizon Wireless Comments at 5; see also Motorola Comments at 3.

¹³ See AT&T Wireless Comments at 9-10; CTIA Comments at 3-4; Ericsson Comments at 2-3; Verizon Wireless Comments at 3 (supporting a combination of Part 24 and Part 27 rules); see also Lucent Comments at 3 (supporting adoption of Part 24 OOB limits for AWS).

¹⁴ See *NPRM* ¶ 13. Verizon Wireless supports a combination of Part 24 and Part 27 rules: it supports rules similar to Part 27 rules regarding license terms and a “substantial service” performance requirement; and presumably Part 24 rules in all other areas. See Verizon Wireless Comments at 3-5.

used to augment existing wireless offerings, applying the Part 24 rules would promote the most efficient and rapid utilization of newly available spectrum by allowing carriers to utilize existing infrastructure, technologies, and expertise.”¹⁵ However, “significantly divergent technical rules for AWS could force carriers to construct and maintain two parallel radio interface networks, including cell sites, towers, and antennas, in order to maintain the same level of service coverage and quality.”¹⁶ CTIA’s comments confirm Motorola’s observation that many CMRS carriers are already deploying AWS on their PCS spectrum, therefore “applying the same regulatory framework to both the PCS and AWS bands would avoid imposing disparate regulatory and technical requirements on carriers offering the same or similar advanced wireless services in both bands.”¹⁷ Commenters also agree with Motorola’s view that the Part 24 rules have proven to be effective in allowing the rapid development of mobile services, whereas services licensed under Part 27 rules, such as WCS, have been slow to offer services to the public.¹⁸ Accordingly, the record clearly supports adoption of the tried and tested Part 24 regulatory framework for AWS.

IV. THE RECORD SUPPORTS SERVICE RULES THAT DESIGNATE LICENSING OF PAIRED SPECTRUM BLOCKS AND OPERATION IN ACCORDANCE WITH THE CONVENTIONAL DUPLEX ORIENTATION

The record shows unanimous support for licensing the 90 MHz of AWS spectrum in symmetrical paired blocks to allow deployment of frequency division duplex (“FDD”) systems,

¹⁵ AT&T Wireless Comments at 9.

¹⁶ *Id.* at 10.

¹⁷ CTIA Comments at 4.

¹⁸ *See* Motorola Comments at 5; CTIA Comments at 3; Ericsson Comments at 2-3 (“The PCS model has been shown to be extremely effective in encouraging the efficient use of spectrum and the development of competitive markets.”).

which commenters expect to be the primary enabling 3G technology.¹⁹ Furthermore, many commenters agree with Motorola that none of the AWS spectrum should be licensed on an unpaired basis.²⁰ Unpaired spectrum would allow deployment of time division duplex (“TDD”) systems, which would cause significant interference to adjacent FDD operations and thus necessitate large guard bands between the paired and unpaired AWS spectrum blocks, severely restricting the amount of paired spectrum available for FDD systems.²¹ Numerous commenters agree with Motorola’s assessment.²² Even ArrayComm, a proponent of TDD technology, recognizes that “certain considerations preclude the inclusion of TDD-based services in these bands” and that licensing of paired spectrum blocks is thus “inescapable” for the AWS spectrum.²³

In addition to supporting licensing of paired spectrum blocks, commenters overwhelmingly urge the Commission to adopt service rules that require licensees to utilize the conventional duplex direction for the paired AWS spectrum, *i.e.*, the rules should designate the

¹⁹ See AT&T Wireless Comments at 7-8; CTIA Comments at 4-5; Ericsson Comments at 4-5; Lucent Comments at 1, 2-3; Motorola Comments at 5-6; Nokia Comments at 2-3; Verizon Wireless Comments at 10.

²⁰ See AT&T Wireless Comments at 7; CTIA Comments at 4-5; Lucent Comments at 2; Nokia Comments at 2-3; *see also* Motorola Comments at 8.

²¹ See Motorola Comments at 8; Comments of Motorola, Inc., ET Docket No. 00-258, Oct. 22, 2001, at 16-17 (“Motorola 3G FNPRM Comments”). As Motorola has previously stated, data presented to ITU-R Working Party 8F show that even guard bands of 10 MHz would be insufficient to eliminate base station to base station interference. See Motorola 3G FNPRM Comments at 16 & n.51.

²² See AT&T Wireless Comments at 8 (“[A]uthorizing TDD operations in the AWS spectrum would require the creation of large guard bands and the adoption of stringent power limitations.”); CTIA Comments at 4-5; Nokia Comments at 1-2 (“Even with the introduction of tighter RF filtering requirements, interference caused by TDD and FDD co-existence would be severe.”).

²³ Comments of ArrayComm, Inc., Feb. 7, 2003, at 2, 3. Two commenters loosely support allowing TDD systems to operate within paired spectrum blocks in the AWS spectrum. See Lucent Comments at 2; PetroCom Comments at 8. These commenters, however, fail to take into account the fact that severe interference would likely occur between high power TDD and FDD systems operating on adjacent channels. See *supra* note 21. Furthermore, high power TDD systems were not considered by NTIA in the 2002 *Viability Assessment* and could raise interference concerns with adjacent military operations in the 1755-1850 MHz band.

1710-1755 MHz frequency band as the uplink (mobile station transmit) band and the 2110-2155 MHz band as the downlink (base station transmit) band. As Motorola and other commenters noted in their initial comments, service rules requiring this duplex arrangement would be in accord with the International Telecommunications Union (“ITU”) Recommendation M.1036-1 regarding IMT-2000 operations,²⁴ and would harmonize with existing designations for international third generation spectrum, including UMTS spectrum in Europe.²⁵ Adopting this same duplex orientation for AWS would reduce equipment design issues, facilitate the development of multi-mode equipment, and lower equipment costs for consumers due to greater manufacturing economies of scale.²⁶ Moreover, it would substantially advance the prospect of a global downlink band at 2110-2155 MHz, which would greatly facilitate global roaming.²⁷

Motorola also noted that specification of this conventional duplex orientation would minimize interference issues with incumbent Department of Defense (“DOD”) operations in the 1710-1755 MHz band.²⁸ Significantly, NTIA has submitted comments to emphasize that the conclusion in the *2002 Viability Assessment* supporting reallocation of the 1710-1755 MHz band for AWS is predicated upon mobile station transmissions in this band, consistent with the conventional duplex orientation recommended by the ITU for IMT-2000 operations.²⁹ NTIA notes that if the Commission were to adopt AWS service rules that allow base station

²⁴ See ITU Recommendation ITU-R M.1036-1, Spectrum Considerations for Implementation of International Mobile Telecommunications-2000 (IMT-2000) in the Bands 1885-2025 MHz and 2110-2200 MHz, § 4.1 (Jan. 1999).

²⁵ See Motorola Comments at 7; AT&T Wireless Comments at 9; Ericsson Comments at 9; Lucent Comments at 3; Nokia Comments at 1-2.

²⁶ See Motorola Comments at 7; AT&T Wireless Comments at 9; Ericsson Comments at 9; Lucent Comments at 3; Nokia Comments at 2.

²⁷ See Motorola Comments at 7-8; Lucent Comments at 3; Nokia Comments at 2.

²⁸ See Motorola Comments at 11.

²⁹ See NTIA Comments at 3; see also *2002 Viability Assessment* at 6.

transmissions in the 1710-1755 MHz band, the conclusions set forth in the *2002 Viability Assessment* would no longer be valid:

If base stations were to be allowed in the 1710-1755 MHz band, transmitted powers could be up to 40 dB higher than those considered in the *NTIA Viability Assessment*. In that case, the conclusions contained in the *NTIA Viability Assessment* are no longer valid, and a new assessment addressing the sharing and electromagnetic compatibility issues for the accommodations of AWS systems would be required – clearly delaying AWS deployment and potentially resulting in different and less feasible sharing outcomes. Accordingly, NTIA strongly urges the Commission to prohibit base stations in the 1710-1755 MHz band.³⁰

The record therefore clearly supports service rules that designate 1710-1755 MHz as the mobile transmit band and 2110-2155 MHz as the base transmit band.³¹

With regard to the size of spectrum blocks to be licensed, a large majority of commenters support a minimum block size of 20 MHz (*i.e.*, two paired 10 MHz segments), either explicitly or implicitly, by supporting a band plan that utilizes spectrum blocks no smaller than 20 MHz.³² As Motorola noted in its initial comments, a minimum segment size of 10 MHz, with 5 MHz increments, is consistent with IMT-2000 standards and would provide the highest level of technological neutrality.³³ Consistent with these guidelines, Motorola has proposed a band plan that would include one 30 MHz license and three 20 MHz licenses, which would initially ensure

³⁰ NTIA Comments at 3-4.

³¹ In fact, of all the commenters, only one, PetroCom, opposes adoption of the conventional duplex orientation. *See* PetroCom Comments at 8 n.15.

³² *See* AT&T Wireless Comments at 6; CTIA Comments at 5; Ericsson Comments at 4; Nokia Comments at 2; Comments of the Rural Cellular Association, Feb. 7, 2003, at 4 (“RCA Comments”); *see also* Lucent Comments at 2 (stating that 20 MHz or 30 MHz blocks are “desirable”).

³³ *See* Motorola Comments at 6.

four AWS licenses within each market.³⁴ This band plan has received considerable support.³⁵ This plan would also provide more competition than an alternative proposed band plan that would create three 30 MHz licenses in each market, by adding a fourth license.³⁶

V. THE RECORD SUPPORTS ADOPTION OF PART 24 TECHNICAL RULES, WITH MINOR MODIFICATIONS

A. In-Band Interference Limits and Coordination Requirements

Motorola recommends that the Commission adopt AWS service rules that provide in-band interference rules that are consistent with the Part 24 rules that currently govern Broadband PCS. Specifically, Motorola supports adoption of a 47 dB μ v/m field strength limit and an inter-block attenuation requirement of at least 43 + 10 log₁₀(P) dB (except between commonly held channel blocks); and requiring licensees to follow TIA 10-F procedures to determine AWS interference to incumbent microwave licensees in the 2110-2155 MHz band.³⁷ The record reflects broad support for applying these in-band interference requirements to AWS.³⁸ Notably, none of the commenters opposes application of these Part 24 interference rules to AWS or proposes alternative interference limits.

As noted in its initial comments, Motorola recommended that the Commission develop mandatory coordination procedures between AWS licensees and DOD operations at Cherry Point, North Carolina and Yuma, Arizona, which are authorized to continue to operate in the

³⁴ See *id.*

³⁵ See AT&T Comments at 7; CTIA Comments at 5; Lucent Comments at 2; Nokia Comments at 2 (supporting this band plan as one of two primary options).

³⁶ See Nokia Comments at 2.

³⁷ See Motorola Comments at 10-11.

³⁸ See AT&T Wireless Comments at 10 (supporting Part 24 emissions requirements generally); CTIA Comments at 13-14; Ericsson Comments at 7-8; *see also* Comments of the American Petroleum Institute, Feb. 7, 2003, at 7 (supporting use of TIA 10-F procedures).

1710-1755 MHz band on a primary basis indefinitely.³⁹ With regard to precision-guided munitions (“PGM”) operations, Ericsson recommends that PGM operations should be removed from the 1710-1755 MHz band prior to the launch of AWS in affected bands and geographic areas.⁴⁰ Motorola supports the transition of PGM operations out of the 1710-1755 MHz band as expeditiously as possible but believes that appropriate interim coordination procedures should be put in place that limit PGM operations to lower altitudes and/or nighttime hours and require advance notification to affected AWS licensees, thereby avoiding modification of the existing stockpile.⁴¹ Such procedures would allow AWS and PGM operations to co-exist on a co-primary basis until the current inventory of PGM devices is exhausted.

Motorola reiterates its supports for the industry analysis appended to the *2002 Viability Assessment*, which concluded that DOD aeronautical telemetry operations in the 1710-1755 MHz band must be relocated before AWS can effectively begin.⁴² Accordingly, Motorola urges the Commission to commence a rulemaking proceeding to explore relocation of these government incumbents in the near future, consistent with its pledge in the *AWS Allocation Order*.⁴³

B. Out-of-Band and Spurious Emission Limits

The record contains considerable support for the application of the Broadband PCS OOBE limit, Section 24.238⁴⁴ – which requires attenuation of at least $43 + 10 \log_{10}(P)$ dB for all

³⁹ See Motorola Comments at 11.

⁴⁰ See Ericsson Comments at 8.

⁴¹ See Motorola Comments at 12.

⁴² See *id.* at 12-13.

⁴³ See 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, Second Report and Order, 17 FCC Rcd 23193, ¶ 26 (2002) (“*AWS Allocation Order*”).

⁴⁴ See 47 C.F.R. § 24.238.

out-of-band frequencies – to AWS.⁴⁵ One commenter notes that adopting a common OOB limit with PCS band would speed the deployment of AWS to consumers.⁴⁶ In contrast, deployment of WCS, which is subject to multiple OOB limits under Part 27, has languished. Motorola believes that the Part 24 attenuation requirement and compliance rules, in conjunction with a requirement that AWS licensees coordinate with licensees in neighboring bands, are sufficient to protect operations in nearby bands from harmful interference. Therefore, Motorola supports application of Part 24 rules in this area and opposes the Commission’s tentative conclusion that it should adopt the approach it has taken under Part 27 for WCS, *i.e.*, adopting a multitude of different attenuation requirements for specific frequency bands and types of service.⁴⁷ Given the complete absence of any support for the Commission’s tentative proposal, Motorola urges the Commission to adopt the Part 24 approach for AWS.

C. Power Limits

Motorola supports the adoption of effective isotropic radiated power (“EIRP”) spectral density limits for base station transmitters and mobile station power levels that are consistent with limits established for the PCS bands, with one modification: for emissions bandwidths greater than 1 MHz, Motorola recommends the adoption of the Part 24 base station transmitter power limits, but as applied to a 1 MHz bandwidth.⁴⁸ This adjustment would ensure that all wideband systems would radiate the same power per unit bandwidth, regardless of the technology utilized. Although no commenters yet have expressed views on this proposal,

⁴⁵ See Ericsson Comments at 8; Lucent Comments at 3; Motorola Comments at 13; *see also* AT&T Wireless Comments at 10 (supporting Part 24 interference limits generally); CTIA Comments at 13-14 (same).

⁴⁶ See Ericsson Comments at 8.

⁴⁷ See *NPRM* ¶ 63.

⁴⁸ See Motorola Comments at 14.

Motorola notes that there is considerable support for adoption of power limits that are generally consistent with the limits specified in Part 24.⁴⁹

Motorola also supports an exemption from these power limits for base stations of AWS licensees that are located in rural areas.⁵⁰ Permitting this flexibility in rural areas would allow licensees to provide greater geographical service coverage with fewer base station transmitters, reducing the cost of building out systems in such areas and speeding the deployment of AWS in rural America.

VI. THE RECORD SHOWS CONSIDERABLE SUPPORT FOR THE CREATION OF A SPECTRUM RELOCATION FUND

The *NPRM* notes that the NTIA proposed legislation in the 107th Congress to establish a Spectrum Relocation Fund, which would enable the relocation expenses of federal government incumbents to be funded from auction proceeds.⁵¹ Motorola strongly supports such legislation because it would reassure incumbent licensees that they will be reimbursed for all of their relocation costs, thus encouraging voluntary relocations, and because it would provide certainty to prospective licensees regarding the cost of spectrum for new services.⁵²

The record in this proceeding shows that many commenters support NTIA's proposal to fund incumbents' relocation costs from auction proceeds, particularly to assist the relocation of

⁴⁹ See CTIA Comments at 14; Ericsson Comments at 9; see also AT&T Wireless Comments at 10 (supporting support for Part 24 technical rules generally).

⁵⁰ See Motorola Comments at 14-15.

⁵¹ See *NPRM* ¶ 34; see also Letter from Theodore W. Kassinger, General Counsel, Dept. of Commerce, to The Honorable Richard B. Cheney, President of the Senate, July 23, 2002 (enclosing draft bill titled the "Federal Spectrum Relocation Payment Procedures Act"), available at <http://www.ntia.doc.gov/ntiahome/congress/2002/legistransmittal7232002.htm>. Two bills introduced in the 107th Congress proposed the creation of such a fund. See H.R. 4641, 107th Cong. § 202 (2002); H.R. 5638, 107th Cong. § 4 (2002).

⁵² See Motorola Comments at 9-10; see also Comments of Motorola, Inc., ET Docket No. 02-135, Jan. 27, 2003, at 26-27.

incumbents in the AWS bands.⁵³ Accordingly, Motorola urges the Commission to support the introduction of legislation in the 108th Congress that would fund the relocation costs of both government and non-government incumbents from auction proceeds.

VII. CONCLUSION

For the foregoing reasons, Motorola supports the adoption of service rules for the AWS bands consistent with these comments.

Respectfully submitted,

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⁵³ See CTIA Comments at 15-16; Ericsson Comments at 3; RCA Comments at 8; Verizon Wireless Comments at 7.