

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of )  
 )  
Amendment of Parts 1, 21, 73, 74 and 101 of the )  
Commission's Rules to Facilitate the Provision of Fixed ) WT Docket No. 03-66  
and Mobile Broadband Access, Educational and Other ) RM-10586  
Advanced Services in the 2150-2162 and 2500-2690 MHz )  
Bands )

**PETITION FOR PARTIAL RECONSIDERATION  
OF THE WIRELESS COMMUNICATIONS ASSOCIATION INTERNATIONAL, INC.**

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## TABLE OF CONTENTS

|       |  |    |
|-------|--|----|
| I.    | The Height Benchmarking Rule Should Be Clarified To Provide Appropriate Deadlines For Compliance.....  | 1  |
| II.   | The Rules Governing Out-Of-Band Emissions Require Further Modification. ....   | 3  |
| A.    | The Commission Should Modify The Deadline By Which A Licensee Interfering With An Existing Base Station Must Comply With The More Restrictive Spectral Mask.....   | 3  |
| B.    | The Limitations On User Station Emissions Should Be Revisited.....   | 4  |
| C.    | Section 27.53(l) Should Be Revised To Clarify That Where Two Or More Contiguous Channels Are Utilized As Part Of The Same System, All OOB Limitations Are To Be Measured At The Outermost Edges Of Those Contiguous Channels. .... | 6  |
| D.    | All Licensees, Not Just First Adjacent Channel Licensees, Should Have Standing To Submit Documented Interference Complaints Under Section 27.53(l).....  | 7  |
| III.  | The Commission Should Amend Section 27.1236(b)(6) To Conform The Deadline For Self-Transitions To That Established For Proponent-Driven Transitions As Contemplated In Paragraph 143 Of The <i>2006 Order</i> .....                | 9  |
| IV.   | To Provide Licensees With Certainty Regarding Their Authorized Service Area, The Commission Should Clarify How GSA Boundaries Will Be Established.....   | 10 |
| V.    | Section 27.1214(c) Must Be Modified To Reflect The Commission’s Long-Standing Policy Of Permitting Lessees To Make Comparable Equipment Available Upon Termination Of An EBS Lease. ....   | 13 |
| VI.   | The Newly-Adopted Performance Rules Require Minor Changes To Reflect The Unique Characteristics Of BRS/EBS.....  | 15 |
| A.    | A New Safe Harbor Should Be Adopted To Address Those Situations Where GSAs Are Highly Truncated. ....  | 15 |
| VII.  | The Commission Should Modify Section 27.55(a)(4)(iii) To Conform To The Commission’s Policies Regarding The Proponent’s Obligation To Provide Substantially Similar Middle Band Segment Facilities To Migrating EBS Licensees..... | 19 |
| VIII. | The Commission Must Permit Relocating 2.1 GHz BRS Licensees To Operate On 2.1 GHz and 2.5 GHz Band Spectrum During Migration.....  | 21 |
| IX.   | The Commission Should Modify Section 27.1201(d) To Clarify That Sections 27.1203 and 27.1214 Do Not Apply To Grandfathered Commercial EBS Stations. ....   | 22 |

## APPENDIX A

## EXECUTIVE SUMMARY

The Wireless Communications Association International, Inc. (“WCA”) urges the Commission on reconsideration to make the following modifications to the rules and policies adopted in the *Third Memorandum Opinion and Order and Second Report and Order* (the “2006 Order”) in this proceeding.

To provide licensees with certainty and assure that service to consumers over Broadband Radio Service (“BRS”) and Educational Broadband Service (“EBS”) facilities is not unreasonably impaired, on reconsideration the Commission should modify the height benchmarking rule – Section 27.1221 – to provide deadlines by which interfering base stations must come into compliance with the rule.

The Commission’s new rules regarding out-of-band emissions (“OOBE”) require further modification. First, because base stations that are serving consumers should not be subject to OOBE interference for lengthy periods, the Commission should modify Section 27.53(1)(2) to require that where a new or newly-modified base station causes OOBE interference to an existing base station, it be required to meet the more restrictive spectral mask within 24 hours of receipt of a documented complaint. Second, the Commission should modify the spectral mask applicable to user stations to provide for all user stations, not just mobile stations, to attenuate their signals at least  $43 + 10 \log (P)$  dB at the channel edge and  $55 + 10 \log (P)$  at 5.5 MHz from the channel edges. In addition, because outdoor antennas pose a greater threat of interference, the Commission should require a cure within 24 hours of receipt of a documented interference complaint where an existing base station suffers interference from an outdoor user station and within 14 days where a new or newly-modified base station suffers such interference. Otherwise, where a user station that does not employ an outdoor antenna causes documented OOBE interference to a base station, both licensees should have an obligation to cooperate in good faith to reasonably mitigate the interference. Third, the Commission should revise Section 27.53(1) to reflect its long-standing policy for BRS/EBS and the Personal Communications Service that where two or more contiguous channels are utilized as part of the same system, all OOBE limitations are to be measured at the outermost edges of those contiguous channels. Lastly, the Commission should further revise Section 27.52(1) to afford all licensees that suffer documented interference, not just first adjacent channel licensees, standing to submit documented interference complaints.

To reflect its decision to harmonize the deadline for self-transitions with the deadline established for proponent-driven transitions, the Commission should modify Section 27.1236(b)(6) to require completion of any self-transition within 51 months of July 19, 2006.

To provide licensees with certainty regarding the boundaries of their geographic service areas (“GSAs”), the Commission should establish an appropriate methodology for determining the specific boundaries of exclusive GSAs. WCA urges the Commission to require the use of great ellipses, since taking into account the curvature of the Earth’s surface will avoid situations where territory either is unserved because no licensee believes it is within its exclusive GSA, or

is believed by each neighboring licensee to be within its exclusive GSA (leading to the sorts of interference issues that exclusive GSAs were intended to avoid).

Consistent with longstanding Commission precedent, the Commission should clarify Section 27.1214(c) to incorporate the Commission's policy of allowing EBS lease agreements to provide the lessee with the option of offering the EBS licensee/lessor either the actual equipment utilized on its channels or comparable equipment, upon termination of a lease.

The Commission should adopt special quantitative safe harbors to address those situations in which a licensee's GSA is either heavily encumbered by incumbent licensees or truncated through the "splitting the football" process to the point the licensee cannot reasonably be expected to meet the current safe harbors and still comply with the restrictions on signal level at the GSA border (Section 27.55(a)(4)) and height benchmarking requirements (Section 27.1221).

To comport with the Commission's mandate that every EBS licensee be provided with facilities in the Middle Band Segment ("MBS") that are substantially similar to the its pre transition facilities, the Commission should modify Section 27.55(a)(4)(iii) to provide that the  $-73 + 10\log(X/6)$  dBW/m<sup>2</sup> limit on signal strength at the GSA border is not applicable to MBS facilities provided to an EBS licensee by a proponent during the transition. This will avoid any ambiguity regarding the ability of EBS licensees to continue operating MBS facilities in accordance with pre-transition parameters, even if those facilities exceed the post-transition signal strength limit at the GSA boundary.

The Commission should reverse its decision barring certain BRS licensees from simultaneous operations in the 2150-2162 MHz band and the 2.5 GHz band. Dual operation on both bands during migration is absolutely essential, as the system operator will have to replace the 2.1 GHz band equipment at each subscriber location with 2.5 GHz band, and that process will have to occur location-by-location over time. Absent dual operation on both bands, consumer service would have to be disrupted during the migration process.

Finally, the Commission should make minor rule modifications to make clear that commercial EBS licensees are not subject to Section 27.1203(b)-(d), which impose special programming obligations on EBS licensees, or Section 27.1214, which restricts the flexibility otherwise afforded licensees under the *Secondary Markets* leasing policies.

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**PETITION FOR PARTIAL RECONSIDERATION**

The Wireless Communications Association International, Inc. (“WCA”), by its attorneys and pursuant to Section 1.429 of the Commission’s Rules, hereby petitions the Commission for partial reconsideration of the *Third Memorandum Opinion and Order and Second Report and Order* (the “2006 Order”) in the above-captioned proceeding.<sup>1</sup>

**I. THE HEIGHT BENCHMARKING RULE SHOULD BE CLARIFIED TO PROVIDE APPROPRIATE DEADLINES FOR COMPLIANCE.**

The Commission’s adoption in the *2004 BRS/EBS R&O*<sup>2</sup> of the height benchmarking concept originally proposed by WCA, the Catholic Television Network (“CTN”) and the National ITFS Association (“NIA”) reflects a recognition that affording licensees the flexibility to deploy Time Division Duplex (“TDD”) and Frequency Division Duplex (“FDD”) technologies anywhere in the 2.5 GHz band presents a risk of co-channel interference that is not present in other bands where only FDD is permitted and specific upstream and downstream

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<sup>1</sup> *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, Order on Reconsideration and Fifth Memorandum Opinion and Order and Third Memorandum Opinion and Order and Second Report and Order.*, FCC 06-46 (rel. April 27, 2006) [“2006 Order”].

<sup>2</sup> *See Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 14165 (2004) [“2004 BRS/EBS R&O”]

channels are designated. Although the height benchmarking concept now embodied in Section 27.1221 of the Rules was universally applauded, during reconsideration of the *2004 BRS/EBS R&O*, multiple proposals were advanced for minor modifications of Section 27.1221 to provide licensees with greater certainty as to their interference protection rights and obligations.<sup>3</sup> While there was disagreement among those filing as to the best approach to modifying Section 27.1221, there was no denying that some modifications were called for.

The *2006 Order*, however, does not address, much less adopt, any of the proposals for modifying the height benchmarking rule to provide licensees with the requisite certainty. Recognizing that a lack of consensus may have hindered the Commission's consideration of the various proposals, WCA convened discussions among those who had raised concerns in the hope of reaching consensus. That effort was successful, and thus WCA offers a revised proposal for modifying Section 27.1221 that is set forth in Appendix A.

The proposed modifications add much-needed deadlines by which licensees must act where it is documented that interference from a base station operating outside its height benchmark harms a base station operating within its height benchmark. Where the interferer is a new or newly-modified facility, it must bring its operations into compliance (either by modifying its facility to come within the height benchmark or otherwise limiting the receive signal level at the victim base station to no more than -107 dBm/5.5 MHz) within 24 hours of receiving a documented interference complaint. Where the interferer is an existing base station that causes harm to a new or newly-modified facility, it is afforded a longer period of time (90 days) to comply. As such, WCA's approach strikes an appropriate balance among the interests of all

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<sup>3</sup> See Petition of Nextel Communications for Partial Reconsideration, WT Docket No. 03-66, at 18 (filed Jan. 10, 2005) ["Nextel Petition"]; Opposition of Clearwire Corp. to Petitions for Reconsideration, WT Docket No. 03-66, at 6-8 (filed Feb. 22, 2005); Consolidated Reply of Wireless Communications Ass'n Int'l, Inc. to Petitions for Reconsideration, WT Docket No. 03-66, at 19-20 (filed Mar. 9, 2005).

involved, particularly those consumers served by existing facilities who might otherwise be forced to suffer an extended impairment of service.<sup>4</sup>

## II. THE RULES GOVERNING OUT-OF-BAND EMISSIONS REQUIRE FURTHER MODIFICATION.

### A. *THE COMMISSION SHOULD MODIFY THE DEADLINE BY WHICH A LICENSEE INTERFERING WITH AN EXISTING BASE STATION MUST COMPLY WITH THE MORE RESTRICTIVE SPECTRAL MASK.*

The *2006 Order* recognizes that the Commission must provide a deadline by which both the recipient of a documented complaint of interference due to out-of-band emissions (“OOBE”) and the complainant should be required to comport with the more restrictive spectral mask of  $67 + 10 \log(P)$  measured at 3 MHz and beyond within the other’s frequency block.<sup>5</sup> Although the 60 day period adopted in the *2006 Order* for licensees to comply with the more restrictive mask is appropriate under many circumstances, the Commission should require more rapid compliance in those cases where the documented interference is being suffered by an existing base station and the consumers it serves.<sup>6</sup>

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<sup>4</sup> Specifically, the disparity in deadlines for effectuating a cures is grounded in a belief that: (a) a new base station (without associated subscribers) can immediately cease operations to avoid interference to a pre-existing base station and its subscribers pending the development of a long-term engineering solution; and (b) a newly-modified base station (which may have existing subscribers) can quickly return to its prior, non-interfering configuration pending the development of a workable technical fix. On the other hand, an existing base station that causes interference to a new or modified base station should have a longer period of time to cure that interference since its existing subscribers would be harmed were it required immediately to cease transmissions or otherwise make significant changes to protect the newcomer.

<sup>5</sup> See *2006 Order* at ¶¶ 196-97.

<sup>6</sup> The logic behind WCA’s proposal is similar to that discussed above in connection with WCA’s proposed height benchmarking rule. An existing base station will presumably be serving subscribers that will suffer degraded service, or perhaps receive no service, until the newcomer modifies its facility to comport with the more restrictive spectral mask. While the victim in this case has strong equities in its favor, the newcomer does not. The newcomer either has no subscribers (in the case of a new base station that causes the documented interference) or can readily revert to its former configuration (in the case of a newly-modified base station that causes the documented interference). Where a new or newly-modified base station causes interference to an existing base station, the equities of the situation suggest an immediate cure is in order to assure that subscribers not suffer an impairment of service.

Thus, WCA suggests that the Commission revise Sections 27.53(l)(2) as set forth in Appendix A. These revisions require that a new or newly-modified base station causing OOBE interference to an existing base station meet the more restrictive spectral mask within 24 hours of receipt of a documented complaint, but in all other cases a licensee required to comply with that mask will continue to have 60 days to do so.

*B. THE LIMITATIONS ON USER STATION EMISSIONS SHOULD BE REVISITED.*

Consistent with the Coalition Proposal by WCA, NIA and CTN that commenced this proceeding, Section 27.53(l)(4) of the Rules provides that “[f]or mobile digital stations, the attenuation factor shall not be less than  $43 + 10 \log (P)$  dB at the channel edge and  $55 + 10 \log (P)$  at 5.5 MHz from the channel edges.”<sup>7</sup> However, this requirement should be applied to all user stations, not just those that are mobile.<sup>8</sup> There is no logical reason why mobile user stations should be subject to this requirement, and not other user stations.<sup>9</sup> Indeed, no party to this proceeding has ever presented a single cogent argument against requiring all user stations, not just mobile ones, to attenuate their emissions at least  $55 + 10 \log (P)$  measured 5.5 MHz from the appropriate band edge. Thus, on reconsideration the Commission should adopt the modification to Section 27.53(l)(4) set forth in Appendix A and require that all user stations meet the same spectral mask.

In the *2006 Order*, the Commission rejected proposals to impose more restrictive spectral masks on certain user stations in the absence of a documented interference complaint, and has

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<sup>7</sup> 47 C.F.R. § 27.53(l)(4); *see also* “First Supplement To ‘A Proposal For Revising The MDS And ITFS Regulatory Regime,’” RM-10586, at 2-3 (filed Nov. 14, 2002) [“First Supplement”].

<sup>8</sup> *See* First Supplement at 2-3.

<sup>9</sup> *See* Petition of the Wireless Communications Ass’n Int’l, Inc. for Partial Reconsideration, WT Docket No. 03-66, at 48-50 (filed Jan. 10, 2005) [“WCA Petition”]. Thus, the *2006 Order* is wrong when it states that “WCA also agrees that the spectral mask requirements which were adopted are adequate in most situations, except for certain types of antenna supporting structures.” *2006 Order* at ¶ 201. To the contrary, WCA has consistently called for the spectral mask for all user stations to require attenuation of not be less than  $43 + 10 \log (P)$  dB at the channel edge and  $55 + 10 \log (P)$  at 5.5 MHz from the channel edges.

required the preparation and submission of such complaints before a victim of OOBE interference can secure relief. WCA is not seeking reconsideration of that decision.<sup>10</sup> However, where a documented interference complaint establishes that a user station is causing OOBE interference to a base station, the Commission should have clear procedures in place to govern resolution. And, WCA believes that those rules should include special provisions for fixed user stations that utilize a transmission antenna that is affixed to the outside of a building or other non-antenna structure, or appurtenance thereto, or that is affixed to a tower, mast or other structure installed outdoors for the purpose of supporting an antenna. Because these user stations will use higher-gain antennas and tend to be higher above ground level, they pose a risk of interference that is not present with other user station configurations.

Thus, as is set forth in Appendix A, the Commission should revise Section 27.53(1)(4) to require a cure within 24 hours where an existing base station suffers interference from an outdoor user station and within 14 days where a new or newly-modified base station suffers such interference.<sup>11</sup> In addition, WCA proposes a revision to Section 27.53(1)(4) that in other cases of documented interference from a user station to a base station, both licensees have an obligation to cooperate in good faith to reasonably mitigate the interference. Adoption of WCA's proposed revisions to the rules will provide licensees with greater certainty, reduce the length of time that service to consumers is disrupted due to OOBE interference, and minimize the number of disputes that are presented to the Commission for resolution.

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<sup>10</sup> See *2006 Order* at ¶¶ 198-201.

<sup>11</sup> As with WCA's proposed rules for height benchmarking and OOBE interference among base stations, it is imperative that documented interference to existing base stations be resolved immediately. Because interference caused by a user station is more readily cured than that caused by a base station. The proposed deadlines can reasonably be met.

C. *SECTION 27.53(l) SHOULD BE REVISED TO CLARIFY THAT WHERE TWO OR MORE CONTIGUOUS CHANNELS ARE UTILIZED AS PART OF THE SAME SYSTEM, ALL OOBЕ LIMITATIONS ARE TO BE MEASURED AT THE OUTERMOST EDGES OF THOSE CONTIGUOUS CHANNELS.*

In the Coalition Proposal, WCA, NIA and CTN suggested that the Commission retain the provisions of then-current Section 21.908(a) of the Rules and allow all of the various OOBЕ requirements imposed on base stations and user stations to be measured at the outermost edges of the combined channels where two or more channels licensed to one or more licensees are used as part of the same system.<sup>12</sup> In the comments submitted in response to the *Notice of Proposed Rulemaking*, no one suggested the Commission should revise that approach for measuring OOBЕ. However, although the *2004 BRS/EBS R&O* did not discuss the issue (much less provide the requisite rational explanation for the Commission’s change in position),<sup>13</sup> the language of Section 27.53(l) adopted by that decision reversed course and applied the OOBЕ limits at the edge of each individual channel. On reconsideration, the Commission was again urged to adopt the WCA-NIA-CTN approach,<sup>14</sup> and although there was no opposition,<sup>14</sup> the *2006 Order* failed to substantively address the proposal.<sup>15</sup>

The Commission’s failure to adopt this element of the WCA-NIA-CTN Coalition Proposal is mystifying. Imposing the OOBЕ limits at the edge of each channel within a system provides no

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<sup>12</sup> See “A Proposal For Revising The MDS And ITFS Regulatory Regime,” Wireless Communications Ass’n Int’l, Inc., Nat’l ITFS Ass’n and Catholic Television Network, RM-10586, at 29 n.79, *citing* 47 C.F.R. § 21.908(a) (filed Oct. 7, 2002) [“Coalition Proposal”].

<sup>13</sup> See, e.g., *National Conservative Political Action Comm. v. Federal Election Comm’n*, 626 F.2d 953, 959 (D.C. Cir. 1980) (“Agencies are under an obligation to follow their own regulations, procedures, and precedents, or provide a rational explanation for their departures”); *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 852 (1970), *cert. denied*, 403 U.S. 923 (1971) (“An agency’s view of what is in the public interest may change.... But an agency changing its course must supply a reasoned analysis indicating that prior policies and standards are being deliberately changed, not casually ignored....” (citations omitted)).

<sup>14</sup> See Nextel Petition at 31; Opposition of Wireless Communications Ass’n Int’l, Inc., WT Docket No. 03-66, at 2 (filed Feb. 22, 2005) [“WCA Opposition”] (supporting grant of Nextel Petition regarding measurement of OOBЕ at boundary of contiguous channels utilized by a single system).

<sup>15</sup> See *2006 Order* at ¶¶ 200-201.

identifiable public interest benefits, but does reduce spectrum capacity, and ultimately increases the price of service to consumers. Applying spectral masks as proposed by WCA, NIA and CTN worked well for the BRS/EBS industry for years, and a similar approach is utilized with great success for broadband Personal Communications Services (“PCS”).<sup>16</sup> Thus, WCA again urges the Commission to address this issue and to revise Section 27.53(l) as proposed in Appendix A to clarify that where two or more contiguous channels are utilized as part of the same system, all OOBE limitations are to be measured at the outermost edges of those contiguous channels.

*D. ALL LICENSEES, NOT JUST FIRST ADJACENT CHANNEL LICENSEES, SHOULD HAVE STANDING TO SUBMIT DOCUMENTED INTERFERENCE COMPLAINTS UNDER SECTION 27.53(L).*

In its petition for reconsideration of the 2004 BRS/EBS R&O, WCA urged the Commission to adopt the proposal, initially advanced in the WCA-NIA-CTN Coalition Proposal, allowing the relief afforded by the dual spectral mask to be available to any licensee in the Lower Band Segment or the Upper Band Segment that has a geographic service area (“GSA”) overlapping the GSA of the source of the interference, regardless of whether the interferer is licensed to operate on the first channel adjacent to the victim.<sup>17</sup> The 2006 Order acknowledges the threat of interference WCA’s proposal was intended to address, stating “[w]e agree with WCA that out-of-band emissions may emanate from any licensee in the band.”<sup>18</sup> However, the Commission did not provide any licensee other than the first adjacent channel licensee with the right to serve a documented interference complaint, reasoning that “the level of interference that

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<sup>16</sup> See *Omnipoint Request for Broadband Declaratory Ruling Or Waiver Concerning PCS Emission Limits Rule Section 24.238*, Order, 15 FCC Rcd 13422 (2000) (allowing PCS licensees to meet spectral mask at outermost edges of co-owned adjacent channels), cited at Coalition Proposal at 29 n.79; Comments of WCA, NIA and CTN, WT Docket No. 03-66, at 51 n.94 (filed Sept. 8, 2003) [“Coalition NPRM Comments”].

<sup>17</sup> See WCA Petition at 44-45.

<sup>18</sup> 2006 Order at ¶ 195.

would be most severe and most likely to affect a licensee would be from adjacent channel operations.”<sup>19</sup>

While WCA recognizes that the potential for interference due to OOBE increases when the frequencies involved are immediately adjacent, the Commission’s refusal to afford all licensees standing to submit a documented interference complaint raises the specter of significant harmful interference in the band. The record in this proceeding is clear that because the rules permit TDD and FDD in the band and do not require synchronization of TDD operations, interference due to OOBE is a greater threat than in bands, like PCS and 1.7/2.1 GHz Advanced Wireless Service, where FDD is mandated and upstream and downstream channels are designated. As the Commission acknowledges, harmful interference can be caused by any licensee in the band with an overlapping GSA, with the extent of the risk dependent on the degree to which attenuation exceeds that minimally required by the rules, power levels, antenna gain and proximity of the facilities. The Commission’s decision to limit documented interference complaints to first adjacent channel licensees begs the question – when these technical parameters align to cause actual interference, why should the victim be precluded from submitting a documented interference complaint and securing appropriate relief? The *2006 Order* provides no answer, and WCA can think of none. Thus, WCA urges the Commission to revise Section 27.53(l) set forth in Appendix A to allow any licensee with an overlapping GSA to submit a documented interference complaint.

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<sup>19</sup> *Id.*

**III. THE COMMISSION SHOULD AMEND SECTION 27.1236(b)(6) TO CONFORM THE DEADLINE FOR SELF-TRANSITIONS TO THAT ESTABLISHED FOR PROONENT-DRIVEN TRANSITIONS AS CONTEMPLATED IN PARAGRAPH 143 OF THE 2006 ORDER.**

In allowing BRS and EBS licensees to self-transition, the Commission properly decided to “harmonize self-transitions with proponent-driven transitions, which if they followed the timeline prescribed in the rules, without any delays, would conclude 21 months after the Initiation Plans must be filed.”<sup>20</sup> The Commission thus concluded in Paragraph 143 of the *2006 Order* that BRS or EBS “licensees must complete the self-transition on or before 21 months after the Initiation Plans must be filed.”<sup>21</sup> Since Initiation Plans must be filed within 30 months of July 19, 2006 (the effective date of the new rules) per Section 27.1231(f), the deadline for completing both self-transitions and proponent-driven transitions should be October 20, 2010 – 51 months following the July 19, 2006 effective date.

However, the formal rule establishing the deadline for self-transitions – Section 27.1236(b)(6) – is not consistent with Paragraph 143. That Section provides that a BRS or EBS licensee must “[c]omplete the self-transition within 57 months of” the effective date of the rules (*i.e.* by April 19, 2011).<sup>22</sup> Thus, Section 27.1236(b)(6) provides for self-transitions to be completed six months after the deadline for completing proponent-driven transitions.

WCA believes that the reasoning in Paragraph 143 calling for conformed transition deadlines is sound and that the deadline for proponent-driven transitions and self-transitions

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<sup>20</sup> *Id.* at ¶ 143. Pursuant to Section 27.1231(f), Initiation Plans must be filed within 30 months of July 19, 2006. Further, Section 27.1232(b)(1)(vi) of the Commission’s Rules states that a proponent-driven transition must be complete within 18 months of the conclusion of the Transition Planning Period, unless the Transition Planning Period has been stayed pending dispute resolution. The Transition Planning Period “is a 90-day period that commences on the day after the proponent(s) files the Initiation Plan with the Commission.” 47 C.F.R. § 27.1232(a). Simply put, a proponent driven transition must be completed within 51 months of July 19, 2006, which is 21 months after the Initiation Plan is filed with the Commission, unless the Transition Planning Period has been stayed.

<sup>21</sup> *2006 Order* at ¶ 143 (citation omitted).

<sup>22</sup> *Id.* at Appendix A, § 27.1236(b)(6); 71 Fed. Reg. 35193 (June 19, 2006) (emphasis added).

should be harmonized “so that the 2.5 GHz band is transitioned in an orderly and timely manner.”<sup>23</sup> Therefore, the Commission should modify Section 27.1236(b)(6) of the newly adopted Rules, consistent with the discussion at Paragraph 143 of the *2006 Order*, to require BRS or EBS licensees to complete any self-transition within 51 months of July 19, 2006. A proposed edit of Section 27.1236(b)(6) is set forth in Appendix A.

**IV. TO PROVIDE LICENSEES WITH CERTAINTY REGARDING THEIR AUTHORIZED SERVICE AREA, THE COMMISSION SHOULD CLARIFY HOW GSA BOUNDARIES WILL BE ESTABLISHED.**

A critical component of the Coalition Proposal was elimination of overlapping protected service areas (“PSAs”) and affording every licensee an exclusive GSA.<sup>24</sup> While WCA is certainly pleased that the Commission has largely adopted the Coalition Proposal for establishing the new GSAs, it remains concerned that the Commission’s failure to specify a standard methodology for determining the specific boundaries of adjoining GSAs will lead to unnecessary uncertainty and disputes that ultimately will have to be resolved by the Commission. Although WCA urged the Commission to specify that great ellipses be used in drawing GSA boundaries,<sup>25</sup> and although that proposal was supported by Nextel Communications<sup>26</sup> and unopposed by any participant in the proceeding, the *2006 Order* denied WCA’s request, asserting that the Commission is “not convinced that WCA’s proposal is either necessary or beneficial.”<sup>27</sup>

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<sup>23</sup> *2006 Order* at ¶ 141.

<sup>24</sup> *See* Coalition Proposal at App. A.

<sup>25</sup> *See* WCA Petition at 52.

<sup>26</sup> *See* Nextel Petition at 19 (“When more than two licenses overlap, for example, any number of different means of dividing those areas among the licensees exists; the Commission’s rules should specify a method. In addition, the Commission does not appear to account for the curvature of the earth in its splitting-the-football method. Depending on the location and size of the geographic area, however, failing to account for earth curvature can result in significant differences in license territory.”).

<sup>27</sup> *2006 Order* at ¶ 208. The Commission also noted that WCA’s proposal “received minimal support from other petitioners.” *Id.* Of course, the Commission’s role is to adopt rules that best serve the public interest, not merely to count the votes of other parties to the proceeding. *See, e.g., FCC v. Nat’l Citizens Comm. for Broad.*, 436 U.S. 775,

The necessity for specifying a geographic projection for use in drawing GSA boundaries stems from a simple fact – the Earth is not flat. Thus, cartographers have developed a wide range of methods for projecting “straight” lines, such as those used to create GSA boundaries, onto the Earth. As a result, two licensees with overlapping PSAs could each “split the football” but, if each utilized a different methodology, come up with different boundaries. The result will be either to recreate the overlaps that the exclusive GSA was supposed to avoid, or to result in slivers of “no man’s land” that neither party views as within its service area. As WCA, NIA and CTN explained:

The generation of GSAs involves intersecting circles and lines that interconnect the intersections, and it is essential that those lines be great ellipses so the intersections can be correctly determined. If great ellipses are not employed, more than one intercept point will be obtained and areas assigned to neither GSA (no man's land) will result. Analyses have shown that if intersections are calculated based on straight lines, errors of up to 1 km were detected in many cases. The best accuracy is obtained considering the Earth as an ellipsoid and the ellipsoid calculations should be done according to “Map Projections- A working manual” by John P. Snyder of the US Geological Survey. The ellipsoid parameters should be the ones adopted by World Geodetic System 1984, (WGS 84), which is an earth fixed global reference frame, including an earth model. It is defined by the major (equatorial) radius,  $a$ , and the minor (polar) radius,  $b$ , from which the second-order parameters of flattening (or ellipticity),  $f$ , and the eccentricity,  $e$ , are derived, where  $f = [1-(b/a)]$  and  $e^2 = (2f - f^2)$ .<sup>28</sup>

ComSpec Corp. (“ComSpec”), an engineering consulting firm active in the BRS/EBS arena, confirmed the problem identified by WCA, NIA and CTN:

In establishing Rules to define such Geographic Service Areas by splitting the overlapping area between incumbent licensees, it is recognized that calculation of the actual physical location of the boundary splitting the circular areas could vary depending on the geographic projection used to determine the actual location of the circular boundary intersection points and corresponding bisecting line between those intersecting points. Our calculations have found that the location of the two points where the protected service area boundaries intersect could differ by as much as 11 km, depending

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793 (1978) (FCC authority under Sections 154(i) and 303(r) to adopt regulations “necessary in the execution of its functions” and “necessary to carry out the provisions of this Act” only requires that Commission regulations be based on consideration of permissible factors and be otherwise reasonable). In this case, it is certainly likely that most parties simply relied on the filing of their trade association, assuming the Commission would clarify what is clearly a problem.

<sup>28</sup> Coalition *NPRM* Comments at 58 n.115.

on which geographic projection is utilized to plot the original circular boundaries. For an extreme example, if the location of intersecting boundary points between two 56.3 km radius circular boundaries representing sample service area boundaries for two MDS stations located 50 miles apart is determined first using a flat-earth projection, then determined using the Alber's Equal Area Conic projection, the resulting two sets of intersecting points are located approximately 11 km apart (for our sample, we used points in North Carolina). The location of the same two points determined between other common projections is only approximately 2 km apart.<sup>29</sup>

Thus, ComSpec advised the Commission that “the approach recommended by WCA, NIA and CTN...provides an acceptable standard for calculating the GSA boundaries and should be adopted by the Commission.”<sup>30</sup> Similarly, CelPlan Technologies, Inc. (“CelPlan”), which creates and markets software extensively utilized within the BRS/EBS industry for system design and interference analysis, concluded that “[a]lthough seemingly a minor issue, clarification of the methodology for calculating [GSA] boundaries now will avoid the possibility of disputes in the future. The proposal advanced [by WCA, NIA and CTN] fully resolves CelPlan’s concern, and does so in a fair manner that can be easily implemented.”<sup>31</sup>

In short, the necessity for, and the benefits of, Commission specification of a methodology for drawing GSA boundaries are patent – it provides licensees with certainty as to their authorized service areas, avoids the creation of areas where neither licensee believes it is authorized to serve (to the detriment of consumers residing in those areas) and avoids disputes before the Commission where licensees each conclude they are authorized to serve a given area.

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<sup>29</sup> Comments of ComSpec Corp., WT Docket No. 03-66, at 2-3 (filed Sept. 8, 2003) [“ComSpec Comments”].

<sup>30</sup> Reply Comments of ComSpec Corp., WT Docket No. 03-66, at 2 (filed Oct. 22, 2003). *See also* ComSpec Comments at 2-3.

<sup>31</sup> Reply Comments of CelPlan Technologies, Inc., WT Docket No. 03-66, at 6 (filed Oct. 22, 2003).

**V. SECTION 27.1214(C) MUST BE MODIFIED TO REFLECT THE COMMISSION’S LONG-STANDING POLICY OF PERMITTING LESSEES TO MAKE COMPARABLE EQUIPMENT AVAILABLE UPON TERMINATION OF AN EBS LEASE.**

In their petition for reconsideration of the *2004 BRS/EBS R&O*, NIA and CTN urged the Commission to modify Section 27.1214(c) to incorporate the Commission’s prior policy of requiring EBS spectrum leases to include certain provisions assuring the ability of EBS licensee/lessors to acquire equipment upon termination of a leasing relationship, regardless of which party terminates.<sup>32</sup> The *2006 Order* agreed – Paragraph 272 of the *2006 Order* clarifies that the Commission’s intent with the *2004 BRS/EBS R&O* was to incorporate into Part 27 the policies that had historically addressed the issue, and the *2006 Order* purports to revise Section 27.1214(c) accordingly.

As presently written, however, Section 27.1214(c) fails to conform to the policies that had formerly governed the rights of EBS lessors with regard to the acquisition of equipment after termination of a lease. The current rule provides that every new EBS spectrum lease must afford the EBS licensee/lessor “an opportunity to purchase or lease [from its EBS channel lessee] dedicated or common EBS equipment used for educational purposes” once its channel lease has terminated.<sup>33</sup> Read literally, this could require the lessee to make available to the EBS licensee/lessor the actual equipment deployed by the lessee, including equipment shared among multiple licensees within a given system. Such a reading would be a dramatic departure from prior precedent.

The Commission has long understood that systems in the 2.5 GHz band will consist of spectrum cobbled together from multiple licensees, and that most of the equipment comprising

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<sup>32</sup> See Petition of the Catholic Television Network and the National ITFS Association for Reconsideration, WT Docket No. 03-66, at 20 (filed Jan. 10, 2005).

<sup>33</sup> 47 C.F.R. § 27.1214(c).

the system will not be devoted to a single licensee. Thus, the Commission has allowed lease agreements under which the lessee had the option of offering the EBS licensee/lessor either the actual equipment utilized to operate its equipment, or comparable equipment. For example, in the 1998 *Two-Way Order* where the Commission first extended its equipment policy to shared equipment, the Commission stated that “[each EBS lease must] contain a provision assuring the [EBS] licensee’s right to purchase the actual equipment, *or equipment comparable to that*, used by the [EBS] licensee during the lease for educational purposes.”<sup>34</sup> The Commission reasoned that “[b]y specifying that this obligation can be fulfilled by providing the right to purchase comparable equipment, we hope to ensure that service over the system is not disrupted when the...operator’s relationship with one licensee transmitting over shared equipment terminates, but the relationships with other licensees sharing the equipment do not.”<sup>35</sup> The Commission’s 2004 *BRS/EBS R&O* reasserts the same policy: “[T]he [EBS] licensee must retain some right to acquire the [EBS] transmission equipment, *or comparable equipment*, upon termination of the lease agreement.”<sup>36</sup>

Given the Commission’s clear intent to preserve its former approach to equipment upon termination of an EBS spectrum lease and the unassailable public interest benefits of the “comparable equipment” policy, WCA urges the Commission to provide clarity by including

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<sup>34</sup> *Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmission*, Report and Order, 13 FCC Rcd 19112, 19179 (1998) [*“Two-Way Order”*] (emphasis added). The Commission made the quoted statement in response to comments from the EBS community recommending that the Commission’s policy on purchase or lease of equipment at the end of a lease term “include [a] reference to dedicated and common equipment, *or the equivalent thereof*.” Comments of the Catholic Television Network, MM Docket No. 97-217, at 29 (filed Jan. 8, 1998) (emphasis added).

<sup>35</sup> *Two Way Order*, 13 FCC Rcd at 19179.

<sup>36</sup> 2004 *BRS/EBS R&O*, 19 FCC Rcd at 14234. More specifically, the Commission agreed with NIA/CTN’s comments in WT Docket No. 00-230, where NIA/CTN argued that “the substantive use requirements that have historically applied to [EBS] must remain in effect in the spectrum leasing context,” including the right of the EBS licensee to “acquire the [EBS] transmission equipment, *or comparable equipment*, upon termination of the lease agreement.” *Id. citing* Joint Comments of The National ITFS Association and the Catholic Television Network, WT Docket No. 00-230, at 4 (filed Dec. 5, 2003) (emphasis added).

“comparable equipment” option as set forth in the revisions to Section 27.1214(c) proposed in Appendix A hereto.

**VI. THE NEWLY-ADOPTED PERFORMANCE RULES REQUIRE MINOR CHANGES TO REFLECT THE UNIQUE CHARACTERISTICS OF BRS/EBS.**

*A. A NEW SAFE HARBOR SHOULD BE ADOPTED TO ADDRESS THOSE SITUATIONS WHERE GSAS ARE HIGHLY TRUNCATED.*

With the *2006 Order*, the Commission adopted new performance obligations for BRS and EBS licensees, requiring a demonstration of substantial service by May 1, 2011 on a license-by-license basis. Although WCA is not seeking reconsideration of the decision to evaluate compliance on a license-by-license base, WCA does urge the Commission to adopt special quantitative safe harbors to address those situations in which a licensee’s GSA is truncated to the point the licensee cannot reasonably be expected to meet the current safe harbors and still comply with the restrictions on signal level at the GSA border (Section 27.55(a)(4)) and height benchmarking requirements (Section 27.1221).

Licensees of both BRS basic trading area (“BTA”) authorizations and incumbent BRS/EBS stations are likely to face similar problems. With respect to BRS BTA authorizations, the problem was recognized by the Commission a decade ago when it first decided to issue BRS authorizations through competitive bidding. It was undisputed then that BRS was “a heavily encumbered service.”<sup>37</sup> Indeed, the Commission recognized that in most markets few channels would be available for the auction winner, that in the majority of the top markets no BRS channel at all remained available, and that the “fixed 35-mile protected service areas of [BRS]

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<sup>37</sup> See *Amendment of Parts 21 and 74 of the Commission’s Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, Report and Order, 10 FCC Rcd 9589, 9604 (1995) [“*MDS BTA Auction Order*”].

incumbents...occupy substantial portions of most BTAs....”<sup>38</sup> Because of the extent of such encumbrances, the Commission concluded that “a number of BTA service areas may be so encumbered that the winning bidder for such a BTA may be unable to file [an] application proposing another [BRS] station within the BTA while meeting the Commission’s interference standards as to all previously authorized or proposed [BRS] and [EBS] facilities.”<sup>39</sup> Nonetheless, the Commission recognized that there would be legitimate reasons for acquiring these heavily-encumbered BTA authorizations. Most notably, the Commission stated:

[W]e realize that a number of BTA service areas may be so encumbered that the winning bidder for such a BTA may be unable to file a long-form application proposing another MDS station within the BTA while meeting the Commission’s interference standards as to all previously authorized or proposed MDS and ITFS facilities. *The winning bidder’s objective in bidding on such a heavily encumbered BTA would likely be to purchase the previously authorized or proposed MDS stations within that BTA, and the bidder’s goal in obtaining the authorization for the BTA in which it already had MDS stations would similarly be to preserve full flexibility to make modifications.*<sup>40</sup>

The Commission concluded that “it is likely that in a substantial number of BTAs, it may be difficult, if not impossible, for an auction winner to locate a station anywhere in the BTA to provide both interference-free service and the necessary interference protection to protected areas of incumbents; unless either the auction winner is the incumbent...or would acquire the authorization of the incumbent.”<sup>41</sup>

Not surprisingly, then, the Commission ruled that a BTA authorization holder would be in compliance with the build-out requirement previously set forth in Section 21.930(c)(1) of the Rules if it demonstrated that it was serving an area that included two-thirds of the population of

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<sup>38</sup> *Id.*

<sup>39</sup> *Id.* at 9656.

<sup>40</sup> *Id.* (emphasis added).

<sup>41</sup> *Id.* at 9604 (citation omitted).

the cumulative area *within its control* in the licensed BTA. By including areas within the PSAs of incumbent stations within its control in the calculation, the Commission assured that there would be meaningful service within the BTA, while accommodating the licensees of BTAs that had little or no ability to serve under just the BTA license alone.<sup>42</sup>

As the Commission considered a substantial service test in this proceeding, WCA proposed to employ safe harbors on a system-by-system basis, an approach that would have addressed this problem.<sup>43</sup> Now that the Commission has decided to examine substantial service on a license-by-license basis instead, some accommodation must be made for those BTA authorizations that either provide access to no spectrum, or to so little spectrum that the license cannot reasonably be utilized consistent with the Commission's interference protection rules. WCA believes the solution is the same as that adopted a decade ago under the former BTA build-out rule – consider deployments within the BTA on all of the spectrum owned or leased by the BTA authorization holder or its lessee. Thus, as set forth in Appendix A, WCA proposes that where a BRS BTA authorization holder's GSA is less than one-half the size of the BTA on every BRS channel included in its BTA license, it be permitted to invoke a special safe harbor under which all of its or its lessee's deployments on BRS channels within the BTA will be considered.

A somewhat similar situation will occur where incumbent GSAs are so heavily truncated that it is not reasonable to expect compliance with the standard safe harbors. Many incumbent

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<sup>42</sup> *Id.* at 9613. The interpretation that incumbent stations can be considered in calculating compliance with the BTA build-out requirement is also supported by language in the Bidder Information Package distributed by the Commission prior to the Multipoint Distribution Service BTA auction. In describing the construction obligations imposed on auction winners, the Commission stated that “[a] BTA authorization holder has a five-year build-out period...*to expand service* or initiate new service within its BTA service area.” Bidder Information Package, Multipoint and/or Multichannel Distribution Service (MDS) Authorizations for Basic Trading Areas, November 13, 1995, at 45 (emphasis added). Since by definition only incumbent stations were offering services pre-auction that could be expanded post-auction, this language also supports the conclusion that incumbent stations can be included in the calculations.

<sup>43</sup> Comments of the Wireless Communications Ass'n Int'l, Inc. WT Docket No. 03-66, at 2-17 (filed Jan. 10, 2005); Coalition NPRM Comments at 86-94.

BRS and EBS stations had 35-mile radius circular PSAs that overlapped, leading to “no man’s land” where neither party could provide reliable service. The Coalition Proposal suggested that the Commission address this issue by splitting the overlap areas and providing each incumbent BRS and EBS licensee with an exclusive GSA, and the Commission agreed in the *2004 BRS/EBS R&O*.<sup>44</sup>

In most cases, even those GSAs that have been truncated by the “splitting the football” process are of sufficient size to expect licensees to comply with the new safe harbors. However, there are a limited number of situations (particularly among EBS stations that tended to be more closely-spaced than BRS stations) where the GSAs are so highly truncated that a licensee cannot be reasonably expected to comply with the restrictions on signal level at the GSA boundary, the height benchmarking rule and meet a quantitative safe harbor.

In most of these cases, WCA believes that the neighboring co-channel facilities are likely under common ownership or lease. Thus, as with encumbered BTAs, significant service can be provided in the licensee’s former PSA taken as a whole. WCA therefore proposes that an incumbent BRS or EBS licensee be deemed to have provided “substantial service” within its GSA in those situations where the GSA for all of its channels is less than 1924 square miles in size (*i.e.* is less than one half of a 35-mile radius circle) and the licensee satisfies one of the regular safe harbors in its former PSA (including areas that are within overlapping co-channel incumbent GSAs licensed to or leased by the licensee or its lessee).

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<sup>44</sup> See *2004 BRS/EBS R&O*, 19 FCC Rcd at 14192.

**VII. THE COMMISSION SHOULD MODIFY SECTION 27.55(a)(4)(iii) TO CONFORM TO THE COMMISSION'S POLICIES REGARDING THE PROPONENT'S OBLIGATION TO PROVIDE SUBSTANTIALLY SIMILAR MIDDLE BAND SEGMENT FACILITIES TO MIGRATING EBS LICENSEES.**

On reconsideration, the Commission should also amend Section 27.55(a)(4) to provide clarity regarding the interplay of the restriction on signal strength in the Middle Band Segment ("MBS") and the Commission's rules and policies governing the facilities provided to EBS licensees in connection with transitions to the new bandplan. Specifically, subsection (iii) of that Rule should be clarified to provide that the  $-73 + 10\log(X/6)$  dBW/m<sup>2</sup> limit on signal strength at the GSA border is not applicable to MBS facilities provided to an EBS licensee by a proponent during the transition to the new bandplan that otherwise comport with the Commission's mandate that an EBS licensee be provided with facilities in the MBS that are substantially similar to the licensee's pre-transition facilities.

A fundamental precept of the WCA-NIA-CTN Coalition Proposal was that a proponent required to migrate programming tracks of an EBS licensees to the MBS should have the flexibility to provide facilities that are substantially similar to those it was utilizing prior to the transition.<sup>45</sup> WCA, NIA and CTN recognized, however, that this philosophy could conflict with their proposal that, as a general matter, a MBS licensee be required to limit its signal strength to  $-73 + 10\log(X/6)$  dBW/m<sup>2</sup> at its GSA boundary. As they explained:

[I]t is recognized that stations that are operating today in compliance with the  $-73$  dBW/m<sup>2</sup> power flux density limit at their protected service area boundary may exceed that level at the GSA boundary when new GSA boundaries are drawn to reflect the elimination of overlaps. Although facilities in the non-MBS channels should be required to comply at their GSA boundary with the new signal strength restrictions imposed to limit co-channel interference as soon as transitioned

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<sup>45</sup> Of course, some deviations from the pre-transition facilities are inevitable. Safe Harbor #1 in Section 27.1232, which was initially proposed by WCA, NIA and CTN, sets forth certain deviations from pre-transition technical configurations that will always be considered reasonable if proposed in a transition plan. *See* Coalition Proposal, App. B at 21-22. In addition, other deviations may be necessary depending on the interference and operational environment in a given market and will be assessed on a case-by-case basis.

pursuant to Appendix B, in the MBS current signal levels should be grandfathered. More specifically, licensees of MBS channels that exceed the GSA boundary limit as of the New Bandplan Rules Effective Date should be permitted to continue operating and to make modifications that continue to exceed the new limit, so long as the modifications do not result in any increase in the grandfathered signal strength at any point outside the GSA.<sup>46</sup>

The Commission agreed with that approach, mandating in Paragraph 96 of the *2004 BRS/EBS R&O* that “[t]he proponent’s Transition Plan must provide for the MBS channels to be authorized to operate with transmission parameters that are substantially similar to those of the licensee’s current operation.”<sup>47</sup> Similarly, in Paragraph 108 of the *2004 BRS/EBS R&O*, the Commission agreed to “retain the -73 dBW/m<sup>2</sup> limit at the *PSA* boundaries for stations operating in the MBS”, not at the GSA boundary.<sup>48</sup> However, Section 27.55(a)(4)(iii), which establishes the signal limit for post-transition operations, does not provide for the grandfathering contemplated by these Paragraphs.<sup>49</sup> This could prove highly problematic for EBS licensees and proponents as the industry moves towards transitions, as compliance with the benchmark at the GSA boundary can require substantial decreases in transmitted power. Thus, the Commission should adopt the revisions to Section 27.55(a)(4)(iii) set forth in Appendix A to avoid any ambiguity regarding the ability of EBS licensees to continue operating MBS facilities in accordance with pre-transition parameters, even if those facilities exceed the post-transition signal strength limit at the GSA boundary.

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<sup>46</sup> *Id.* at 22.

<sup>47</sup> *2004 BRS/EBS R&O*, 19 FCC Rcd at 14206.

<sup>48</sup> *Id.* at 14209 (emphasis added).

<sup>49</sup> Of course, there is ample precedent for the Commission’s grandfathering decision. Most pertinently, when the Commission first imposed the -73 dBW/m<sup>2</sup> power flux density at *PSA* boundaries, it similarly grandfathered situations that did not comply with the new rule. *See MDS BTA Auction Order*, 10 FCC Rcd at 9618.

**VIII. THE COMMISSION MUST PERMIT RELOCATING 2.1 GHZ BRS LICENSEES TO OPERATE ON 2.1 GHZ AND 2.5 GHZ BAND SPECTRUM DURING MIGRATION.**

The Commission has made it clear in ET Docket No. 00-258 that the process of relocating BRS channels 1 and 2 out of the 2150-2162 MHz band should “minimize disruption to incumbent [BRS] operations used to provide service to customers....”<sup>50</sup> Yet, the *2006 Order* does exactly the opposite by prohibiting certain BRS licensees from using both the 2150-2162 MHz band and their replacement spectrum in the 2.5 GHz band before their relocation to the latter has been completed.<sup>51</sup> The Commission can and must reverse this decision.

The need for BRS licensees being relocated from the 2.1 GHz band to operate simultaneous facilities has long been a matter of record, so it is surprising that the Commission’s decision is relegated to a footnote devoid of even a cursory explanation.<sup>52</sup> It appears, however, that the Commission has incorrectly assumed that BRS operators will be able to simultaneously “flash cut” all of their subscribers from the 2150-2162 MHz band to the designated 2.5 GHz replacement spectrum. In fact, such a “flash cut” will be impossible – as a practical matter BRS will go from one subscriber location to the next, and at each location swap out 2.1 GHz band equipment for equipment designed to operate in the 2.5 GHz band. Concurrent operation in both the 2150-2162 MHz and the 2.5 GHz replacement spectrum thus is necessary to ensure the “seamless relocation” of BRS channels 1 and 2, as it will permit a BRS system to continue its

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<sup>50</sup> *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*, Ninth Report and Order and Order, FCC 06-45, at ¶ 11 (rel. Apr. 21, 2006).

<sup>51</sup> See *2006 Order* at ¶ 130, n.358 (“We clarify that licensees on BRS Channels No. 1 and 2 may operate on either 2150-2156 MHz or 2496-2500 pre-transition, but not on both bands.”). It is unclear whether the omission of the 2156-2162 MHz and 2686-2690 MHz bands from the quoted language was an oversight, and whether the prohibition thus applies equally to simultaneous operation on BRS channel 2.

<sup>52</sup> See, e.g., Comments of the Wireless Communications Ass’n Int’l, Inc., ET Docket No. 00-258, at 27, n.55 (filed Nov. 25, 2005) [“WCA Fifth NPRM Comments”]; Letter from Wireless Communications Ass’n Int’l, Inc. *et al.* to Chairman Michael K. Powell, Chairman, Federal Communications Commission, ET Docket No. 00-258, Appendix A at 2-3 (Apr. 7, 2004); Reply Comments of Wireless Communications Ass’n Int’l, Inc. ET Docket No. 00-258, at 33 n. 88 (filed March 9, 2001).

existing service to *all* its subscribers until they can be provisioned with the equipment necessary to operate in the replacement spectrum.<sup>53</sup>

Accordingly, WCA urges the Commission to reverse footnote 358 of the *2006 Order* and unequivocally declare that BRS operators may conduct simultaneous operations in the 2.1 GHz and 2.5 GHz bands until each and every one of their subscribers have been properly relocated to the 2.5 GHz replacement spectrum per the policies and procedures adopted for BRS relocation in ET Docket No. 00-258. To further clarify the process, 2.1 GHz band BRS licensees should be given immediate authority to operate in both the 2.1 GHz and 2.5 GHz bands pending completion of their relocation to the latter.<sup>54</sup>

**IX. THE COMMISSION SHOULD MODIFY SECTION 27.1201(d) TO CLARIFY THAT SECTIONS 27.1203 AND 27.1214 DO NOT APPLY TO GRANDFATHERED COMMERCIAL EBS STATIONS.**

Although the *2006 Order* eliminates the “wireless cable exception” under which commercial entities could become licensed to utilize EBS channels in underserved areas, the Commission has grandfathered existing commercial licensees.<sup>55</sup> That grandfathering is reflected in Section 27.1201 of the Rules.<sup>56</sup> While WCA does not seek reconsideration of the elimination of the exception, it does believe that minor rule modifications are necessary to reflect the special status of commercial EBS facilities.

Commercial EBS licensees authorized pursuant to the “wireless cable exception” have never been subject to the Commission’s special rules mandating the transmission of certain

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<sup>53</sup> See, e.g., *Amendment of Part 90 of the Commission’s Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band*, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rule Making, 11 FCC Rcd 1463, 1510 (1995) (“[A]ny relocation of an incumbent must be conducted in such a fashion that there is a ‘seamless’ transition from the incumbent’s ‘old’ frequency to its ‘relocated’ frequency (that is, there is no significant disruption in the incumbent’s operations).”).

<sup>54</sup> See WCA Fifth NPRM Comments at 27 n.55.

<sup>55</sup> See *2006 Order* at ¶ 366.

<sup>56</sup> See 47 C.F.R. §27.1201(d).

quantities of educational programming and restricting the leasing of EBS spectrum. Because the *2006 Order* continues to regulate commercial EBS facilities under the EBS rules,<sup>57</sup> the Commission should make clear that commercial EBS licensees are not subject to Section 27.1203(b)-(d) (which impose special programming obligations on EBS licensees) or Section 27.1214 (which restricts the flexibility otherwise afforded licensees under the *Secondary Markets* leasing policies). A proposed revision to Section 27.1201(d) is set forth in Appendix A.

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Once again, WCA applauds the Commission and its staff for the effort that went into both the *2004 BRS/EBS R&O* and the *2006 Order*. With adoption of the rule changes proposed herein, the Commission will have succeeded in dismantling the broadcast model regulatory scheme that for so long plagued the 2.5 GHz band and establishing a model that will promote the deployment of a wide variety of innovative service offerings.

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<sup>57</sup> See *2006 Order* at ¶ 365 (“Should a commercial EBS licensee forfeit its license, the spectrum reverts to EBS white space. Thus, the facilities of commercial EBS licensees remain EBS facilities and not BRS facilities.”).

1. Amend Section 27.14(e)(1) by adding new subsections (iii) and (iv), renumbering current subsections (iii), (iv) and (v) and (v), (vi) and (vii) and amend Section 27.14(e)(1)(v)(A) and (B) to read as follows:

**§27.14 Construction requirements; Criteria for comparative renewal proceedings.**

\* \* \* \* \*

(e) \* \* \*

(1) \* . \* . \*

\* \* \* \* \*

(iii) Satisfying paragraph (1)(i) or (1)(ii) within an incumbent BRS or EBS licensee’s former protected service area under former Parts 21 and 74 on January 9, 2005 (including areas that are within overlapping co-channel incumbent geographic service areas licensed to or leased by the licensee or its lessee) in those situations where the geographic service area for every channel of an incumbent BRS or EBS license calculated in accordance with §27.1206(a)(1) is less than 1924 square miles in size.

(iv) Satisfying paragraph (1)(i) or (1)(ii) within the entire BTA or BTA-like area (including areas within overlapping co-channel incumbent geographic service areas licensed to or leased by the holder of the BRS BTA authorization or its lessee) in those situations here the geographic service area of a BRS BTA authorization calculated in accordance with §27.1206(a)(2) is less than one-half of the size of the BTA or BTA-like area for every channel as a result of overlapping co-channel incumbent geographic service areas.

(v) \* \* \*

(A) for mobile or fixed point-to-multipoint services, where coverage is provided to at least 75% of the geographic area of at least 30% of the rural areas within its service area; or

(B) for fixed point-to-point service, where the BRS or EBS licensee has constructed at least one end of a permanent link in at least 30% of the rural areas within its licensed area.

2. Amend Section 27.53(1) by replacing the introductory paragraph and subsections (2) and (4) as follows:

**§27.53 Emission limits.**

\* \* \* \* \*

(1) For BRS and EBS stations, the power of any emissions outside the licensee’s frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts in accordance with the standards below.

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(2) For digital base stations, the attenuation shall be not less than  $43 + 10 \log (P)$  dB, unless a documented interference complaint is received from a licensee with an overlapping Geographic Service Area. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS1 on the same terms and conditions as adjacent channel BRS or EBS licensees. Provided that a documented interference complaint cannot be mutually resolved between the parties prior to the applicable deadline, then the following additional attenuation requirements shall apply:

(i) If a pre-existing base station suffers harmful interference from emissions caused by a new or modified base station located 1.5 km or more away, within 24 hours of the receipt of a documented interference complaint the licensee of the new or modified base station must attenuate its emissions by at least  $67 + 10 \log (P)$  dB measured at 3 MHz and beyond inside the frequency block of the complaining licensee and shall immediately notify the complaining licensee upon implementation of the additional attenuation. No later than 60 days after the implementation of such additional attenuation, the licensee of the complaining base station must attenuate its base station emissions by at least  $67 + 10 \log (P)$  dB measured at 3 MHz and beyond within the frequency block of the new or modified base station.

(ii) If a pre-existing base station suffers harmful interference from emissions caused by a new or modified base station located less than 1.5 km away, within 24 hours of receipt of a documented interference complaint the licensee of the new or modified base station must attenuate its emissions by at least  $67 + 10 \log (P) - 20 \log (D_{km}/1.5)$  measured at 3 MHz and beyond inside the frequency block of the complaining licensee, or if both base stations are colocated, limit its undesired signal level at the pre-existing base station receiver(s) to no more than -107 dBm measured in a 5.5 MHz bandwidth and shall immediately notify the complaining licensee upon such reduction in the undesired signal level. No later than 60 days after such reduction in the undesired signal level, the complaining licensee must attenuate its base station emissions by at least  $67 + 10 \log (P)$  dB measured at 3 MHz and beyond within the frequency block of the new or modified base station.

(iii) If a new or modified base station suffers harmful interference from emissions caused by a pre-existing base station located 1.5 km or more away, within 60 days of receipt of a documented interference complaint the licensee of each base station must attenuate its base station emissions by at least  $67 + 10 \log (P)$  dB measured at 3 MHz and beyond inside the frequency block of the other licensee.

(iv) If a new or modified base station suffers harmful interference from emissions caused by a pre-existing base station located less than 1.5 km away, within 60 days of receipt of a documented interference complaint: (a) the licensee of the new or modified base station must attenuate its OOB by at least  $67 + 10 \log (P) - 20 \log (D_{km}/1.5)$

measured 3 MHz and beyond inside the frequency block of the other licensee, or if the base stations are colocated, limit its undesired signal level at the other base station receiver(s) to no more than -107 dBm measured in a 5.5 MHz bandwidth; and (b) the complaining licensee must attenuate its emissions by at least  $67 + 10 \log (P)$  measured at 3 MHz and beyond inside the frequency block of the new or modified base station.

\* \* \* \* \*

(4) For all user stations, the attenuation factor shall be not less than  $43 + 10 \log (P)$  dB at the edge of a system's contiguous channels and  $55 + 10 \log (P)$  dB at 5.5 MHz outside the edge of a system's contiguous channels, unless a documented interference complaint is received from a licensee with an overlapping Geographic Service Area. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS1 on the same terms and conditions as adjacent channel BRS or EBS licensees. Provided that a documented interference complaint cannot be mutually resolved between the parties by the applicable deadline, then the following additional requirements shall apply:

(i) If a pre-existing base station suffers harmful interference from emissions caused by a user station via an antenna that is either (i) affixed to the outside of a building or other non-antenna structure, or appurtenance thereto, or (ii) affixed to a tower, mast or other structure installed outdoors for the purpose of supporting antennas, within 24 hours of receipt of a documented interference complaint the licensee of the CPE must cure the interference.

(ii) If a new or modified base station suffers harmful interference from emissions caused by a user station transmitting via an antenna that is either (i) affixed to the outside of a building or other non-antenna structure, or appurtenance thereto, or (ii) affixed to a tower, mast or other structure installed outdoors for the purpose of supporting antennas, within 14 days of receipt of a documented interference complaint the licensee of the CPE must cure the interference.

(iii) In all other cases where a documented interference complaint by the licensee of an overlapping Geographic Service Area establishes that a base station suffers harmful interference from emissions caused by a user station, the licensees shall cooperate in good faith to reasonably mitigate the interference.

3. Amend Section 27.55(a)(4)(iii) as follows:

**§27.55 Signal strength limits.**

\* \* \* \* \*

(a) \* \* \*

(4) \* \* \*

(iii) Following transition, for stations in the MBS, the signal strength at any point along the licensee’s GSA boundary must not exceed the greater of (a)  $-73.0 + 10\log(X/6)$  dBW/m<sup>2</sup>, where X is the bandwidth in MHz of the channel, or (b) the signal strength at such point that resulted from the station’s operations immediately prior to the transition, provided that such operations comported with § 27.55(a)(4)(i).

4. Amend Section 27.1214 to read as follows:

**§ 27.1201 EBS Eligibility.**

\* \* \* \* \*

(d) This paragraph applies to EBS licensees and applications licensed or filed pursuant to the provisions of former §§ 27.1201(c) or 74.990 through 74.992 of this Chapter, and that do not meet the eligibility requirements of paragraph (a) of this section. Such licensees may continue to operate pursuant to the terms of their existing licenses, and their licenses may be renewed, assigned, or transferred, so long as the licensee is otherwise in compliance with this Chapter. Applications filed pursuant to the provisions of former §§ 27.1201(c) or 74.990 through 74.992 of this Chapter may be processed and granted, so long as such applications were filed prior July 19, 2006. The provisions of §§ 27.1203(b)-(d) and 27.1214 do not apply to licenses governed by this paragraph (d).

5. Amend Section 27.1214 to read as follows:

**§ 27.1214 EBS spectrum leasing arrangements and grandfathered leases.**

\* \* \* \* \*

(c) All spectrum leasing arrangements involving EBS spectrum must afford the EBS licensee an opportunity to purchase or to lease the dedicated or common EBS equipment used for educational purposes, or equipment comparable thereto, in the event that the spectrum leasing arrangement is terminated.

6. Amend Section 27.1221 by replacing subsections (b), (c), (d) and (e) and adding a new subsection (f) as follows:

**§27.1221 Interference Protection.**

\* \* \* \* \*

(b) Height Benchmarking. Height benchmarking is defined for pairs of base stations, one in each of two neighboring geographic service areas (GSAs). The height

benchmark for a particular station in a service area relative to a base station in an adjacent service area is based upon the distance-squared between the station and the GSA service area boundary measured along the radial between the respective stations, divided by 17. That is, the height benchmark is based upon  $h^b = D^2/17$ . A base station antenna will be considered to be within its applicable height benchmark relative to another base station if the height of its centerline of radiation above average elevation (HAAE) calculated along the straight line between the two base stations in accordance with Sections 24.53(b) and (c) of this chapter does not exceed the height benchmark ( $h_b$ ). A base station antenna will be considered to exceed its applicable height benchmark relative to another base station if the HAAE of its centerline of radiation calculated along the straight line between the two base stations in accordance with Sections 24.53(b) and (c) of this chapter exceeds the height benchmark ( $h_b$ ).

(c) *Protection for Receiving Antennas Not Exceeding the Height Benchmark.* Absent agreement between the two licensees to the contrary, if a transmitting antenna of one BRS/EBS licensee's base station exceeds its applicable height benchmark and such licensee is notified by another BRS/EBS licensee that it is generating an undesired signal level in excess of -107 dBm/5.5 MHz at a receive antenna of a co-channel base station that is within its applicable height benchmark, then the licensee of the base station that exceeds its applicable height benchmark shall either limit the undesired signal at the receiving base station to -107dBm/5.5 MHz or less or reduce the height of its transmission antenna to no more than the height benchmark. Such corrective action shall be completed no later than:

(i) 24 hours after receiving such notification, if the base station that exceeds its height benchmark commenced operations after the station that is within its applicable height benchmark; or

(ii) 90 days after receiving such notification, if the base station that exceeds its height commenced operations prior to the station that is within its applicable height benchmark.

For purposes of this section, if the interfering base station has been modified to increase the EIRP transmitted in the direction of the victim base station, it shall be deemed to have commenced operations on the date of such modification.

(d) *No Protection from a Transmitting Antenna not Exceeding the Height Benchmark.* The licensee of a base station transmitting antenna that does not exceed its applicable height benchmark shall not be required pursuant to subsection (c) above to limit that antennas undesired signal level to -107dBm/5.5 MHz or less at the receive antenna of any co-channel base station.

(e) *No Protection for a Receiving-Antenna Exceeding the Height Benchmark.* The licensee of a base station receive antenna that exceeds its applicable height benchmark shall not be entitled pursuant to subsection (c) above to insist that any co-channel base station limit its undesired signal level to -107dBm/5.5 MHz or less at such receive antenna.

(f) *Information Exchange.* A BRS/EBS licensee shall provide the geographic coordinates, the height above ground level of the center of radiation for each transmit and

receive antenna, and the date transmissions commenced for each of the base stations in its GSA within 30 days of receipt of a request from a co-channel BRS/EBS licensee with an operational base station located in an adjacent GSA. Information shared pursuant to this section shall not be disclosed to other parties except as required to ensure compliance with this section.

7. Amend Section 27.1236(b) by replacing subsections (6) as follows:

**§27.1236 Self-transitions.**

\* \* \* \* \*

(b) \* \* \*

(6) Complete the self-transition within 51 months of July 19, 2006.