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August 24, 2004

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: *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* – WT Docket No. 03-66 -- **NOTICE OF EX PARTE PRESENTATION**

Dear Ms. Dortch:

Yesterday, I met on behalf of the Wireless Communications Association International, Inc. ("WCA") with John Schauble, Peter A. Corea, Nancy Zaczek, Gregory Vadas and Henry Allen of the Wireless Telecommunications Bureau's Broadband Division regarding the *Report and Order* ("R&O") in the referenced proceeding.

Specifically, WCA raised concerns regarding several of the new rules that are scheduled to go into effect thirty days following publication of a summary of the *R&O* in the *Federal Register*. WCA suggested that a Commission *Erratum* would be an appropriate vehicle for modifying these rules before they become effective so as to reflect the intent behind the *R&O* and avoid unintended adverse consequences. The attached handout, which identifies the specific issues addressed by WCA and includes proposed rule revisions, was distributed to the participants.

Pursuant to Section 1.1206(b)(2), this notice is being filed electronically with the Commission via the Electronic Comment Filing System for inclusion in the public record of the above-reference proceeding. Should you have any questions regarding this summary,

Marlene H. Dortch
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please contact the undersigned.

Respectfully submitted,

/s/ Paul J. Sinderbrand

Paul J. Sinderbrand

Counsel to the Wireless Communications
Association International, Inc.

Attachment

cc: John Schauble
Peter Corea
Nancy Zaczek
Gregory Vadas
Henry Allen

ISSUES FOR POSSIBLE RESOLUTION THROUGH ERRATUM

- The *R&O* migrates all BRS/EBS licensees to a geographic scheme immediately upon the effective date of the rules, rather than on a market-by-market basis after a transition.¹ Thus, following the effective date licensee will be free to add new facilities and modify existing facilities, so long as they comport with new technical rules designed to afford protection against interference. However, the new rules establishing power limits (§27.50(h)), emission limits (§27.53(l) and service area signal strength limits (§27.55(a)(4)) generally are written in terms of limits for the LBS/UBS and the MBS.² Thus, since the LBS, UBS and MBS are not created until a transition occurs, a literal reading of the rules could suggest that no power limits, emission limits and service area signal strength limits apply during the pre-transition phase of geographic licensing. To avoid any ambiguity, Sections 27.50(h), 27.53(l) and 27.55(1)(4) should be revised to provide clear technical limitations to be applied prior to transition. Proposed revisions, which are largely based on the existing rules and are designed to assure that existing operations are not thrown into non-compliance during the pre-transition period that commences on the effective date of the new rules, are attached.³
- Currently deployed equipment does not necessarily comply with the new spectral masks (which the Coalition had intended would only apply post-transition). More specifically, as discussed below, digital video systems that are currently deployed do not comport with the spectral mask adopted for LBS/UBS digital data operations. Nor do many first generation data systems, which often operate utilizing modified versions of digital video transmission technology. The Coalition Proposal had called

¹ See *R&O* at ¶¶54-58

² More specifically, with respect to Section 27.55(a)(4) the limits on service area boundary signal strength are only applicable to the LBS/UBS (subsection (i)) and to the MBS (subsection (ii)), implying that they are only applicable post-transition. There are no specified limits on signal strength designated for the pre-transition period, before the LBS, MBS and UBS are created. Similarly, the power limits contained in Section 27.50(h)(1) only apply to the LBS and UBS and those in Section 27.50 (h)(2) only apply to the MBS. The new rules do not impose any limit on the power levels of new or modified facilities constructed pursuant to geographic licensing prior to transition. The situation with emission masks is slightly more complicated. Section 27.53(l)(1) establishes the limit for analog operations in the MBS, and tracks current Section 74.936(c) of the Rules relating to analog transmissions on a single channel. Thus, it is consistent with the Coalition Proposal for retaining the current rule as the post-transition limit and should not result in any problem for existing analog operations. However, Section 27.53(l)(1) is by its terms limited to the MBS, and there is no emission limit that applies to pre-transition analog operations (or post-transition analog operations outside the MBS by MVPDs that secure an opt-out/waiver). Moreover, the *R&O* does not retain the current rule restricting emissions by digital stations. Instead, Sections 27.53(l)(2) and (3) subject all existing digital main stations and non-mobile CPE to the same $43+10\log(P)/67+10\log(P)$ dual mask imposed on LBS and UBS base stations and subject all existing mobile digital CPE to the $43+10\log(P)/55+10\log(P)$ mask imposed on mobile digital stations.

³ In addition, the proposed edits to Section 27.50 eliminate the term “response station” which is an obsolete holdover from Parts 21 and 74 and eliminate the unnecessary confusion caused by specification of one power limit in watts and the other in dBW. Since dBW has long been utilized for MDS/ITFS regulation, it is retained. See 47 C.F.R. §§ 21.904, 74.935 (2003).

for a grandfathering of all deployed operations until transition, at which time the new spectral masks would become applicable for the LBS/UBS.⁴ Although the Commission decided to move to geographic licensing and the new technical prior to transition, it did not grandfather existing operations. The attached revised rules provide for a grandfathering of existing deployments until transition.

- As noted above, Section 27.55 (a)(4) does not provide a specific signal strength limit to be met at the GSA boundary prior to transition to the new bandplan. To avoid throwing existing operations into non-compliance, the Commission should make clear, similar to what it has done before,⁵ that until transition a licensee may add new facilities or modify existing facilities, so long as the cumulative signal strength at any point along its GSA boundary does not exceed the greater of that permitted under its Commission authorizations as of the effective date of the new rules or 47 dB [μ] V/m.
- Section 27.55(a)(4)(ii) limits the boundary signal strength on MBS channels to -73 dBW/m². However, the new rule does not retain the provisions of the current rules that adjust the maximum signal strength at the service area boundary when bandwidths of other than 6 MHz are utilized.⁶ Retention of that adjustment factor was suggested by Coalition Proposal.⁷ And, Paragraph 108 of the *R&O* makes clear that the Commission intended to retain the existing rule, which includes the adjustment factor. Particularly given the increased flexibility afforded MBS licensees by the *R&O* to engage in services other than video, the prospects for licensees to deploy services in the MBS using bandwidths other than 6 MHz has increased. Thus, to implement the intent of Paragraph 108 to retain the existing rule, Section 27.55(a)(4)(ii) should be revised as proposed in the attached to reinstate the current adjustment factor.
- Similarly, in establishing the power limit for LBS/UBS base stations, Section 27.50(h) fails to provide for adjustments to reflect bandwidths of less than a full channel and beamwidths of less than 360°, although such adjustments are provided for in the subsection addressing MBS facilities. This is a departure from the current

⁴ In the case of digital video operations, it was contemplated that operations would shift to the MBS and, as discussed below, that the existing digital video mask would continue to apply. In the case of digital data operations that might be in the LBS/UBS, the applicability of the new mask was not believed unduly problematic because transition would afford licensees contiguous channels (rather than interleaved spectrum) and thus any guardband a licensee had to contribute to meet the new mask would not impose a significant penalty.

⁵ See Coalition Proposal at 22, citing *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 Fixed Television Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, 10 FCC Rcd 9589, 9618 (1995); Coalition Proposal at 38.

⁶ See, e.g. 47 C.F.R. §§ 21.902(b)(7)(i), 21.913(b)(2), 21.909(d)(iii), 74.903(a)(6)9i), 74.939(d)(2)(iii), 74.985(b)(4) (2003).

⁷ See Coalition Proposal at 38.

rules,⁸ and from the Coalition's proposal that the existing power limits on stations other than CPE remain intact.⁹ It appears that the failure to include adjustments in Section 27.50(h) (1) may have been inadvertent, as there is no explanation in the *R&O* for not retaining the adjustments, no reason is apparent as to why the Commission would adopt adjustments for the MBS but not the LBS/UBS and, indeed, it is more likely that facilities outside the MBS will use a variety of bandwidths and beamwidths. Thus, the Commission should revise Section 27.50(h) to provide for adjustments in the maximum power level (specified in dBW) to reflect bandwidths of other than 6 MHz and beamwidths of less than 360°.

- Section 27.53 establishes the emission limits that will be imposed following the effective date of the new rules. However, the Commission does not adopt a specific rule limiting emissions by stations using digital modulation for the transmission of video programming. Instead, Section 27.53(1)(2) subjects all existing digital main stations, regardless of whether they are designed to transmit data or video and regardless of whether they are in the LBS/UBS or the MBS, to the $43+10\log(P)/67+10\log(P)$ dual mask the Coalition had proposed for LBS/UBS base stations. This is problematic for digital video systems, which are operating pre-transition across the entire band and will often continue to operate in the MBS post-transition. The current mask for a digital video transmitter, which is set forth in Section 21.908(a), specifies that “[t]he maximum out-of-band power of an MDS station transmitter . . . with an EIRP in excess of -9 dBW . . . employing digital modulation shall be attenuated at the 6 MHz channel edges at least 25 dB relative to the licensed average 6 MHz channel power level, then attenuated along a linear slope to at least 40 dB at 250 kHz beyond the nearest channel edge, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower licensed channel edges, and attenuated at least 60 dB at all other frequencies.” Digital video transmitters that have been deployed have been designed to this specification and generally do not comport with the $43+10\log(P)/67+10\log(P)$ dual mask that was proposed by the Coalition for the LBS/UBS. This is why the Coalition Proposal, at page 39, proposed retention of the current digital video mask. The revisions set forth in the attachment provide for continued application of the existing digital video mask.
- Section 27.1221 of the new rules essentially adopts the Coalition Proposal relating to cochannel antenna height safe harbors, now called “height benchmarking.” However, the Coalition Proposal had called for heights to be measured based on the height above average elevation along the straight line between the two base stations in issue. This was reflected in the Coalition's Second Supplement, which first proposed the technique and at page 47 of the Coalition's Comments. Paragraph 121 of the *R&O* correctly reflects that the Coalition Proposal was based on a height above average elevation calculation and there is no indication within the *R&O* that the Commission intended to alter that proposal. However, the text of new Section 27.1221 calls for

⁸ See, e.g. 47 C.F.R. §§ 21.904(a),(b), 74.935(a),(b) (2003).

⁹ See Coalition Proposal, at 25; WCA April 27, 2004 Ex Parte Letter, at 3.

measurements based on height above average terrain (“HAAT”). Unlike the approach taken by the Coalition, which looks at the terrain along the one radial that runs between the two base stations in issue, HAAT requires the averaging of the eight radial average terrain elevations along the cardinal radials.¹⁰ WCA’s Engineering Committee had considered use of HAAT, but rejected that approach because the consideration of terrain that was not directly between the two base stations at issue introduced inappropriate results. To reflect the Commission’s intention of adopting the Coalition’s proposal on this issue, Section 27.1221 should be amended as suggested in the attachment.

- Although Paragraph 180 of the *R&O* and Section 27.1214 of the new rules specifically grandfather existing ITFS excess capacity leases, there is no discussion whatsoever of the status of existing MDS capacity leases. This was presumably an oversight, as MDS licensees have engaged in leasing since 1987,¹¹ Paragraph 308 of the *Report and Order and Further Notice of Proposed Rulemaking* in the Secondary Markets proceeding (WT Docket No. 00-230) acknowledged MDS leasing, and comments were filed proposing grandfathering of existing leases.¹² To avoid any confusion regarding the status of these MDS leases, a new Section 27.1215 should be adopted, modeled on the EBS grandfathering rule of Section 27.1214(d), to provide for grandfathering of BRS leases.

¹⁰ See 47 C.F.R. § 24.53(d).

¹¹ Until 1987, MDS licensees were required to provide a transmission service to unaffiliated parties on a common carrier basis. In its *Report and Order* in CC Docket No. 86-179, the Commission authorized MDS licensees to provide service either on a common carrier basis or through non-common carrier contractual agreements (*i.e.* spectrum leases). See *Revision to Part 21 of the Commission’s Rules Regarding the Multipoint Distribution Service*, 2 FCC Rcd 4251 (1987).

¹² WCA and Sprint Corporation had specifically called for grandfathering of existing MDS, as well as ITFS leases, in its Comments in response to the *Further Notice of Proposed Rulemaking* in WT Docket No. 00-230. See WCA Comments, WT Docket No. 00-230, at 3 (filed Dec. 5, 2003); Sprint Comments, WT Docket No. 00-230, at 5-6 (filed Dec. 5, 2003)

Proposed Rule Revisions

1. Section 27.50(h) should be revised to read as follows:

§ 27.50 Power limits.

* * * * *

(h) The following power limits shall apply in the BRS and EBS:

(1) *Main, booster and base stations*

(i) The maximum EIRP of a main, booster or base station shall not exceed 33 dBW + 10log(X/Y) dBW, where X is the actual channel width in MHz and Y is either (i) 6 MHz if prior to transition or the station is in the MBS following transition or (ii) 5.5 MHz if the station is in the LBS and UBS following transition, except as provided in subparagraph (ii) of this section.

(ii) If a main, booster or base station sectorizes or otherwise uses one or more transmitting antennas with a non-omnidirectional horizontal plane radiation pattern, the maximum EIRP in dBW in a given direction shall be determined by the following formula:

$EIRP = 33 \text{ dBW} + 10 \log(X/Y) \text{ dBW} + 10 \log(360/\text{beamwidth}) \text{ dBW}$, where X is the actual channel width in MHz, Y is either (i) 6 MHz if prior to transition or the station is in the MBS following transition or (ii) 5.5 MHz if the station is in the LBS and UBS following transition, and beamwidth is the total horizontal plane beamwidth of the individual transmitting antenna for the station or any sector measured at the half-power points.

(2) *Mobile and other user stations.* Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

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2. Section 27.53 is revised as follows:

§ 27.53 Emission limits.

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(l) 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.

(1) Prior to transition and thereafter solely within the MBS, for analog operations with an EIRP in excess of -9 dBW, the signal shall be attenuated at the channel edges by at least 38 dB relative to the peak visual carrier, then linearly sloping from that level to at least 60 dB of attenuation at 1 MHz below the lower band edge and 0.5 MHz above the upper band edge, and attenuated at least 60 dB at all other frequencies.

(2) For fixed and temporary fixed digital stations, the attenuation shall be not less than $43 + 10 \log (P)$ dB, unless a documented interference complaint is received from an adjacent channel licensee. Provided that the complaint cannot be mutually resolved between the parties, both licensees of existing and new systems shall reduce their out-of-band emissions by at least $67 + 10 \log (P)$ dB measured at 3 MHz from their channel's edges for distances between stations exceeding 1.5 km. For stations separated by less than 1.5 km, the new licensee shall reduce attenuation at least $67 + 10 \log (P) - 20 \log(D_{km}/1.5)$, or when colocated, limit the undesired signal level at the affected licensee's base station receiver(s) at the collocation site to no more than -107 dBm. Mobile Service Satellite 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.

(3) Prior to transition and thereafter solely within the MBS, and notwithstanding subsection (1)(2), the maximum out-of-band power of a digital transmitter operating on a single 6 MHz channel with an EIRP in excess of -9 dBW employing digital modulation for the primary purpose of transmitting video programming shall be attenuated at the 6 MHz channel edges at least 25 dB relative to the licensed average 6 MHz channel power level, then attenuated along a linear slope to at least 40 dB at 250 kHz beyond the nearest channel edge, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower licensed channel edges, and attenuated at least 60 dB at all other frequencies.

(4) For mobile digital stations, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge and $55 + 10 \log (P)$ dB at 5.5 MHz from the channel edges. Mobile Service Satellite 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.

(5) Notwithstanding the provisions of subsections (1)(2) and (4), prior to transition a licensee may continue to operate facilities deployed as of **[insert effective date of rules]** provided that such facilities operate in compliance with the emission limits set forth in former Sections 21.908 and 74.936.

* * * * *

3. Section 27.55(a)(4) should be modified to read as follows:

Sec. 27.55 Signal Strength Limits.

(a) * * *

(4) BRS and EBS: The predicted or measured median field strength at any location on the geographical border of a licensee's service area shall not exceed the value specified unless the adjacent affected service area licensee(s) agree(s) to a different field strength.

This value applies to both the initially offered services areas and to partitioned services areas. Licensees may exceed this signal level where there is no affected licensee that is constructed and providing service. Once the affected licensee is providing service, the original licensee will be required to take whatever steps necessary to comply with the applicable power level at its GSA boundary, absent consent from the affected licensee.

(i) Prior to transition, the signal strength at any point along the licensee's GSA boundary does not exceed the greater of that permitted under the licensee's Commission authorizations as of **[insert effective date of rules]** or 47 dB [mμ] V/m.

(ii) Following transition, for station in the LBS and UBS band: 47 dB [mμ] V/m. This field strength is to be measured at 1.5 meters above the ground over the channel bandwidth (i.e., each 5.5 MHz channel for licensees that hold a full channel block, and for the 5.5 MHz channel for licensees that hold individual channels).

(iii) Following transition, for station in the MBS band: $-73.0 + 10 \log(X/6)$ dBW/m², where X is the bandwidth in MHz of the channel.

4. A new Section 27.1215 should be added, as follows:

§ 27.1215 BRS grandfathered leases.

(a) All leases of current BRS spectrum entered into prior to **[insert effective date of this rule]** and in compliance with rules formerly contained in Part 21 of this chapter may continue in force and effect, notwithstanding any inconsistency between such leases and the rules applicable to spectrum leasing arrangements set forth in this chapter. Such leases entered into pursuant to the former Part 21 rules may be renewed and assigned in accordance with the terms of such lease. All spectrum leasing arrangements leases entered into after **[insert effective date of this rule]**, pursuant to the rules set forth in Parts 1 and 27, must comply with the rules in those parts.

5. Section 27.1221(a) should be revised, as follows:

§ 27.1221 Interference Protection.

* * * * *

(a) *Height Benchmarking.* Height benchmarking is defined for pairs of base stations, one in each of two neighboring service areas. The height benchmark for a particular station in a service area relative to a base station in an adjacent service area is 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 $h_b = D^2/17$. Interference protection will be afforded on a station by station basis based on the actual antenna height above the radial average terrain elevation (calculated along the straight line between the two base stations in accordance with Sections 24.53(b)(and (c)) and this height benchmark.