Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Section 68.4 of the Commission's Rules Governing Hearing Aid-Compatible Telephones	)	WT Docket No. 01-309
	)	
Cingular Wireless LLC Petition for Waiver of Section 20.19(c)(3)(i) of the Commission's Rules	)	

To: The Commission

CINGULAR WIRELESS LLC
PETITION FOR WAIVER OF SECTION 20.19(C)(3)(i)(A)
OF THE COMMISSION'S RULES

CINGULAR WIRELESS LLC

J. R. Carbonell
Carol L. Tacker
David G. Richards
M. Robert Sutherland
5565 Glenridge Connector
Suite 1700
Atlanta, GA 30342
(404) 236-6364

Its Attorneys

August 5, 2005

SUMMARY

Cingular requests a waiver of the Section 20.19(c)(3)(i)(A) requirement that it offer at least four handsets meeting a U3 or higher interference rating until such time as the C63.19 standard has been amended (or otherwise modified in accordance with standards body procedures) to reflect band differences between 1.9 GHz and 850 MHz. Global System for Mobile communications ("GSM") handsets meeting a U3 rating at both the 1.9 GHz and 850 MHz bands (at full power) under the current standard will not be commercially available before September 16, 2005.

Under the terms of the Hearing Aid Compatibility Act ("HAC Act"), technological feasibility is a prerequisite to imposing HAC Act requirements on commercial mobile radio service ("CMRS") providers and wireless handsets in the first instance. Similarly, the Commission is authorized to waive HAC requirements for telephones associated with new technologies or services when compliance is technologically infeasible. Where, as here, the Commission's projections of technological feasibility do not materialize, waiver is appropriate.

The Commission's rule is premised on the assumption that the U3 rating is technologically feasible and a reliable indicator of usability for all air interface protocols. The Commission sought comment on alternative means of achieving compatibility and acknowledged that changes to handset designs and to hearing aids alike may be required, and the record confirmed that GSM technology faced particular difficulties. The Commission adopted the September 16, 2005 U3 requirement notwithstanding this record. Indeed, the standard was initially adopted prior to the planned introduction of GSM handsets for the 850 MHz spectrum band. Subsequent developments have indicated that the significance of the U3 rating for GSM handsets' "effective use with hearing aids" is questionable as to the 850 MHz band.

Hearing aid device capabilities were integral to the Commission's technological feasibility determination. The HAC Act requires that phones be designed to be compatible with hearing aids meeting established technical standards for compatibility, and thus the hearing aids themselves must be intended for use with wireless devices and services. Hearing aid immunity has improved such that many hearing aid devices may now meet or exceed a U4 level under C63.19, a development which further underscores the need to revisit the standard.

In addition, real-world testing under the standard, which could not realistically begin before late 2004, revealed unforeseen significant technological issues with respect to GSM 850 MHz handsets. Moreover, testing undertaken in Europe and more recently by Cingular, which indicates that hearing aid immunity has significantly improved, calls into question the U3 rating (based on the current standard) as the appropriate benchmark level for indicating usability of GSM handsets. In not differentiating between different bands, C63.19 may unnecessarily classify GSM 850 MHz handsets as noncompliant, although a number of handsets may in fact meet the HAC Act's objectives. The articulation weighting factor ("AWF") of C63.19, which effectively increases the requirements for GSM modulation, must be revisited as well. Cingular is proactively monitoring and/or participating in several venues, including the Alliance for Telecommunications Industry Solutions ("ATIS") HAC Incubator subcommittees currently underway, to reevaluate the AWF and its impact on HAC compliance for GSM 850 MHz as well as to reassess the C63.19 standard to align it with actual usability.

The relief requested is consistent with the public interest, convenience and necessity and thus warranted under the Commission's general waiver standard, and is warranted under the waiver standard set forth in the HAC Act as well.

- Under basic principles of administrative law, the Commission may not require carriers to do the impossible. Moreover, where, as here, the Commission has exercised its predictive judgment and developments do not materialize as predicted, waiver is particularly warranted. The Commission has traditionally afforded carriers relief where, as here, compliance is dependent on the availability of equipment vendors. Compliance with the September 16, 2005 deadline for dual-band handsets is technologically infeasible for Cingular's handset manufacturer vendors, and thus for Cingular as well. GSM 850 MHz handsets meeting a U3 rating (under the current C63.19 standard) at full power will not be available from manufacturers by that date. The different RF environments between the GSM 850 MHz and GSM 1.9 GHz pose interference challenges with respect to hearing aids, and under the current standard core design changes may be needed. Cingular will need a waiver of the required number of HAC Act-compliant handsets because it offers only dual-band 1.9 GHz and 850 MHz handsets which, under the current standard, will receive the lower rating achieved at 850 MHz.

- Cingular has undertaken good faith efforts to comply, as evident by its efforts with vendors and its leadership in industry's standards and testing development processes. Cingular will also endeavor to mitigate the impact on hearing aid users. Grant of the requested waiver thus does not undermine the Commission's HAC Act objectives. Cingular already maintains comprehensive accessibility programs and is active in industry efforts to resolve 850 MHz issues, including chairing the HAC Incubator's Working Group 9 ("WG-9") which is undertaking a comprehensive assessment of the causes of and possible solutions for interference between GSM 850 MHz handsets and hearing aids. Assuming timely Telecommunication Certification Body ("TCB") certification, Cingular is planning to offer at least four dual-band handsets that meet the U3 rating for the 1.9 GHz band and the U1/U2 rating at 850 MHz. Cingular thus anticipates that it will be able to offer hearing aid user customers with more than four full-power handsets that are useable in both bands. Cingular is also considering the viability and the potential of offering a "reduced power" option whereby U3 compliance at the 850 MHz band is achieved via a user-initiated power reduction in the handset and is prepared to offer one dual band handset that meets the U3 rating at 850 MHz when operating at reduced power. Cingular will continue to work with vendors to promote the availability of external devices that facilitate hearing aid use.

- Finally, for HAC Act purposes there can be no doubt that GSM 850 MHz handsets and services are in the public interest. The Commission has affirmatively determined that the market should govern the introduction of wireless air interface protocols, and that Cingular's technology deployment plan is consistent with the public interest.

TABLE OF CONTENTS

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Section 68.4 of the Commission's Rules Governing Hearing Aid-Compatible Telephones	)	WT Docket No. 01-309
	)	
Cingular Wireless LLC Petition for Waiver of Section 20.19(c)(3)(i) of the Commission's Rules	)	

To: The Commission

CINGULAR WIRELESS LLC
PETITION FOR WAIVER OF SECTION 20.19(C)(3)(i)
OF THE COMMISSION'S RULES

Pursuant to Section 710(b)(3) of the Communications Act, as amended, 47 U.S.C. § 610(b)(3), and Sections 1.3 and 1.925 of the Commission's rules, 47 C.F.R. §§ 1.3 and 1.925, Cingular Wireless LLC ("Cingular") hereby requests a waiver of Section 20.19(c)(3)(i)(A) of the Commission's rules until such time as the C63.19 standard has been amended (or otherwise modified in accordance with standards body procedures) to reflect band differences between 1.9 GHz and 850 MHz. Cingular has undertaken comprehensive efforts to meet the accessibility needs of its customers, including those with hearing disabilities – not only because of its Hearing Aid Compatibility Act ("HAC Act") and Section 255 obligations, but out of competitive necessity and corporate responsibility. Because no Global System for Mobile communications ("GSM") handsets are commercially available that meet a U3 rating at 850 MHz full power under the current C63.19 standard, Cingular is compelled to seek a waiver of the requirement

that it offer at least four GSM handsets meeting a U3 or higher interference rating.[1] Cingular will offer dual-band devices that meet a U3 rating at 1.9 GHz (including at least four dual-band devices meeting a U3 rating at 1.9 GHz and a U1/U2 rating at 850 MHz full power);[2] to the extent feasible, will make information available concerning other GSM devices that appear to be useable with hearing aid devices at 850 MHz; will semiannually report to the Commission the status of efforts to address this issue until such time as the C63.19 standard has been amended; and will continue to work with stakeholder groups to resolve the issues raised herein.[3] For the reasons discussed herein, grant of the instant waiver request is consistent with the public interest and with the Commission's HAC Act obligations "to ensure reasonable access to telephone service by persons with impaired hearing" while also facilitating the introduction of new technologies.[4]

[1] *See In the Matter of Section 68.4(a) of the Commission's Rules Concerning Hearing Aid Compatible Telephones*, Order on Reconsideration and Further Notice of Proposed Rulemaking, WT Docket No. 01-309, FCC 05-122, App. B (rel. June 21, 2005) ("*HAC Reconsideration Order*"), 70 Fed. Reg. 43,323, 43,325 (July 27, 2005) (to be codified at 47 C.F.R. § 20.19(c)(3)(i)). New section 20.19(c)(3)(i)(A) will become effective August 26, 2005. Cingular would require a waiver of current section 20.19(c)(3)(i)(A) for the same reasons described herein.

[2] Note that a number of vendors with U1- or U2-rated handsets might not yet have tested or obtained TCB certification of the U-rating due to the expectation that such handsets would not meet the U3 standard for compliance purposes. Thus, additional U1- and U2-rated handsets that nonetheless provide for effective use with hearing aids may be forthcoming.

[3] While the instant filing references the current "U" rating system of the 2001 version of the C63.19 standard and codified in the Commission's rules, the U rating is interchangeable with the "M" rating set forth in the 2005 version of the standard. *See HAC Reconsideration Order* ¶ 33 n.118.

[4] *See* 47 U.S.C. §§ 610(a), (b)(3).

DISCUSSION

I. TECHNOLOGICAL FEASIBILITY IS A STATUTORY PREREQUISITE TO IMPOSING HEARING AID COMPATIBILITY REQUIREMENTS ON CMRS PROVIDERS AND HANDSETS.

Section 710(a) of the Communications Act, as enacted in the Telecommunications for the Disabled Act of 1982, requires the Commission to "establish such regulations as are necessary to ensure reasonable access to telephone service by persons with impaired hearing" and "to establish or approve such technical standards as are required to enforce this section."[5] Six years later, Congress in the HAC Act required that "(A) all essential telephones, and (B) all telephones manufactured in the United States … or imported for use in the United States more than one year after [enactment] provide internal means for effective use with hearing aids that are designed to be compatible with telephones which meet established technical standards for hearing aid compatibility."[6] The applicability of these requirements to providers of public mobile services such as Cingular, however, is subject to important conditions that are directly relevant to the instant waiver request.

The HAC Act exempted "telephones used with public mobile services," in part because Congress recognized that "ambient noises and background fields often associated with mobile telephones make inductive coupling difficult."[7] This proved particularly true with respect to digital wireless technologies. The Commission is authorized, however, to "revoke or otherwise limit any exemption" if certain enumerated criteria are met, including that "compliance with the

[5] Telecommunications for the Disabled Act of 1982, Pub. L. 97-410, § 3, 96 Stat. 2043 (1983) (codified at 47 U.S.C. §§ 610(a), (c)).

[6] Hearing Aid Compatibility Act of 1988, Pub. L. 100-394, § 3(a), 102 Stat. 976 (1988) (codified at 47 U.S.C. § 610(b)(1)(B)).

[7] *Id.* § 3(a) (codified at 47 U.S.C. § 610(b)(2)(A)(ii)); H.R. Rep. No. 100-674, at 9 (1988) ("House Report").

requirements … *is technologically feasible for the telephones to which the exemption applies.*"[8] Similarly, the Commission is authorized to waive the HAC requirements "with respect to new telephones, or telephones associated with a new technology or service" when a waiver applicant demonstrates that "compliance with the requirements … *is technologically infeasible* …."[9] This waiver provision was incorporated into the statute to ensure that "the growth and development of telecommunications technology" is not impeded.[10]

Thus, where compatibility is not technologically feasible, the HAC Act precludes the Commission from imposing such an obligation in the first instance. Where the Commission's projections of technological feasibility do not pan out, waiver of the requirement would appear particularly appropriate.

II. THE COMMISSION'S RULE IS PREMISED ON THE ASSUMPTION THAT THE U3 RATING IS TECHNOLOGICALLY FEASIBLE AND A RELIABLE INDICATOR OF USABILITY FOR ALL AIR INTERFACE PROTOCOLS

The Commission lifted the public mobile services exemption and adopted the rule at issue in the instant waiver request in its 2003 *HAC Order*.[11] Section 20.19(c) of the rules requires that "each provider of public mobile service" meet specific benchmarks with respect to its sales of hearing aid compatible handsets. Tier I carriers like Cingular must, by September 16,

---

[8] HAC Act § 3(a) (codified at 47 U.S.C. § 610(b)(2)(C)(iii)) (emphasis added). The other criteria are that "(i) such revocation or limitation is in the public interest; (ii) continuation of the exemption without such revocation or limitation would have an adverse effect on hearing-impaired individuals; … and (iv) compliance with the requirements … would not increase costs to such an extent that the telephones to which the exemption applies could not be successfully marketed." *Id.*

[9] 47 U.S.C. § 610(b)(3) (emphasis added).

[10] *See* House Report at 14; S. Rep. No. 100-391, at 11 (1988), reprinted at 1988 USCCAN 1345, 1355 ("Senate Report").

[11] *See Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones*, Report and Order, WT Docket No. 01-309, 18 F.C.C.R. 16753, *Erratum*, 18 F.C.C.R. 18047 (2003) ("*HAC Order*").

2005, "[i]nclude in their handset offerings at least four handset models per air interface" that meet a "U3" rating under technical standard C63.19 "and make available in each retail store owned or operated by the provider all of these handset models for consumers to test in the store."[12] In imposing these requirements, the Commission reached a number of conclusions concerning the technological feasibility of imposing the U3 obligation on carriers and manufacturers that have since been undermined by subsequent developments.

A. The Commission Imposed the U3 Obligation for All Air Interface Protocols In Spite of Record Evidence that Meeting the Obligation Would Be Difficult

Given the HAC Act's mandate, in its *NPRM* the Commission appropriately requested comment as to whether compliance "is technologically feasible for the telephones to which the exemption applies" and in particular "whether the 'pairing' approach" of the C63.19 standard "would be satisfactory to hearing aid users and whether it would satisfy the technological feasibility condition" of the HAC Act as well as whether the pairing approach "will resolve the compatibility issue."[13] The Commission also requested comment on other "possible methods of achieving compatibility," acknowledging in the *NPRM* "that induction is not the sole method of achieving hearing aid compatibility with telephones."[14] The Commission posited "that changes to digital wireless telephones and, possibly, hearing aids will be required, which will take time and may not be best accomplished by a 'flash cut'-type of implementation."[15] Cingular was

[12] *HAC Reconsideration Order* at App. B, 70 Fed. Reg. at 43,325 (to be codified at 47 C.F.R. § 20.19(c)(3)(i)).

[13] *In the Matter of Section 63.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones*, Notice of Proposed Rulemaking, 16 F.C.C.R. 20558, ¶¶ 24-26 (2003) ("*NPRM*").

[14] *See id.* ¶ 27, n.77 (citing House Report at 12).

[15] *Id.* ¶ 32.

generally supportive of the C63.19 standard – although it cautioned that the standard "ha[d] not been thoroughly tested to determine its reliability and validity."[16] Cingular also noted at the outset that not only the HAC Act but basic principles of administrative law prohibit the Commission from compelling carriers to do the impossible.[17]

In the *HAC Order*, the Commission found that ANSI C63.19 "constitute[s] a workable technical standard to produce digital wireless phones that can be used effectively with hearing aids"[18] and that meeting the U3 or higher rating by mitigating electromagnetic interference could be accomplished "without significantly affecting handset designs."[19] As a related matter, the Commission found "it does not appear that such modifications will cause significant research and development or production costs."[20] While the Commission "recognize[d] that, as manufacturers engage in testing under ANSI C63.19, some handset design changes may be necessary in some cases," it also "anticipate[d] that most phones will not require changes to the core design."[21] The Commission reasoned that "[b]ecause handset design cycles can take one year or more … two years is an appropriate period of time to allow for manufacturers to produce and label digital wireless phones which comply with the U3 level for reduced RF emissions, and for service providers to begin offering them to consumers."[22]

---

[16] Cingular Comments in WT Docket No. 01-309, filed Jan. 11, 2002, at 6.

[17] Cingular Comments at 3 (citing *Alliance for Cannabis Therapeutics v. DEA*, 930 F.2d 936, 940 (D.C. Cir. 1991) and *Hughey v. JMS Development Corp.*, 78 F.3d 1523, 1530 (11th Cir. 1996)).

[18] *HAC Order* ¶ 43.

[19] *Id.* ¶ 44.

[20] *Id.* ¶ 52.

[21] *Id.* ¶ 71.

[22] *Id.*

Regarding GSM technology in particular, the Commission "acknowledge[d] that these requirements may be more difficult to implement for some air interfaces than for others" and that commenters "noted the difficulties presented by GSM technology with respect to reducing RF emissions to levels required under ANSI C63.19."[23] In this regard, Cingular Wireless noted in June 2003 (together with manufacturer Siemens) that most handsets may be able to meet the *U2* levels for RF emissions, and advocated that the Commission adopt U2 as a compliant level.[24] The Commission found, however, that "there is evidence that some manufacturers produce digital wireless phones for the GSM interface that are close to, or capable of, complying with the U3 and U3T performance levels of the ANSI C63.19 standard."[25]

Cingular is working aggressively to address issues that have arisen concerning the technological feasibility and the significance of the U3 rating. As discussed in Section II.D *infra*, however, the significance of the U3 rating for GSM handsets' "effective use with hearing aids" is questionable. It is now apparent that the Commission's initial basis for adopting the U3 rating had significant shortcomings.

---

[23] *Id.* ¶ 76.

[24] Cingular Wireless *Ex Parte* Presentation, filed June 23, 2003, at 4, 9.

[25] *HAC Order* ¶ 76. Nokia's April 2003 *ex parte* presentation, cited in the *HAC Order* as a basis for the Commission's determination, merely indicates that Nokia was planning tests of GSM, TDMA and CDMA handsets, but that "[f]inal test results, review and analysis of Nokia devices" were forthcoming. *See id.* ¶ 76 n.199; Nokia *Ex Parte* Presentation, April 10, 2003, Attachment at 7-8. The Motorola *ex parte* presentation cited as a basis for the Commission's conclusion reported that, while certain GSM handsets appeared useable with certain hearing aids, such usability did not necessarily correlate with a high U rating and, moreover, that the U rating appeared even at that time to vary between 1.9 GHz and other bands. *See* Motorola *Ex Parte* Presentation, January 31, 2003, Attachment at 12-16. If anything, Motorola's submission is more consistent with Cingular's findings discussed herein and is not supportive of the Commission's findings in the *HAC Order*.

B. Hearing Aid Device Capabilities Were Integral to the Commission's Technological Feasibility Determination.

The HAC Act requires compatibility with hearing aids "designed to be compatible with telephones which meet established technical standards for hearing aid compatibility."[26] In this regard, the Commission acknowledged in the *HAC Order* that it has long been understood that compatibility issues "could only be solved through a combination of both modifications to digital wireless phone designs *and* improvements in hearing aid immunity to RF emissions."[27] While noting that improvements have been made in hearing aid devices' immunity,[28] the Commission nonetheless appropriately concluded that:

> [T]he HAC Act contemplates that phones subject to the requirements need only be capable of effective use with hearing aids designed for use with digital wireless phones. The statute requires telephones to "provide internal means for effective use with *hearing aids that are designed to be compatible with telephones which meet established technical standards* for hearing aid compatibility." We interpret this to mean that the statute does not require covered telephones to be compatible with all hearing aids, but rather only hearing aids *with sufficient immunity to be intended for use with wireless devices and services*.… As a result, we do not expect digital wireless phones meeting the requirements of this Order to be compatible with hearing aids that lack sufficient immunity (i.e. those meeting less than a U2 level). It is possible that the hearing aid user *may need to purchase a new hearing aid* before being able to take advantage of digital wireless phones and services.[29]

Cingular itself had cautioned that "[b]oth wireless and hearing aid manufacturers must work toward a cooperative solution-based approach."[30]

---

[26] 47 U.S.C. § 610(b)(1)(B).

[27] *See HAC Order* ¶ 14 (emphasis added) (citing to Letter from Pamela J. Ransom, Summit Facilitator, Hearing Aid Compatibility and Accessibility to Digital Wireless Telecommunications Summit, to Chairman Reed Hundt, May 16, 1996).

[28] *Id.* ¶ 25.

[29] *Id.* ¶ 60 (emphasis added).

[30] *See* Cingular/Siemens *Ex Parte* Presentation, filed April 4, 2003, at 16.

The Commission found that the C63.19 standard "is highly predictive of the usability of compatible wireless phones *with sufficiently immune hearing aids*."[31] Thus, consistent with the HAC Act, the Commission made its technological feasibility determination with the objective of promoting compatibility with *sufficiently immune* hearing aids. In fact, many modern digital hearing aids have achieved immunity levels much higher than the Commission anticipated. Today, it appears that many hearing aids demonstrate significant immunity that might very well meet or exceed a U4 level. This development further calls into question whether the current standard is a meaningful indicator of usability.

C. Real-World Testing Undertaken During the Standard's Pendency Revealed that Issues Regarding GSM Handsets Persisted

Developing the testing protocols and determining the HAC Act compliance of handsets has been a challenging process for industry. As the Commission is aware, the C63.19 standard itself was a work in progress at the time it was incorporated into the rules, and the standard has undergone changes since then.[32] When the Commission adopted the standard as its rule in 2003, testing procedures had yet to be developed in order to determine whether handsets met the standard in the first place, and the testing that had occurred yielded inconsistent results. Thus, in practical terms, industry did not have the full two-year period from the effective date of the rules to produce and bring compliant products to market. Handset products already "in the pipeline" necessarily have been brought to market, and there was no way of confirming their U-rating until the testing development and standards processes had reached at least a semi-final, reasonable resolution. The test protocols began to be implemented in the late 2004 period – approximately

[31] *HAC Order* ¶ 43 (emphasis added).

[32] *See id.* ¶ 63; *HAC Reconsideration Order* ¶ 16.

one year after the *HAC Order* – a significant feat, given that the 2005 version of the standard against which to test had not yet been finalized.[33]

Given the limited time period available between the *HAC Order* and the September 16, 2005 deadline, industry opted to work through various technical issues via the Alliance for Telecommunications Industry Solutions ("ATIS") AISP.4 Incubator ("HAC Incubator") process. The HAC Incubator's ongoing efforts, in which Cingular played a prominent role, have achieved much and are generally commendable. However, what is gained in terms of the public interest benefits of an expeditious standard that enables products to come to market sooner may also be undermined in part by the loss of a more deliberative process which may catch more of the potential shortcomings of a particular standards approach. In this regard, the HAC Incubator's efforts also revealed unforeseen significant technological issues with respect to GSM handsets operating in the 850 MHz cellular bands.[34]

In April 2005, over four months prior to the deadline and shortly after it became aware of relevant developments, Cingular met with Commission staff concerning early result indications that had arisen concerning GSM 850 MHz handsets based on information received from vendors during that month.[35] Cingular recounted these facts in its May 17, 2005 supplement to the ATIS

[33] In this regard, ANSI C63 has been working to improve the standard and the testing protocol throughout 2004 and 2005, and recently in April 2005 the Commission clarified for TCBs that testing to the 2005 version of C63.19 was permissible. *See* Public Notice, *OET Clarifies Use of Revised Wireless Phone Hearing Aid Compatibility Standard Measurement Procedures and Rating Nomenclature*, DA 05-1134 (rel. Apr. 25, 2005). Industry has thus had only limited time to test products to the new standard.

[34] The 2001 version of C63.19 largely preceded the wireless industry's production and sale of GSM 850 MHz handsets. Until comparatively recently, GSM in the United States had only been used in the 1.9 GHz broadband PCS bands. Thus, there were no GSM 850 MHz handsets against which to test the standard at the time of its development. Indeed, initial testing of C63.19 in 2000 did not include testing at 850 MHz.

[35] *See* Cingular Wireless LLC, *Ex Parte* Presentation in WT Docket No. 01-309, filed May 10, 2005 (discussing April 29, 2005 meetings).

semi-annual status report.[36] As discussed herein, despite industry's best efforts, there are presently no handsets, based on the current version of the C63.19 standard, that are rated at the U3 level at 850 MHz for the GSM interface (at 2 watts power), and such handsets will not be available by the September 16, 2005 date.[37]

D. Recent Testing Initiatives Call Into Question the Usefulness of the U3 Rating as an Indicator of Usability for GSM Handsets at 850 MHz.

Cingular's recent testing initiative (*see* discussion *infra*) underscores that improvements in hearing aid immunity for newer, digital hearing aid devices further call into question the relevance and usefulness of the U3 requirement. Cingular's testing indicates that digital hearing aids, many of which appear to be built to European requirements, are far less susceptible to interference than the Commission assumed when it adopted the U3 requirement. Testing undertaken by DELTA-TAL in Denmark measured the immunity of a large number of hearing aids over the time period from 1997 through 2002. Over this time span the tested hearing aids showed a steady improvement in their average immunity of over 30 dB, as reflected in the Input Related Interference Level (IRIL) for both 850 MHz and 1.9 GHz handsets.[38] The Hearing Industries Association recently echoed this finding, noting that hearing aid immunity to

---

[36] *See* Cingular Wireless LLC Semi-Annual HAC Progress Supplemental Report, WT Docket No. 01-309, filed May 17, 2005.

[37] Note that the ANSI C63.19 standard provides that a handset's rating for labeling purposes is the *lower* of any rating the handset achieves. Thus, a handset meeting a U3 rating at 1.9 GHz and U2 at 850 MHz will receive a U2 rating for labeling and compliance purposes. The HAC Incubator has recommended to the Commission that a handset's HAC rating at 1.9 GHz be accepted as the overall rating for all dual band wireless devices and, as a related matter, that C63.19 be updated to reflect different rating values for 800-960 MHz and 1880-1910 MHz, as is currently done in Europe. *See* ATIS *Ex Parte* Presentation in WT Docket No. 01-309, filed July 29, 2005.

[38] Tom Victorian, Starkey Laboratories, *Hearing Aid Compatibility: Technical Update,* Dec. 6, 2004 (citing data from Delta (2003), Improvement in hearing aid immunity. Project No. A930005-1 performed by the Technical-Audiological Laboratory for EHIMA, 6-30-03, Odense, Denmark), available at < http://www.audiologyonline.com/articles/arc_disp.asp?id=1263>.

interference has increased by 40 dB in recent years.[39] These improvements in hearing aid immunity make it possible for many hearing aid users to utilize GSM 850 handsets that are rated U2 or U1 without experiencing noticeable interference, as discussed below.[40]

These recent test results are consistent with and supplement previous studies relevant to the prediction of a handset's field performance. The Australian/New Zealand Hearing Aid Immunity Standard AS/NZS 10881.9-1995, for example, establishes different field strength levels for five different frequency ranges, with specific standards for the unmodulated carrier signal at 800-1000 MHz and 1700-2000 MHz.[41] The European Device emission standard IEC 60118-3, which establishes the field strengths of RF test signals used to establish immunity for compatible hearing aids, similarly establishes different field strength requirements for 800-960 MHz and 1400-2000 MHz.[42] Finally, University of Oklahoma study data from October 1999 demonstrated that of 23 hearing aid devices tested, many had greater immunity at 850 MHz than at 1.9 GHz, and the report concluded that "[i]t is readily apparent that there are differences in hearing aid immunity at 800 MHz vs. 1900 MHz. Any validation effort that does not consider these differences is destined to fail."[43]

---

[39] *See* Hearing Industries Association, *Ex Parte* Presentation in WT Docket No. 01-309, at 2, filed May 31, 2005.

[40] Since each U level in the standard is 5 dB wide, the 30 to 40 dB improvement in hearing aid immunity indicates that many users of modern digital hearing aids should experience no noticeable interference with handsets rated U1 or better.

[41] *See* AS/NZS 10881.9-1995 (Australia/New Zealand standard).

[42] *See* International Electrotechnical Commission 60118-3 (European standard).

[43] University of Oklahoma, HA Subjective Validation Study, Phase III-B (1999).

E. Industry Data and Recent Testing Indicate that Hearing Aids Operating in Conjunction with GSM Devices at 850 MHz Are More Immune at the Same U-level Than at 1900 MHz, and that Additional Investigation of the C63.19 Standard Is Warranted.

In addition to hearing aid immunity improving by 30-40 dB, additional test results from DELTA-TAL also revealed a consistently higher immunity level at 850 MHz than at 1.9 GHz that ranged from a minimum of 9 dB to as much as 13 dB. A 10 dB differential is the equivalent of two U-levels. Thus, a handset that has a 10 dB differential would provide a user experience with a U1 rating at 850 MHz that is comparable to the experience with a U3 rating at 1.9 GHz. Since there is industry desire to maintain the same "U-levels," however, modifying the mapping as to what constitutes U3 for GSM 850 MHz appears to be in order.

More recently, in June 2005, Cingular tested twelve hearing aids, which included both in-the-ear ("ITE") and behind-the-ear ("BTE") styles, against 2 flip-style GSM 850 MHz/1.9 GHz handsets.[44] Of the twelve hearing aids tested, only three hearing aids (all of which were older analog models) experienced any noticeable interference from these phones.[45] The remaining nine digital hearing aid models experienced no noticeable interference. Indeed, the interference induced in the hearing aid by the 850 MHz GSM wireless devices operating at 2 watts power (+33 dbm) was *lower* than the interference induced in the hearing aid by 1.9 GHz GSM devices operating at 0.8 watt power (+29 dbm).

---

[44] As noted earlier, hearing aids have not been rated or tested for a U rating. The hearing aid industry's initial testing using the dipole measurement technique of the C63.19 standard yielded inconsistent results. The hearing aid industry subsequently requested Gigahertz Transverse Electromagnetic ("GTEM") testing, which was incorporated into the standard.

[45] Information regarding the testing was provided to Commission staff in a July 28, 2005 meeting. *See* ATIS *Ex Parte* Presentation in WT Docket No. 01-309, Attachment at 9-13, filed Aug. 1, 2005. This information is also available at ATIS's website at <http://www.atis.org/hac/haclinks.asp>.

Cingular also participated in additional testing under the auspices of ATIS AISP.4 HAC Incubator Working Group 9 at the June 30-July 3, 2005 annual Self Help for the Hard of Hearing ("SHHH") convention. This testing indicates that of the hearing aids that experienced any interference at all, the hearing aid users did not indicate a significant preference between a U2 850 MHz and a U3 1.9 GHz handset. Indeed, some hearing aid users who had previously been unable to find a useable handset were able to use certain models on the Cingular 850 MHz network. Most of the hearing aids tested were within five years of age, and many of those users found the GSM handsets useable at 850 MHz. Cingular's testing efforts to date thus indicate that for GSM handsets, the U-rating system of C63.19 in its current form may not be a meaningful indicator of usability for hearing aid users.[46]

These results appear to validate the hearing aid-handset interference approach used in Europe, whereby different classifications are used for the two different frequency bands. Thus, in not differentiating between different bands, it appears that for many GSM 850 MHz handsets the ANSI C63.19 rating system may unnecessarily classify GSM handset manufacturers and carriers as "noncompliant" as a matter of form rather than substance. It may very well be that a number of GSM handsets substantially meet the HAC Act's requirements that they "provide internal means for effective use with hearing aids" at 850 MHz.[47] Cingular has recently opposed

[46] ATIS itself noted in its May 17, 2005 Report that the hearing aid analog technology on which the 2001 standard is based is now obsolete. *See* ATIS Report at 16-17.

[47] Note that the HAC Act does not compel a particular technological solution to achieve compatibility. *See* Senate Report at 2, 1988 USCCAN at 1346 ("other means of 'compatibility' may be developed in the future"); House Report at 12-13 (legislation "is flexible and allows for other methods of compatibility"). Thus, some handsets may warrant a determination of HAC Act compliance notwithstanding a rating lower than U3. Depending on the results of Cingular's testing efforts with its vendors and any further actions by industry standards bodies, Cingular may seek a Commission determination that additional handset models are HAC Act compliant irrespective of their U-rating. Indeed, based on the results of testing conducted in May and June of 2005, Cingular will request that ANSI ASC re-open the C63.19 standard to address issues that have arisen with respect to GSM 850 MHz handsets.

ANSI's adoption of the final ASC C63-approved version of the C63.19 standard in primary part for this reason.[48] As Cingular confirms the results of testing and the test methodology, it may (through the standards process at ATIS or through the Commission directly) seek a formal Commission determination that such handsets are HAC Act compliant.

In this regard as well, Cingular believes that the articulation weighting factor ("AWF") of C63.19 must be revisited.[49] The AWF is a means employed in the C63.19 standard initially developed to account for differences on the impact of three different cellular telephone digital RF modulation types (*i.e.* GSM, TDMA, CDMA) on intelligibility of speech heard by hearing aid and cochlear implant users. This AWF factor effectively increases the RF and inductive coupling requirements in the standard and currently only applies to the GSM modulation with a value of -5 dB. Because of the AWF, GSM must achieve even lower field strengths required for each category U-rating.

Understanding the significance of the AWF is critical in determining how to apply an AWF to existing air interface technologies and to other modulation types that may be developed in future wireless systems. In a footnote, the C63.19 standard states that the AWF has previously been developed from information presented to the C63.19 committee regarding the interference potential of various modulation types. In this regard, throughout the C63.19 standard balloting

---

[48] Cingular also supported ATIS's reasons for opposing final adoption of the standard.

[49] In the C63.19 standard, wireless transmission protocols are assigned an Articulation Weighting Factor (AWF). AWF is defined as follows:

> A weighting factor that is used to normalize readings of interference from differing sources based upon the acoustic spectral content of the interference. As one example, interference created by a 217 Hz TDMA source degrades hearing intelligibility by approximately 5 dB more than that from a 50 Hz TDMA signal. This is because of the relative impact of the 217 Hz interference signal on the regions of the audio spectrum that are most important to speech recognition.

See C63.19-2001, § 7.1.

process, Cingular has repeatedly requested information on the assignment of -5 db AWF for the GSM modulation to better understand the effect of GSM modulation on speech intelligibility. In C63.19-2001, however, there is no method or guidance on how to determine the AWF for the newer wireless digital telephony modulations.

Fortunately, there are new investigations of the AWF underway within C63 and WG-8. At the April 27, 2005 meeting of the C63 SC 8, a PINS-C study project was approved to investigate an approach to the determination of the AWF used in ANSI C63.19. Whether the AWF is modified in some manner is outside of Cingular's control and, even if the AWF is modified, such action will not automatically increase a particular handset's U-rating. Even then, modifying the AWF, in itself, may not necessarily facilitate Cingular's compliance. Nevertheless, this effort is necessary in order to baseline the original modulations (Analog, GSM, TDMA, and CDMA), ensure that the AWF serves the standard's objective of promoting hearing aid usability, and determine its relevance and application to newer wireless digital telephony modulations.

III. WAIVER OF SECTION 20.19 AND GRANT OF THE REQUESTED RELIEF IS CONSISTENT WITH THE PUBLIC INTEREST AND THE HAC ACT.

Section 710(b)(3) of the HAC Act provides that, in order to grant a waiver of the HAC Act's compatibility requirements, the Commission must determine: (1) that the telephones, technology or services at issue "are in the public interest;" and (2) that either (i) compliance "is technologically infeasible," or (ii) compliance "would increase the costs of the telephones, … the technology or service, to such an extent that [they] could not be successfully marketed."[50] Grant

[50] 47 U.S.C. § 610(b)(3). Section 710(b)(3) applies to "new telephones, or telephones associated with a new technology or service." *Id.* The HAC Act's legislative history provides that this applies to telephones "that employ a technology that has not previously been marketed, and telephones associated with a new technology or service." Senate Report at 7, reprinted at
(continued on next page)

of Cingular's request meets the requisite criteria. Such relief is also consistent with the Commission's traditional standards for waiver of its rules.[51]

A. Compliance with the September 16, 2005 Deadline Is Technologically Infeasible for Cingular.

Basic principles of administrative law prohibit the Commission from requiring carriers to do the impossible.[52] Given the very real and significant technology challenges and the time necessary for Cingular's vendors to test and bring products to market, it would be unduly burdensome and contrary to the public interest to strictly enforce Section 20.19(c)(3)(i)(A).[53]

1988 USCCAN at 1351; *see also Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Further Notice of Proposed Rule Making, 4 F.C.C.R. 2250, 2251 ¶ 6 (1989). Congress did not, however, address the interplay between Sections 710(b)(2)(C) and 710(b)(3) for newly non-exempt handsets. In this regard, while GSM technology in itself is not new, Section 710(b)(1)(B) of the HAC Act will be newly applicable to handsets with GSM technology beginning this September. In any event, should the Commission instead determine that its general standard for waivers under Section 1.3 of its rules is applicable, the instant request meets that standard as well. *Lucent Technologies, Inc., Petition for Waiver of the Volume Control Requirement Contained in 47 C.F.R. 68.6 of the Commission's Rules*, Order, 14 F.C.C.R. 21478, ¶¶ 4, 9 (1999) (applying standard of 47 C.F.R. § 1.3 to requirements adopted "pursuant to the hearing Aid Compatibility Act of 1988").

[51] Section 710(b)(3) governs requests for waiver of Section 710(b)(1)(B) of the Act, which applies to the manufacture of handsets. While the impact of HAC Act compliance on new services is relevant to a Section 710(b)(3) analysis, strictly speaking it is *Section 710(a)* that authorizes the Commission to adopt regulations "necessary to ensure reasonable access *to telephone service* by persons with impaired hearing." *See* 47 U.S.C. § 610(a). This suggests that the Commission's general waiver standard governing "[a]ny provision of the rules," 47 C.F.R. § 1.3, may be applicable to service providers instead of Section 710(b)(3). Given the absence of Commission precedent on this issue and the similar factual showings that would be made in either case, Cingular is providing information relevant to both waiver standards.

[52] *See* Cingular Comments at 3 (citing *Alliance for Cannabis Therapeutics v. DEA*, 930 F.2d 936, 940 (D.C. Cir. 1991) and *Hughey v. JMS Development Corp.*, 78 F.3d 1523, 1530 (11th Cir. 1996)).

[53] *See* 47 C.F.R. §§ 1.3 (waiver appropriate "for good cause shown") and 1.925(b)(3)(ii) (waiver appropriate where unique or unusual factual circumstances render application of the rule "inequitable, unduly burdensome or contrary to the public interest"); *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) (waiver appropriate where "particular facts would make strict compliance inconsistent with the public interest"). Note that the Commission intends
(continued on next page)

Similarly, the HAC Act prohibits the Commission from lifting an exemption where technologically infeasible, and requires that the Commission consider such infeasibility in waiving the requirements. It is not technologically feasible for Cingular to offer U3-rated GSM 850 MHz handsets by the September 16, 2005 deadline.

1. GSM 850 MHz handsets conforming to a U3 rating at a Class 4 (2 Watt) power level will not be available from manufacturers by September 16, 2005.

As a threshold matter, paragraph (b)(1)(B) of the HAC Act applies to "telephones *manufactured*" or "imported for use" in the United States.[54] Cingular is a purchaser, not a manufacturer of telephones, and as such has only the ability to indirectly affect the availability of HAC phones from vendors[55] – which it has sought to do through product specifications and a prominent role in ATIS's HAC Incubator. In this regard, Cingular and its GSM handset vendors have worked cooperatively to help develop and test handset products for HAC Act compliance. Nonetheless, as it is technologically infeasible for Cingular's handset vendors to offer dual-band handsets that meet the U3 rating, it is necessarily so for Cingular as well.

Handset vendors have notified Cingular that it is not technologically feasible at present for GSM 850 MHz handsets to conform to the U3 rating of the current version of C63.19, at least

---

to apply the general waiver standard to carriers transitioning their systems from TDMA technology. *See HAC Reconsideration Order* ¶ 50.

[54] 47 U.S.C. § 610(b)(1)(B) (emphasis added).

[55] As Commissioner Abernathy has explained, "Wireless manufacturing is a global industry with thousands of carriers around the world seeking products. And each of the national carriers here has only a fraction of that market. These carriers generally do not have the equipment market power to exercise 'significant control.'" *See Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems*; *Request for Waiver by Cingular Wireless LLC*, Order, 16 F.C.C.R. 18305 (2001), Separate Statement of Commissioner Abernathy.

at a Class 4 (2 Watt) power level.[56] ATIS itself in its most recent semiannual report notified the Commission "that significant, fundamental technical challenges remain to achieving U3 ratings, in the absence of alternative solutions, for GSM 850 MHz band [wireless devices] by September 2005."[57] Specifically, in accordance with industry standards, GSM cellular handsets operate with 2 watt bursts of RF power at 850 MHz, with the peak antenna power occurring at the earpiece end of the phone because the entire phone acts as a dipole. Radiating currents are more spread out over the entire phone and less affected by more localized metallic components. Thus, it is difficult to direct the RF power away from the hearing aid effectively at the 850 MHz band.

In contrast, 1.9 GHz handsets operate at 0.8 watt, and the wavelength is less than one half that at the 850 MHz band; radiating currents are thus more concentrated and readily affected by metallic components such as shield cans and ESD plating. Shielding used within hearing aids is more effective with signals that have longer wavelengths, and those connections within the hearing aid device that can serve as ingress points for the interfering signals couple more effectively to shorter wavelengths (*e.g.*, at 1.9 GHz).

Moreover, and contrary to the Commission's expectations, a number of core design changes may be needed in order to reach the U3 rating under the current standard, including modifying the mechanical design of the "flip top," antenna changes (such as location, internalization or directional antennas), or changing speaker location. Cingular has learned from its handset vendors that while several GSM handsets that meet the U3 rating at 1.9 GHz will be

[56] The handsets Cingular acquires from its vendors are programmed to operate at a Class 4 power level, and Cingular's network design is premised on the assumption that handsets will operate consistent with this specification. Moreover, the C63.19 standard itself presumes that a handset will be operating at its highest available power level which, under accepted test protocols, will preclude any GSM handset operating at any power level lower than Class 5 (0.8 Watt) from obtaining a rating of U3 or higher.

[57] ATIS May 2005 Report at 8.

available by September 16, 2005, including one meeting a U2 level at 850 MHz, it does not appear that any handsets meeting the U3 rating at 850 MHz at a Class 4 full power level will be available by that date. Finally, in considering waiver requests generally the Commission has traditionally afforded carriers relief where, as here, their compliance with a particular regulation is dependent on the availability of equipment from third-party vendors.[58]

2. The Commission's projections of technological feasibility have not materialized as intended.

The Commission's core assumptions concerning the availability and technological feasibility of U3-rated GSM handsets have not evolved as anticipated. The Commission assumed that GSM-specific technical issues could be timely addressed, that core design changes would be unnecessary, that the C63.19 standard would be a reliable indicator of usability for all air interface technologies, and that the same mapping to U3 for both 850 MHz and 1.9 GHz was appropriate. None of these assumptions has materialized.

These are precisely the circumstances in which waiver of the Commission's rules is warranted. The Commission's "discretion to proceed in difficult areas through general rules is intimately linked to the existence of a safety valve procedure for consideration of an application for exemption based on special circumstances."[59] Moreover, where, as here, the Commission

[58] *See, e.g., Telephone Number Portability, Petitions for Extension of the Deployment Schedule for Long-Term Database Methods for Local Number Portability, Phase II*, 13 F.C.C.R. 9564, 9568 ¶ 18, 9570 ¶ 25 (1998) *Roosevelt County Rural Tel. Cooperative, Inc.*, 13 F.C.C.R. 22, ¶¶ 28-36 (1997); *Policies and Rules Concerning Operator Service Providers*, 5 F.C.C.R. 4630, ¶ 22 (1990); *Implementation of Section 17 of the Cable Television Consumer Protection and Competition Act of 1992 – Compatibility Between Cable Systems and Consumer Electronics Equipment*, 9 F.C.C.R. 1981, ¶¶ 76-77 (1994).

[59] *See WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969).

"pursue[s] plans and policies bottomed on informed prediction," the availability of meaningful waiver relief is critical to the validity of the overall regulatory scheme.[60]

3. Cingular cannot provide ubiquitous service to customers, including hearing aid users, exclusively via 1.9 GHz spectrum.

Cingular is a "Tier I" wireless carrier with GSM-based operations nationwide. Cingular provides service to its customers via a combination of Part 22 cellular and Part 24 broadband PCS licenses operating, respectively, in the 850 MHz and 1.9 GHz bands. In some markets Cingular provides service exclusively via Part 22 cellular spectrum, in others exclusively via Part 24 broadband PCS spectrum, and in the remaining markets via a combination of the two. Cingular and its predecessor companies obtained these licenses over the years both through acquisitions and through Commission auctions and licensing proceedings. Consistent with Commission policy, through these acquisitions Cingular has expanded its service area to create America's largest nationwide digital voice and wireless data network.

The handsets Cingular offers to its subscribers are integral to its provision of service via this network. These handsets are "multi-band" handsets capable of operating at both 850 MHz and 1.9 GHz on Cingular's GSM system. These handsets enable Cingular's customers to

---

[60] *See id.* at 1158 ("provision for waiver may have a pivotal importance in sustaining the system of administration by general rule"); *Telocator Network of America v. FCC*, 692 F.2d 525, 550 n.191 (D.C. Cir. 1982) ("Commission has an ongoing obligation to monitor its regulatory programs and make adjustments in light of actual experience" and "a duty to finetune its regulatory approach as more information becomes available …."); *P&R Temmer v. FCC*, 743 F.2d 918, 929 (D.C. Cir. 1984) ("Where any administrative rule, although considered generally to be in the public interest, is not in the public interest as applied to particular facts, an agency should waive application of the rule"). As noted, the Commission had a meager record basis for determining that GSM issues could be timely resolved, *see supra* note 25, a fact which also militates strongly in favor of relief here. *See Aeronautical Radio, Inc. v. FCC*, 928 F.2d 428, 445 (D.C. Cir. 1991) ("should the Commission's predictions about the effectiveness of international coordination prove erroneous, the Commission will need to reconsider its allocation in accordance with its continuing obligation to practice reasoned decisionmaking"); *National Ass'n of Indep. Television Producers and Distributors v. FCC*, 502 F.2d 249, 254 (2d Cir. 1974) (APA "does not authorize the use of an effective date that is arbitrary or unreasonable").

seamlessly "hand off" between different frequency bands as they travel between service areas. For Cingular today there is no such thing as a cellular- or PCS-only handset. Handsets capable of operating at both bands are critical to Cingular's service offerings.

Thus, even to the extent that additional models meeting a U3 rating at 1.9 GHz may be forthcoming, for compliance purposes they are not a meaningful option for the simple reason that Cingular's 1.9 GHz broadband PCS coverage is not coextensive with its Part 22 cellular 850 MHz coverage. Thus, in the markets where Cingular provides real time voice service at 850 MHz only, Cingular's multi-band handsets would not operate at a U3 rating at full power.[61] Nor would hearing aid users roaming into Cingular's 850 MHz network have a handset that meets the U3 rating in that mode.

For this reason as well, a 1.9 GHz-only handset is not a meaningful option for Cingular or its customers.[62] Even where Cingular has both 1.9 GHz and 850 MHz spectrum, handsets are designed to operate in both bands based on a variety of factors, such as network capacity and RF propagation. For these reasons, Cingular intends to press ahead with efforts to ensure a U3-or-higher rating or other means of HAC Act compliance at 850 MHz. Indeed, independent of the Commission's rules, Cingular views this as a competitive issue; insofar as Cingular's competitors offer useable handsets, the company is at a competitive disadvantage with respect to a sizeable percentage of the population.

As discussed in detail below, Cingular and its vendors are working diligently in Working Group 9 to address 850 MHz issues and continue to work toward the offering of HAC Act-compliant handsets. Cingular and its vendors also are considering a number of alternative,

[61] The per air interface standard is not spectrum band-specific, although Cingular notes that the rules by their terms apply to providers of Part 22 cellular service. 47 C.F.R. § 20.19(a).

[62] Compliance with the in-store test requirements would be difficult as well if not technologically infeasible. *See id.* § 20.19(c)(3)(1)(A).

interim measures that will at least mitigate the impact of nonavailability of U3-or-higher rated handsets for hearing aid users. Nevertheless, it is clear that it is technologically infeasible for manufacturers to offer U3-or-higher GSM 850 MHz handsets at this time.

B. Cingular Has Worked and Will Continue to Work In Good Faith to Mitigate the Impact on Hearing Aid Users

Section 710(b)(3) of the HAC Act requires that the Commission "consider the effect on hearing-impaired individuals of granting the waiver."[63] Grant of the instant waiver request will not alter the status quo or undermine the availability of hearing aid-compliant products today; GSM technology is already widely-deployed and available to consumers. Moreover, Cingular is prepared to take a number of interim measures to further accommodate hearing aid users. While these measures may not facilitate full compliance with the C63.19 standard, for purposes of the Commission's rules they may nonetheless mitigate the non-availability of U3-rated handsets for hearing aid users. With respect to the Commission's general waiver standard, the measures described below also underscore Cingular's good faith efforts[64] and demonstrate that the Commission's objective of "ensur[ing] that consumers have a range of options for wireless

[63] 47 U.S.C. § 610(b)(3). The House Report states further that the Commission "must consider the social and economic effects such a waiver will have on hearing impaired telephone users" and "take into account what sector and proportion of the general population the new technology or service is intended for." House Report at 14.

[64] In considering waivers of its rules generally, the Commission has also consistently determined that good faith efforts to meet a regulatory requirement may warrant relief to afford additional time to comply. *See, e.g., Telephone Number Portability, NOW Licenses, LLC Request for Temporary Partial Waiver of Section 52.31 of the Commission's Rules Pertaining to the Porting In of Numbers*, Order, 19 F.C.C.R. 8851 (2004); *Truth-in-Billing and Billing Format*, 15 F.C.C.R. 35, ¶ 4 (1999); *Rules and Policies Regarding Calling Number Identification Service -- Caller ID*, 12 F.C.C.R. 1899, ¶ 10 (1997); *Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996*, 12 F.C.C.R. 21370, ¶ 18 (1997).

telecommunications" and "expeditiously extending the important public interest benefits of wireless telecommunications service to persons with hearing disabilities" is not undermined.[65]

1. Cingular's accessibility efforts are comprehensive and the company will retain an active role in addressing the wireless industry's HAC Act compliance.

As the nation's largest wireless carrier, Cingular takes its accessibility obligations seriously. Through regular vendor meetings, Requests for Proposals, and communications with vendors for more than two years, Cingular has worked diligently to ensure that its vendors incorporate accessibility features into their handset products in accordance with the HAC Act and Section 255.[66]

Cingular is a supporter of the Wireless Center of Excellence, and sponsored the SHHH convention in 2003, 2004 and 2005. Cingular conducted handset testing with nearly 100 participants, and a focus group with Nielson NRGi, in conjunction with the 2005 SHHH

---

[65] *See HAC Order* ¶ 64; *HAC Reconsideration Order* ¶ 26.

[66] Cingular also participates in numerous industry accessibility initiatives and has received numerous accolades, including the Department of Labor's New Freedom Initiative Award, The American Foundation for the Blind's Access Award and the Telecommunications for the Deaf Inc.'s America Award, for its efforts to improve the accessibility of its own services and products, as well as those of the industry as a whole. Cingular has played a leadership role in the IVR Forum, provides on-going advice to the National Spinal Cord Injury Association's Business Advisory Council, and Cingular employees serve on the Board of Directors of several disability organizations including the World Institute on Disability. In addition, Cingular Wireless has supported and evaluated Rehabilitation Engineering Research Centers for the National Institute of Disability and Rehabilitation Research. Indeed, a number of disability organizations attested to Cingular's extensive accessibility efforts last year in support of Cingular's merger with AT&T Wireless. *See Ex Parte* Presentation in WT Docket No. 04-70, filed Sept. 14, 2004, at 1-4. Also, while not required by Section 255, Cingular Wireless waives the monthly fee for VoiceConnect, a voice dialing information service, for people with disabilities and provides a service credit rebate equal to the cost of screen reading software for people who are blind. Cingular's National Center for Customers with Disabilities provides direct customer care via both voice and TTY numbers to answer disability related questions, sign up for services such as bills in alternate formats and to receive credit for 411 service. Finally, Cingular maintains a return policy which enables all customers, including those with disabilities, to try out and exchange their handsets and to terminate service (without early termination fees) within 30 days of initiating service. *See* www.cingular.com/customer_service/common_phone_return.

convention. Cingular's Wireless Access Task Force (WATF), composed of nationally recognized disability leaders, has provided and continues to provide ongoing guidance to Cingular in its efforts to increase access to wireless telecommunications for people with disabilities, including those who have a hearing loss. WATF members have meet regularly with Cingular's major manufacturers, provided testing opportunities for companies working on innovative solutions including Bluetooth-enabled hearing aids, and even tested solutions presented by manufacturers as part of Pacific Bell Mobile Services prior to the formation of Cingular Wireless.

Of particular significance to the instant proceeding, Cingular has participated in the HAC Incubator and in its Working Groups 4, 6, 8 and 9, with leadership roles in Working Groups 6 and 9.

- Cingular is active in Working Group 4 (WG-4), Test Plan. WG-4 is building on the work that ANSI C63.19 has accomplished in this area by verifying the applicability of the C63.19 in a round robin testing program involving multiple companies and multiple labs. To date, the round robin has completed review of the RF portion of the C63.19 standard regarding audio coupling mode and is just beginning examining the audio band magnetic coupling mode or T-Coil mode.

- Working Group 6 (WG-6), which has representatives from consumer and academic research organizations, industry associations representing hearing health professionals, hearing aid manufacturers and the wireless industry, has developed informational brochures for the wireless industry, audiologists and other hearing health professionals, and is finalizing a brochure for consumers. WG-6 has developed a database for outreach, recommended verbiage for inserts and manuals as well as symbols for handsets that have been tested with hearing aids and meet the compliance levels.

- Cingular is also active in Working Group 8 (WG-8), which was created in January 2005 to review ways in which to quantify an articulation weighting factor ("AWF"), and in C63 SC 8 PINS-C (Project Initiation Notification System-Committee). WG-8 is charged with determining suitable values of AWF for current and emerging wireless digital telephony modulations (UMTS-HSDPA, CDMA EV-DO, and OFDM WiMAX).[67] As a related matter, Cingular participates in the PINS-C study project,

[67] These technologies are, respectively: Universal Mobile Telecommunications System - High Speed Downlink Packet Access; Code Division Multiple Access Evolution- Data
(continued on next page)

which was established to investigate an approach to the determination of the AWF used in ANSI C63.19.

- Cingular is the active chair of Working Group 9 ("WG-9"), which is addressing hearing aid compatibility and 850 MHz operation.[68] WG-9 has brought together the wireless and hearing aid communities to investigate hearing aid compatibility and 850 MHz with GSM devices. WG-9 also sponsored hearing aid user testing that was conducted at the 2005 SHHH convention.

Finally, Cingular participates in American National Standards Institute Accredited Standards Committee ("ANSI ASC") C63 SC 8, which administers the C63.19 standardization process.

2. Cingular will endeavor to offer handsets at 850 MHz that are useable with hearing aids.

Cingular also intends to offer handsets that meet at least a U1 rating at 850 MHz. As discussed above, Cingular and a number of its vendors are currently testing various handset models with a U1 or U2 rating at 850 MHz. While the results are preliminary, they confirm the results of testing undertaken in Europe and are noteworthy as it appears that, for many hearing aids, the U2 rating at 850 MHz does not result in any perceptible difference from a U3-rating at 1.9 GHz in terms of the handset experience for the hearing aid user. In addition, given Cingular's anecdotal but significant findings concerning the usability of hearing aids with GSM 850 MHz handsets, to the extent feasible, Cingular will offer hearing aid user customers with handsets that are useable at full power in both the 1.9 GHz and 850 MHz bands.

3. Cingular is prepared to offer handsets with a user interface enabling a lower power option.

Another interim alternative Cingular is prepared to utilize entails the implementation of a software-based user interface whereby the end user would have the option of switching the handset from a Class 4 to a lower Class 5 power level (a 4 dB output power difference, or

---

Optimized; and Orthogonal Frequency Division Multiplexing Worldwide Interoperability for Microwave Access.

[68] *See* ATIS May 2005 Report at 18-19 (discussing WG-9 activities).

approximately 2.5x lower power). As Nokia previously indicated to the Commission, it appears that some handsets may meet the U3 rating at a lower power level.[69] In order to ensure that hearing aid wearers not suffer unacceptable degradation of service quality or dropped calls, Cingular is considering this option only on an interim basis and in a manner that minimizes the number of such handsets in use in the marketplace. Moreover, to lessen the impact to customers Cingular has made clear a number of requirements to its vendors considering this option, including: (1) an absolute minimum power of Class 5; (2) automatically reverting to full power when 911 is dialed to ensure that the call is completed and that E911 information is transmitted to the public safety answering point ("PSAP"); (3) a full power mode as an option for hearing aid users whose devices are compatible with the handset, as well as easily identifiable HAC prompts and icons so that users are aware when they are in lower power mode; and (4) a distinct model number and International Mobile Equipment Identity ("IMEI") so as to minimize and track the number of such handsets and facilitate customer care. The interface would be intended for use only by hearing aid wearers.

Again, Cingular is prepared to offer this lower power alternative only on an interim basis, and does not consider this a permanent, widespread solution for hearing aid users, much less other customers. Additionally, C63.19 testing is conducted under worst-case conditions such that the rating is always based on the highest available power level, when in reality Cingular's handsets will automatically revert to a lower power when the RF environment allows. Thus, in many situations, a handset operating in reduced power mode will operate identically to other handsets. Nevertheless, Cingular is ascertaining whether this approach meets the requirements of C63.19, but in any event such handsets could further enhance the usability of GSM handsets for some hearing aid users.

[69] *See* ATIS May 2005 Report, Supplement.

4. Cingular will work with vendors to promote the availability of external devices that facilitate hearing aid use.

One established means of facilitating the usability of handsets for hearing aid users is through external devices such as loop sets. Neckloops already are widely available for T-coil users, and information from equipment vendors indicates that for a number of GSM handsets, the use of a Bluetooth earpiece significantly enhanced usability for many hearing aid users given the device's very low power output. To the extent that such devices may not be "internal" to the phone, Cingular notes that such devices are much more prevalent today than in recent years. This is due in part to the increase in popularity in "hands-free" devices generally and the accompanying improvements in hands-free designs and technologies that make such handsets convenient and useable for all consumers, irrespective of accessibility needs. Thus, any social stigma of concern to Congress in enacting Section 710 associated with the use of external devices has been addressed by the marketplace in significant part. A number of these handsets will have volume control and speaker phone features that will also facilitate usability for some hearing aid users.

C. GSM 850 MHz Handsets and Services Are In the Public Interest.

There can be no serious dispute as to whether GSM handsets operating on 850 MHz handsets "are in the public interest." The Commission has steadfastly declined to mandate or otherwise involve itself in the establishment of wireless air interface protocols, affirmatively determining that market forces should govern the air interface protocols carriers use.[70] With

[70] *See Amendment of Parts 2 and 22 of the Commission's Rules to Permit Liberalization of Technology and Auxiliary Service Offerings in the Domestic Public Cellular Radio Telecommunications Service*, Report and Order, 3 F.C.C.R. 7033, ¶¶ 51-53 (1988); Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, 11 F.C.C.R. 18676, ¶ 147 (1996) ("[w]e have decided that the marketplace should determine which digital protocols will survive"); *see also Amendment of the Commission's Rules to Establish New Personal Communications Services*, Second Report and Order, 8 F.C.C.R. 7700, ¶¶ 137-38 (1993).

respect to Cingular itself, in approving the Cingular-AT&T Wireless merger the Commission "agree[d] … that the additional spectrum the combined entity will have available, in terms of both capacity and geographic coverage, should facilitate the combined entity's deployment of *more robust and ubiquitous advanced services*" through Cingular's transition from the TDMA air interface protocol to GSM/GPRS/EDGE.[71] Indeed, the Commission has stated approvingly that "the deployment of competing technological standards continues to be an important dimension of non-price rivalry in the U.S. mobile telecommunications market," noting in particular that "[t]he carriers using TDMA/GSM as their second-generation digital technology continue deploying or planning to deploy the next-generation technologies on the GSM migration path, including General Packet Radio Services ("GPRS"), Enhanced Data Rates for GSM Evolution ("EDGE"), and eventually Wideband CDMA ("WCDMA")."[72] Deployment of GSM technology is unquestionably in the public interest.

REQUEST FOR RELIEF

For the reasons described herein, Cingular requests a waiver of the Section 20.19(c)(3) requirement that it offer at least four handsets meeting a U3 or higher interference rating until such time as the C63.19 standard has been amended (or otherwise modified in accordance with standards body procedures) to reflect band differences between 1.9 GHz and 850 MHz..[73] Cingular is prepared to do the following:

---

[71] *Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation*, Memorandum Opinion and Order, 19 F.C.C.R. 21522, ¶¶ 224-25 (2004) (emphasis added).

[72] *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Ninth Report, 19 F.C.C.R. 20597, ¶ 3 (2004).

[73] As explained herein, Cingular does *not* suggest that the Commission abandon the C63.19 standard or the U3 rating as the basis for the wireless industry's HAC Act obligations. It is clear, however, that changes to C63.19 are necessary to differentiate between the 850 MHz and 1.9 GHz bands.

- Assuming that vendors have timely obtained all necessary TCB approvals, by September 16, 2005, offer at least four handsets that meet a U3 rating at 1.9 GHz and U1/U2 at 850 MHz; and at least one handset that meets a U3 rating at 1.9 GHz and U3 at 850 MHz (when powered down).

- To the extent feasible, make available information concerning particular handset models that appear to be useable with certain hearing aid devices irrespective of the handset's U-rating at 850 MHz.

- By March 15, 2006 and every six months thereafter until such time as the C63.19 standard has been amended, report to the Commission the status of efforts to address the U-level band difference, power, AWF and other standards-related issues discussed herein.

- Cingular will continue to work with stakeholder groups to resolve the issues raised herein, including ongoing outreach efforts to disabilities groups, and the promotion of accessories and other technologies that will facilitate the usability of GSM 850 MHz handsets with hearing aid devices.

CONCLUSION

For the foregoing reasons, grant of the instant waiver request is consistent with the HAC Act and with the public interest, convenience and necessity.

Respectfully submitted,

CINGULAR WIRELESS LLC

By: /s/ M. Robert Sutherland
J. R. Carbonell
Carol L. Tacker
David G. Richards
M. Robert Sutherland
5565 Glenridge Connector
Suite 1700
Atlanta, GA 30342
(404) 236-6364

Its Attorneys

August 5, 2005